

Book Club: The Panama Canal



I don't know how people in our profession find time to read for pleasure. A stack of medical material is always awaiting my attention. Until earlier this year, it had been several years since I'd read something just for fun.

In January, I found myself in the Cayman Islands for a long weekend. Some friends of ours had a big house for a week that had been gifted to them through the husband's work. All we had to do was get ourselves there and back—too good to pass up.

There was a lot of downtime, lounging by the pool and sitting on the beach. Because I am not very good at doing nothing, my wife suggested I read a book. I checked my iPad, and lo and behold—I had purchased a book several years ago that I had never read. *The Path Between the Seas: The Creation of the Panama Canal, 1870-1914*, by David McCullough, chronicles the construction of the Panama Canal. Because I am sure that many of you, like me, are literarily challenged for lack of time, I will include the CliffsNotes summary.

The French began construction of the Panama Canal in 1881. A French aristocrat, diplomat, and developer named Ferdinand de Lesseps had previously led the construction of the Suez Canal, an engineering marvel. A hero to the French, he was considered the obvious choice to lead this project. He was charismatic and full of himself. He was so confident he could pull this feat off that he did not fully inspect the Panama Canal Zone. He relied on maps and technical reports, spending most of his time sweet-talking investors into financing the project—the Suez Canal had been quite lucrative for those on the ground floor.

De Lesseps projected that it would take less than 10 years to complete the canal. By 1889, with expenditures far exceeding all projections and with only a fraction of the work completed, the French government pulled the plug. The planners had not appreciated the challenges of construction through a tropical jungle, which exposed workers to brutal heat and humidity. They had not accounted for the relentless rains that ruined equipment and transformed the jungle into a muddy mess. They had not predicted the enormous mudslides that obliterated months of digging in mere hours. Finally, they had not realized what the human toll would be. Yellow fever and malaria ravaged the workers. It is estimated that 22,000 individuals succumbed to disease during this construction period. One story that stood out related to Jules Dingler, the chief engineer of the project from 1883 to 1885. He brought his wife, 20-year-old son, 18-year-old daughter, and daughter's fiancé to Panama. Over a two-year period, Dingler's daughter, son, daughter's fiancé, and finally his

wife all died of yellow fever.

When the French finally abandoned the ill-fated project in 1889, their expenditures had exceeded \$8 billion in 2017 dollars. The investors lost everything. Scandal ensued. The government collapsed and numerous individuals were accused of fraud, including de Lesseps' son and the engineer Gustave Eiffel, who worked on the project as a contractor.

The United States took over the project in 1904, and the American effort succeeded because two critical changes were made. First, the planners abandoned the notion of a sea-level canal and instead opted for a lock system, so that significantly less dirt had to be relocated. The American plan also included the construction of a dam to control the Chagres River, whose annual flooding periodically interfered with the work and tormented the builders. Second, the planners hired Dr William Gorgas as chief sanitary officer.

Gorgas, an army physician with expertise in tropical diseases, understood that yellow fever and malaria are mosquito-borne illnesses. He had nearly died of yellow fever in 1882 and was therefore now immune to the disease. He had been sent to Havana, Cuba, in 1901, where his steps to control the mosquito population cut the number of cases of yellow fever from 1400 to 37 in a single year. Although the Panama Canal Zone could be considered a "mosquito paradise," intense efforts to eliminate standing water, add screens to windows, use citronella as an insect repellent, and provide public education led to dramatic reductions in the number of cases of malaria and yellow fever. The American effort was Herculean; the project took 10 years and required the removal of 262 million cubic yards of dirt. The expenditure was \$8.6 billion in today's dollars, and more than 5000 lives were lost to accidents or disease.

I always try to take away something valuable from biographies or documentaries. The epic failure of the French effort was more the consequence of de Lesseps' hubris than anything else. He assumed that his Suez experience would apply in Panama and did not do his homework. Somehow, as we get older and "wiser," we need to remember to stay humble.

Until next month ...

A handwritten signature in black ink that reads "Brad Kahl".

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