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14. ABSTRACT "Shaping the battlespace" usually refers to setting the conditions for decisive action by positioning forces, establishing supply chains, or developing intelligence. Sometimes, however, we literally shape the battlespace beneath our feet. In the early 20th century in Panama, the United States did exactly that, shaping and transforming the physical environment to create a better strategic position for our forces. But strategic terraforming did not begin or end with Panama. There is one terraforming event, however, that humans seem powerless to stop: the melting Arctic. Climate change, caused by human activity but now largely beyond human control, opens previously-impassable sea routes through the Arctic and unleashes a host of military and economic considerations. This once-in-an-epoch development presents a great opportunity for the United States. Our great power competitors—Russia and China—are seizing the initiative and actively pursuing their own strategic objectives in the Arctic. The United States can do the same by asserting the critical importance of the terrain just as President Theodore Roosevelt did in Panama. While several of the sea services have published updated Arctic strategies, "they also reflect the lack of a broad, coordinated national approach to the Arctic." We must instead "make the conscious choice to remain the world's foremost oceangoing state," and that requires advocates like Roosevelt who can "make sea power a personal priority" and raise enthusiasm among the general population. Only then can we turn this melting Arctic challenge into a Panama-like achievement for the United States.									
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The New Panama Canal:

How the United States Can Take Charge of the Melting Arctic

Introduction

“Shaping the battlespace” usually refers to setting the conditions for decisive action by positioning forces, establishing supply chains, or developing intelligence. Sometimes, however, we *literally* shape the battlespace beneath our feet. In the early 20th century in Panama, the United States did exactly that, shaping and transforming the physical environment to create a better strategic position for our forces. Through marvels of modern engineering, we cleaved a continent in two, connected the world’s two largest oceans, and captured the keys to the Western Hemisphere.

Strategic terraforming did not begin or end with Panama. In the mid-19th century, the Suez Canal severed two other continents and massively shortened the transit time between Europe and Asia. In the early-21st century, the Chinese began building artificial islands in the South China Sea to reinforce their dubious nine-dash line claims. These were all man-made events with humans in the driver’s seat. There is one terraforming event, however, that humans seem powerless to stop: the melting Arctic. Climate change, caused by human activity but now largely beyond human control, opens previously-impassible sea routes through the Arctic and unleashes a host of military and economic considerations.

This once-in-an-epoch development presents a great opportunity for the United States. Our great power competitors—Russia and China—are seizing the initiative and actively pursuing their own strategic objectives in the Arctic. The United States can do the same by asserting the critical importance of the terrain just as President Theodore Roosevelt did in Panama. While several of the sea services have published updated Arctic strategies, “they also reflect the lack of

a broad, coordinated national approach to the Arctic.”¹ We must instead “make the conscious choice to remain the world’s foremost oceangoing state,” and that requires advocates like Roosevelt who can “make sea power a personal priority” and raise enthusiasm among the general population.² Only then can we turn this melting Arctic challenge into a Panama-like achievement for the United States.

The Panama Canal

Building a canal across the Panamanian isthmus of Central America had been a global dream for centuries.³ Sailing ships transiting between the Pacific and the Atlantic previously had to sail 8,000 miles all the way down and around Cape Horn, the southern tip of South America. Although the United States built the Panama Railroad across the isthmus in 1855, the ultimate goal had always been a canal.⁴ That dream looked increasingly attainable with the construction of the British-controlled Suez Canal in 1869, linking the Mediterranean and Red Seas and permanently severing Africa from Asia. Suez, however, was far easier from an engineering standpoint, requiring only one-third the amount of excavation due to its flat and dry terrain.⁵

The French, led by Suez engineer Ferdinand de Lesseps, made the first serious attempt in Panama in the 1880s and 1890s.⁶ Their efforts failed due to a combination of yellow fever and malaria, financial mismanagement, and faulty engineering.⁷ That failure created an opening for

¹ Christopher Bott, “Responding to Russia’s Northern Fleet,” *Proceedings*, March 2021, 39.

² James Holmes, “Great Responsibility Demands a Great Navy,” *Proceedings*, February 2021, 54.

³ John Major, *Prize Possession: The United States Government and the Panama Canal 1903-1979* (Cambridge: Cambridge University Press, 1993), 9; David McCullough, *The Path Between the Seas* (New York: Simon and Schuster, 1977), 613.

⁴ Major, *Prize Possession*, 12–13.

⁵ Matthew Parker, *Panama Fever: The Epic Story of the Building of the Panama Canal* (New York: Anchor Books, 2009), xxiii.

⁶ Lord Kinross, *Between Two Seas: The Creation of the Suez Canal* (New York: William Morrow & Company, 1969), 281.

⁷ McCullough, *The Path Between the Seas*, 598.

the United States, fresh off its resounding victory in the Spanish-American War of 1898. President Roosevelt, lifelong proponent of American expansionism and proud subscriber to the Monroe Doctrine, had a personality perfectly suited to the task of subduing the Earth for the sake of American interests.⁸ Roosevelt would later address the canal workforce in militaristic terms: “you here who are doing your work well in bringing to completion this great enterprise are standing exactly as the soldiers of the few great wars of the world’s history.”⁹

America’s approach had several advantages over the French: superior financial support, advanced engineering expertise, a locks-based plan instead of a sea-level one, and Roosevelt’s trademark “big stick” diplomacy (a.k.a. gunboat diplomacy). At first, the United States tried to convince the government of Colombia, then in control of the Panamanian isthmus, to willingly permit construction of a canal. The U.S. also played upon Colombia’s fear that Nicaragua would build a canal first and steal the business opportunity of the century.¹⁰ When the carrot failed, Roosevelt resorted to the “big stick,” backing a group of Panamanian rebels seeking independence from Bogotá.¹¹ With American ships preventing Colombian reinforcements and American troops landing ashore, the rebels quickly consolidated control and signed the Hay-Bunau-Varilla Treaty, giving America indefinite control over the canal zone.¹² Construction began in 1904.

Ten arduous years later, the Panama Canal was complete. The hemisphere was split in two and the United States held the keys. Alfred Thayer Mahan, who emphasized that “the

⁸ Nicholas J. Danby, “The Roots of Roosevelt’s Navalism,” *Naval History*, February 2021, 33.

⁹ Parker, *Panama Fever*, xix.

¹⁰ Parker, *Panama Fever*, 16.

¹¹ Julie Greene, *The Canal Builders: Making America’s Empire at the Panama Canal* (New York: The Penguin Press, 2009), 6; Major, *Prize Possession*, 37; McCullough, *The Path Between the Seas*, 385.

¹² Greene, *The Canal Builders*, 21; Major, *Prize Possession*, 40; Parker, *Panama Fever*, 238.

production of wealth was chiefly a function of the *flow* of international trade,” beamed with pride.¹³ Besides the clear economic advantage of controlling the hemisphere’s premier trade route, there was an obvious military advantage as well.¹⁴ The great oceans that had protected America from the tremors of Europe had also been a major impediment to forming a cohesive naval force befitting a global power. For example, in the Spanish-American War, the West Coast-based *USS Oregon* embarrassingly took two months to arrive in Havana.¹⁵ Now, with Panama in American hands, “two-ocean Navy” described a capability rather than a limitation.

In case the military relevance was not obvious enough, WWI coincidentally began only two weeks before the previously scheduled opening of the Panama Canal on August 15th, 1914. The 100+ warships set to carry President Woodrow Wilson in the four-day-long opening parade were diverted for national defense.¹⁶ The project’s lead engineer, George Washington Goethals, left Panama to become General John Pershing’s Quartermaster General.¹⁷ As usual, the eminently quotable Roosevelt put it best: “the canal is to be a great agency for peace; it can be such only, and exactly in proportion as it increased our potential efficiency in war.”¹⁸

The Melting Arctic

Fast forward one hundred years. The Arctic is melting. Indisputably. 2020, for example, was the second warmest in the previous century, with surface air temperatures and sea surface temperatures 3-5 C° and 1-3 C° above average, respectively. The extent of summer ice was the

¹³ Nicholas A. Lambert, “What Is a Navy For?,” *Proceedings*, April 2021, 47; Greene, *The Canal Builders*, 351; Major, *Prize Possession*, 25; Robert D. Kaplan, *The Revenge of Geography* (New York: Random House, 2013), 108.

¹⁴ Major, *Prize Possession*, 24.

¹⁵ Greene, *The Canal Builders*, 20; Major, *Prize Possession*, 25; McCullough, *The Path Between the Seas*, 254.

¹⁶ Greene, *The Canal Builders*, 337; McCullough, *The Path Between the Seas*, 608.

¹⁷ Greene, *The Canal Builders*, 368; McCullough, *The Path Between the Seas*, 617.

¹⁸ Greene, *The Canal Builders*, 360.

second lowest on record, losing an average of 82,700km² per year over the past three decades.¹⁹ Old ice, which is thicker and more resilient to atmospheric change, made up 33% of the ice pack in 1985; now it makes up only 4.4%.²⁰ Overall, “the summer volume loss, record low end-of-summer volume, and the second lowest annual minimum extent marked 2020 as one of the more extreme years in the modern satellite record” with no signs of improvement.²¹ Each subsequent year has only shifted further in that direction, and it is likely too late to stop what has been set in motion. Even with a significant global effort to stop climate change, the damage has already been done.

This melting has created three new routes through the Arctic that were previously impassable for most or all of the year. The Northwest Passage, largely under Canadian control, skirts along the coast of Alaska and northern Canada, from the Bering Strait (between Siberia and Alaska) to the Davis Strait (between Greenland and Nunavut, Canada). The Northeast Passage including the Northern Sea Route, largely under Russian control, skirts along the coast of Russia and Norway, from the Bering Strait to the gap between Iceland and Scotland. Finally, the nascent Transpolar Sea Route cuts straight across the pole and remains largely outside the control of any Arctic power, except at its entry and exit points in the Bering Strait and the “GIUK” (Greenland, Iceland, United Kingdom) gap.

Like Panama, the melting Arctic’s greatest relevance is for maritime trade and the broader global economy. Ships traveling from London to Tokyo along the Northeast Passage save roughly 8,000km and 10-15 days of transit time compared to going through the Suez

¹⁹ R.L. Thoman, J. Richter-Menge, and M.L. Druckenmiller, eds., *Arctic Report Card 2020* (Washington: National Oceanic and Atmospheric Administration, 2020), 45.

²⁰ Thoman, Richter-Menge, and Druckenmiller, *Arctic Report Card 2020*, 48.

²¹ Thoman, Richter-Menge, and Druckenmiller, *Arctic Report Card 2020*, 52.

Canal.²² Ships traveling from London to Tokyo along the Northwest Passage save roughly 10,000km compared to going through the Panama Canal.²³ With different passages competing to become the next great global trade route, the stage is set for a literal *cold* war in the Arctic. Like Panama versus Nicaragua or VHS versus Betamax, the race to set the standard is on. As the *Ever Given* obstruction incident in the Suez Canal showed, the global supply chain is fragile and susceptible to a few small chokepoints; adding just one more passage can have huge effects on the global economy.

Like Panama, the melting Arctic also creates new military opportunities, representing “a potential vector both for attacks on the homeland and for U.S. power projection.”²⁴ The same avenues that are opening up for commercial ships can of course be used by warships as well. That means more space to patrol, more space to conduct exercises, more space to monitor foreign activities, more angles of approach to protect, and so on. While Canada provides us with a large buffer, it is easy to forget that we too are an Arctic nation by virtue of Alaska. When foreign navies gain greater access to the Arctic, that puts American land and American people at risk—an uncomfortable situation for a country accustomed to having two large oceans and thousands of miles of standoff distance from any real threat. And of course, with greater vectors for threats comes a greater need to defend oneself. A defense budget that is already far too large according to large portions of the electorate will become even larger and even more objectionable.

²² N.S.F. Abdul Rahman, A.H. Saharuddin, and R. Rasdi, “Effect of the Northern Sea Route Opening to the Shipping Activities at Malacca Straits,” 1 *International Journal of e-Navigation and Maritime Economy* 85, 87 (2014).

²³ Abdul Rahman, Saharuddin, and Rasdi, “Effect of the Northern Sea Route Opening to the Shipping Activities at Malacca Straits,” 87.

²⁴ Office of the Undersecretary of Defense for Policy, *Report to Congress: Department of Defense Arctic Strategy* (June 2019), 3.

Lastly, like Panama, the Arctic is physically unforgiving. In the jungles of Panama, the threats were disease, poor sanitation, frequent flooding, and landslides. In the Arctic, challenges include communication (i.e. geostationary satellite connectivity at high latitudes), transportation (i.e. the sheer distance between serviceable harbors and medical facilities), and of course ice (i.e. the map shifts beneath one's feet just as the landslides did in the Panamanian jungle).²⁵ The United States had to learn how to operate in the jungle, and it will have to learn how to operate in the Arctic.

The Great Opportunity

Not everything from Panama warrants repeating: America acquired Panama by supporting a rebel force, dominated the locals by essentially claiming “eminent domain” on a transnational scale, and orchestrated a strict racial caste system of “gold” and “silver” laborers.²⁶ Roosevelt himself made some controversial moves that do not look great in hindsight. He later acknowledged: “I took the Isthmus, started the canal and then left Congress not to debate the canal, but to debate me.”²⁷ Oratorical zingers aside, none of that is acceptable conduct today.

However, one lesson that the United States *can* take to heart is Roosevelt's single-minded and overarching vision. Panama became “the great material set piece of his Administration, as well as the work in which he would take the most personal pride. . . . his eagerness to get on with the job was unmistakable.”²⁸ That much was apparent to all, both here and abroad. America was invested in Panama because Teddy was invested in Panama. He used his bully pulpit to generate popular support for the project because he recognized that it was vital to America's rise as a

²⁵ Evan Twarog and Cody Williamson, “Polar Security Cutters Will Face an Evolving Arctic,” *Proceedings*, January 2021, 64.

²⁶ Greene, *The Canal Builders*, 368; McCullough, *The Path Between the Seas*, 576.

²⁷ McCullough, *The Path Between the Seas*, 383–84.

²⁸ McCullough, *The Path Between the Seas*, 250.

great power. He was promoting “neither a commercial venture nor a universal utility. To him, first, last, and always, the canal was the vital—the *indispensable*—path to a global destiny for the United States of America.”²⁹

So too can the United States go all in on the melting Arctic. That means more than just increasing the number of Polar Security Cutters for the Coast Guard, or cold weather training for the Marine Corps. Just as Roosevelt devoted large funds to Panama (the largest real-estate transaction in history at the time), the Sea Services can lobby for increased funding for Arctic efforts.³⁰ Just as Roosevelt skillfully navigated foreign relationships with the British and the French, the Sea Services can double down on partnerships with friendly Arctic nations like Norway, Denmark, and Canada, for it is this “network of U.S. allies and partners with shared national interests in this rules-based order [that] is the United States’ greatest strategic advantage in the Arctic region, and thus the cornerstone of DoD’s Arctic strategy.”³¹ Just as Roosevelt worked with engineering experts to identify the best place and means to build the canal, the Sea Services can work with climate change experts to anticipate exactly when and where the melting will occur and how to be ready for it.³²

Our great power competitors are rushing ahead. Russia, far and away the dominant player in Arctic military affairs by virtue of its historical experience, seeks to dominate the Northeast Passage by refurbishing airfields and building extensive infrastructure along the route, including six new military bases since 2013.³³ It has established a new Arctic Joint Strategic Command and

²⁹ McCullough, *The Path Between the Seas*, 250.

³⁰ McCullough, *The Path Between the Seas*, 400, 598, 601, 610.

³¹ Office of the Undersecretary of Defense for Policy, *Report to Congress*, 2; Chief of Naval Operations, *Strategic Outlook for the Arctic* (January 2019), 11.

³² McCullough, *The Path Between the Seas*, 327, 598.

³³ Office of the Undersecretary of Defense for Policy, *Report to Congress*, 4; Commandant of the United States Coast Guard, *Arctic Strategic Outlook* (April 2019), 3; Bott, “Responding to Russia’s Northern Fleet,” 37.

increased the number of exercises in the region.³⁴ It has tested coastal defense cruise missiles in the Bering Strait, the 51-mile wide “Bosporus of the North” between North America and Asia.³⁵ It has imposed notification requirements and icebreaker escort fees in international waters.³⁶ Putin himself has personally observed multiple large exercises to telegraph the importance of the region.³⁷ China meanwhile has declared itself a “Near-Arctic State”—a legally meaningless term—and pursues infrastructure, research, and resource extraction projects with states like Iceland and Norway.³⁸ According to one study, 40% of the goods transiting through the Arctic originated from or were headed to a Chinese port.³⁹ It has incorporated the Arctic into its signature Belt and Road Initiative by referring to a potential “Polar Silk Road.”⁴⁰ China recognizes the importance of the Arctic even if China itself does not border it.

Conclusion

The Arctic is melting. We cannot refreeze it. But we can take advantage of this once-in-an-epoch opportunity and use it to strengthen America’s position in the world, just as we did so successfully with the Panama Canal at the dawn of the last century. The key to Panama was President Roosevelt making it a national priority with a whole-of-government recognition of its strategic importance. The Arctic will be just as strategically important if not more so. It represents not just one but potentially three separate passages, each of which could in theory become a major thoroughfare of global trade. Those new passages are further removed from

³⁴ Congressional Research Service, *Changes in the Arctic: Background and Issues for Congress* (January 2021), 38.

³⁵ Congressional Research Service, *Changes in the Arctic*, 115; Chief of Naval Operations, *Strategic Outlook for the Arctic*, 8.

³⁶ Stanley P. Fields, “Article 234 of the United Nations Convention on the Law of the Sea: The Overlooked Lynchpin for Achieving Safety and Security in the U.S. Arctic?,” 7 *Harvard National Security Journal* 55, 80.

³⁷ Bott, “Responding to Russia’s Northern Fleet,” 36.

³⁸ Office of the Undersecretary of Defense for Policy, *Report to Congress*, 5; Economy, *The Third Revolution*, 227.

³⁹ Commandant of the United States Coast Guard, *Arctic Strategic Outlook*, 3.

⁴⁰ Benjamin Carrington, “Snow Dragons at the South Pole,” *Proceedings*, March 2021, 73.

geopolitical hotspots like the Middle East (as in the case of the Suez Canal). Though the relative sleepiness of the Arctic will surely change as the passages themselves become more important, the United States has a chance now to shape the norms of the area by getting in on the ground floor. If we do not, Russia and China certainly will.

Ironically, as the Arctic sea lanes open up, the relative value of the Panama Canal will only decrease. A major terraforming event always creates winners and losers. South Africa, as host to the Cape of Good Hope, lost out with the construction of the Suez Canal. Chile, as host to Cape Horn, lost out with the construction of Panama. So too will Panama lose out with the new sea lanes in the Arctic. The question remaining is: will America join the loser's column alongside South Africa, Chile, and Panama? Or will America maintain its economic and military superiority in the face of great power competition in the Arctic?