

The Family Heritage Series

A weekly discussion of Americanist truths and traditions for those "heirs of all the ages" who will have to preserve that most important inheritance of all — freedom.
Produced by the Movement To Restore Decency.



Volume II

Lesson Fifty-Three

Stopping Yellow Fever

LESSON IDEA

To continue our study of the construction of the Panama Canal, showing that courage and determination were essential to success.

PREPARATION

Prepare a list of examples, showing where today's bureaucrats have slowed down progress on important projects — just as the Canal Commission did on the Canal's construction.

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JOHAN F. WALLACE and his wife arrived in Panama in June, 1904, bringing with them several trunks and suitcases, and two shiny metal caskets. Wallace had been appointed Chief of Engineers for the construction of the Panama Canal. He knew that the biggest dangers he would face were malaria and yellow fever, which had claimed the lives of some 20,000 laborers during the twenty years that the French spent working in Panama. So he decided that if the project did cost him and his wife their lives, at least they would have the coffins handy.

Little did Wallace realize that his biggest obstacle would not be the jungles or swamps of Panama, or the diseases that were bred there, but rather the bungling and nit-picking of bureaucrats in Washington, who thought they could direct the construction of the Panama Canal from the security of their offices over 2,000 miles away.

Soon after the Hay-Bunau-Varilla Treaty had been signed between the United States and the new Republic of Panama, President Theodore Roosevelt appointed an Isthmian Canal Commission to oversee construction of the canal. The commissioners promptly left for Panama on a "fact-finding" tour.

But after a quick trip across the Isthmus, just to see what they thought needed to be done, they immediately returned to Washington. The real work would be left to Wallace, as Chief of Engineers, and to Colonel William Gorgas, who was placed in charge of sanitation.

When Wallace arrived in Panama, the first task that faced him was providing accommodations for the thousands of laborers who would be working on the canal, and for the hundreds of clerks who would be needed to keep track of the supplies, requisitions, and paperwork for the mammoth project. There was no lack of buildings to house the men, for the French had left literally hundreds of empty offices, homes, warehouses, and hospitals stretching from one coast to the other. However, years of neglect, combined with the ravages of a hot, wet climate, had taken their toll. Even after they were cleaned and repaired, living quarters were far from luxurious.

TYPICAL OF THE facilities was the Ancon Hospital at the Pacific port of La Boca, which was converted into a barracks for office workers. There were thirty iron beds, left by the French, ranged along the walls; one straight-backed chair; one kerosene lamp; two washstands; and no mirrors. Combined with these primitive conditions were some primitive dangers, as one young clerk described in these words:

We lived in constant dread of the scorpion, who seems to have a penchant for buildings

long unused, and for going to sleep in our clothes or shoes. One morning, one of these fellows, which have a stinger where their tail ought to be, dropped from the ceiling to the wash basin, where I was performing my ablutions. On another occasion, I shook one out of the fold of my collar, where he had been enjoying a quiet snooze.

That clerk may not have realized how fortunate he was. For the men who were working in the jungles and swamps did not fare nearly as well. For example, the ditch diggers and steam shovel operators working near the Culebra Cut, a mountainous region marking the Continental Divide, stayed at something called the Culebra Hotel. It was a filthy barracks, swarming with flies and mosquitoes. The dining room was a smelly hall with littered tables; the "cook" was a former steam shovel operator who decided that he would be better off feeding hungry workmen than risking burial under one of the many landslides along the Culebra Cut. The sleeping quarters were just as depressing as the rest of the hotel. Each man had a dingy cot to sleep on; a few lucky men also had a box to sit on.

When Wallace arrived in Panama, he found that men who had been hired in New York as surveyors were supervising ditchdiggers. There were shortages of supplies, equipment, and personnel. And what they did have was not being used effectively. When lumber that had been ordered nine months earlier finally arrived, there was no place to store it. So it was simply stacked on shore without any semblance of order. Some of it, which had been loaded on rafts for the trip upriver, floated out to sea.

Another problem was providing fresh clean water for the workers. In Colon and Panama City, American engineers had cut ditches criss-crossing the muddy streets, fully expecting to receive the water pipes that had been on order for months. But no pipe had arrived, and after a torrential rain, all the ditches caved in. Wallace wired a rush order for the pipe to the Isthmian Canal Commission, but nothing happened. He wired two more times and still his request was ignored. Finally, he received a note from the commission telling him to stop spending so much money on telegrams.

Wallace's Sanitation Officer, Colonel Gorgas, also had problems with the members of the

Isthmian Canal Commission. He once sent in a routine request for porch screening for his hospital, but the commission refused to approve it saying it was too extravagant. Gorgas put in another requisition, explaining that the screen was needed to protect his patients from disease-carrying mosquitoes. The commissioners grudgingly gave him half of his order and told him to board up the rest of the windows.

Meanwhile, John Wallace was becoming more and more disturbed by the commissioners' action and attitude. He was a civilian engineer who had no time for politics. He'd been hired to build a canal and he was going to do the best he could – but not if his every move was blocked by political appointees sitting on a commission thousands of miles away. He could contend with the climate and conditions in Panama, but fighting the bureaucracy in Washington was too much for him. Finally, he resigned in disgust and returned to the United States with his wife – leaving the two caskets behind for others to use.

THE NEXT MAN to tackle the canal project was a cigar-smoking enthusiast named John Stevens, who had just resigned as vice president of the Rock Island Railroad. "I don't know why I'm accepting Panama," Stevens told one newsman, "unless it's because of the size of the job. Of course, it's a compliment. You never get too old to like them."

Stevens was no newcomer to tremendous engineering problems, for he had helped construct railroads from Canada to Mexico. Not only was he an expert in railroad construction, but he was a man who enjoyed and sought a challenge. Typical

FOR SERIOUS STUDENTS

The studies in Cuba by Walter Reed and other doctors, which proved that yellow fever is transmitted by mosquitoes, made possible the control of this terrible killer. During a series of heroic experiments, several doctors and soldiers volunteered to be injected with germs of yellow fever, so they could study the course of the disease. Look up the details of this medical milestone in an encyclopedia or at your library. How important was Dr. Reed's discovery?

of his personal courage was an experience he faced once in the 1870's while working on the Arizona Railroad. The construction crew he was on had been cut off by a band of Apache warriors. The foreman of the crew was desperate and offered \$500 – which was a small fortune in those days – to anyone who could get through for help. Stevens was the only volunteer, and he travelled over one hundred miles on foot, through dangerous Indian territory, to bring soldiers to the rescue. Then when he made it back to the crew, he refused the \$500 reward!

On another occasion, a decade later, Stevens left Montana on a journey through the jagged and desolate Rocky Mountains in search of a route for the Great Northern Railroad. His only companions were two Indian guides and a mule. Along the way the Indians deserted him and the mule died, but he pushed on to discover a vital pass for the railroad.

Stevens was not about to be intimidated by the problems that defeated his predecessors. His first action, after he arrived in Panama, was to travel along the entire canal route, talking with his men and learning about the difficulties to be overcome. Stevens quickly discovered that his first major problem was the low morale of the men. Many of them were just waiting for the next ship to the states, so they could go home. This blunt-spoken boss was determined to change their minds, however, and he told them: "There are only three diseases on the Isthmus – yellow fever, malaria, and cold feet. The worst is cold feet. That's what's ailing you."

Under his dynamic leadership, morale began to improve almost immediately. Many who had signed waiting lists for the trip home, changed their minds and decided to stick it out. Stevens soon became a folk hero to his men, who nicknamed him "Big Smoke" – a comment on the ever-present cigar he had clamped between his teeth.

Within a week of his arrival in the Canal Zone, Stevens realized there was so much wasted effort and lack of coordination on the project that his best move was to stop all construction. He explained his actions to the Secretary of War by saying, "I am determined to prepare, well before construction. And I shall continue to prepare, regardless of clamor and criticism . . . so long as I am in charge. For I am confident that if this policy is adhered to, the future will show its wisdom."

STEVENS KNEW that one of the major problems the French had faced were the losses to the dreaded diseases of malaria and yellow fever. French officials did not know that mosquitoes were the carriers; they thought the diseases were transmitted by vapors rising from the swamps or floating in from the oceans. Because of this ignorance, the French actually helped spread malaria and yellow fever in the hospitals, by placing bed legs in cans of water to keep ants from climbing them. But the stagnant water served as ideal breeding areas for mosquitoes.

John Stevens was determined that his men would not suffer the same fate that killed 20,000 French laborers. He and Colonel William Gorgas, his Sanitation Officer, were determined to rid the Canal Zone of the mosquito menace. Colonel Gorgas was particularly suited for the job. Oddly enough, his whole life had been influenced by yellow fever. His father had met his mother when she fled her home in Alabama during a yellow fever epidemic there in 1853. And when Colonel Gorgas was a young doctor combatting a similar epidemic along the Texas border in 1882, one of the patients he treated was a young woman who later became his wife. During this epidemic, Gorgas also contracted yellow fever. But he recovered with an immunity that served him well in later years.

Colonel Gorgas had worked with Dr. Walter Reed in Cuba during the Spanish American War, when Reed was searching for the cause of yellow fever. From the research done in Cuba, Gorgas knew that yellow fever and malaria were both transmitted by mosquitoes. But he had difficulty convincing members of the Isthmian Canal Commission of this crucial fact. They called his theory "balderdash," and became so incensed at his continued requests for equipment they finally demanded he be replaced, in their words, ". . . by a man of more practical views." Fortunately, Gorgas had the support of President Roosevelt and John Stevens, so he not only remained in Panama, he also received the supplies he needed. His war against the mosquito population in Panama started in the summer of 1905, and did not let up until both yellow fever and malaria were under control.

In his studies of mosquitoes, Gorgas learned that one of the most effective ways to eliminate them was to kill their eggs or larvae, which floated in

stagnant pools. He knew that the mosquito larvae had to come to the surface every few minutes for air, so his plan was simple: cover every open body of water with a thin coating of oil so the larvae would suffocate. He also proposed killing adult mosquitoes, through such methods as fumigating every house in the Canal Zone several times a year, and even paying men ten cents an hour to walk around all day, armed with fly swatters, to kill them.

Implementing Gorgas' proposals was quite an operation. With an army of 4,500 men, Gorgas went to work 10 hours a day, seven days a week, to destroy the mosquito threat in the Canal Zone — an area of 553 square miles. Men with oil cans strapped to their backs stalked the length and breadth of the Canal Zone, overturning any barrels which might breed mosquitoes, and spraying every pool they found. Swamps were drained and oil cans were even suspended over streams, to drip oil on the running water. In eighteen months, Gorgas' men had drained over 170 square miles of marsh land and laid over 500 miles of ditches.

At first, the Panamanians were skeptical of Colonel Gorgas' activities. They doubted he could rid the country of yellow fever and malaria, and said so in their newspapers. In June of 1905, for example, *El Diario de Panama* sourly predicted:

To excavate thirty million cubic yards of earth on the Isthmus of Culebra is an absolute impossibility; it is an error as great as fumigating all the houses in Panama to destroy mosquitoes, or trying to stamp out yellow fever on the Isthmus. To attempt it is a dream, an illusion, perhaps simply a case of American boasting.

The editors of *El Diario de Panama* would soon be eating their words, for as each month passed, the number of yellow fever victims became fewer and fewer. Then, on November 11, 1905, Colonel Gorgas and his staff gathered in the autopsy room at the Ancon Hospital for a historic occasion. On the table lay the body of a victim of yellow fever. "Take a good look at this man, boys," said Gorgas. "This is the last case of yellow fever you will ever see. There will never be any more deaths from this cause on the Isthmus." And he was right.

Concluding Thought

Gorgas' battle against malaria was just as successful, although it took longer to achieve. But by 1914, when the Canal was opened for limited shipping, there were no deaths from malaria in Panama. It has been estimated that Colonel Gorgas' victory over yellow fever and malaria saved at least 14,000 lives. There is no question it opened the way for John Stevens and his construction engineers to get to work on building one of the most valuable canal routes in the world.

Looking Ahead

After all the problems that had already been overcome, you might think that the actual construction, maintenance, and protection of the Panama Canal would turn out to be an easy task. That wasn't true, however. As we'll see next week, the struggle to complete the waterway was not yet won. But the Americans had demonstrated the drive and determination that would bring them victory.

DURING THE WEEK

Ask each family member to watch the newspapers or news magazines, or use a reliable book such as *The Business End Of Government* by Dan Smoot (available for \$1.00 from your nearest American Opinion Bookstore, or directly from American Opinion, Belmont, Massachusetts 02178) to find some current examples of interference and bungling by government bureaucrats that delayed or prevented some worthwhile program. For example, construction of the Alaska Pipeline has been delayed for over five years because of government intervention — helping to increase our dependence on foreign oil and contributing to the energy crisis.

The Family Heritage Series is an outstanding series of weekly lessons for the home, written to stimulate interest and spark discussion about the legacy we have received.

The Family Heritage Series is for all parents with school-age children. It is sure to be valued by all Americans who participate in its Heritage Hour discussions, and would be especially welcomed as a gift.

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