

The Panama Canal: A New Frontier for Tech, Trade, and Travel

Theodore Orsted

Junior Division

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I thought it would be interesting to find a topic with ties to multiple facets of this year's theme, not just one. I wanted a topic I could connect to a geographical boundary, a bold achievement, and perhaps even a new idea. The other major criteria was that it be in the 20th century, so that primary source materials would be easier to find. Most importantly, it needed to be a topic I was very interested in but knew little about. I found the Panama Canal checked all of these boxes, especially with its strong ties to this year's theme. The canal was a catalyst of technical ideas, medical sciences, and political change, but it also brought about a major transformation of the physical landscape.

I began my research focused on secondary sources, establishing a foundation before I started on primary research. Since it was a federal affair, I used many government documents. Letters, newspaper articles, memoirs, and speeches gave me key insight into the actions, opinions, and motivations of major players and bystanders in the canal's inception and execution. I found a notable collection of U.S. government documents regarding the rift between the United States and Panama. I also uncovered an enlightening memoir from the head of the sanitary department in the Canal Zone chronicling his experiences and impressions.

I chose a paper as my category for the second time because I enjoy extensive research and the ability to go in-depth. To begin, I created a list of things I wanted to mention in my project. I wrote the whole paper chronologically, doing additional research whenever I discovered gaps in my knowledge. After I had finished the first draft, I went through and revised my paper twice. Thereafter, I received invaluable feedback from teachers, judges, and other trusted adults who helped improve my paper in ways I never could have on my own.

The construction and completion of the Panama Canal represented a new frontier for international trade and travel, and it revolutionized our ideas of what humans were capable of creating. Global maritime transactions rapidly experienced a radical and beneficial change. The canal also dictated the course of Panama-United States relations for over seventy years. But the Canal's realization is tainted by racist practices that brought it about. The Panama Canal remains as relevant today as it was when it was first built. It was envisioned centuries before it ever became reality. Following its grand opening in 1914, it was an instant step forward for both oceanic commerce and nautical transit. By linking the Atlantic and Pacific, ships could pass between the oceans much quicker, expediting international seafare. Panama became an independent nation as a result of the interest of the U.S. in the construction of the Panama Canal. This structure smashed previous notions of what we were once capable of building. The Panama Canal is called one of "The Seven Wonders of the Modern World," and it continues to be a gargantuan feat of ingenuity.

“No single great material work which remains to be undertaken on this continent is of such consequence to the American people as the building of a canal across the isthmus connecting North and South America.” - Theodore Roosevelt¹

Throughout human history, we’ve striven to expand our territory and the speed with which we travel through it. After Columbus brought the Americas to the attention of expansionist Europe in 1492, it became a target of colonization and an obstacle to smooth global seafaring.² In 1513, Vasco Nuñez de Balboa discovered that the connecting point between the two American continents was an isthmus³, dubbed the Isthmus of Darien, Panama’s future locale.⁴ In 1534, the King of Spain demanded a survey be conducted to discern the viability of a canal across the Isthmus of Darien.⁵ The survey’s results returned negative.⁶ The idea of a canal continued to be debated and pondered internationally for decades until the French broke ground in 1881, but they abandoned the project after eight disastrous years.⁷

The world, however, had not forgotten its dream of a path through the isthmus. Realizing the need for an easier route between the Atlantic and Pacific oceans, America labored in constructing the Panama Canal from May of 1904 until late 1913.⁸ Though plagued by

¹ Roosevelt, Theodore. "First Annual Message." *The American Presidency Project*, 3 Dec. 1901, www.presidency.ucsb.edu/documents/first-annual-message-16.

² "Christopher Columbus." *Ages of Exploration*, 28 Oct. 2013, exploration.marinersmuseum.org/subject/christopher-columbus/.

³ Isthmuses are thin swaths of land that divide two bodies of water and link two bigger landmasses, providing logical locations for structures such as ports, canals, and outposts.

⁴ Cutler, Thomas. "The Oregon and the Panama Canal." *U.S. Naval Institute*, 31 Oct. 2019, www.usni.org/magazines/proceedings/2019/november/oregon-and-panama-canal.

⁵ Ibid.

⁶ *Panama Exhibit Site*, Linda Hall Library, 6 Nov. 2014, panama.lindahall.org/.

⁷ Monger, Jenifer. "Panama Canal Centennial: The French Debacle." *Institute Archives and Special Collections*, 23 Sept. 2014, archives.rpi.edu/blog/2014/09/23/panama-canal-centennial-the-french-debacle.

⁸ *Congressional Record - Senate*. 19 June 1902, pp. 7-20 www.congress.gov/bound-congressional-record/1902/06/19/35/senate-section/article/7054-7084?q.

inequitable working conditions, the canal altered Panama-United States relations and helped shape Central America's economy. It became a new frontier for international trade and travel, alongside redefining our ideas of what humans were capable of creating.

Laying the Groundwork

In the early 1800s, canal technology entered a renaissance, beginning with the Erie Canal. After the federal government rejected proposals advocating a 363 mile canal from Lake Erie to the Atlantic Ocean, the State of New York took matters into its own hands.⁹ At the encouragement of Dewitt Clinton, New York's ex-governor, construction of the canal was authorized in 1817.¹⁰ Skeptics called it "Clinton's big ditch".¹¹ Clinton remained confident, believing that with the canal, "[New York City] will, in the course of time, become the granary of the world, the emporium of commerce, the seat of manufacturing, the focus of great moneyed operations...".¹² Clinton's comments proved prophetic, as after its completion in 1823 the Erie Canal revolutionized New York's relevance and spurred a boom of canal construction across America.¹³ Canals became the fastest and most ideal form of trade and transit until the invention of railroads two decades later tempered canals' relevance.¹⁴

As tensions rose on the international frontier, the United States and England attempted to retain amicable relations by signing the Clayton-Bulwer Treaty in 1850, vowing that neither

⁹ "Canal History." *New York State Canals*, www.canals.ny.gov/history/history.html.

¹⁰ Ibid.

¹¹ *The Alexandria Herald*, 19 May 1823, p. 2, *Chronicling America*. chroniclingamerica.loc.gov/lccn/sn84024513/1823-05-19/ed-1/seq-2/

¹² Forman, Samuel E. *Advanced American History*. New York and London the Century Co., 1924, p.284 books.google.com/books?id=DugbAAAAMAAJ&pg=PA284&lpg=PA284&dq#v=onepage&q&f=false.

¹³ "25a. The Canal Era [ushistory.org]." *US History*, www.ushistory.org/us/25a.asp.

¹⁴ Ibid.

would “ever obtain or maintain for itself any exclusive control over said [Central American] Ship Canal...”¹⁵ But the United States, capitalizing on the invention of the railroad, began building one across the Isthmus of Darien in May 1850 with the aim of accelerating coast to coast travel.¹⁶ The Panama Railroad was short compared to other railroads, a mere 50 miles, so its estimated completion time was just six months.¹⁷ Its administrators, however, didn’t account for terrible regional conditions, and its workers faced disease and harsh weather that extended the process by years.¹⁸ In 1855, the railroad was finally completed, and it was proclaimed: “the rough Atlantic is now wedded, with an iron band, to the fair Pacific.”¹⁹

The French Failure

French interest in canals began by building the Suez Canal linking the Mediterranean to the Red Sea. Emboldened with ambition following this massive success, they began looking towards new frontiers.²⁰ In 1878, the French secured rights to dig a canal connecting the Atlantic to the Pacific through Panama, a Colombian province at the time.²¹ One prominent diplomat from the construction of the Suez Canal, Ferdinand de Lesseps, transitioned to work on the

¹⁵ "Background Documents Relating to the Panama Canal / Prepared for the Committee on Foreign Relations, United States Senate, by Congressional Research Service of Library of Congress." *HathiTrust*, U.S. Government Printing Office Washington, 1977, p.27

babel.hathitrust.org/cgi/pt?id=umn.31951d008170806&view=1up&seq=18.

¹⁶ *Panama Exhibit Site*, Linda Hall Library, 6 Nov. 2014, panama.lindahall.org/.

¹⁷ "History of The Panama Railroad." *The Panama Railroad*, www.panamarailroad.org/history1.html.

¹⁸ Griswold, Chauncey D. *The Isthmus of Panama, and what I Saw There*. Baker, Godwin and Co. Printing, 1852, *Library of Congress*. pp. 99-110,

tile.loc.gov/storage-services/public/gdcmassbookdig/isthmusofpanamaw00gris/isthmusofpanamaw00gris.pdf.

¹⁹ "A Great Enterprise." *The Portland Transcript [Maine]*, 28 Jan. 1855, *Wikipedia Commons*. upload.wikimedia.org/wikipedia/commons/8/8d/Panama_RR_opens_JAN_28_1855.jpg.

²⁰ "The Suez Canal." *The New York herald*, 21 Nov. 1869, p. 3, *Chronicling America*. chroniclingamerica.loc.gov/lccn/sn83030313/1869-11-21/ed-1/seq-3/

²¹ See Appendix A

Panama venture.²² He became director of the Congrès International d'Etudes du Canal Interocéanique, which sought international companionship in the canal effort.²³ Former United States President Ulysses S. Grant was invited to represent America in the aforementioned committee, because as incumbent president, he had displayed a great deal of interest in an interoceanic canal.²⁴ He declined, stating: "I do not believe the proposed plan practicable with any amount of money that can be raised...to say nothing of the human lives that would be sacrificed in its construction."²⁵

Grant was wise to avoid the plan, as the Congrès, comprised mostly of diplomats, proved its incompetence in a series of missteps. For instance, it insisted on a sea level canal that no engineer found plausible.²⁶ Also, the Congrès utterly failed to account for yellow fever, malaria, and other diseases that would kill thousands.²⁷ Finally, in 1889, work halted when the canal company declared bankruptcy.²⁸ The French had faced the new frontier, and it had beaten them back.

²² Menocal, A. G. *Intrigues at the French Canal Conference*. University of North Iowa, 1879, *JSTOR*. www.jstor.org/stable/pdf/25100794.pdf.

²³ Monger, Jenifer. "Panama Canal Centennial: The French Debacle." *Institute Archives and Special Collections*, 23 Sept. 2014, archives.rpi.edu/blog/2014/09/23/panama-canal-centennial-the-french-debacle.

²⁴ Grant, Ulysses S. "First Annual Address." 6 Dec. 1869, <https://www.presidency.ucsb.edu/documents/first-annual-message-11>. Speech.

²⁵ Ulysses, Grant. "Letter regarding Panama Canal Proposal." *Gilder Lehrman Institute of American History*, 7 Jan. 1881, www.gilderlehrman.org/history-resources/spotlight-primary-source/panama-canal-proposal-1881.

²⁶ *International Congress for the Study of the Interoceanic Canal: held at the hotel of the Geographical Society: report of the sessions*. E. Marinet, 1879, *National Library of France*. gallica-bnf-fr.translate.goog/ark:/12148/bpt6k1092509q/f246.item?_x_tr_sl=fr&_x_tr_tl=en&_x_tr_hl=en&_x_tr_pto=sc&_x_tr_hist=true. pp. 9-10, 247-248.

²⁷ "Monsieur de Lesseps." *The Atlantic*, [Washington D. C.], Aug. 1895, pp. 1-3, cdn.theatlantic.com/media/archives/1895/08/76-454/132123333.pdf.

²⁸ "The Panama Catastrophe." *The Pittsburgh Dispatch*, 8 Jan. 1889, p. 4, *Chronicling America*. chroniclingamerica.loc.gov/lccn/sn84024546/1889-01-03/ed-1/seq-4/.

The United States Seeks a Canal

In 1898 tensions between America and Spain rose over Cuban independence and it became clear that more support was necessary in the Caribbean.²⁹ Theodore Roosevelt, Assistant Secretary of the Navy, had long advocated for greater attention to naval power.³⁰ He saw an opportunity to gain public support and military advantage by sending the finest battleship in the U.S. Navy, the USS Oregon, from San Francisco to Florida.³¹ Its 67 day journey took too long to satisfy U.S. military interests, strengthening Roosevelt's and the nation's desire for a faster way between the Atlantic and Pacific.³² When Roosevelt assumed the Presidency in 1901, he made it clear that the Panama Canal was a cardinal priority.³³

Roosevelt's administration immediately went to work on the Panama Canal, starting negotiations with Colombia, hoping to take over where the French had failed³⁴ Negotiators reached a treaty offering the Colombian government a ten million dollars down-payment plus \$250,000 dollars annually for ownership of the Panama Railroad and a six mile canal zone controlled exclusively by the United States.³⁵ The Colombian senate, at its people's request,

²⁹ "The President Favors Armed Intervention." *The Call*, [San Francisco], 12 Apr. 1898, p. 1, *Library of Congress*.
www.loc.gov/static/classroom-materials/spanish-american-war-the-united-states-becomes-a-world-power/documents/newspaper.pdf.

³⁰ Cutler, Thomas. "The Oregon and the Panama Canal." *U.S. Naval Institute*, 31 Oct. 2019, www.usni.org/magazines/proceedings/2019/november/oregon-and-panama-canal.

³¹ Carlson, Mark. "The Race of the USS Oregon." *U.S. Naval Institute*, 23 May 2020, www.usni.org/magazines/naval-history-magazine/2020/june/race-uss-oregon.

³² *Congressional Record - Senate*. 18 June 1902, p. 12
www.congress.gov/bound-congressional-record/1902/06/18/senate-section.

³³ Roosevelt, Theodore. "First Annual Message." *The American Presidency Project*, 3 Dec. 1901, www.presidency.ucsb.edu/documents/first-annual-message-16.

³⁴ Parker, Matthew. *Panama Fever: The Epic Story of One of the Greatest Human Achievements of All Time--the Building of the Panama Canal*. Doubleday Books, 2007.

³⁵ Hay, John, and Tratado Herran. *HAY ENTRE LA REPÚBLICA DE COLOMBIA Y LOS ESTADOS UNIDOS DE AMÉRICA*. 1903, loveman.sdsu.edu/docs/1903HayHerranTreaty.pdf.

rejected the treaty and demanded a \$25 million dollar down-payment instead.³⁶ Colombia's demands vexed the United States, and it began to consider alternatives.

Meanwhile, instability brewed between Colombia and its province, Panama, following a great and taxing civil war.³⁷ Additionally, Panamanians were unhappy that Colombia would receive the benefits of the canal and canal treaty instead of Panama.³⁸ Roosevelt made his support of Panamanian separatists well known to the press. When revolution broke out in 1903, United States battleships were sent to the isthmus to support Panama.³⁹ This was a textbook case of Roosevelt's "Big Stick diplomacy", which quickly ended the war.⁴⁰ The U.S. rapidly recognized Panama as a sovereign nation and Panama signed a treaty giving the U.S. rights to the canal.⁴¹ This treaty superseded the Clayton-Bulwer Treaty, and it was almost identical to the treaty offered to Colombia.⁴² The proposed Canal Zone was ten miles wide, four miles wider than the Colombian treaty.⁴³ There remains debate regarding whether Roosevelt overstepped his position, or if he acted with justification, but in Roosevelt's own words, "I took the Isthmus, started the canal, and then left Congress not to debate the canal, but to debate me ... but while the debate goes on the canal does too..."⁴⁴ By intervening in a war without Congressional

³⁶ "Milestones: 1899–1913." *Office of the Historian*, history.state.gov/milestones/1899-1913/panama-canal.

³⁷ *Panama Exhibit Site*, Linda Hall Library, 6 Nov. 2014, panama.lindahall.org/.

³⁸ McCullough, David. *The Path Between the Seas: The Creation of the Panama Canal, 1870-1914*. Simon & Schuster, 1977.

³⁹ Hay, John, et al. *November 16, 1903: Messages Regarding the Panamanian Revolution*. Miller Center, 3-13 Nov. 1903, millercenter.org/the-presidency/presidential-speeches/november-16-1903-message-regarding-panamanian-revolution.

⁴⁰ Roosevelt, Theodore. "'Speak Softly. . ." (Memory): American Treasures of the Library of Congress." *Wayback Machine*, Library of Congress, web.archive.org/web/20160908212906/www.loc.gov/exhibits/treasures/trm139.html.

⁴¹ "Canal Treaty is Ratified." *The Hartford Republican*, 26 Feb. 1904, p. 1, *Chronicling America*. chroniclingamerica.loc.gov/lccn/sn86069313/1904-02-26/ed-1/seq-1/.

⁴² *Ibid*.

⁴³ See Appendix-B

⁴⁴ Roosevelt, Theodore. 1911, University of California. https://college.cengage.com/history/ayers_primary_sources/roosevelt_congress_canal_1911.htm. Speech.

approval, Roosevelt's actions revealed a fuzzy and, at the time, unexplored boundary of presidential power, and showed the potential danger of a president convinced he's always right.

Construction Begins

America realized that setting up hospitals and housing in the Canal Zone would be extremely beneficial to the work, something the French didn't take into account.⁴⁵ Sanitation also needed to be a focus, as diseases had been detrimental to the French construction attempt.⁴⁶ After the discovery that mosquitoes carried yellow fever, multiple military doctors were called in to eradicate the insects using multiple processes at the frontier of medical sciences.⁴⁷ In the beginning, there was political pushback and gatekeeping, as sanitation was considered a waste of time and resources. But by 1908, methods such as screening, fumigating houses, and oiling still water soon proved their effectiveness by almost eradicating the majority of diseases that plagued the French.⁴⁸ These practices were not widely supported by the locals, who had immunity to many of the diseases, because it disrupted their lives by instituting new water systems, and altering their cooking and washing practices.⁴⁹ Colonel Gorgas, the head of the sanitary department, would claim that: "The work of the Sanitary Department of Panama had without

⁴⁵ "Roosevelt's "Big Stick" Foreign Policy | US History II (OS Collection)." *Lumen Learning - Simple Book Production*,
<https://courses.lumenlearning.com/suny-ushistory2os2xmaster/chapter/roosevelts-big-stick-foreign-policy/>

⁴⁶ Hoffman, Jon T., and Center of Military History. *The Panama Canal: An Army's Enterprise*. Government Printing Office, 2009, pp. 20-29
www.history.army.mil/html/books/panama/panamacanal/CMH-70-115-1-PanamaCanal.pdf.

⁴⁷ Doty, Alvah H. *The Mosquito: Its Relation to Disease and Its Extermination ... Illustrated*. New York and London D. Appleton and Company, 1912, *Harvard Library Curiosity Collections*.
curiosity.lib.harvard.edu/contagion/feature/tropical-diseases-and-the-construction-of-the-panama-canal-1904-1914.

⁴⁸ *Ibid.* p. 31

⁴⁹ *Ibid.* pp. 40-41

question been a most useful adjunct in the construction of the Canal.”⁵⁰ Gorga’s claim has merit, as sanitation efforts were certainly one cutting edge technology of the canal’s construction that brought about U.S. success as opposed to French failure.

The project began under the leadership of John Wallace, whose tenure proved mildly disastrous if partially for reasons outside of his control, like ancient machinery and the Isthmian Canal Commission (ICC) necessitating bureaucratic approval at each step.⁵¹ Wallace jumped ship in June of 1905, leading to John F. Stevens installment as Chief Engineer.⁵² Stevens improved worker morale by raising food quality, minimizing death in workplace accidents and supporting the sanitary department.⁵³ He also convinced Roosevelt and the ICC that a lock canal that would lift a ship up from sea level to a large lake before lowering it back to sea level later, was superior to a sea level canal that would require excavating an unrealistic amount of dirt.⁵⁴ The instituted three-step lock system was at the frontier of technology, with each concrete lock chamber’s dimensions measuring a massive 1,000 feet in length, 110 feet in width, and up to 81 feet in height, to raise and lower ships 85 feet.⁵⁵ After laying the foundation for the canal's success, Stevens resigned as he found himself being pressed to hire a nonoptimal contractor, something

⁵⁰ Gorgas, William C. *Sanitation in Panama*. D. Appleton and Company, 1915, *Wellcome Collection*. p. 279. wellcomecollection.org/works/f97wdqvn/items?canvas=16.

⁵¹ "Chief Engineers of the Panama Canal | American Experience | PBS." *PBS: Public Broadcasting Service*, 11 July 2017,

www.pbs.org/wgbh/americanexperience/features/panama-canal-chief-engineers-panama-canal/.

⁵² McCullough, David. *The Path Between the Seas: The Creation of the Panama Canal, 1870-1914*. Simon & Schuster, 1977.

⁵³ "John Frank Stevens." *ASCE*,

www.asce.org/about-civil-engineering/history-and-heritage/notable-civil-engineers/john-frank-stevens.

⁵⁴ See Appendix-C

⁵⁵ "Army Engineers and the Building of the Panama Canal, 1907 - 1914." *U.S. Army Corps of Engineers*, armyengineer.com/history/panama/projects/Locks/Locks.html.

which if unearthed, he thought would “prove embarrassing.”⁵⁶ After Stevens’ resignation, Lt. Colonel Goethals was made chief engineer and shepherded the project to its completion.⁵⁷

The United States faced this new frontier in part by adapting and innovating, but remained prone to fall back into its unfair labor practices. Men from outside the U.S. were the majority of workers, but their conditions were nowhere near as agreeable as the Anglo-Saxon workers.⁵⁸ Taking inspiration from Jim Crow laws in the south, the ICC instituted a Gold Payroll for white U.S. workers and a Silver Payroll for all other workers.⁵⁹ Those in the Gold Payroll received nicer housing alongside paid vacation and sick time, while the Silver Payroll had nothing of that sort, forming a rigid caste system.⁶⁰ Racism remained central to the Canal Zone for decades, even surrounded by low income Panamanians as it was.⁶¹

Whose Canal is it?

On August 15, 1914, the dream of a canal through the Isthmus of Darien was finally fulfilled when the canal opened to the public.⁶² In its first year, there were still issues to work out, and the canal’s hulking \$375 million dollar cost loomed over the project.⁶³ In that first year,

⁵⁶ Stevens, John F. "Letter from John F. Stevens to Theodore Roosevelt." *TR Center - Theodore Roosevelt Center Home*, 1 May 1907, www.theodorerooseveltcenter.org/Research/Digital-Library/Record/ImageViewer?libID=o55154&imageNo=1.

⁵⁷ "George Washington Goethals." *ASCE*, www.asce.org/about-civil-engineering/history-and-heritage/notable-civil-engineers/george-washington-goethals.

⁵⁸ Parker, Matthew. *Panama Fever: The Epic Story of One of the Greatest Human Achievements of All Time--the Building of the Panama Canal*. Doubleday Books, 2007. p. 380

⁵⁹ *Ibid.* pp. 381-385

⁶⁰ McCullough, David. *The Path Between the Seas: The Creation of the Panama Canal, 1870-1914*. Simon & Schuster, 1977. p. 557

⁶¹ Lasso, Marixa. *Erased: The Untold Story of the Panama Canal*. Harvard UP, 2019.

⁶² "Ancon officially opens Panama Canal today." *New York Tribune*, 15 Aug. 1914, p. 14, *Chronicling America*. chroniclingamerica.loc.gov/lccn/sn83030214/1914-08-15/ed-1/seq-14/.

⁶³ Canal Zone, Governor. "Annual Report 1914-15 V. 1." *HathiTrust*, Washington Government Printing Office, 1915, babel.hathitrust.org/cgi/pt?id=uc1.b3002069&view=1up&seq=9.

however, roughly one-thousand transits carried over one million tons of material through the canal, a profound change in maritime trade and travel.⁶⁴ The canal soon hit its stride and began making significant profit, just as the Panamanian government had hoped.⁶⁵ However, because of treaty clauses that unfairly benefited the U.S., Panama was mostly cut out of profiting off the canal cutting right through their nation.⁶⁶

As the canal continued operating successfully, Panamanian contempt for the United States kept growing alongside U.S. disregard for Panama. Towards the very end of the 1950s, Panama became more vocal about its displeasure of total United States canal control, leading some Americans to sympathize with Panama's situation and advocate for the relationship to be reevaluated.⁶⁷ Others reasoned that, "Panamanian reaction to the presence of foreign jurisdiction astride its national territory is, by and large, emotional."⁶⁸ This statement reveals a U.S. bias of the time, categorizing the Panamanian response as irrational, ignoring that the U.S. had taken control of land cutting straight through Panama through unfair treaty terms. Soon began a new and bloodier frontier in U.S.-Panama relations, highlighted by riots and unrest. It climaxed in 1964 when Panamanians rioted after a Canal Zone high school refused to fly the Panamanian flag alongside the U.S. flag.⁶⁹

⁶⁴ "Tonnage and Number of Transits, Panama Canal, 1915-2020." *Port Economics, Management and Policy | A Comprehensive Analysis of the Port Industry*, 8 Jan. 2021, porteconomicsmanagement.org/pemp/contents/part1/interoceanic-passages/tonnage-number-transits-panama-canal/.

⁶⁵ Maurer, Noel, and Carlos Yu. "What Roosevelt Took: The Economic Impact of the Panama Canal, 1903-29." *Harvard Business School*, 5 July 2006, hbswk.hbs.edu/item/what-roosevelt-took-the-economic-impact-of-the-panama-canal-1903-29.

⁶⁶ *Ibid.*

⁶⁷ Reinhardt. *Memorandum to Mr. Reinhardt from Mr. Rubottom concerning Panama and the Canal Zone*. National Archives, 1959, *National Archives NextGen Catalog*. catalog.archives.gov/id/45646445.

⁶⁸ *Briefing Paper for Dec. 3 Session of National Advisory Committee on Inter-American Affairs*. 1959, *National Archives NextGen Catalog*. catalog.archives.gov/id/45646447?objectPage=2.

⁶⁹ "50 Years Ago This Week, Riots Determined the Fate of the Panama Canal." *The World from PRX*, 11 Jan. 2014, theworld.org/stories/2014-01-10/50-years-ago-week-riots-determined-fate-panama-canal.

Meanwhile, the U.S. made efforts to appease Panama, like agreeing to pay Panamanian workers more, but did so to further its own goal of an additional canal on Panamanian soil at sea level, which would never come to pass.⁷⁰ Adversely Panama's main concerns were the canal and Canal Zone, which most Panamanians thought should be theirs. Panamanians also refused to compromise on American military presence, a perceived threat to their independence.⁷¹ All these issues remained in diplomatic limbo until 1972 when treaty renegotiations began in earnest.⁷²

In 1977, following talks with Panama and facing international pressure, the United States ultimately yielded and agreed to dual ownership of the Panama Canal until December 31, 1999, at which point Panama would receive full control of the canal.⁷³ After refusing for so long, the U.S. was finally "[a]cknowledging the Republic of Panama's sovereignty over its territory[...]"⁷⁴. Reactions were somewhat mixed among U.S. citizens.⁷⁵ Although the canal had helped them in the past, the military had little quarrel with this decision, as the canal was considered a defense liability due to its many weak points susceptible to attack.⁷⁶

The transition of the canal to Panama was smooth, and the canal continues to be a roaring success.⁷⁷ Approximately 2,740 ships use the canal yearly, earning the canal \$4.2 billion dollars

⁷⁰ Newbegin. *Memorandum to Mr. Mann from Ambassador Newbegin concerning briefing of Congressional Leadership*. 1964, *National Archives NextGen Catalog*. catalog.archives.gov/id/45646367?objectPage=4.

⁷¹ Sayre, Robert. *Letter to Harry Shlaudeman from Robert Sayre*. 1973, *National Archives NextGen Catalog*. catalog.archives.gov/id/45646574.

⁷² *Memorandum for the Record concerning Treaty Negotiations*. 1972, *National Archives NextGen Catalog*. catalog.archives.gov/id/45646652?objectPage=2.

⁷³ *Panama Canal Treaty*. 1978, *Library of Congress*. <https://www.loc.gov/item/2021699988/>

⁷⁴ *Ibid.*

⁷⁵ Hudson, Richard. "Storm Over the Canal." *The New York Times*, 16 May 1976, www.nytimes.com/1976/05/16/archives/storm-over-the-canal-the-military-and-economic-importance-of-the.html.

⁷⁶ "PANAMA CANAL ROLE FADES FOR MILITARY." *Chicago Tribune*, 13 Apr. 1988, www.chicagotribune.com/news/ct-xpm-1988-04-13-8803080422-story.html.

⁷⁷ "All the Records Broken by the New Panama Canal." *We Build Value*, 15 June 2022, www.webuildvalue.com/en/reportage/new-panama-canal-records.html.

in 2022.⁷⁸ With its latest expansion that enlarged the locks and allowed bigger ships through, the canal has continued to stay at the cutting edge of technology.⁷⁹ Three percent of global maritime trade passes through the canal, mostly from the Americas and East Asia.⁸⁰ Although the canal and its adjuncts provide nearly one-third of Panama's income, it is not enough to prevent a quarter of Panama's population, most of them farmers, from living in poverty.⁸¹ Even worse, the canal's maintenance takes water away from farmers who need it to survive.⁸²

Conclusion

In summary, the Panama Canal's accomplishments as a new frontier for trade and travel can in no way be overstated. For its outstanding technical innovations, it has been dubbed both a Wonder of the Modern World and a Monument of the Millennium by the American Society of Civil Engineers.⁸³ It's the greatest material project ever constructed in the Americas. The canal was also a cornerstone in Panamanian-U.S. relations for decades, and accounts for a great deal of Panama's GDP today. In remembering the Canal, however, one cannot do so without commemorating the discriminatory practices responsible for its completion. As the sole Atlantic-Pacific canal, it has tremendously altered modern shipping and transit. This 51 mile

⁷⁸ Ibid.

⁷⁹ Miller, Kahuina, and Tetsuro Hyodo. "Impact of the Panama Canal expansion on Latin American and Caribbean ports: difference in difference (DID) method." *Journal of Shipping and Trade*, vol. 8, no. 1 2021.

⁸⁰ Sáenz, Esteban G. "The Expanded Panama Canal; Were the forecasts correct?" 2019, <https://aapa.files.cms-plus.com/2019Seminars/Shifting/Esteban%20Saenz.pdf>. Presentation.

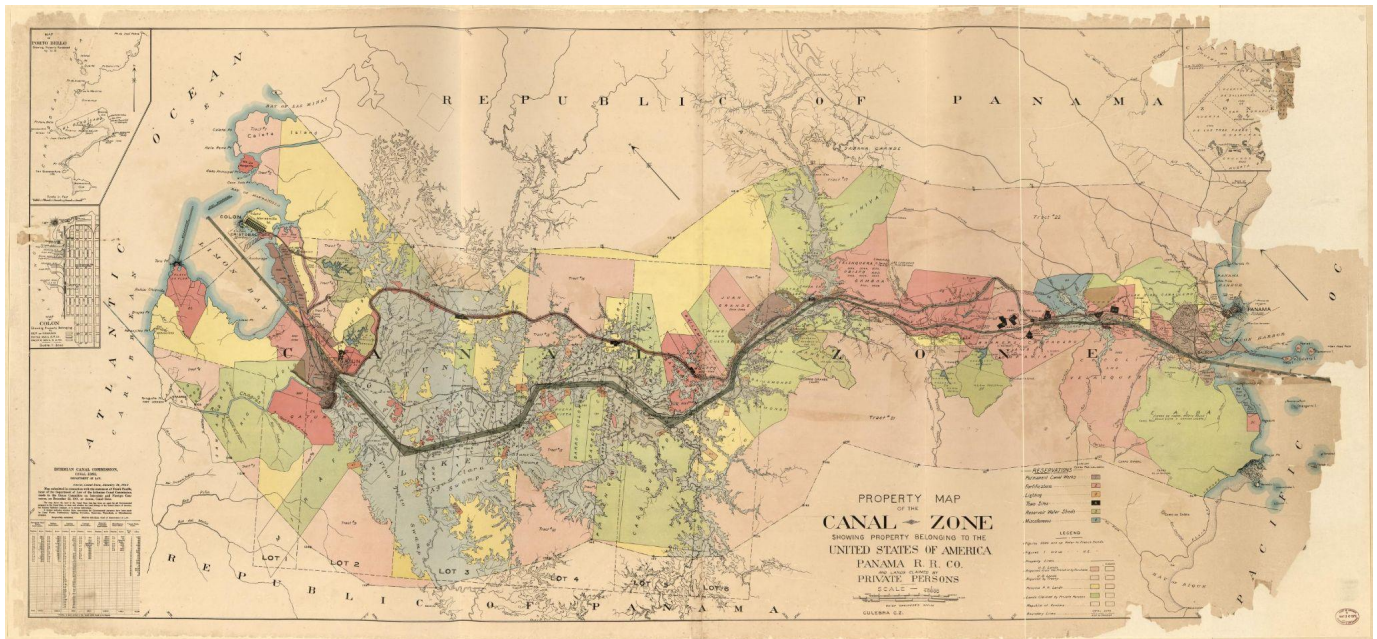
⁸¹ Thelwell, Kim. "10 Disturbing Facts About Poverty in Panama." *The Borgen Project*, 29 Mar. 2022, borgenproject.org/about-poverty-in-panama/.

⁸² Ibid.

⁸³ "Panama Canal Named C.E. Monument of Millennium." www.czbrats.com/Articles/ASCE.htm.

canal remained an unconquerable frontier for centuries, until determination, perception, and brilliance conquered the impossible.

Appendix B



This is a map of the Canal Zone. The thicker, greenish line is the Panama Canal while the thinner red one is the Panama Railroad. The colored section indicates the area of the ten mile canal zone.

"Property map of the Canal Zone showing property belonging to the United States of America, Panama R. R. Co., and lands claimed by private persons." Map. *Library of Congress*, Isthmian Canal Commission,

www.loc.gov/resource/g4872c.pcc00006/?r=-0.006,0.001,1.188,0.518,0

Appendix C

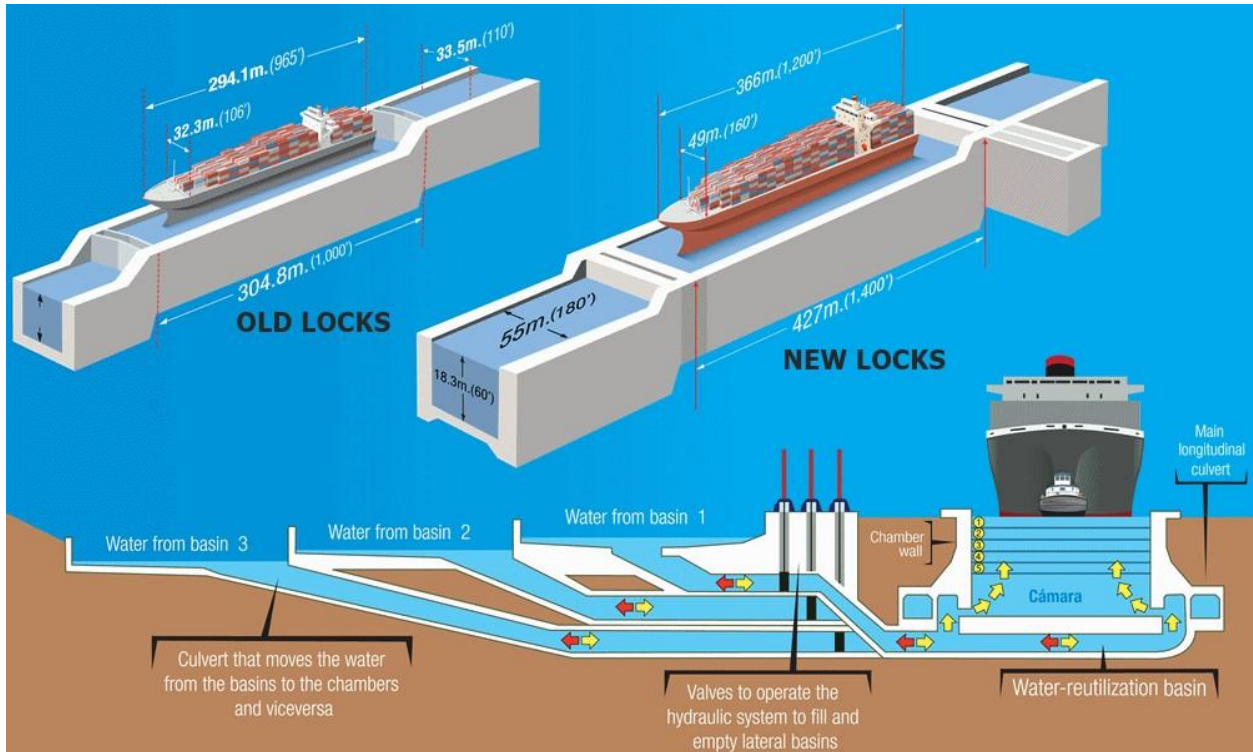


Diagram showing how water is used to fill or empty the lock chamber to raise or lower a ship. A lock canal was chosen because the other option, a sea-level canal, which would be a direct sea-level path between the oceans, would require too much digging.

"Panama Canal Lock System Diagram." Diagram. *CruiseMapper*,
www.cruisemapper.com/ports/panama-canal-port-442.

Annotated Bibliography

Primary

"A Great Enterprise." *The Portland Transcript [Maine]*, 28 Jan. 1855, *Wikipedia Commons*.
upload.wikimedia.org/wikipedia/commons/8/8d/Panama_RR_opens_JAN_28_1855.jpg.

The Portland Transcript released this article containing information about the completion of the Panama Railroad. It briefly contextualizes information for the reader. It also features a sentence about the Panama Railroad that I found to be brilliantly written, and quoted in my paper.

The Alexandria Herald, 19 May 1823, p. 2, *Chronicling America*.
chroniclingamerica.loc.gov/lccn/sn84024513/1823-05-19/ed-1/seq-2/

A volume of the Alexandria Herald published in 1823. From it I learned about the first shipment through the Erie Canal, which I reference in my paper. But most valuable to me was its mention of the term "Clinton's big ditch" a term that I referenced in my Paper, and the fact that it provided primary source confirmation that the aforementioned nickname existed.

"Ancon officially opens Panama Canal today." *New York Tribune*, 15 Aug. 1914, p. 14,
Chronicling America.
chroniclingamerica.loc.gov/lccn/sn83030214/1914-08-15/ed-1/seq-14/.

This story on the opening of the Panama Canal by the New York Tribune helped me to understand very specific details about what went on during the canal's first day. I found detailed information here about the first official voyage through the canal, and it helped me determine what the press thought of the project upon its completion. Mostly it helped me touch on the official opening date.

"Background Documents Relating to the Panama Canal / Prepared for the Committee on Foreign Relations, United States Senate, by Congressional Research Service of Library of Congress." *HathiTrust*, U.S. Government Printing Office Washington, 1977,
babel.hathitrust.org/cgi/pt?id=umn.31951d008170806&view=1up&seq=18.

A massive collection of government records was extremely helpful in furthering comprehension of the Panama Canal from an U.S. point of view. It taught me about

various treaties, the French attempt, and was overall highly beneficial to my understanding of my topic diplomatically. I used it when discussing the Clayton-Bulwer Treaty and French interest in a canal through Central America.

Briefing Paper for Dec. 3 Session of National Advisory Committee on Inter-American Affairs. 1959, National Archives NextGen Catalog.
catalog.archives.gov/id/45646447?objectPage=2.

I learned about schools of thought in the U.S. government that were in my opinion rather unfair to Panama and mentioned them in my paper. The author constantly calling Panama 'emotional' in relation to the United States' presence sits a little funny, especially since Panama was, for all intents and purposes, strong-armed into signing a contract that was unfair to them. Had the original terms of the treaty been more considerate of Panamanian sovereignty and dignity, it would be a less egregious affront to Panamanian dignity.

Bunau-Varilla, Philipe, and John Hay. *Convention for the Construction of a Ship Canal (Hay-Bunau-Varilla Treaty), November 18, 1903.* 1903, *Lillian Goldman Law Library.*
avalon.law.yale.edu/20th_century/pan001.asp.

Reading the treaty between the United States and Panama concerning the construction of the ship canal was enlightening, as there are very few times any nation would agree to the clauses in this document, yet Panama unfortunately found itself in such a position. With the implicit threat of U.S. support vanishing, Panama gave a large chunk of its land away as a colony, consented to be quite nearly at the whims of the United States military, and found itself with little stake in the Panama Canal. I made a comparison between this treaty and the treaty offered to Colombia, besides just talking about the terms of the treaty.

"Canal Treaty is Ratified." *The Hartford Republican*, 26 Feb. 1904, p. 1, *Chronicling America.*
chroniclingamerica.loc.gov/lccn/sn86069313/1904-02-26/ed-1/seq-1/.

This article by the Hartford Republican gave me information about the ratification of the treaty with Panama enabling the United States to construct the Panama Canal. Especially notable was the source's in-depth account of the ratification process in Congress and brief section regarding how Panamanian diplomats and officials would proceed.

Canal Zone, Governor. "Annual Report 1914-15 V. 1." *HathiTrust*, Washington Government Printing Office, 1915, babel.hathitrust.org/cgi/pt?id=uc1.b3002069&view=1up&seq=9.

The annual report of the Governor of the Canal Zone shed light on the logistics of the Panama Canal helped me understand the complexity of the servicing of the canal, from sanitation to lock maintenance. Though primarily concerned with the canal, I found that it was also filled with records of civilian life, like civil and criminal cases, or taxes, which reminded me that the Canal Zone was a residential area too. I mentioned in my paper the hardship of the first year made apparent here.

Congressional Record - Senate. 18 June 1902, p. 12

www.congress.gov/bound-congressional-record/1902/06/18/senate-section.

I was happy to locate this record of the congressional affairs of the 57th Congress's in its first session, on June 18, 1902. In particular I was interested in page twelve, which proved that the voyage of the USS Oregon had a direct impact on the United State's decision to construct a Canal linking the Atlantic and Pacific. This solidified my confidence in the relevance of the USS Oregon to the construction of the Panama Canal.

Congressional Record - Senate. 19 June 1902, pp. 7-20

www.congress.gov/bound-congressional-record/1902/06/19/35/senate-section/article/7054-7084?q.

This is a record of the 57th Congress's final day of deliberation about the canal through the Isthmus of Darien. They vote in favor of a canal, although they believe it will be a Colombian canal, not a Panamanian one. In my paper this helped show that Congress finally recognized the need for the Panama Canal.

"Diplomatic History of the Panama Canal : Correspondence Relating to..." *HathiTrust*, Washington Government Printing Office, 1914, babel.hathitrust.org/cgi/pt?id=hvd.32044070728738&view=1up&seq=7.

Above is a collection of telegrams spanning the majority of close U.S. involvement in the canal until around its completion helped me to understand a variety of things. Most of all it showed the U.S. government's reactions and adaptation to certain events.

Doty, Alvah H. *The Mosquito: Its Relation to Disease and Its Extermination ... Illustrated*. New York and London D. Appleton and Company, 1912, *Harvard Library Curiosity Collections*.

curiosity.lib.harvard.edu/contagion/feature/tropical-diseases-and-the-construction-of-the-panama-canal-1904-1914.

Alvah Doty's 1912 medical book about the mosquito explains what kind of danger they

pose, and how to eliminate the aforementioned danger. This showed me how extermination practices functioned outside of the Canal Zone, though it did take special note of the efforts of the Panama Canal's Sanitary Department. Additionally, it provided me with some understanding of how mosquitoes carried and spread diseases like yellow fever.

Forman, Samuel E. *Advanced American History*. New York and London the Century Co., 1924, books.google.com/books?id=DugbAAAAMAAJ&pg=PA284&lpg=PA284&dq=#v=onepage&q&f=false.

I was only interested in the very brief section of this book concerning the Erie Canal. Importantly, I found a fascinating primary quote that I used in my paper, alongside some information about the Erie Canal's construction. This primary quote and further details in the chapter helped me to contextualize the history of canals in the United States.

Grant, Ulysses S. "First Annual Address." 6 Dec. 1869, <https://www.presidency.ucsb.edu/documents/first-annual-message-11>. Speech.

In his first address to Congress, Grant mentions how he wishes to conduct surveys regarding the feasibility of a canal through the Central-American Isthmus. This was an example of early U.S. interest in an interoceanic canal, and showed that Grant had displayed interest in a interoceanic canal, which is why the French contacted him about being a representative of America in the Congrès International d'Etudes du Canal Interocéanique.

Grant, Ulysses S. "Letter regarding Panama Canal Proposal." *Gilder Lehrman Institute of American History*, 7 Jan. 7, www.gilderlehrman.org/history-resources/spotlight-primary-source/panama-canal-proposal-1881.

This letter from Ulysses S. Grant was written in response to a request to join an international coalition, chaired by the French, which would build the Panama Canal. Grant declined in a very blunt manner, explaining why he thought the project would come to nothing but wasted money, which was correct. I took a part of this letter and quoted it when discussing the French attempt at constructing the Panama Canal.

Gorgas, William C. *Sanitation in Panama*. D. Appleton and Company, 1915, *Wellcome Collection*. wellcomecollection.org/works/f97wdqvn/items?canvas=16.

This account of the sanitary efforts in Panama penned by William Gorgas, the head of the sanitation department, gave me a glimpse into the details of how the sanitation department was run and viewed by others in the Canal Zone. Besides this, I was fascinated by Gorgas's interesting opinions around the relevance of sanitary efforts to the canal. The memoir contained a quote from Gorgas that I analyzed in my paper.

Griswold, Chauncey D. *The Isthmus of Panama, and what I Saw There*. Baker, Godwin and Co. Printing, 1852, *Library of Congress*.
tile.loc.gov/storage-services/public/gdcmassbookdig/isthmusofpanamaw00gris/isthmusofpanamaw00gris.pdf.

The bits concerning him as a doctor to the Panama Railroad company were what I found most interesting and useful. I didn't find any other account of the conditions of the railroad workers like this one. I was delighted to find the account of a field doctor from such a disease-ridden endeavor, which helped me illustrate the terrible conditions of workers.

Hay, John, and Tratado Herran. *HAY ENTRE LA REPÚBLICA DE COLOMBIA Y LOS ESTADOS UNIDOS DE AMÉRICA*. 1903,
loveman.sdsu.edu/docs/1903HayHerranTreaty.pdf.

I could only find the draft of a potential treaty between Colombia and the U.S. for a canal in Spanish. I translated the document online and checked some parts with my Spanish teacher so I could compare and contrast it with the treaty offered to Panama. Finding general similarity in some places, but worse terms in others, indicated the U.S. thought it could take whatever it wanted from Panama.

Hay, John, et al. *November 16, 1903: Messages Regarding the Panamanian Revolution*. Miller Center, 3-13 Nov. 1903,
millercenter.org/the-presidency/presidential-speeches/november-16-1903-message-regarding-panamanian-revolution.

The trove of telegrams I discovered chronicling correspondence between U.S. officials about the Panama Canal are very interesting. It gave unique opinions about the revolution and showed other possible scenarios being considered. It helped me give a summary of the events of the Panama Revolution, especially from the U.S. perspective.

Hudson, Richard. "Storm Over the Canal." *The New York Times*, 16 May 1976,
www.nytimes.com/1976/05/16/archives/storm-over-the-canal-the-military-and-economic-importance-of-the.html.

Richard Hudson's 1976 article about public sentiment towards - at the time - ongoing treaty renegotiations highlighted some of the uneducated beliefs of the time. Many U.S. citizens believed that the canal was an American canal, quite an unjust opinion. In my paper I cited this when talked about the mixed U.S. perspectives on the treaty negotiations.

International Congress for the Study of the Interoceanic Canal: held at the hotel of the Geographical Society: report of the sessions. E. Marinet, 1879, *National Library of France*. pp. 9-10, 247-278.
gallica-bnf-fr.translate.google.com/ark:/12148/bpt6k1092509q/f246.item?_x_tr_sl=fr&_x_tr_tl=en&_x_tr_hl=en&_x_tr_pto=sc&_x_tr_hist=true.

This particular document happened to only be available in French, but using an online translator I managed to find what I was looking for: evidence of the Congrès arrogance. Dewitt Clinton stands and boldly proclaims the work on the canal will be simple so long as it is at sea level. Later, an actual engineer stands to contradict him, explaining that a lock canal would be difficult, but a sea level canal would make no sense whatsoever.

Lasso, Marixa. *Erased: The Untold Story of the Panama Canal*. Harvard UP, 2019.

Marixa Lasso's dive into the Panama Canal shines a light on the Panamanian perspective. As a child growing up in Panama during the 70's, she would drive through the Canal Zone when her family took trips to places on the other side of the Canal Zone and were awed by how different it was. Her primary perspective combined with her exemplary scholarly research made the book an amazing source for me to use when touching on Panama's perspective on the Panama Canal.

"Letter from John F. Stevens to Theodore Roosevelt." *TR Center - Theodore Roosevelt Center Home*, 1 May 1907,
www.theodorerooseveltcenter.org/Research/Digital-Library/Record/ImageViewer?libID=o55154&imageNo=1.

A was a letter from John F. Stevens, at that point chief engineer of the canal project to incumbent president Theodore Roosevelt. In the letter, Stevens discusses his resignation over a suspicious monetary ordeal perpetrated by other high ranking officials, which made its way into my paper.

Memorandum for the Record concerning Treaty Negotiations. 1972, *National Archives NextGen Catalog*. catalog.archives.gov/id/45646652?objectPage=2.

I found this memorandum of a conversation between an American official and the leader of Panama discussing what their respective nations sought in the negotiations that were to come. In my paper I took it as sort of an outline for what both sides wanted going into treaty negotiations, even if a somewhat incomplete one.

Menocal, A. G. *Intrigues at the French Canal Conference*. University of North Iowa, 1879, *JSTOR*. www.jstor.org/stable/pdf/25100794.pdf.

The article taught me about what happened when Panama Canal supporters convened in Paris. From the text one could gather that from early on Ferdinand de Lesseps was a major leader among those eager to attempt and repeat the magic of the Suez at Panama. I used this when touching on the build-up to the French attempt.

"Monsieur de Lesseps." *The Atlantic*, [Washington D. C.], Aug. 1895, pp. 1-3, cdn.theatlantic.com/media/archives/1895/08/76-454/132123333.pdf.

A fascinating article by The Atlantic which shined a light on Ferdinand de Lesseps. It highlighted his political and personal scandal in relation to the Panama Canal. I specifically found its limited information about his misdeeds useful in my paper.

Newbegin. *Memorandum to Mr. Mann from Ambassador Newbegin concerning briefing of Congressional Leadership*. 1964, *National Archives NextGen Catalog*. catalog.archives.gov/id/45646367?objectPage=4.

This was a list of priorities the U.S. had for diplomatic relations with Panama. Something I found very interesting was America's interest in a new sea-level canal, which I hadn't found anywhere else, and I broached this topic when discussing the U.S. and Panama's post canal completion priorities.

Panama Canal Treaty. 1978, *Library of Congress*. <https://www.loc.gov/item/2021699988/>

The Panama Canal Treaty of 1977 finally returned the canal to Panama. I read through the treaty to check what exact phrasing and language was used, as well as to look at some of the major treaty terms. I used this when I explained how Panama and the United States reached a new and fairer treaty.

"The Panama Catastrophe." *The Pittsburgh Dispatch*, 8 Jan. 1889, p. 4, *Chronicling America*. chroniclingamerica.loc.gov/lccn/sn84024546/1889-01-03/ed-1/seq-4/.

The Pittsburgh Dispatch newspaper article above titled “The Panama Catastrophe” was a report on the end of French operations in Panama as they had gone bankrupt. I felt the disapproving tone used toward the French and optimistic one regarding the Americans to sound fairly biased, and noted a racist tone on several occasions. I found this helpful when talking about how the French failed at building the Panama Canal when their company finally went bankrupt.

"The President Favors Armed Intervention." *The Call*, [San Francisco], 12 Apr. 1898, p. 1, *Library of Congress*.
www.loc.gov/static/classroom-materials/spanish-american-war-the-united-states-becomes-a-world-power/documents/newspaper.pdf.

The Call discusses tensions between Spain and America in this 1898 article, and the Likeness of said tensions to blow up into war. In my paper, this was used to show the build-up to the Spanish-American War, the reason why the USS Oregon was sent around the tip of South America.

Reinhardt. *Memorandum to Mr. Reinhardt from Mr. Rubottom concerning Panama and the Canal Zone*. National Archives, 1959, *National Archives NextGen Catalog*.
catalog.archives.gov/id/45646445.

This government document showed that America found Panama somewhat unruly, especially after multiple violent protests by citizens. This was perspective I found interesting because of its unjust bias against the Panamanians. During my paper, this helped me show rising tension between the United States and Panama.

Roosevelt, Theodore. 1911, University of California.
https://college.cengage.com/history/ayers_primary_sources/roosevelt_congress_canal_1911.htm. Speech.

Theodore Roosevelt delivered this speech at the University of California in 1911. In it he addressed, and even boasted about, his role in the Panamanian Revolution, undoing the work of those who had tried to frame it as America aiding a foreign land's struggle for independence. I quoted this in my paper to show his true feelings about his involvement in the Panama Revolution.

Roosevelt, Theodore. "First Annual Message." *The American Presidency Project*, 3 Dec. 1901, www.presidency.ucsb.edu/documents/first-annual-message-16.

In Roosevelt’s first State of the Union address, the Panama Canal was a major topic. He

made it clear that a canal was one of his primary goals, and that he considered it of immense importance. I placed this quote at the beginning of my paper because I thought it was very relevant to what I would be talking about.

Roosevelt, Theodore. "'Speak Softly. . ." (Memory): American Treasures of the Library of Congress." *Wayback Machine*, Library of Congress, web.archive.org/web/20160908212906/www.loc.gov/exhibits/treasures/trm139.html.

This was a letter by Theodore Roosevelt to Henry L. Sprague. It is one of the first instances of Roosevelt using the proverb, "Speak softly and carry a big stick; you will go far." This proverb would be an excellent descriptor of his foreign and domestic policy throughout his political career.

Sayre, Robert. *Letter to Harry Shlaudeman from Robert Sayre*. 1973, *National Archives NextGen Catalog*. catalog.archives.gov/id/45646574.

Robert Sayre wrote this letter to Harry Shlaudeman in 1973. I was mostly concerned with the negative public sentiment in Panama around the involvement of the U.S. military in Panamanian affairs, and its presence on Panamanian soil. It helped me to deepen my understanding of why Panamanians would protest American canal ownership.

"The Suez Canal." *The New York herald*, 21 Nov. 1869, p. 3, *Chronicling America*. chroniclingamerica.loc.gov/lccn/sn83030313/1869-11-21/ed-1/seq-3/

The New York Herald reported on the success of the Suez Canal in 1869. It mentioned a christening voyage, and the major accomplishment that the canal was. This helped me show that the Suez was successful enough for the French to immediately consider building another.

Secondary

"25a. The Canal Era [ushistory.org]." *US History*, www.ushistory.org/us/25a.asp.

This webpage explained what happened in the aftermath of the Erie Canal. America experienced a boom of canal construction, and it became a primary method of transportation. It helped me to explain the significance of the Erie Canal in America's history of canal building.

"All the Records Broken by the New Panama Canal." *We Build Value*, 15 June 2022, www.webuildvalue.com/en/reportage/new-panama-canal-records.html.

The presentation above showed me several facts and figures about the Panama Canal's efficiency in modern times. It also talks about the recent expansion of the canal and that expansion's impact on its operation. It gave me some of the Panama Canal's yearly data, its income and transit numbers, which I put in my paper to show its relevance in modern times.

"Army Engineers and the Building of the Panama Canal, 1907 - 1914." *U.S. Army Corps of Engineers*, armyengineer.com/history/panama/projects/Locks/Locks.html.

The U.S. Army Corps of Engineers section about the Panama Canal proved very beneficial to my research. It let me understand the way the canal was built, especially the locks. It also listed all the engineers involved in the project. Helpful for my project was its very detailed account of the lock system, including its dimensions and functionality.

"Canal History." *New York State Canals*, www.canals.ny.gov/history/history.html.

A comprehensive guide to the history of the Erie Canal was exactly what I needed to kickstart my understanding of a canal I never knew existed until I had to research canal history for this project. This had a plethora of information related to the Erie Canal that helped me know where I had to research further. In my paper, it helped me clarify why the State of New York took up the project instead of the federal government.

Carlson, Mark. "The Race of the USS Oregon." *U.S. Naval Institute*, 23 May 2020, www.usni.org/magazines/naval-history-magazine/2020/june/race-uss-oregon.

This article from the U.S. Naval Institute covered the trip of the USS Oregon from San Francisco down and around the tip of South America, Cape Horn, and back up to Florida. The USS Oregon's impressive yet long journey helped garner support for a more efficient way of seafaring from West Coast to East Coast, like the Panama Canal.

"Chief Engineers of the Panama Canal | American Experience | PBS." *PBS: Public Broadcasting Service*, 11 July 2017, www.pbs.org/wgbh/americanexperience/features/panama-canal-chief-engineers-panama-canal/.

I used this article from PBS to find out which chief engineer accomplished what. I discovered that although Lt. Colonel Goethals worked on the project the longest and brought it to completion, John F. Stevens was perhaps the most impactful of the three Chief Engineers. This was a useful guide for my paragraph about the Chief Engineers of

the Canal and what was accomplished during their tenure.

Christopher Columbus." *Ages of Exploration*, 28 Oct. 2013, exploration.marinersmuseum.org/subject/christopher-columbus/.

The webpage for Christopher Columbus created by Ages of Exploration taught me about not just his most famous voyage. Columbus himself set off on a voyage to discover a waterway through the isthmus. When talking about how his discovery of the Americas also led to the realization that the Americas were an obstruction to simple global seafare, I consulted this source.

Cutler, Thomas. "The Oregon and the Panama Canal." *U.S. Naval Institute*, 31 Oct. 2019, www.usni.org/magazines/proceedings/2019/november/oregon-and-panama-canal.

This article explained the direct influence the long coast to coast voyage of the USS Oregon had on the Panama Canal. It gave details on the sailing of the ship to the Caribbean, and contextualized the state of the Navy at the time, especially Theodore Roosevelt's role in it. That information helped me to explain the significance of this voyage in my paper.

Evers, Jeannie. "Isthmus." *National Geographic*, National Geographic Society, 20 May 2022, education.nationalgeographic.org/resource/isthmus.

I used this National Geographic entry to define the word "isthmus" in my paper.

"George Washington Goethals." *ASCE*, www.asce.org/about-civil-engineering/history-and-heritage/notable-civil-engineers/george-washington-goethals.

The American Society of Civil Engineer's article on Goethals gave me the tools to deconstruct the man and focus on his accomplishments and style as a leader. I found its praise for Goethals' relationship with his workers was most fascinating, even though the canal zone had a rigid caste system. This was quite valuable when I was writing the part of my paper that dealt with Goethals' time as Chief Engineer.

"History of The Panama Railroad." *The Panama Railroad*, www.panamarailroad.org/history1.html.

The History of The Panama Railroad stayed true to its name by offering a peek into the saga. In hindsight, that whole process seems like a warm-up for the Panama Canal. In my

paper it provided estimates for the time it would take to build and the dimensions of the Panama Railroad.

Hoffman, Jon T., and Center of Military History. *The Panama Canal: An Army's Enterprise*. Government Printing Office, 2009, www.history.army.mil/html/books/panama/panamacanal/CMH-70-115-1-PanamaCanal.pdf.

This book regarding the army's influence on the Panama Canal proved especially helpful in explaining sanitation efforts, as most doctors at the canal and in the sanitation department were military doctors. But its engineering chapters were also helpful in explaining the planning of the canal.

"John Frank Stevens." *ASCE*, www.asce.org/about-civil-engineering/history-and-heritage/notable-civil-engineers/john-frank-stevens.

John Frank Stevens is perhaps the unsung hero of the Panama Canal. Under his administration, the process shifted from being like the sloppy French methods to a more effective and modern approach. When I was illustrating the various things certain chief engineers contributed to the project, this source helped me talk about John F. Stevens's massive impact on the project

Maurer, Noel, and Carlos Yu. "What Roosevelt Took: The Economic Impact of the Panama Canal, 1903-29." *Harvard Business School*, 5 July 2006, hbswk.hbs.edu/item/what-roosevelt-took-the-economic-impact-of-the-panama-canal-1903-29.

The journal article above published by Harvard Business School was key to understanding the short-term impact of the canal. When writing my paper this journal article assisted me in my attempts to show the Canal was indeed successful, but also that Panamanians were mostly cut off from that success.

McCullough, David. *The Path Between the Seas: The Creation of the Panama Canal, 1870-1914*. Simon & Schuster, 1977.

David McCullough's *The Path Between the Seas* is a masterclass in historical writing, containing in depth research and stunning prose. The book taught me the ins and outs of the Panama Canal. When talking about the racism and discrimination in the Canal Zone I cite this frequently.

"Milestones: 1899–1913." *Office of the Historian*,
history.state.gov/milestones/1899-1913/panama-canal.

This was a solid summary of direct U.S. involvement in the Panama Canal. It was one of the first sources I found, and helped me compile a list of what I wanted to research. In my research, it provided keywords to search for, and in my paper, I used it when discussing treaty negotiations between the United States and Columbia.

Monger, Jenifer. "Panama Canal Centennial: The French Debacle." *Institute Archives and Special Collections*, 23 Sept. 2014,
archives.rpi.edu/blog/2014/09/23/panama-canal-centennial-the-french-debacle.

The French Debacle indeed, this source, showed me how catastrophic the French attempt at constructing a Panama Canal truly was. This webpage helped me lay out how the French messed up so spectacularly. It was therefore extremely helpful when writing about the French attempt at a canal.

"Panama Canal Named C.E. Monument of Millennium." www.czbrats.com/Articles/ASCE.htm.

I used this webpage to show that at the turn of the millenia, the Panama Canal was technologically advanced enough to be dubbed a Monument of the Millennium and one of the Seven Wonders of the Modern World by the respectable American Society of Civil Engineers. This was a very high honor, which further proves the canals relevance, even in modern times

"PANAMA CANAL ROLE FADES FOR MILITARY." *Chicago Tribune*, 13 Apr. 1988,
www.chicagotribune.com/news/ct-xpm-1988-04-13-8803080422-story.html.

This article from the Chicago Tribune explains why the military had no interest in retaining U.S. control over the Panama Canal. It was a defense liability, unable to accommodate aircraft carriers, the new primary form of naval combat and the only thing they lost from America giving up the Canal Zone was their military bases. I used this when explaining military interest in the Canal during the treaty negotiations, specifically the lack of it.

"Panama - Countries - Office of the Historian." *Office of the Historian*,
history.state.gov/countries/panama.

The Office of the Historian succeeded in providing a summary of U.S.-Panama relationships over the years. It helped me talk about American-Panama

diplomatic relations.

Panama Exhibit Site, Linda Hall Library, 6 Nov. 2014, panama.lindahall.org/.

Linda Hall Library's website about the Panama Canal, was a treasure trove of information. I found its pages on the Panama Railroad company extremely useful. I used this site in my paper to further explain topics I was having trouble understanding, and found numerous keywords which helped further my primary research.

Parker, Matthew. *Panama Fever: The Epic Story of One of the Greatest Human Achievements of All Time--the Building of the Panama Canal*. Doubleday Books, 2007.

This book did wonders in terms of explaining the whole story of the canal, from acquisition to construction to diplomacy. Parker's prose was very entertaining, making the book a joy to read. I found it especially helpful in explaining the caste system that was implemented in the Canal Zone.

"Roosevelt's "Big Stick" Foreign Policy | US History II (OS Collection)." *Lumen Learning - Simple Book Production*, <https://courses.lumenlearning.com/suny-ushistory2os2xmaster/chapter/roosevelts-big-stick-foreign-policy/>

The explanation provided by Lumen Learning of how exactly Roosevelt utilized his famous "Big Stick" diplomacy was direly needed during my research phase. It helped me to explain how negotiations with Colombia deteriorated into a United States backed revolution.

Sáenz, Esteban G. "The Expanded Panama Canal; Were the forecasts correct?" 2019, <https://aapa.files.cms-plus.com/2019Seminars/Shifting/Esteban%20Saenz.pdf>. Presentation.

Sáenz's presentation went over the Panama Canal's current role in the global economy, and in Panama's economy. It has a great many interesting charts and graphs. The presentation supported my attempts to give weight to how important the canal is to the global economy.

Thelwell, Kim. "10 Disturbing Facts About Poverty in Panama." *The Borgen Project*, 29 Mar. 2022, borgenproject.org/about-poverty-in-panama/.

This article from the Borgen Project discussed how poverty in Panama looks today. I used

it in my paper when I discussed about how the canal failed to make life much better for many Panamanians. I found it very saddening that something like this would be happening today, especially the fact that the canal actually has negative effects on some Panamanian citizens.

"Tonnage and Number of Transits, Panama Canal, 1915-2020." *Port Economics, Management and Policy | A Comprehensive Analysis of the Port Industry*, 8 Jan. 2021, porteconomicsmanagement.org/pemp/contents/part1/interoceanic-passages/tonnage-number-transits-panama-canal/.

The article's graph of tonnage and number of transits to pass through the Panama Canal from its opening to the modern day helped me draw comparisons and differences between the number of things the canal did.

Appendix Images

Map showing the shrinking territory of New Granada/Colombia. Map. *Wikipedia*, en.wikipedia.org/wiki/Separation_of_Panama_from_Colombia.

I used this map in my Appendix to show Colombia and Panama geographically.

"Panama Canal Lock System Diagram." Diagram. *CruiseMapper*, www.cruisemapper.com/ports/panama-canal-port-442.

This Image which I used in my Appendix helped me explain how the Panama Canal's lock system functioned. It shows diagrams of various parts of the lock system, so I could provide full context for the lock system.

"Property map of the Canal Zone showing property belonging to the United States of America, Panama R. R. Co., and lands claimed by private persons." Map. *Library of Congress*, Isthmian Canal Commission, www.loc.gov/resource/g4872c.pcc00006/?r=-0.006,0.001,1.188,0.518,0.

This map's appearance in my Appendix helped me display the ten-mile wide Panama Canal Zone. Most beneficial was its documentation of the routes of the Panama Railroad and the Panama Canal.