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THE AMERICANS IN PANAMA

WILLIAM R. SCOTT

Photographed at Gorgona in the Dry Season.

THE CHAGRES RIVER—GREATEST FACTOR IN THE CANAL.

THE AMERICANS IN PANAMA

BY

WILLIAM R. SCOTT

ILLUSTRATED

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TO

MY MOTHER

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FOREWORD

VERACITY to the facts concerning the Panama Canal requires that a writer not merely view the object which he describes, but that he actually become a part of the mechanism that is giving it form. He may thus practically illuminate observation with experience, and so vivify the object in his own thought, that his attempt to present it to others will be a close approximation of the truth.

In the five months the author spent in Panama, he was for slightly more than three months an employee of the Isthmian Canal Commission, living the routine life of a canal employee. He discovered that, had he followed the usual method of coming into the Canal Zone on one steamer, taking notes, and leaving on the next steamer, he would have missed many fundamental facts, which absolutely must be known if a really trustworthy account of the greatest task of the age is desired.

The Panama Canal is not the monument of any one individual American, nor of any select few individual Americans. In generations to come, the canal, like the skyscrapers of our cities, will be viewed as a manifestation of the building genius of the American people, just as the Pyramids of Egypt are not re-

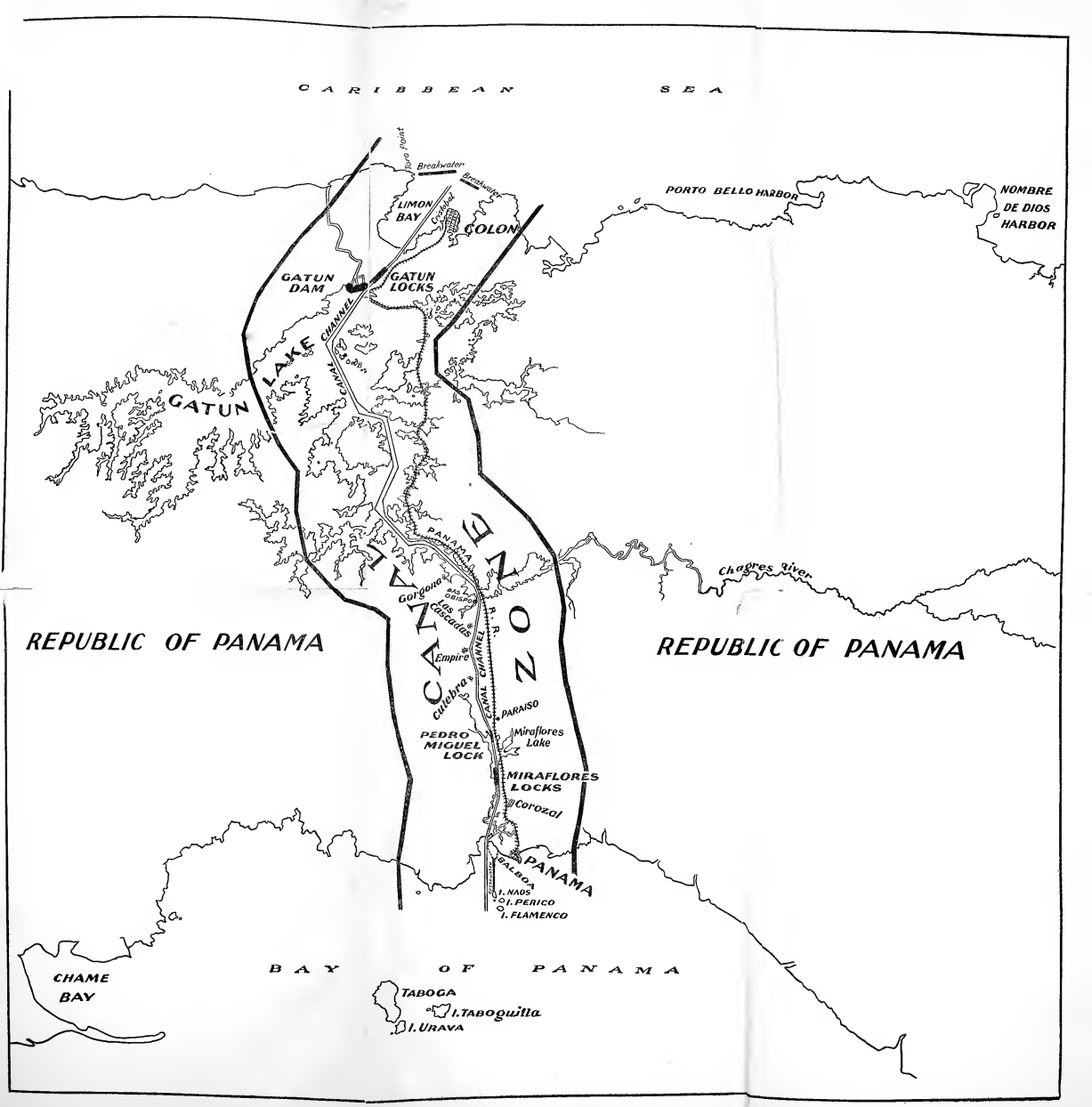
membered so much as the work of a given Rameses as a manifestation of the big building instinct of the entire race.

This book is unjust to the generality of Americans who have helped to make the canal a success. Some day the government will authorize a history of the canal that will give the proper prominence to the rank and file as well as to the subordinate officials. But the treatment here undertaken, through the necessity for condensation, touches only the men who have affected the canal in the broadest way.

The average American layman desires an authoritative history of the project, but he particularly desires a nontechnical review, and decidedly one which distinguishes events from mere incidents, so that he may not be burdened with a mass of details which make it difficult for the essential facts to be kept in mind and at the tongue's end for immediate and intelligent conversation.

Those who prefer a more exhaustive treatment must look to the formidable annual reports of the Isthmian Canal Commission, to the files of the Canal Record, the speeches of Col. Goethals, and to a bibliography that already is extensive and is growing at a lusty rate.

Central America and the islands of the Caribbean Sea afford a rich field for historical writing of the



Map of the Isthmus of Panama.

most intensely interesting character, but one volume cannot adequately cover so much ground. The scope of this book is limited to the Isthmus of Panama, covering a period of four hundred and ten years. Only so much of the history of the Isthmus under the Spanish, and during the construction of the Panama Railroad and the French attempt to dig a canal, is given as was necessary to lend a perspective to the work of the Americans.

W. R. S.

PADUCAH, KENTUCKY, *October, 1912.*

cubic yards of earth and rock, laid 5,000,000 cubic yards of concrete, made dams and fills of more than 50,000,000 cubic yards, relocated the Panama Railroad, spent less than $300,000,000, and put the first ship through from the Atlantic to the Pacific, Europe would have smiled at our youthful temerity! Yet, in 1913, we will have done precisely that.

To-day there is no reason for revising the statement by Theodore Shonts that: "The physical construction of the Panama Canal is, all things considered, the greatest task of modern times. It is in the highest degree exceptional in magnitude, complexity, and cost."

The American-Panama Canal has risen phœnix-like out of the ruins of the French enterprise. For four centuries events have been shaping at Panama to make our final attempt successful. When we began, crude as the conditions were, the sting of the Isthmus, except its diseases, had been drawn. There was a beaten road from ocean to ocean, on every hand were landmarks to warn our footsteps from perilous paths, the lives that had been lost, the money that had been spent, all served to make our task achievable. We justly may be proud of our deeds, but we should not forget.

It may be asserted that the exigencies of world convenience justified the manner by which we acquired the Canal Zone; but in declining thus far to make reparation to Colombia we are violating the essential ethics of Americanism. Certainly the American people cannot afford to dedicate their crowning

achievement in this age with one single nation entertaining a sense of wrong because of it!

The canal entered upon its last phase with the announcement by Chief Engineer Goethals that the first ship would go through in September, 1913. Thenceforward a definite goal was seen, and, despite the slides in the mountain cut, or any other obstacles, that program will be kept. Not a sign of slackness, but rather stimulated activities have followed the bringing of the end of the task in sight. In 1912 all records for excavation and concrete work were smashed!

During the first two years and a half the canal was in its first phase. It was the period of pioneering, preparation, and adjustment. Two Chief Engineers were tried, from the ranks of civil life, accomplishing the main preliminaries to canal construction before their departure. Both were men of unquestioned integrity and of impressive ability, but neither was the one of destiny to complete the task.

The second phase of the canal was from the beginning of 1907 to the spring of 1912. During these six years the heart of the task was accomplished. President Roosevelt had found the man who was to take the organization built up by the men from the ranks of private industry and hurl it against the natural obstacles that stood in the way of success. Col. Goethals was to take the blue-prints, and a head full of theories, and work them out into the locks, dams, and cuts in concrete mold to-day.

The third and last phase, as noted, began in 1912 when the Chief Engineer set a date for the substan-

tial completion of the canal. It is distinguished by the gradual dispersion of the army of workers, by the reverse process of the first two years, and by the creation of a permanent operating force with the detail finishing work that attends every large project.

The East has furnished the canal with its Chief Engineers — Wallace from Massachusetts, Stevens from Maine, Goethals from New York. But every State in the Union has furnished the rank and file, as well as every nation in the world.

Standing out distinctly from the construction phase of the enterprise is the figure of Col. Gorgas, the Chief Sanitary Officer, now, as in the critical days of 1905, quiet, alert, confident. The last days of the canal find a perfect mechanism of his creation recording his ideas with dispatch and precision, receiving the plaudits of this and secure in the admiration of succeeding generations.

With the long ascent behind, standing upon the crest of the work of construction, looking downgrade at the early completion of the canal, one fact is emphasized in the minds of all laymen and engineers who view the project with open eyes. It is this. A sea-level canal, if not an impossibility, would have been an indefinite number of years in building and would have cost an indefinitely greater number of millions. The precipitation of more than 20,000,000 cubic yards of extraneous material into the Culebra cut, by slides, rivets that fact in the minds of all observers.

The locks may grow too small, the Gatun dam may

break, a caving in of the foundations of the colossal structures may occur, and other convulsions of nature may disable the canal, but nothing can rob the Americans of a wonderful achievement, nor will the work have been without glory and justification, no matter what the future holds. We still could rejoice in the sheer courage, persistence, and indomitable ability that have wrought the work in Panama.

Just as the Civil War developed Grant, and the Spanish-American War Dewey and Schley, so has the Panama Canal developed Goethals. He justly is celebrated in the periodical and daily press and in books as a splendid embodiment of Americanism—the ideal combination of ability and integrity.

It is true, of course, that the completion of the canal substantially fourteen months before the estimated date, January 1, 1915, and the saving of $20,000,000 in the estimated cost, may mean simply that both items were overestimated in 1908 by Col. Goethals; but the tremendous increase in necessary excavation, due to slides and changes in plans, more than offsets this consideration and forces the acknowledgment that the savings in time and money represent the increased efficiency his own preëminent abilities have been able to produce.

A perspective view of the whole enterprise shows that Theodore Roosevelt, by his individual actions, on at least three occasions, vitally affected the canal and its successful consummation. When he cut the Gordian knot of diplomacy and took the Canal Zone, he made the first long stride toward interoceanic com-

munication. When he threw his weight into the scale for a lock type canal, he decided the most critical question that ever arose in the career of the enterprise. The third time his judgment prevented a great mistake was when the project definitely was taken from the possibility of private construction and placed in the hands exclusively of government supervision. There were lesser decisions of great moment, notably the order for widening the locks and the Culebra cut, and his whole connection with the project was such as to rank as the most brilliant phase of his administrations.

Before ten years have passed the American people will realize that the canal would have been cheap at twice the cost. The estimated cost, $375,000,000, is an impressive figure, but this age is moving fast. As great as the enterprise is, it is not probable that, in the item of cost at least, it will long remain the record achievement. But it is probable that when the record is broken, it will be the Americans who break it.

To July 1, 1912, the canal had cost, fifteen months before its completion, $260,000,000. This was divided as follows: Canal Zone, $10,000,000; French purchase, $40,000,000; engineering and construction, $152,000,000; general expenditures, $36,000,000; sanitation, $15,000,000; civil administration, $5,500,000; fortifications, $1,000,000.

The canal was half done as to excavation and cost in 1910. The toll in human lives, approximately 6,000 by 1914, for a period of nine and three quarter years, is impressive only for its cheapness. It is estimated

that the building of the Panama Railroad, in 1850-55, cost that number of lives, and for the Americans to build the world's greatest enterprise in ten years at so low a life cost constitutes for the tropics a profoundly admirable achievement. Whether the government has been economical in the physical construction of the canal may be questioned, but it has been positively parsimonious in the expenditure of human life on the project.

It would be fitting for the first ship to pass through the canal on September 25, 1913, or just four hundred years to the day from the discovery of the Pacific by Balboa. Thousands of Americans may desire to go through the canal on their way to San Francisco's Exposition, a really delightful cruise from New York of eighteen days, but if they do, it will be in foreign ships, because we have no vessels that could handle the traffic. It will be a vivid object lesson of our pitiful lack of a merchant marine.

Less than 100,000 Americans will have seen the canal in course of construction out of a population of 90,000,000. President Roosevelt truly said that a trip to see this great project in the building was more profitable than a trip to Europe. But at the San Francisco Exposition some compensation will be found for a failure to see the canal by an exhibit of every kind of machinery used by the French and the Americans in the thirty-five years of construction, or from 1880 to 1915. When the government finally sold off the old French machinery that had littered the Canal Zone for three decades the best specimen

of each kind of apparatus was reserved for this graphic exhibit.

Panama now becomes the farthest outpost of Americanism in Latin America. The peoples of that continent have profited immeasurably by the practical demonstrations in sanitation, civil government, and engineering construction. They have learned, and so has the rest of the world, that the tropics are not necessarily deadly, that order can be maintained, not only among a homogeneous population, but among the heterogeneous races that have thronged the Isthmus, and they have seen that no natural obstacle is insuperable before the intelligence of man. The canal should be a means of cementing these lessons, of disabusing mutual prejudices between the Americans to the North and the Americans to the South. The American conquest of Latin America should be more through uplifting ideals than through bald commercialism leading to discord and unbrotherly relations.

CHAPTER II

THE LIFE COST

MEASURED in money, the Panama Canal was to cost $375,000,000. This is impressive, but there is another item of cost more important, namely, "The Life Cost," or the cost, in human lives, of digging the canal.

Contemplating the record of the Isthmus for unhealthfulness, it could not but be anticipated, in 1904, when the Americans took charge, that this cost would be heavy. That it should be surprisingly low constitutes a more significant achievement than any saving in the money or time cost of the project.

On July 1, 1912, the Americans had been eight years in the actual work of building the canal. In that period of eight years there were:

Deaths from disease.....	4,146
Deaths from violence.....	995
Total deaths.....	5,141

Another full year before the passage of the first ship, and eighteen months before the practical and continuous operation of the completed canal, will bring that total of deaths, estimating on the average of previous years and not considering unprecedented

increases, to less than 6,000 by January 1, 1914. The Sanitary Department makes the following report for the eight-year period ending July 1, 1912:

Year	No. of Employees	Deaths	Rate per 1,000
1904.....	6,213	82	13.26
1905.....	16,512	427	25.86
1906.....	26,547	1,105	41.73
1907.....	39,238	1,131	28.74
1908.....	43,891	571	13.01
1909.....	47,167	502	10.64
1910.....	50,802	558	10.88
1911.....	48,876	539	11.02
1912 (July)...	48,000	226	10.60

The foregoing figures not only cover those actually at work on the canal, but as well include those who, while not regularly employed, are the wards of the Commission when idle. From 1907 onward health has been normal on the Isthmus, within the Canal Zone, with a death rate, among the Americans, frequently lower than in large centers of population in the United States.

President Roosevelt selected Col. William Crawford Gorgas to clean up the Isthmus because of his record in sanitary work in Cuba and elsewhere. Chief Engineer Wallace doubted his capacity, and so did Secretary of War Taft, but, by 1906, the latter was ready to acknowledge his mistake. Col. Gorgas is a Southern man, a native of Alabama, and so naturally quiet and reserved in demeanor and deportment

that men accustomed to measure a man by bluster and self-assertiveness make the mistake of assuming that he is not strong. His manner and methods suggest Gen. Robert E. Lee.

There were two prime needs, as Col. Gorgas viewed the Isthmus in 1904, in any campaign for improved health conditions. One was to make the Isthmus clean and the other was to kill the mosquitoes which he considered a means of propagating disease. Practically everything done by the health department has been along these main lines of theory.

The United States profited by the mistakes of the French to the extent of reserving, in the treaty with the Republic of Panama, the exclusive right to control the sanitation of Panama and Colon. So, in 1904, the engineers immediately went to work on a sewer, waterworks, and street-paving plan that would make of these two characteristically filthy Central American cities, clean, decent, sanitary places of abode.

The native population dumped all garbage, and matter usually consigned to sewers, into the streets. These streets were mud holes which, with the admixture of refuse, made a condition inconceivably dirty and naturally unhealthful. The Americans made a reservoir in the mountains a dozen miles away for the water supply of Panama, dug sewers and forced the native houses to connect with them, and then paved the streets with brick. A system of garbage collection was organized, and the city was cleared of all rubbish. To-day the tourist sees some evidence

of slovenly living, but conditions generally are surprisingly smart.

The second part of the program—killing the mosquitoes—was accomplished principally by the use of crude oil. Every stagnant pool of water, and most of the running streams—except rivers—were treated with oil, and the rank grass and tropical growth was kept cut by hundreds of scythemen. As a further war measure all houses were screened, the amount spent on this item alone amounting to a sum between $750,000 and $1,000,000.

Having cleaned up within, rigid quarantine regulations were made to keep out persons who might be brought in a diseased condition from other ports. Vaccination of every person who enters the Canal Zone is compulsory, unless a good scar can be shown. In 1905 a ship load of natives from Martinique, imported to work on the canal, refused to land because they thought vaccination was a plan to brand them so they could never return to their home. They were forced out at the point of the bayonet and vaccinated.

It was before these plans had been matured that the first and only epidemic of yellow fever occurred in the Canal Zone. In April, 1905, an employee in the Administration building in Panama became sick with the fever, and from then on to September the Canal Zone was in the throes of a fear that was featured by the wholesale departure of employees. The newspapers gave the epidemic wide and oftentimes erroneous publicity, with the consequence that the government had to pay for the fear of the Isthmus thus

created, in greatly increased salaries and gratuities, to secure American employees.

By October, 1905, Col. Gorgas had mastered the epidemic, and, although isolated cases have occurred since, yellow fever was permanently banished as the bugbear of Panama. From July 1, 1904, to November 1, 1905, 44 employees succumbed to this disease. While the epidemic raged, from April to September, 1905, there were 37 deaths among employees, mainly among Americans, with whom the epidemic started.

There was a siege with smallpox and the plague, but they, too, were eradicated in so far as epidemics are concerned, and malaria, pneumonia, and tuberculosis remain as the most frequent attributed causes of death. Quinine has been bought by the ton for the Canal Zone dispensaries and hospitals. In 1908 each employee averaged about an ounce of quinine, and they were advised to take three grains daily.

The French had left hospital buildings in Colon and on the side of Ancon hill, just outside of Panama. The Americans renovated these and added to them until the present vast facilities came into form. They sometimes have more than 1,200 patients. A large asylum for the insane also is maintained. Hospital cars are attached to the passenger trains to bring in patients to the Ancon and Colon hospitals each day. In every town or settlement there is a dispensary with a physician in charge and a sanitary officer to inspect conditions of living. There are about 24 employees out of every thousand constantly sick.

For the Canal Zone, Panama and Colon, in 1905

the death rate was 49.94 per 1,000. In 1911 it was 21.46, or cut down more than one half. In 1906 the death rate among the Americans from disease was 5.36, and in 1911 it was 2.82. In 1908 and 1910 there were more Americans killed in accidents or died from violence than died from disease.

It necessarily follows, from an engineering task of this magnitude, where vast quantities of explosives are handled, where there is a considerable railroad mileage and other hazardous features of construction, that the death rate from violence or accidents would be large.

Every month since the American occupation began in May, 1904, there has been an average of 10 employees killed or have died from external causes. The total to July 1, 1912, was 995, and by the time the canal is completed, barring unusual catastrophes, the deaths from this cause will be around 1,100. Under the head of violence are included deaths by drowning, suicide, dynamite explosions, railroad accidents, poisonings, homicides, electric shocks, burns, lightning, and accidental traumatism of various kinds.

Scores of deaths have resulted from the practice of the native employees in using the railroad tracks as public highways. There have been bad collisions and wrecks with fatalities, and dynamite has claimed about one tenth of the victims of external violence. In the handling of 25,259 tons of dynamite, or 50,517,650 pounds, to July 1, 1912, the following principal accidents have occurred:

December 12, 1908, at Bas Obispo, premature ex-

plosion of twenty-two tons in the Culebra cut, 26 killed and 40 injured.

October 10, 1908, at Mindi, 7 killed and 10 injured, premature explosion. Dredging in Pacific entrance.

October 8, 1908, at Empire, in the Culebra cut, 5 killed and 8 injured, premature explosion.

August 30, 1910, at Ancon quarry, 4 killed.

July 19, 1911, at Ancon quarry, 4 killed, 2 injured.

January 10, 1909, at Paraiso, 2 killed, 10 injured.

July 25, 1909, on Panama Railroad, 4 killed, 9 injured.

May 22, 1908, in Chagres division, 2 killed, premature explosion of twenty-six tons, caused by lightning.

Forty deaths from dynamite explosions are noted for the year 1908, the largest number for any one year of canal construction, and this does not take into account several individual fatalities. Chief Engineer Goethals issued stringent regulations to govern the handling of the dynamite, but it was in such common use that the employees naturally became careless. An instance is afforded by two employees who knocked an iron pipe against a railroad track to dislodge some dynamite. They were angels in less than two seconds after the first blow. The worst accident, at Bas Obispo, has not been explained.

Most of the accidents have occurred since the working force has been in excess of 20,000 men. When the number killed outside the line of duty is sub-

tracted from the total deaths by violence, it will be found that the actual building of the canal has been attended by a normal percentage of such fatalities —certainly no larger than in any private construction of the same character or approximating the same magnitude. The largest number of deaths by violence among employees in one year was in 1909, when 178 were killed, and this was equaled again in 1911. The following table shows the number of American employees, the total death rate, and the relation of deaths from disease to deaths by violence from 1906 to 1911, inclusive:

Year	No. of Empl'y's	Death Rate Per 1,000	By Disease	Violence
1906.....	3,264	8.14	5.36	
1907.....	5,000	8.14	5.36	
1908.....	5,126	8.19	3.70	4.49
1909.....	5,300	5.56	3.23	2.33
1910.....	5,573	5.35	2.43	2.92
1911.....	6,163	5.14	2.82	2.32

Col. Gorgas found, in the early years of canal work, that the Americans and Europeans were three times as healthy as the natives of the tropics, who, as Chief Engineer Stevens noted in 1905, "are supposed to be immune from everything, but who, as a matter of fact, are subject to almost everything." This somewhat upsets the theory that northern races cannot live readily in tropical climates.

Several of the annual reports of the Sanitary Department have noted the remarkably few diseases

peculiar to men, such as alcoholism, etc. Mr. Tracy Robinson, in his book of personal reminiscences, "Fifty Years at Panama," speaks authoritatively on the use of liquor in the tropics as follows:

> "Many foreigners have fallen victims to fear rather than fever; while many others have wrought their own destruction by drink, which is the greatest curse of mankind in all lands, but more especially in hot countries. It has killed, directly and indirectly, more than the entire list of diseases put together; for it induces by its derangement of the vital forces, every ill to which flesh is heir. Candor compels me to state that I have tried both abstinence and moderate indulgence; and when it is said that strong drink is necessary in the tropics to tone the system up, or for any good purpose under heaven, I say emphatically, it is not so! It is absolutely best to let it entirely alone. My fifty years' experience gives me authority to write as I do."

Allowance must be made, in considering the favorable health showing on the Isthmus, to the fact that the employees in one sense are picked men. They must be in sound condition when employed and usually in the prime of life. Another thing that has kept the death rate down among the Americans has been the practice of returning to the United States many patients who apparently had not long to live.

Thus their deaths were not a charge against the Canal Zone.

It cannot be assumed that all the deaths from disease in the Canal Zone were from causes that originated there. The diseases peculiar to the tropics have not claimed as many victims among the Americans as the diseases peculiar to the northern climates. But there has been a steady improvement, as may be noted in a fall in the death rate among the Americans, from 8.14 per 1,000 in 1907 to 5.14 per 1,000 in 1911.

An incident in the sanitary government of the Isthmus was an Executive Order by President Taft, effective on December 12, 1911, which prohibited the practice of any system of therapeutics or healing that the Sanitary Department, the allopathic school, should rule against. The President, upon its possible application to create a monopoly of healing in the Canal Zone being pointed out to him, revoked the order on January 1, 1912.

Employees are not permitted to remain in their homes or quarters when sick, but must go to the Colon or Ancon hospital, unless the district physician expressly rules otherwise. The hospital grounds at Ancon are beautiful, and convalescent patients are sent to Taboga Island, ten miles out in Panama Bay, for final treatment. A dairy with 125 cows supplies fresh milk to the Ancon hospital.

At first Col. Gorgas was not a member of the Isthmian Canal Commission. But the extraordinary ability he displayed resulted in the separation of the Sanitary Department from the jurisdiction of the Gov-

ernor of the Canal Zone, and on February 28, 1907, Col. Gorgas was made a member of the Commission, with the Department of Sanitation having equal dignity with other grand divisions of the work. He is the only official of the highest rank who has been with the canal project from its earliest days to the present.

The cost of the sanitary conquest of the Isthmus, to July 1, 1912, was the somewhat impressive total of $15,000,000. Here, as in the pay and treatment of employees, the government has sought results without regard to the expense. For the remaining days of the canal the cost of sanitation will be approximately $2,500,000, or $17,500,000 in all by January 1, 1914, which amount is nearly $3,000,000 less than the cost estimated for the department in 1908.

The first grand lesson from the life cost of the Panama Canal is that the tropics no longer offer insuperable obstacles to the health of northern races. For all South and Central America the work of the Americans in Panama teaches the imperative necessity of a literal belief in the old adage: "Cleanliness is next to Godliness." At every single point where disease has dominated the situation, it has been found that filth abounded. Guayaquil, in Ecuador, sometimes is quarantined half the year, and it is a significant fact that this has been one of the dirtiest ports in South America. Any people who are willing to live indecently will pay the penalty in a high death rate.

When the ordinary cleanliness to which the American, or the European, is accustomed is observed in the tropics, and if intoxicants are not permitted to

dominate the individual life, there will not be the slightest difficulty in living near the Equator. The ultimate crowding of North America will force population into Central and South America, and among the world benefits of the Panama Canal none is more flattering to the Americans than just this lesson that he who will live decently may live healthfully.

CHAPTER III

THE SPANISH IN PANAMA

HISTORIANS have noted that certain members of the vegetable and mineral kingdoms have played a vital part in the discovery and colonization of the Americas.

Columbus, the master spirit of his age, had the noble, imaginative conception of the earth's rotundity which he wished to demonstrate to mankind, but his immediate impulse was to find the shortest passage to the East Indies, where the spices so much prized on the dining tables of Europe could be obtained and brought back more expeditiously than by the long trip around the Cape of Good Hope.

To the North, more than a hundred years later, tobacco was the main product that held the English colonists to Virginia in the face of hostile savages and exile from home. Smoking spread over Europe like an epidemic, making the rewards from the cultivation of the weed immediate and profitable from the start.

The members of the mineral kingdom which held the venturesome mariners to their new found lands, despite every discouragement, human and natural, were gold and silver. No sooner had these precious metals crossed the European vision than their first love, spices, faded completely out of the imagination.

Thenceforth, the Spaniards and the Portuguese ransacked an isthmus, a continent, and the islands of the sea with frenzied and appalling barbarities and with splendid success.

Thus spices, tobacco, gold, and silver have been the unheroic causes of epochal movements in the human family. Columbus kept his vision above the sordid greed for gold to the last. On the fourth attempt he made to find a passage to the East Indies he cruised along the Isthmian coast from September, 1502, to January, 1503, entering and naming the harbor of Porto Bello on November 2, 1502, and visiting Nombre de Dios on November 9th, in what is now the Republic of Panama.

Columbus, however, was not the discoverer of Panama, as a Spaniard, named Rodrigo de Bastides, had preceded him to this coast, in 1501, so that the period of the Spanish in Panama dates from that year. Bastides visited Nombre de Dios, where eight years later the first Spanish settlement on the Isthmus was planted, in 1509, as a base for the search for gold.

Vasco Nunez de Balboa had been with Bastides on his trip of exploration and he became the head of the new colony at Panama. It had been designated "The Castle of Gold" by the King of Spain because of the plentiful quantities of that metal found among the natives. For a few years the mountains with their dense jungle growth stood as a barrier to explorations farther inland, but the stories of the marvelous wealth of the inhabitants on the other side, told to Balboa by the Indians, so excited his

cupidity that, in 1513, he gathered a band of 190 men and started across.

When they approached the summit of a mountain which, the Indian guide said, would afford a view of the new sea, Balboa ordered his men to halt while he alone took the first view. There, in the heart of the Isthmian jungle, four hundred years ago, with what must have been a feeling of awe even to his hardened nature, Balboa discovered the Pacific, on September 25, 1513. Calling his men to him, they had a religious ceremony, claiming all they surveyed as the dominions of His Majesty, the King of Spain. Four days later, after traversing the distance to this sea from the mountain, he waded out into the water and reaffirmed his sovereign's title.

Gold he found in abundance, and pearls of fabulous size and value. After five months' absence, he returned to Nombre de Dios by a more direct course, and spread the news which was to turn Central and South America into a slaughter house, through the mad traffic that debauched Spain, made pirates of England's navigators, and reduced the original population to wretched slavery.

Balboa found that he had been succeeded as Governor at Nombre de Dios by a soldier named Pedrarias. Between them a hatred sprang up which, in 1517, resulted in the untimely and unjust execution of Balboa on trumped up charges. Prior to this, Balboa had made other trips to the Pacific, carrying across with incredible labor the parts of ships which were rebuilt in the Pacific. In 1911 the Americans

found a cannon of immense weight about halfway across, which evidently had been abandoned by Balboa, and an anchor of great size also has been found.

Pedrarias, in 1515, had sent exploring parties to the Pacific side to select a site for a settlement on that coast. The San Francisco Exposition, therefore, in 1915, will be exactly four hundred years after this event. It was not until 1519 that the settlement was started, and the founding of the city of Panama dates historically from that year.

With the founding of a town on the Pacific side began the interoceanic traffic which ever since has emphasized the need of easier and swifter communication between the Atlantic and Pacific. The site of the city was about twelve miles from the present city of Panama, and a few miles inland. At a huge expense of labor and life a paved road was constructed from Nombre de Dios to Panama, portions of which may be seen in the Canal Zone to-day. Another route across the Isthmus followed the Chagres River as far as it was navigable to a point near the American town of Gorgona, from there the trip being across the mountains to Panama.

It may be noted that Panama was founded a full one hundred years before the landing of the Pilgrims at Plymouth. Nombre de Dios was a town ninety-eight years before the first English settlement in North America, at Jamestown, in 1607. Saint Augustine, Florida, the oldest town in North America, was not founded until forty-six years after Panama. Indeed, Panama is the oldest part of continental America.

Francisco Pizarro, a pupil of the Balboa school, heard tales about an indescribably rich country south of Panama. He organized an expedition, which left Panama in 1532, and effected the conquest of Peru, which Prescott has immortalized in literature. History does not afford a more daring, a more barbarous, and scarcely a more richly rewarded conquest, nor does Europe or Mexico present a more interesting prehistoric civilization than the land of the Incas.

After nearly a century at Nombre de Dios, the Spanish, in the year 1584, found Porto Bello a healthier site for a settlement, and moved bag and baggage to that incomparable port. In leaving Nombre de Dios, it is worth recording that Sir Francis Drake, the great Englishman who had "singed the King of Spain's beard," who had plundered the Spanish Main from boyhood, and had circumnavigated the globe, claiming California for his Queen, died on board ship and was buried at sea off Nombre de Dios in 1596.

Porto Bello at once became the depot of Spanish treasure, accumulated from Peru or other South and Central American countries, and brought across the Isthmus from Panama with incredible hardship. From this port the Spanish galleons ran the gauntlet of English pirates to Spain. Drake had been one of the most intrepid of this crew. Henry Morgan, a century later, was another. The English allowed the Spanish to perform all the arduous labor and fighting involved in acquiring the gold and silver, then hovered around the West Indies and took it from them, or died in the attempt.

In 1668, Henry Morgan collected a motley crew of sea vagabonds with the object of capturing Porto Bello. The operations of the English buccaneers usually were plain piracy, but they justified themselves in their own minds by the quarrelsome state of the relations between England and Spain, and a still deeper motive was the implacable warfare between Protestant and Catholic. Morgan, as unprincipled a soldier as ever fought, was knighted for his piracies in Panama.

Porto Bello was captured after a fight not surpassed in history for inhumanities. The treasure they found here whetted their lust for gold, with the result that, three years later, a still bolder enterprise, that of traversing the Isthmus and taking Panama, was planned. In 1671 Morgan started up the Chagres River with 1,600 men, and, after abandoning that stream, they struck out overland to Panama. Nine days were consumed in the journey with hardships from hunger and the labor of penetrating the jungle, the like of which have not been exceeded by soldiers anywhere.

When they did get in sight of Panama they were so weak that a more resolute foe easily could have annihilated the army of invasion. The Spanish and natives kept within their fortifications and their first offensive move was to attempt to stampede two thousand bulls upon Morgan's men, who promptly quit fighting to slaughter enough of the animals to satisfy their hunger. Thus what might have been a formidable

defensive act, if successfully managed, was turned to vital advantage by the enemy.

A desperate defense was unavailing. The city was captured, but found to be barren of treasure, as the Spanish had loaded a ship with their gold and silver before the attack began, and the ship could not be found. It was an unwise move, because the infuriated pirates proceeded to torture the people, and to murder hundreds, finally burning Panama to the ground. To-day tourists go out to see a tower and other ruins of the famous old city of Panama.

Panama was rebuilt on a short promontory in the Pacific, and although captured again by the pirates in 1680 has remained on the new site to this time. Many vicissitudes attended the career of the Spaniards for the following century and a half, the chief ruffle on their calm being an effort by William Paterson, a wealthy Englishman, to found a colony of Scotchmen in the Darien region on the Atlantic coast, east of Porto Bello. The first colony of 1,200 came in 1698 and perished from disease or fighting, and a second company of 1,300 followed the same course, being expelled or killed by the Spanish, so that not more than thirty ever returned to Scotland. It was a lamentable failure of English colonizing south of the American colonies, and was not followed by other experiments in Panama.

During all the stirring years in Panama the Spanish had swarmed over Mexico, Central America, and South America. Yet, early in the nineteenth century the great colonial empire began crumbling away.

Province after province revolted from Spain. The explanation is that the Spanish never looked on America as anything other than a place to extract gold and silver. This attitude enabled them to secure the most wealth in the shortest time, but the methods employed, and the treatment of the natives, laid the foundation in unstable elements. In North America regular agricultural and commercial pursuits caused English civilization to take deep root, but, in justice to Spain, it at least is true that she maintained her authority over her colonies as long as England did over hers.

Panama, in 1821, caught the spirit of revolt, and accomplished her freedom from Spain in a bloodless revolution. It then joined the Confederation of New Granada, the Colombia of to-day, under Simon Bolivar, South America's great soldier and statesman. Here ended the career of the Spanish in Panama.

Easily the most impressive fact in all the Western Hemisphere is the achievement of the Spanish in dispossessing a whole continent of its original tongues and substituting therefor their own language. With the exception of some Portuguese colonies, the language of the Castiles is the language from the Rio Grande to Patagonia. The customs also are Spanish and so is the religion. The explanation of this truly remarkable fact is that the Spaniard absolutely refused to adapt himself to the native tongues, customs, or religion, forcing them to conform to his. But the chief credit for this achievement belongs to the missionaries of the Catholic Church, men no less

daring than the conquerors with whom they went hand in hand, planting missions and churches in the jungle. These indomitable priests taught the native children to speak Spanish, and in the course of centuries it became the continental language.

What will be the future of English in Latin America? It is not a wild prophecy to assert that in another generation Spanish will be decadent and English everywhere ascendent. Already the higher social and business circles are acquiring English. In every center of population it is making rapid headway, though it must be many years before the mass of the people make it their own. The South American youth is not dreaming of Europe, but of the giant young republic to the North. He wants to see its skyscrapers, its dazzling luxury in every phase of life. Its politics fascinates and amazes him. It seems a land literally rolling in wealth, the land of opportunity and the land where he may learn the arts with which to make a career in his own country. The Americans are as loath to adapt themselves to Spanish customs and dialects as the Spaniards were to the original. Every year Americans find it less difficult to get about anywhere in Latin America. English ultimately will triumph from Alaska to Magellan Straits, and the canal will speed the day.

CHAPTER IV

THE PANAMA RAILROAD

KENTUCKY'S great statesman, Henry Clay, as Secretary of State in 1825 and as Senator in 1835, was interested farsightedly in plans for speedier communication at the Isthmus between the two oceans. The independence of Panama from Spain by a bloodless revolution in 1821 had placed the Isthmus in a new position for other European governments, or the United States, to negotiate terms for concessions. The American people were jealous of foreign activities, but not aggressively active themselves in concrete efforts toward a canal.

De Witt Clinton, prominently connected with the Erie Canal, headed a company that sought government aid in its plans for a canal in Central America, but though Clay encouraged the idea nothing definite resulted. The year following, or in 1826, Simon Bolivar, South America's great soldier and statesman, invited the United States, among other American republics, to an international conference in Panama with the object of forming a union for the promotion and defense of all American interests.

While nothing significant came of this congress, it is noteworthy as the first attempt to form what is now the Pan-American Union, or the Bureau of American Republics, at Washington. It assembled on

June 22, 1826, but the United States representatives did not arrive in time to participate.

Panama had become a part of the confederation of New Granada after independence from Spain, and thenceforth lived the regular life of a turbulent province of what to-day is known as Colombia. All the commerce between the coasts drifted across the Isthmus at that point. Little effort had been made to improve the passage, so that swifter and easier communication was the dream of every seaman or traveler.

Clay introduced a resolution in the Senate in 1835 authorizing President Jackson to appoint a commissioner to investigate the feasibility of a rail or water route at the Isthmus. Charles Biddle undertook the mission and secured a concession at Bogota, the capital of New Grenada, but he died before making a report. President Van Buren interested himself in the project, but little came of American plans for the next ten years.

The ever alert French, in 1847, after securing a concession to build a railroad, allowed it to lapse. It is significant that this French failure was followed, as in the case of trying to dig a canal, by a successful attempt by the Americans.

Three Americans, William H. Aspinwall, John L. Stephens and Henry Chauncey, of New York, taking advantage of the opening made by the French failure, obtained a concession from the Bogota government in 1849 for building a railroad across the Isthmus at Panama, with the important provision that no canal

could be constructed there without the company's consent.

Their concession was for a period of forty-nine years after the completion of the railroad, but Colombia reserved the right, twenty years after its completion, to purchase the road for $5,000,000. The unprecedented prosperity of the road immediately upon the beginning of its operation made this latter provision a bad stroke, as in 1875 Colombia could take it over at the fixed valuation. The company began to seek an extension of the life of the concession, with Colombia, unfortunately for it, holding the whip hand.

Negotiations were concluded in 1867 whereby a ninety-nine year concession was obtained, but the terms were very hard. A cash bonus of $1,000,000 had to be paid to Colombia, with an annual payment of $250,000 and the company agreed to extend the railroad out into the Pacific Ocean to some islands where deep water would enable large ships to dock.

Luckily for the American promoters, the discovery of gold in California in 1849 came just as they were seeking to float their company. The Isthmian route to California at once became heavily traveled and the eyes of the whole world, particularly of the United States, were again fastened upon Panama.

Our government in 1846 had concluded a treaty with Colombia which provided for the joint construction of a canal in Panama, and the stimulated interest in the Isthmian route in 1849 made this appear a fortuitous treaty, because it excluded any European power from that territory. A controversy arose be-

tween the United States and England over the Nicaraguan canal route, culminating in a treaty between the two governments known as the Clayton-Bulwer treaty of 1850. This treaty provided substantially the same as the Colombian treaty of 1846, that in the event of the construction of any canal in Central America, Great Britain and the United States guaranteed its neutrality and use on equal terms to all the world.

The addition of the territories of Oregon and California to the United States still further emphasized the need of quick communication between the Atlantic and Pacific. The Panama Railroad, therefore, took hold upon the popular imagination.

Aspinwall and his associates pushed the construction of the road under James L. Baldwin, an American civil engineer of uncommon ability. Labor of a desirable kind was not obtainable. Many nationalities were tried, with a tragic failure on the part of the Chinese, who seemed unable to face the terrors of the jungle. Hundreds committed suicide, and disease and accidents claimed other hundreds. The life cost of the Panama Railroad in the five years it was building has been estimated at 6,000 persons.

The route selected started at an island near the coast on the Atlantic side, the site of the city of Colon, crossed the hills into the valley of the Chagres River and followed that valley to the continental divide, over which it passed with a maximum elevation of 263 feet above sea-level, and thence down to Panama on the Pacific side. Treacherous swamps, almost impenetrable jungles, and formidable streams and mountains

necessitated incredibly hard labor and continuous work from 1850 to January 28, 1855, when the first train reached Panama from Colon. The line was forty-seven miles long, built of Belgian rails and on a gauge of five feet.

The standard gauge in the United States is four feet nine and a half inches, so that all locomotives and cars used on the Panama railroad have to be specially built with wheels set farther apart. When it comes to disposing of surplus equipment after the canal is finished, the government will have to allow for the cost of modifying the rolling stock from the five-foot to the standard gauge. It is estimated that the axles on locomotives may be shortened at an average cost of $750 a locomotive, and for cars, from $27 to $31 each.

California gold-seekers used the railroad as far as it was built during the years immediately following 1850 and made the rest of the trip across the Isthmus by muleback. There were no buccaneers waiting to relieve them, as they had the Spaniards, of their treasure, but bandits and outlaws haunted the route with almost equal success. Thus the railroad had an income from the start, and ten years after completion it was known as the best-paying property in the world.

The total cost had been $7,407,553, or about $158,000 a mile. Dividends were paid every year from 1853 to 1892, and from 1901 to 1903, when it became United States property. The largest year's earnings was in 1868 when 44 percentum was paid, or $4,337,668.48 in both dividends and undivided profits. Total

earnings from 1855 to 1898 were $94,958,890.36; operating expenses, $57,036,234.46; leaving for surplus and dividends, $37,922,655. Rather eloquent figures as to the Isthmian freight and passenger traffic!

The great prosperity of the railroad suffered a serious set-back with the completion of the California overland railroad in 1869. Thenceforward the valuable bullion shipments avoided Panama as well as passenger and freight business. The company's business shows a steady decline from that year, and some wooden-headed management contributed to the momentum. Still it was a valuable property, and to the French a very expensive property, as they found in 1881, when they had to buy the railroad in order to obtain a concession to build a canal.

Colombia turned to the French, after negotiating fruitlessly with the United States over a canal concession, and the company headed by M. de Lesseps was granted a right of way provided the railroad would suspend the provision in its concession giving it the say-so as to water communication. Freight rates were boosted on all French company shipments until in desperation they bought the road for $18,094,000, in 1881, paying considerably more than it was worth, or $250 a share for sixty-eight seventieths of the capital stock.

The French neglected the commercial possibilities even more than the American owners had, though dividends were earned during the life of the first company. When the United States bought the interests of the French company, in 1904, the Panama Railroad

was one of the properties transferred. It was sadly run down, but under the Americans it was made over into a modernly equipped and operated system, though subordinated as a commercial proposition to the construction of the canal. Chief Engineer Wallace suggested that it be double-tracked, or four-tracked, and up-to-date ocean terminals for handling a great freight business be built, with the idea of supplying cheap and swift transit pending the completion of the canal, but this view was abandoned by succeeding engineers, until in 1912 the Secretary of War cut down the amount of commercial business the road should handle so that canal shipments might have uninterrupted right of way.

Doubtless mahogany, ebony and other rare hard woods have not been used in cutting ties for other railroads, but the Americans have dug up ties of those woods that had been in the ground sixty years and still were in good condition. The quaint hollowed out Belgian rails had to be replaced with heavy American types. Such rolling stock as was used by the Americans was for light hauling.

Passenger rates dropped from $25 a one-way ticket in 1855 to $2.40 under the Americans to-day. The trip from Colon to Panama is two hours and a half and the coaches are painted yellow because that color best stands the Isthmian climate. In the fiscal year ended June 30, 1911, the Panama Railroad under American control earned $2,398,177.88 from freight and $686,991 from passenger business. The number

of passengers carried during the year was 2,999,500, and in 1912 a larger traffic was recorded.

The plans for the canal as adopted by the Americans in 1906 played havoc with the right of way of the railroad, so in June, 1907, the work of relocating it back among the hills out of reach of Gatun Lake was begun. After five years' work, or as long as it required to build the original line in 1850-1855, the new line was opened to traffic in 1912. The full line, however, was used only for freight trains, as the Canal Zone towns mostly are on the old line, along the Culebra cut.

This twentieth century Panama Railroad has cost $9,000,000, as compared with the cost of the nineteenth century road, $7,000,000, an increase of $2,000,000 after a lapse of sixty years. On the face of things the performance in 1850-1855 seems more creditable than in 1907-1912, because then a pathless jungle had to be conquered when the Isthmus was a death trap; whereas now the Americans had a force of workers organized, they had the equipment on the ground with which to do the work and the entire resources of the canal organization as to quarters, subsistence, and medical attention were within easy reach. Not considering the cost, the relocated line is a beautiful piece of engineering work.

The dream of a Pan-American Railroad has been entertained ever since steam locomotion came into use. When several gaps are filled in, there will be railroad communication through Mexico, Guatemala, and Nicaragua to Costa Rica, which adjoins Panama. The

Republic of Panama has been planning an interior railroad system that would be part of an all-rail route from the United States to the canal. Before many years it is likely that a bridge will span the canal in a railroad system that reaches from Canada through Panama to the mainland of South America, thence down the West Coast to Valparaiso.

In connection with the railroad, the government has operated a steamship line to New York, from Colon, the fleet at present consisting of six ships, the *Ancon, Cristobal, Panama, Colon, Advance,* and *Allianca.* These ships have transported the larger part of canal supplies from the Atlantic seaboard. Canal employees get passenger rates of $20 or $30 for one-way trips when taking vacations, and other steamship lines grant smaller reductions. The regular rate from New York is $75. It is the only line to Panama that flies our flag.

CHAPTER V

THE FRENCH IN PANAMA

OPINIONS as to the advisability of an Isthmian canal ran all the way from the attitude of Philip II, of Spain, that it would be impious to tamper with natural land configurations as arranged by Providence, to the bold determination of the French to do at Panama what they had done at Suez.

Ferdinand de Lesseps and his Panama career vindicate strikingly the truth of the adage that nothing succeeds like success. The French Panama Canal Company was floated on the strength of his achievement in cutting a sea-level passage from the Mediterranean to the Red Sea, thus making an island of Africa.

When he turned his attention to Panama as a new field for glory, the French people enthusiastically applauded his audacity and, what is more significant and substantial, invested, first and last, $265,000,000 in the enterprise. American capital entered practically not at all into the French project, and not a great deal of outside European capital, the French middle and peasant classes being the principal shareholders.

There had been talk and paper negotiations aplenty before M. de Lesseps became active. In 1838 a French syndicate sought to interest their government in the enterprise but the plan fell through, and the failure

later of the French companies to build the canal cannot be censured as a failure of the French government, which never financed it as a national enterprise as has been done in the successful American attempt.

President Simon Bolivar, of New Grenada, or Colombia, in 1827, had ordered a study made of the Isthmus to ascertain facts about a route for a canal or railroad. Any concession that might be granted must come from his government. The various American nibbles at the idea have been noted, and as a way of stirring us up to real action, Colombia paid assiduous court to France. Gen. Stephen Turr, a native of Hungary, in 1876 obtained a concession, in association with Lieut. Lucien N. B. Wyse, who figured prominently in all the later French operations. Count de Lesseps was interested by Wyse who, in 1878, revived the concession on the following terms: Its life was for ninety-nine years after the completion of the canal, allowing two years to organize the company and twelve years in which to dig the canal. Colombia was to receive $250,000 annually after the seventy-sixth year of the life of the concession and it expressly was stipulated that though the French company might sell to other private companies, it could not sell out to any government, a provision which played a vital part in the transactions leading up to the American control in 1904.

The French were theatrical in their plans for launching the enterprise. A world congress of engineers was invited to assemble in Paris in May, 1879, to decide upon the type and cost of the canal. M. de

Lesseps presided and guided the decision to a sea-level type, the same as at Suez. There were eleven Americans in the assembly but this was the extent of American interest. It was at this congress that the first suggestion of a dam at Gatun for a lock-type canal was made by Godin de Lepinay, a French engineer. The sea-level advocates advanced the plan of digging a great tunnel for ten miles through the Cordilleras and so divert the Chagres River into the Pacific Ocean away from the canal, as that river was useless in a sea-level type.

Under the stimulus of these proceedings, the new company's stock was over-subscribed by the admiring countrymen of the great de Lesseps, the first issue being for $60,000,000. M. de Lesseps then made a spectacular trip to Panama, arriving at Colon on December 30, 1879. The Panamans and foreign colony received him with wild acclaim as the forerunner of a golden stream of money about to enrich their country, and as the first concrete step toward realizing the dream of four centuries.

The first blast of an explosive in the construction of an Isthmian canal was set off by one of the young daughters of M. de Lesseps at Culebra on January 10, 1880. After several weeks of banqueting, Count de Lesseps left for the United States to stir the imagination of the Americans over the enterprise. About the only result was to attract the attention of some contractors to the work, notably in the case of the Slaven brothers who, previous to their Panama adventure, had seen no experience in construction work, but who

did the most creditable work on the project, dredging thirteen miles, making fortunes for themselves and leaving machines which the Americans repaired and used from 1904 onward.

As estimated by M. de Lesseps, the sea-level canal was to cost $131,600,000, although the Paris congress had gone higher in its figures. He was, of course, sadly mistaken in this estimate and the French ultimately spent twice that amount before throwing up the sponge. Conditions totally were different from those at Suez. There the sandy dunes rose no higher than forty feet above sea-level at any point and excavation work comparatively was easy. In Panama a mountainous configuration with solid rock a short depth beneath the surface had to be faced, with torrential streams to be controlled and diverted.

Operations went ahead rapidly from 1880 onward, the method being to let contracts for the different phases of the work. The canal started near Colon, in Limon Bay, and was to follow the valley of the Chagres River for about thirty miles, thence through the continental divide to the Pacific, three miles west of Panama, about where the present canal begins.

By 1885, however, extravagance and graft had emptied the company's treasury. The contractors, as a rule, did little and exacted much. It became apparent, too, that a sea-level type presented staggering difficulties. M. de Lesseps gave his consent to a change in plans to a lock type, as had been recommended by the engineer Lepinay, but the dam was to be at Bohio, instead of at Gatun. Bohio is seven-

teen miles from the Caribbean, while Gatun is only seven miles distant from that sea.

All the theatrical methods conceivable were employed to float a new bond issue for $160,000,000, but the public had grown dubious over the success of the enterprise. The amount was raised, however, and was poured into the project with more millions until 1889 when, after $234,795,017 had been invested, the company became bankrupt. Of this vast amount, $157,224,689 had been invested on the Isthmus, the remainder having gone to organization expenses, for promotion, and overhead expenses generally. For engineering and construction, $89,434,225 had been spent; for machinery and materials, $29,722,856; for buildings, hospitals, etc., $15,397,282. Various needs and graft absorbed the rest.

The French treated their white employees with extravagant generosity. Living accommodations were on a scale of open-handed liberality. Little was done, beyond building hospitals, to conquer the bad health conditions of the Isthmus, and, while the French left patterns for much of the later American activities, the sanitary control of the jungle distinctively is an American triumph. The death rate among French employees on the canal was from two to three times as high as under the Americans.

Older natives in Panama still speak of the period of French operations as the "temps de luxe." M. de Lesseps was charged with fraudulent manipulation of the company's affairs, but escaped punishment for his alleged wrongs. There was graft everywhere, and

when the Americans invoiced the property left by the French they found stores of articles that had been bought in quantities absurdly beyond the needs of the enterprise. The purchase of the Panama Railroad, while at a high figure, was the only investment by the French that approximated sound judgment.

In 1890, an extension of ten years to the time for completing the canal was granted by Colombia, and subsequently extensions were permitted that advanced the life of the concession until October 31, 1910. A new Panama Canal Company was organized in 1894 with a capital of $13,000,000, and while it spent this amount and more, it never attained the momentum of the first company. The maximum force under the first company was 25,000 men and under the second régime 3,000.

The total excavation by the French in Panama was 78,000,000 yards, of which the first company took out 65,000,000 yards. Between Gold Hill and Contractors Hill, where the surface at the center line of the canal was 312 feet above sea-level, the French dug down 161 feet, this being the deepest cut they made. It is here that the work they did was useful to the American plans for a canal, but out of all their work only 29,908,000 yards were excavated from the present American route. For years before the Americans came the French did just enough work to keep their concession alive.

Summing up, the efforts of the French in Panama were a lamentable failure, but it probably is true that a private company of any nation would have met the

same fate. The riot of graft that attended the French effort is its chief blot, just as the honest construction of the canal by the American government is its chief honor. Indisputably, the French efforts made the American effort easier. Much that they did stood as landmarks to guide our way. Much that they failed to do emphasized the work cut out for us before success could be attained.

The mechanical equipment we took over from the French, the houses and hospitals, and especially the engineering records, were invaluable from the start of American operations and much still is in use. In 1912 there were 112 French locomotives, seven ladder dredges, hundreds of dump cars, machine-shop equipment, and other materials in profusion actively employed in canal construction.

An effort was made by the French company in 1898 to interest the United States government in the enterprise, provided permission could be secured from Colombia, but this failed, and the plan of 1903, for turning the property over to the United States, was its successor.

To-day, as one views the abandoned French equipment, overgrown by the luxuriant tropical vegetation, he is reminded of the retreat from Moscow. The quaint locomotives and machinery lying desolate and rusting away suggest the batteries that Napoleon left in the Russian snows. Indeed, there was much of the same exquisite French dash about the two enterprises that ended so disastrously.