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Radars and Ruin: The Environmental Legacy of Cold War Operations in the Canadian Arctic

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Defense Date: April 24, 2025

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Abstract

As the Second World War came to a close and tensions rose between the Soviet Union and the United States, the destructive capabilities of the air age became clear when, in reflection of the technologic capabilities of the air age, cartographic representations of the globe used a circumpolar orientation to position the North Pole as the center of global strategic power. Geography no longer ensured US security – Moscow could launch attacks over the Arctic to reach centers of industry and population in the lower 48 states. These realizations resulted in a number of joint US-Canadian operations in the Canadian Arctic to ensure continental security. This work utilizes the history of the Distant Early Warning (DEW) Line project, a chain of radar networks that stretched across North America's 69th parallel, to emphasize Washington's postwar hemispheric hegemony through the invasion of Canadian sovereignty. In addition to examining how the phases of the DEW Line's construction and operation aggravated Canadian-American relations, an environmental lens that investigates the ecological consequences of the project's abandonment in the early 1960s reveals a concrete violation of Canadian sovereignty by Washington. Using a wide range of sources, including diplomatic correspondences, newspaper articles, intergovernmental debates, and even crossing disciplines to integrate scientific studies, this work provides a new framework to emphasize the hemispheric hegemony held by Washington in the postwar period.

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Introduction

When students in American school systems are introduced to the Cold War, typically in high school, they are often told that the first thing they should know about it is not to be fooled by the event's name, as it has nothing to do with snow and frozen climates. However, this is not entirely true. One of the least known aspects of the Cold War, and one of the most compelling in terms of the achievements of technology, organization of manpower, and overcoming hostile environments, is the operations that took place at the top of the world in the North American Arctic.

In the new air age after World War II, Washington faced the possibility of Soviet planes reaching the US from across the Canadian Arctic. As Stephen B. Jones from the Yale Institute of International Studies remarked in December 1948, Washington and Moscow now looked at each other “like Rome and Carthage across the Arctic Mediterranean.”¹ The air age completely shrunk both space and time. The contours of the world's geography, specifically the distances between nations, had radically changed – the North Pole was now the nucleus of future global hegemony. Washington had to develop new means of defense to meet the unprecedented scenario of missiles reaching the continental US from across the North Pole, leading to new research and the development of revolutionary Cold War projects situated in Alaska and the Canadian Arctic. The story of the US in the Canadian Arctic, specifically, provides a new framework with which to understand the hemispheric hegemony that Washington consolidated in the twentieth century. This work will, after identifying the geography of the new lines of potential attack, informed by works such as Matthew Farish's *The Contours of America's Cold War*, dive into the defensive collaboration that grew between Ottawa and Washington during WWII and developed further

¹ Stephen B. Jones, “The Arctic: Problems and Possibilities” (paper presented at Yale Institute of International Studies, Yale University, New Haven, Connecticut, December 20, 1948), 1-3.

during the Cold War to face the Soviet threat. The Distant Early Warning (DEW) Line, a series of radar networks laid across Canada's 69th parallel, will be used as an example of the type of projects constructed during this period to ground the nature of Washington's postwar authority.

Current research on the DEW Line, as historians P. Whitney Lackenbauer and Farrish explain, is dominated by the issue of Canadian sovereignty or the strategic significance of the project.² Scholarship of the DEW Line is effective at uncovering the implications of the construction and operation of the project on Canadian-American relations, but it falls short by only focusing on these phases; historians have neglected the implications of the project's closure and abandonment in the 1960s. After its abandonment, the DEW Line left a catastrophic footprint on the Arctic environment. Conditions governing the proper dismantling of the sites were not followed by the Americans as they ditched enormous volumes of hazardous waste, leaving it to decay into the surrounding environments until scientific investigations conducted in the 1990s revealed the true nature of the ecological destruction. This work fills a gap in existing literature on the DEW Line and postwar Canadian-American relations more broadly by giving attention to the significance of the DEW Line's closure and abandonment.

Using an environmental lens to analyze Cold War operations in the Canadian Arctic during the postwar period provides a new framework with which to exhibit the hegemony that the US consolidated during WWII and carried into the postwar and early twenty-first century. Informed by a variety of sources including diplomatic exchanges between Ottawa and Washington, public media like newspaper and magazine articles, intergovernmental debates, and scientific studies, this work will argue that Washington's destruction of the Canadian environment without consequence during the DEW's abandonment phase, in addition to the

² P. Whitney Lackenbauer and Matthew Farish, *The Distant Early Warning (DEW) Line Coordinating Committee Minutes and Progress Reports, 1955-63* (University of Calgary, 2019), iii.

pressure placed on Canadian sovereignty during the project's construction and operation, demonstrates the strength of the hemispheric hegemony held by the US after WWII and into the 21st century.

Attention Turns to the Arctic: The Circumpolar Orientation

In 1942, the US Army granted President Roosevelt a 500-pound globe for Christmas. It was colossal in size – it required over 50 geographers, cartographers, and draftsmen from the Geographic Division of the Office of Strategic Services to put together.³ This gift represents the scale of the changes in global geography in the new era of air power ushered in by WWII and nuclear weapons as the Arctic became central to routes of attack. In 1946, Hap Arnold, Air Force General and member of the Research and Development (RAND) Project, remarked: “If there is a Third World War the strategic center of it will be the North Pole.”⁴ In the immediate postwar, the age of nuclear weapons quickly ushered in the realization that the Soviets had a quick route to the US if the Arctic was in play — and suddenly, it was. The comfortable geographic gap that separated the US from the Soviet Union virtually disappeared and was replaced with duck-and-cover drills and atomic anxiety.

The significant role that maps played during WWII laid the groundwork for the focus on the Arctic during the Cold War. The proliferation of maps was a direct result of the development of aviation.⁵ Maps in this period were used not only by military officials and strategists but also by everyday Americans. Timothy Barney, professor of Rhetoric and Communication studies,

³ FDR Library, “FDR's World Map Globe,” *FDR Presidential Library and Museum*, last modified September 6, 2011, <https://fdr.blogs.archives.gov/2011/09/06/from-the-museum-21/>.

⁴ Matthew Farish, *The Contours of America's Cold War* (Minneapolis: University of Minnesota Press, 2010), 174.

⁵ Susan Schulten, “World War II Led to a Revolution in Cartography. These Amazing Maps Are Its Legacy.,” *The New Republic*, last modified May 20, 2014, <https://newrepublic.com/article/117835/richard-edes-harrison-reinvented-mapmaking-world-war-2-americans>.

writes that there was a “move toward popular, journalistic cartography during WWII – maps and globes came off the walls and desks of academics and defense bureaucrats and into American homes in unprecedented ways.”⁶ During his fireside chats, FDR encouraged his listeners to pull out a map of the world and follow along with him.⁷ As the war developed, maps became critical to demonstrating how the Soviet Union posed new risks to the US geographically.

During the period of the Molotov-Ribbentrop Pact before US-Soviet alliance, the greatest threat posed to the US by the Soviet Union was from the sea to Alaska and the Aleutian Islands. The threat that the Soviet Union posed to the US was not over the Arctic at this point and thus not as substantial, as Moscow did not have access to major cities or centers of industry. Maps like those on the front page of the *Los Angeles Examiner* January 1940 edition (see below) demonstrated this threat to Alaska. Russia is called a “spider” waiting for its next victim. A caption states: “And over the hill called the North Pole, and just across the Bering Strait, a distance of about 56 miles, is Alaska, once owned by Russia and eyed longingly by her now.”⁸ However, the map does not perceive or point out an ability for Russia to go over the Arctic. Yet, this changes as the war develops. Barney writes, “As fighter planes traversed the earth and spread their wingspans and weaponry, mapmakers were devising a bird’s-eye view of the world, actively changing the ways we viewed the globe and our placement in it. Americans became enamored with a new air-age global perspective. And from this vantage point, the world was now closer—an exciting and frightening prospect.”⁹ Mapmakers played an important role in emphasizing the new possibility of a Soviet attack on the contiguous United States.

⁶ Timothy Barney, “Richard Edes Harrison and the Cartographic Perspective of Modern Internationalism,” *Rhetoric and Public Affairs* 15, no. 3 (2012): 398, JSTOR.

⁷ Barney, “Richard Edes Harrison,” 398.

⁸ “The Russian Spider Sits Atop the World and Watches for More Victims,” *Los Angeles Examiner*, January 1, 1940

⁹ Barney, “Richard Edes Harrison.”



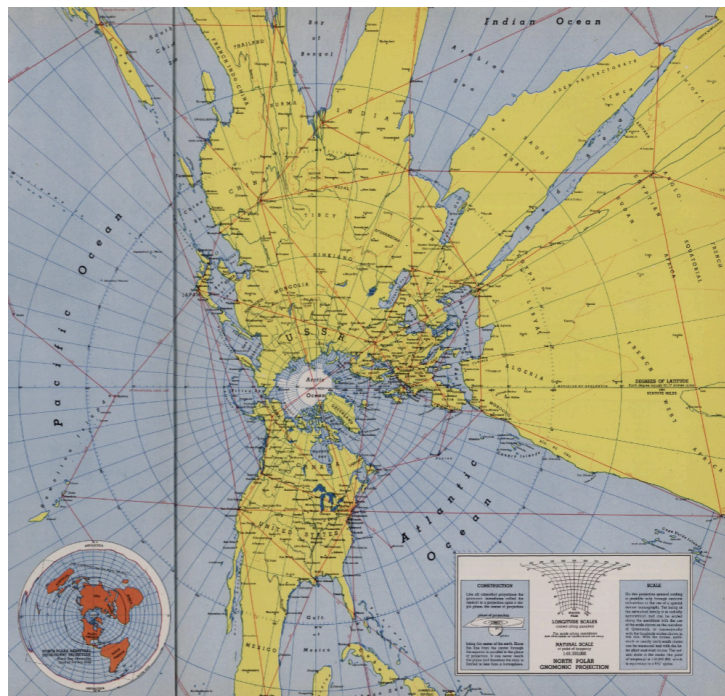
"The Russian Spider Sits Atop the World and Watches for More Victims," *Los Angeles Examiner*, January 1, 1940.

Richard Edes Harrison was one of the cartographers responsible for adjusting the vantage point of maps to point out the ability of the Soviet Union to attack via the Arctic Circle. His maps used a gnomonic projection, which draws its perspective from the center of the Earth. Harrison acknowledged the faults of the gnomonic projection, recognizing that it also distorts the Earth's landmasses, but these distortions served a purpose; Barney writes: "these uses of distortion are deliberately designed to challenge the 'common sense' view-point of the Euro-centric and East-West minded Mercator map, whose own distortions, Harrison believed, became a misleading 'truth' about the way the world was supposed to be viewed."¹⁰ The gnomonic perspective is better-suited to illustrate the profound globalization that occurred in the 20th century: the gnomonic projection "is probably the most accurate map that it is possible to draw of the communication lines of the modern world."¹¹ In *Look at the World, The Fortune Atlas for World Strategy*, a 1944 atlas of maps created by Harrison attuned to new levels of

¹⁰ Barney, "Richard Edes Harrison," 414.

¹¹ Richard Edes Harrison, *Look at the World, The Fortune Atlas for World Strategy*, ed. Fortune Magazine (A.A. Knopf, 1944), 54.

interconnectedness, he explains that the polar regions have been neglected by Mercator projections. He emphasizes the role of the airplane in expanding global reach and thus the need for new types of maps that bring an appropriate focus to the Arctic: “ships have shunned the Arctic and it is only the airplane that is forcing its discovery...in an age of air transport centered in a Northern Hemisphere world, the north-polar version is the most useful of all. It encompasses the world’s great powers.”¹² The invention of aviation, supported by the proliferation of cartography, focused attention on parts of the world like the Arctic that were previously remote and inaccessible. The proliferation of maps gave new importance to the Arctic as the center over which nations would vie for global dominance. The new interconnectedness of the world, as Barney writes, was, at first glance, exciting. But, as the implications of this interconnectedness were realized, fear spread.

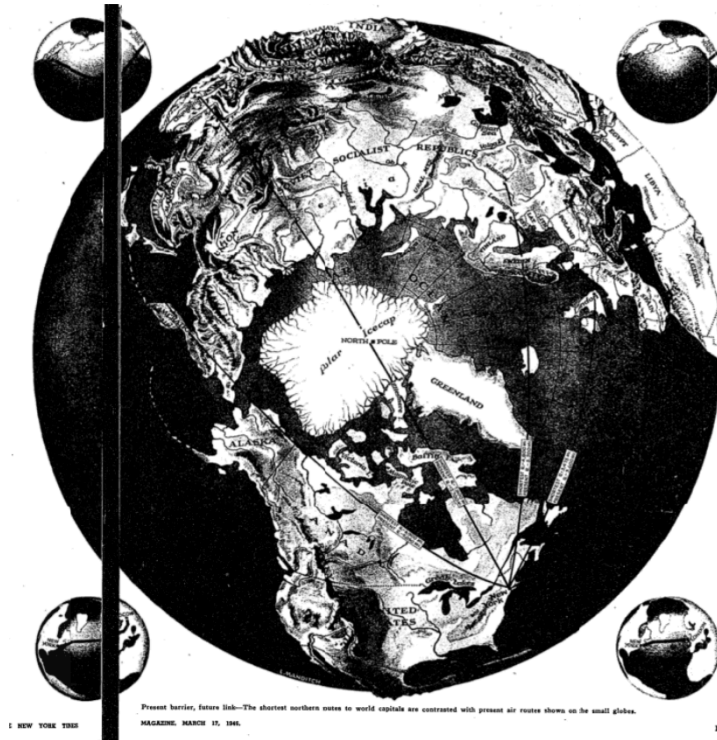


“Great Circle Airways” by Richard Edes Harrison. *Great Circle Airways*, map (A.A. Knopf, 1944), David Rumsey Historical Map Collection.

¹² Harrison, *Look at the World*, 54.

These new types of maps that put the Arctic at their center took on a greater and more alarming relevance in the post-Hiroshima world. Popular media used maps like Harrison's to show how atomic bombs could now reach the lower 48 states. A 1946 *New York Times* article "America's New Frontier – The Arctic" emphasized to readers that "The development of the atomic bomb and of transoceanic planes, the potentialities of robot missiles and the 'shrinkage' of the time-space factor have unquestionably weakened the strategic position of the United States. The oceans and the Arctic no longer give us immunity from enemy attack." The *Times* article subsequently emphasizes the uselessness of the Mercator projection in the air age: "Planes and missiles do not chart their course by the Mercator projection. The transpolar air routes are the shortest distances between many points in northern Europe and northern Asia and the United States... There can be no doubt that the Arctic has assumed in recent months immense new importance in American –and world– strategic concepts."¹³ A polar azimuthal projection is included in the article (see below) alongside smaller globes that show the shortened distance between great global capitals, including between New York and Moscow. Note the differences between this map (1946) and the map from the *Los Angeles Examiner* (1940): the *Times* map, printed six years later, tilts the perspective even further to look directly above the Arctic, emphasizing the Soviet threat not just to Alaska but to the continental United States.

¹³ Hanson W. Baldwin, "America's New Frontier--The Arctic; Land, Sea and Air Forces Are Scouting Tractless Areas Stretching toward the Pole, Made Vulnerable by New Weapons.," *The New York Times*, March 17, 1946, <https://www.nytimes.com/1946/03/17/archives/americas-new-frontierthe-arctic-land-sea-and-air-forces-are.html?searchResultPosition=39>.



“Present barrier, future link—The shortest northern routes to world capitals are contrasted with present air routes shown on the small globes.” Hanson W. Baldwin, "America's New Frontier--The Arctic; Land, Sea and Air Forces Are Scouting Tractless Areas Stretching toward the Pole, Made Vulnerable by New Weapons.," *The New York Times*, March 17, 1946, 12-13.

The language that was used to describe the Arctic in both popular media and by the US military encouraged a “conquering” of the landscape. The Arctic was painted as a vast and dangerous region, more specifically as a new frontier with environmental challenges not yet overcome in human history. Historians have highlighted contemporary arguments made in the late 1940s that likened the role of the Arctic in this period to that of the eighteenth-century American West, building upon Frederick Jackson Turner’s well-known frontier thesis.¹⁴ This concept of the Arctic as a new frontier was reflected in popular media. The 1946 *Times* article on the Arctic as the new frontier writes:

¹⁴ P. Whitney Lackenbauer and Matthew Farish, “The Cold War on Canadian Soil: Militarizing a Northern Environment,” *Environmental History* 12, no. 4 (2007): 924, JSTOR.

The great and ice wastes of the Arctic are America's new frontier...In past decades the limitless forests, the swollen rivers, the treacherous muskeg and ice seas of the North American Arctic were a certain defense against amphibious invasion or land attack...But today terrain barrier and Arctic oceans and even the wasteland of the Pole itself are no longer ramparts against attack. The United States, for the first time in its recent history, has a 'live' frontier—the frontier of the air.¹⁵

In the context of the Cold War, the conquest of the Arctic was fueled not by ideals like Manifest Destiny but as part of the need to assert American hegemony. Historians have used terms like “environmental authority” to describe the necessity for the US to prove its strength to the Soviet Union, which already had an advantage in understanding the difficulties posed by the harsh Arctic climate. Historians Brandon Luedtke and Adrian Howkins define “environmental authority” as “The use of scientific knowledge to confer practical advantage and moral legitimacy.”¹⁶ The defensive plans that were created utilized the scientific-military complex that was established during WWII and worked to establish this environmental authority through a complete conquest and assault of the Arctic landscape. Conquering the Arctic meant overcoming the hostile environment through advanced technology and infrastructure that could withstand the freezing climate.

US v. USSR Experience in the Arctic

The perceived need to militarize the Arctic region to protect against Soviet threat was clear. Yet, the US military had very little experience in cold-weather operations compared to the USSR's distinct vision and plan for an industrialized Arctic. This section will explore the consistent dedication of the Soviet Union across the decades of the 20th century to creating the institutional

¹⁵ Baldwin, “America's New Frontier.”

¹⁶ Brandon Luedtke and Adrian Howkins, “Polarized Climates: The Distinctive Histories of Climate Change and Politics in the Arctic and Antarctica since the Beginning of the Cold War,” *WIREs Climate Change* 3, no. 2 (2012): 146, <https://doi.org/10.1002/wcc.161>.

and industrial framework necessary to integrate the Arctic into the rest of the Soviet Union. The first American institution dedicated to Arctic exploration was not formed until September 1942 with the Arctic, Desert, and Tropic Information Center, which was deactivated in October 1945 but reactivated in February 1947 when the importance of Arctic development became clearer. 20th-century Soviet development of the Arctic put it notably ahead in terms of knowledge and familiarity with the landscape when the two nations faced each other across the Canadian Arctic in the postwar.

Thorough Soviet Arctic development began after the Russian Revolution in line with the ambitions of Soviet leadership to create modern and industrialized socialist urban clusters in northern regions. These urban clusters emerged around deposits of natural resources like coal, metals, and other minerals and energy resources. Many of these towns, such as Kirovsk in the Murmansk Oblast, founded in 1929, demonstrated the effort to not simply extract the region's resources but to permanently settle a population there; in "Creating the Soviet Arctic, 1917–1991," historians Andy Bruno and Ekaterina Kalemeneva use these towns to present how the Soviets developed the Arctic to be liveable, in contrast to places like Canada, Denmark, Norway, Finland, and the US, all of which utilized the Arctic for scientific research, exploration, and defense. These Soviet Arctic towns represent not just an exploration, but a conquering of the Arctic landscape and absorption of the Arctic into Soviet national identity. Bruno and Ekaterina write that the towns "not only possessed economic and administrative functions, but also served as symbols of having conquered new and distant territories and incorporated them into the particular national, economic, social, and cultural space of the Soviet Union." Forty-one permanent towns dotted the Soviet far north by 1933, and there were over 500 by the 1960s.¹⁷ A

¹⁷ Andy Bruno and Ekaterina Kalemeneva, "Creating the Soviet Arctic, 1917–1991," in *The Cambridge History of the Polar Regions*, by Adrian Howkins and Peder Roberts (New York, NY: Cambridge University Press, 2023), 462.

closer look at 20th-century Soviet projects in the Arctic reveals an early and continued vigor in transforming the Arctic region from a place of isolation to a place of importance for Soviet national identity.

The development of the Soviet Arctic began before the Soviet Union's formation. One of the first and most influential projects that took place in the northern region was the Murman Railway, constructed between 1915 and 1916. The railway connected central Russia to the Kola fjord. Bruno and Kalemeneva describe the project as an ““industrial-colonization-transportation combine”” that allowed the region to “self-sufficiently populate” and develop.¹⁸ Discussions of the feat of creation of the distant and remote railway found their way into American media. A 1918 article from the *Times* highlighted the extreme conditions that the project overcame. It was written that the builders “encountered a total absence of roads, many swamps, numerous rivers, no native labor of any account, heavy climatic conditions, and very limited means of obtaining food.” The article quotes V. Goriachkovsky, lead engineer of the project, who reported that the surveying completed before construction ““was executed during the Winter months of 1914 to 1915 in deep snow and through heavy forests. The engineers as well as the workmen lived in tents, and during the long polar night that obtains in that region the surveying had to be done by the light of lamps.””¹⁹ As reinforced by a 1918 military monograph from the US War Office, Soviet industrial developments in the Arctic, like the Murman railway, served American interests during WWII by providing a route for the transport of Lend-Lease supplies – the Murman railway provided the only access point that did not freeze over at any point during the year. The port of Murmansk was described as “the only door which is never closed.”²⁰ Soviet exploration

¹⁸ Bruno and Kalemeneva, “Creating the Soviet Arctic,” 466.

¹⁹ “Key to North Russia Is Murman Railway,” *The New York Times*, July 14, 1918.

²⁰ United States War Department Office of Chief of Staff, *Russia: Murman Railway and Kola Peninsula*, report no. 862 (Washington, DC: Government Printing Office, 1918), 5.

and development of the Arctic continued into the 1920s and 30s, widening the gap between US and Soviet knowledge of working in this harsh climate.

The decades following the creation of the railroad saw the formation of Soviet organizations dedicated to continuing progress in understanding and conquering the Arctic. In the 1920s, the Northern Research and Trade Expedition, today the Arctic and Antarctic Research Institute, was created primarily to conduct Arctic expeditions and research.²¹ Then, in 1932, the Main Administration of the Northern Sea Route, *Glavsevmorput*, was established to develop an Arctic Sea Route. *Glavsevmorput* simultaneously created ports, airports and airlines, and reaped natural resources while voyaging vessels through the Arctic Ocean. Proceedings from the US Naval Institute even remark that the administration brought the Soviet agenda to the indigenous populations in the Arctic.²² The ships and crew members of these voyages were celebrated in Soviet documentaries and stories that depicted the foreignness and curiosity of the North while cementing it as a core part of the Soviet Union. There was a calculated effort on the part of Soviet leaders to make the Arctic feel less isolated and separated from centers of population, instead portraying it as a key zone to Soviet success. These accomplishments were even chronicled in American media. An Associated Press article in the Tennessee *Chattanooga Daily Times* remarked in 1937 that 275,000 tons of goods would travel on seven ships “across the top of the world” to Vladivostok from Murmansk. The article also wrote that “The Bolsheviks are not wasting money with their huge appropriations which are nearly doubled every year for far north exploitation. As rapidly as new areas opened up, and pioneer settlers attracted there, the Arctic begins to pour forth its wealth in timber, furs, mineral and oil,” further highlighting the

²¹ Bruno and Kalemeneva, “Creating the Soviet Arctic,” 468.

²² T.J. Laforest, “778. Strategic Significance of the Northern Sea Route,” *United States Naval Institute Proceedings* 93, no. 12 (1967): <https://www.usni.org/magazines/proceedings/1967/december/strategic-significance-northern-sea-route>.

Soviet commitment to developing its Arctic (and American awareness of this process).²³ Distinct militarization of the Soviet Arctic occurred after the Great Terror. Ships from the Northern Fleet were built up along the Murman coast, and the buildup continued when the USSR went to war with Finland and subsequently Germany.²⁴

The Soviet Union tackled the challenges of developing the Arctic early in the 20th century and their breakthroughs were an advantage for the US and Allies during the war, yet in the postwar, Arctic projects that once aided American goals like the Murman Railroad and shipping routes now demonstrated the wide gap between Soviet and American experience of operating in the Arctic climate. The US military had a lot of catching up to do – to present existing knowledge about the extremely harsh climate of the Arctic and what this meant for future research and training, the Office of Naval Research (ONR) produced a 1947 pamphlet “Across the Top of the World: A Discussion of the Arctic.” The pamphlet included an introduction from polar explorer Hubert Wilkins that warns of

the problems which will arise if thousands of young men in uniform, without previous experience in low temperatures or adequate preparatory training, are sent to these areas to accomplish heavy work schedules. If these men have not established the correct patterns of behavior, or if they are not afforded the physical protection of suitable adjustable clothing, they will soon experience the bitterness of real physical suffering.²⁵

Other research from the postwar period points to similar themes of the US unpreparedness for dealing with the Arctic climate. In December 1948, Stephen B. Jones from the Yale Institute of International Studies presented on the economic and diplomatic concerns of the Arctic. He reiterated Wilkin’s points on the severity of the Arctic climate, stating, “It is not simple to prepare men for high latitude service... Mistakes that would merely mean discomfort in middle

²³ Associated Press, “Russian Scientist Emperor of North,” *Chattanooga Daily Times* (Chattanooga, TN), June 13, 1937.

²⁴ Bruno and Kalemeneva, “Creating the Soviet Arctic,” 469.

²⁵ Office of Naval Research, *Across the Top of the World: A Discussion of the Arctic* (Washington D.C., 1947), 1.

latitudes can mean disaster in high latitudes. The majority of Americans do not know how to take care of themselves outdoors in severe weather since they are so largely urbanized and so many live south of the belt of frigid winters.”²⁶ Jones also pointed out that the US was not only unprepared to face the harsh Arctic climate, but they were steps behind the Soviet Union. He remarked, “The Russian people have, in general, more experience in cold weather; their farm population is much greater and only small portions of the Soviet Union escape cold winters.” Opposingly, “the American army entered the Second World War well-trained for service in the southern United States. The American navy entered the war well-prepared for operations in the trade-wind belt, where, happily, most of the major naval activity took place. Both services learned by hard experience and hasty research how to operate in wet tropics.” He finishes, “Only small numbers of Americans have operated under true high latitude conditions.”²⁷ The US military needed to reorient its thinking to recognize the harsh realities of the Arctic in order to militarize the space and shrink the gap between itself and the Soviet Union regarding existing knowledge of operating in northern climates.

Part of this reorienting meant abandoning the romantic lens used by Americans to illustrate the Arctic. Following Wilkins' introduction in “Across the Top of the World,” M.C. Shelesnyak, Head of the Environmental Physiology Branch of the ONR and an observer to Operation Musk-Ox (discussed at the end of this section), made reference to the ways that flight had redrawn global maps and how “the aura of romantic nonsense which has covered the Arctic is a significant example of the result of our reluctance to accept new concepts which tend to disturb our preconceived notions.”²⁸ Jones’ presentation also calls for an abandonment of the romantic lens, especially when pointing to the Soviet Union’s prior Arctic developments in

²⁶ Jones, “The Arctic,” 23.

²⁷ Jones, “The Arctic,” 23.

²⁸ Office of Naval Research, *Across the Top of the World*, 5.

comparison to the lack of American experience in cold-weather operations. Reiterating the unproductive romanticism of the Arctic pointed out by Shelesnyak, he stated:

High latitude training of armed forces is a necessity which must be faced. From the American point of view, the sensible thing is to treat military preparations in the high latitudes as perfectly normal, to avoid excessive publicity as no more necessary than in the case of ordinary maneuvers in the middle latitudes, and to cease coining such picturesque names as “Task-force Frigid” and “Operation Frostbite.”²⁹ The Soviet Union undoubtedly conducts routine military operations and flights in its high latitude regions.³⁰

Jones’ final statement in this excerpt, that the Soviet Union “undoubtedly conducts routine military operations and flights” in northern regions, emphasizes how the US lagged behind Soviet knowledge and ability to work in the Arctic.

In order to adequately build up the defense of the Arctic, the US would have to convince the Canadian government (and convince them quickly) that joint defense was needed to protect the North American continent. Suddenly, the perceived threat to its soil brought Canada into the Cold War. A 1946 *Times* article wrote that the new emphasis on the Arctic Circle concerning paths of attack “affects Canada, in view of the vast territories lying beyond the Arctic Circle. Flanked on the east by the Atlantic, on the west by the Pacific, on the south by the great friendly American nation, with an invisible and unguarded frontier between them, and on the north by the Arctic, she has in the past been hedged off from war, though taking part in great wars. All of this is now changed.”³¹ Now, the Canadian Arctic stands as the lynchpin to North American security,

²⁹ Operation Frostbite took place in 1946 in the Davis Strait and Task-force Frigid in the winters of 1946-1947 near Fairbanks Alaska. They were a series of tests to evaluate the effects of cold weather on equipment and clothing.

³⁰ Jones, “The Arctic,” 16-17.

³¹ “Army Plans Air Games in Arctic as Navy and Canada Test Arms; U.S. Maps Tactical Air Research in Arctic as Navy and Canada Test Weapons There Arctic Now Strategic Area Two Tests Made during War Radar Will Guide Supplies,” *The New York Times*, March 7, 1946, <https://www.nytimes.com/1946/03/07/archives/army-plans-air-games-in-arctic-as-navy-and-canada-test-arms-us-maps.html?searchResultPosition=33>.

whereas during WWII it was utilized for projects which facilitated the transport of troops and supplies for the defense of Alaska.

There were not many projects undertaken in the Canadian North during WWII, but the ones that did take place were substantial. One of these projects was the construction of the American-Canadian (Alcan) Highway, constructed to give greater access to Alaska to build up defense in response to the Japanese attack on Pearl Harbor and resultant fears of an assault on Alaska's Aleutian Islands. Over 10,000 men worked to build the 1,500-mile highway in just under nine months starting in March 1942; the highway's engineers and construction crew had to plough through terrain blocked by mountains and dense forests, permafrost, and mud.³² The construction of the Alcan Highway was supported by the Canol (Canadian-Oil) Pipeline, a massive project begun in June 1942 and completed after 20 months. The project's purpose was to transport crude oil from the Norman Wells oil field, located in Canada's Northwest Territory, to a refinery in the Yukon Territory.³³ These two projects seem to demonstrate a growing confidence in working with northern conditions. However, they were completed in the sub-Arctic belt, a region marked by sprawling forests and more distinct seasons. The projects were not constructed in the conditions of the true Arctic Circle, a region of complete tundra and ice with cold temperatures year-round.³⁴ In fact, the Alcan Highway was built rapidly beginning in the early spring in order to avoid working in the sub-Arctic winter months.³⁵ It was not until the postwar period that operations began to tackle the colder, frozen, and overall much harsher conditions above the Arctic Circle.

³² "Alaska Highway," in *Contributions & Crossroads: Our National Road System's Impact on the U.S. Economy and Way of Life*, ed. Federal Highway Administration (U.S Department of Transportation), <https://www.fhwa.dot.gov/candc/factsheets/alaskahighway.pdf>.

³³ Report by H.T. Ueda, D.E. Garfield, and F.D. Haynes, "The Canol Pipeline Project: A Historical Review," October 1977, Special Report 77034, Cold Regions Research and Engineering Laboratory.

³⁴ "Subarctic America," One Earth, <https://www.oneearth.org/realms/subarctic-america/>.

³⁵ PBS WGBH Educational Foundation, "The Building of the Alaska Highway," American Experience, <https://www.pbs.org/wgbh/americanexperience/features/alaska-building/>.

The Canadian government conducted research in the high Arctic in the postwar to reclaim a northern territory that, during the war, was used to support the defense of Alaska. Historian Desmond Morton notes in “Providing and Consuming Security in Canada’s Century” that tensions rose during the construction of the Alaska-Canadian highway when engineers from the US Army started to outnumber the Canadians on the project. He writes that “In the postwar years, Canada was as nervous about American as about Soviet activity in its North.”³⁶ Canadian research in the high Arctic climate after the war tested the limits of equipment and personnel to extreme conditions while asserting Canadian authority in its own territory. One of the largest series of tests, “Operation Musk-Ox,” was a project completed by the Canadian military that evaluated the ability of land and air forces to work jointly in Arctic conditions. Personnel were prepared with four weeks of training at Camp Shilo, Manitoba, and six weeks at Fort Churchill, where they learned Arctic survival tactics like igloo building.³⁷ The actual operation, hailed by *The Windsor Star* as “the greatest scientific expedition to ever explore Canada’s roof garden” began on February 15, 1946.³⁸ A convoy of tracked vehicles traveled over 3,100 miles in the Arctic, much of which had never been traversed by vehicle. The operation was deemed a success, with important lessons learned regarding the effects of Arctic conditions on radio communication and navigation as well as on clothing and other equipment.³⁹ There was a US presence at the test, with three USAF C-47 cargo carriers, six cold-weather suitable gliders, and 22 men. However, it was clear that US personnel were “working completely under the direction

³⁶ Desmond Morton, “Providing and Consuming Security in Canada’s Century,” *The Canadian Historical Review* 81, no. 1 (2000): 18, <https://muse.jhu.edu/pub/50/article/590575/pdf>.

³⁷ Hugh A. Halliday, “Exercise ‘Musk Ox’: Asserting Sovereignty ‘North of 60,’” *Canadian Military History* 7, no. 4 (1998): 37.

³⁸ Bill Crockman, “Plan to Explore Canada’s Roof Garden,” *The Windsor Star* (Windsor, Ontario), January 21, 1946.

³⁹ Halliday, “Exercise ‘Musk Ox,’” 42.

of the Royal Canadian Air Force” and “it was emphasized that this is a wholly Canadian project and not a joint undertaking.”⁴⁰

Musk-Ox was used to send a clear message about a Canadian presence in its North. Daily news reports provided updates on Musk-Ox while newspaper editorials remarked on the project’s significance. Additionally, the National Film Board of Canada produced a 55-minute documentary on the operation.⁴¹ The Board also produced a 1948 film titled “Going North,” which was shown to Canadians in the South. The film projected the Arctic with tones of exoticism and ruggedness, as an environment that needed to be overcome. Musk-Ox was just one example of the larger project of Canadian Arctic research that emerged in the postwar. In 1947, the Defence Research Board allocated funds from the National Defence Budget to propel military research at Canadian universities and allow scientists to travel far distances to conduct research. The goal of the research was to adapt the soldier to the harsh Arctic environment. Matthew Wiseman, historian of Northern Canada and Arctic Research, suggests that this research was a way during the Cold War, without the ability to “peer through the Iron Curtain,” to assess Soviet military potential by understanding the effects of the Arctic on the soldier.⁴² The push by Canadians to conduct Arctic research was part of a larger process of creating a position for itself at the top of the new world order.

Canada in the New World Order

The Second World War, which critically reshaped global power dynamics, was a moment for Canada to break away from subservience to the British and establish its place in the world.

⁴⁰ *New York Times*, “Army Plans Air Games in Arctic,” March 7, 1946.

⁴¹ Halliday, “Exercise ‘Musk Ox,’” 44.

⁴² Matthew Wiseman, “Fear and Fatigue: Fort Churchill & Canada’s Arctic Soldiers in the Early Cold War” (lecture, Laurier Centre for the Study of Canada, Waterloo, Ontario, October 30, 2024).

Canadian participation in the war is often overlooked, but over one million Canadian soldiers, constituting 42 percent of the Canadian male population aged 18-45, served on every front of the war. Over 940,000 of these soldiers were volunteers. Morton notes that the provision of troops during the war served as a means to increase Canadian independence. He writes that “As a provider of troops, Canada enhanced its autonomy within, and, ultimately, beyond the empire.”⁴³ Canadian autonomy was further enhanced by the tremendous production of defense materials for the Allied cause, particularly aluminum and other raw materials. In *Quebec Hydropolitics*, historian David Massell, who takes a special interest in the historical narratives that can be derived from resource development, analyzes the projects completed by the Aluminum Company of Canada during the war to harness hydroelectric power to dramatically increase the output of aluminum. In the context of the demand for raw material for airplanes during the war, Massell writes, “Aluminum was the essential component of military aircraft, and electric power was the controlling factor of aluminum production.”⁴⁴ His work focuses on the harnessing of the hydropower of Quebec’s Saguenay Valley, once called the ““greatest aluminum centre in the world”” by the Canadian Geographical Journal.⁴⁵ Other Canadian companies like the Eldorado Gold Mining Company specialized in the extraction of radium for the US nuclear bomb.⁴⁶ This section will evaluate to what extent this contribution to the war allowed Canada to successfully distance itself from Britain and emerge from WWII as a global power.

⁴³ Morton, “Providing and Consuming,” 18.

⁴⁴ David Perera Massell, *Quebec Hydropolitics: the Peribonka Concessions of the Second World War* (Montreal: McGill-Queen’s University Press, 2011), 100.

⁴⁵ Massell, *Quebec Hydropolitics*, 8.

⁴⁶ Canadian Nuclear Safety Commission, “Canada’s historical role in developing nuclear weapons,” Government of Canada, last modified February 26, 2025, <https://www.cnsccsn.gc.ca/eng/resources/fact-sheets/canadas-contribution-to-nuclear-weapons-development/>.



Aluminum Company of Canada, *Roll 'Em Out!*, 1940, Records of the Office of Government Report Record Group 44, World War II Foreign Posters, National Archives, College Park, MD.

The effort of Canada to establish its own place in the world was mostly driven by Prime Minister Mackenzie King (Liberal Party), as many Canadian leaders (especially the Conservative Party) feared the idea of loosening ties to Britain. In May 1940, there was a lengthy discussion that took place in the Canadian House of Commons when members of parliament (MP) expressed concern over a lack of commitment to the British. Richard Hanson (C – York-Sudbury) focused on the protection that being a dominion of Britain provided. He

remarked, “We have never had more than one line of defence; our first and only line has been the British navy, and we ought to thank God recently that we have such a defence – to which, however, we do not contribute a single dollar or a single man.” He continued by criticizing the lack of gratitude for the British, saying, “it is only in a period of trial and stress such as that in which we are now living that we realize what are the privileges of a British subject and comprehend that during all these years the British government has been providing our first line of defence.”⁴⁷ Representatives from across parliament recognized how Canada was distancing itself from Britain. For example, in a debate over unemployment relief, MP Angus MacInnis (CCF – Vancouver East) commented that he “may be told that this matter comes under provincial jurisdiction, and that there is nothing that this government can do. But in a great many matters to-day, in these abnormal times, Canada is being governed not by the normal dominion-provincial relations. In many respects the War Measures Act has displaced the British North America Act as the constitution of Canada.”⁴⁸ King attempted to reassure Hanson and other concerned leaders of Canada's commitment to the British. He referenced the attendance of the King and Queen at a parliamentary dinner that took place a year prior, stating that it was “one of the happiest events in the whole of our history” because it “served to reveal the affectionate regard in which their majesties are held by their Canadian subjects and the loyalty of the Canadian people to the crown. Further, it helped to reveal the unity of the Canadian people under the crown.”⁴⁹ Behind the scenes, however, King was working to forge a relationship with Roosevelt for purposes of defense and in a greater pursuit of a status as a self-sufficient country and not as a dominion.

⁴⁷ Canada, Parliament, House of Commons, *Debates*, 19th Parl., 1st sess., vol. 1, 28, “The Address – Mr. Hanson (York-Sudbury)” (May 20, 1940), https://parl.canadiana.ca/view/oop.debates_HOC1806_01.

⁴⁸ Canada, Parliament, House of Commons, *Debates*, 19th Parl., 1st sess., vol. 1, 688, “Unemployment Relief” (June 11, 1940), https://parl.canadiana.ca/view/oop.debates_HOC1806_01.

⁴⁹ Canada, Parliament, House of Commons, *Debates*, 19th Parl., 1st sess., vol. 1, 38, “The Address – Mr. Mackenzie King” (May 20, 1940), https://parl.canadiana.ca/view/oop.debates_HOC1806_01.

Representative Hanson feared this closer alignment with the United States for purposes of defense. He remarked, “I wonder, however, if any self-respecting Canadian within the sound of my voice or anywhere in this country wants to see Canada dependent at any time for her national safety upon the government of the United States. Surely if we are a nation our self-respect will demand something more of ourselves than that.” He forcefully declared, “if the day ever comes when we have to shelter ourselves behind the armed forces of the Stars and Stripes, that day we will haul down the Union Jack in Canada and it will never go up again.”⁵⁰ Just a few months after this discussion, the foreign policies of the two nations officially became intertwined when Prime Minister King and President Roosevelt signed the Ogdensburg Declaration in August 1940. King and Roosevelt met in Ogdensburg, New York, to discuss risks facing the North American Continent. King assured FDR that “the enemy should not be able to pursue their way, either by land, sea or air to the United States across Canadian territory.”⁵¹ This meeting resulted in the creation of the Permanent Joint Board of Defense (PJBD), a committee still standing today, with the purpose to “consider in the broad sense the defense of the north half of the Western Hemisphere.”⁵² The Ogdensburg Declaration and PJBD demonstrated an undeniable fusion of American and Canadian defensive policy and paved the way for American-led projects built in the Canadian north during the war such as the Alcan Highway and Canol pipeline previously mentioned. King’s aims to seek closer defensive collaboration with the US as a means to create distance from Britain and to put Canada in a position to help write the new world order resulted in an opening up of Canada to American projects that extended into the postwar in the face of possible Soviet attack from across the Canadian Arctic.

⁵⁰ Canada, Parliament, House of Commons, *Debates*, 19th Parl., 1st sess., vol. 1, 28 (May 20, 1940).

⁵¹ Adam Lajeunesse, “The Distant Early Warning Line and the Canadian Battle for Public Perception,” *Canadian Military Journal*, 53, <http://www.journal.forces.gc.ca/vo8/no2/doc/lajeunes-eng.pdf>.

⁵² U.S. Department of State, “Permanent Joint Board on Defense,” August 24, 1940, Department of State Bulletin, 154.

Further, if the two countries were to collaborate for North America's security, it would make sense for military equipment to be standardized. In fact, when the two countries agreed in the postwar in February 1947 to continue defensive collaboration, they agreed on the "Encouragement of common designs and standards in arms, equipment, organization, methods of training and new developments." The agreement did recognize, though, that "As certain United Kingdom standards have long been in use in Canada, no radical change is contemplated or practicable and the application of this principle will be gradual."⁵³ However, Morton contends that the PJBD, by 1948, "had become a justification for converting Canada's armed services to American equipment, doctrine, training, and, ultimately, values." Morton recognizes that "While the army had emotional reservations about cutting its British ties, the more technology-minded navy and air force embraced the change with special enthusiasm: the war had taught them that the Americans would have the best tools of the trade and certainly the newest."⁵⁴ These remarks come from the context of a greater American effort of continental standardization that occurred towards the end of the war.

Records from the American State-War-Navy-Air Force Coordinating Committee demonstrate a goal of hemispheric standardization of American equipment. A statement from July 6, 1945 (approved by Truman on July 29) refers to the Act of Chapultepec, signed in March 1945 by 20 American republics in addition to the US at the Inter-American Conference on Problems of War and Peace (the Chapultepec Conference). The act recognized the need for joint defense of the North American continent. The July 6 statement said that "the military establishments of the American republics should be organized under common tables of

⁵³ Government of Canada, *Joint Statement by the Governments of Canada and of the United States of America Regarding Defence Co-Operation Between the Two Countries*, *Canada Treaty Series* 1947, no. 43 (February 12, 1947), <https://www.treaty-accord.gc.ca/text-texte.aspx?id=100977>.

⁵⁴ Morton, "Providing and Consuming," 19.

organization; they should be equipped with types of equipment based on common tables of equipment; their training should be based on common military doctrine, and their governing military methods and practices should follow common lines of procedure.” Of course, because the US had “recognized military leadership in the Hemisphere and is the only considerable producer of military equipment among the American republics” the other republics should adopt “United States military doctrine, United States military methods and procedures, and United States standards of military agreement.”⁵⁵ The US would attempt to align American and Canadian equipment as well through the PJBD. Specifically, guidance from the PJBD in April 1946 called for the standardization of equipment for the defense of the continent. This recommendation and its relation to issues of Canadian sovereignty will be discussed later.

Equipment standardization was part of the larger process of Pan-Americanism orchestrated by the US. This process began in 1890 at the First International Conference of American States but was fortified in the interwar period and through WWII, and was a process that Canada was purposefully left out of. The recurring message coming from Washington was that Canada, although geographically part of the Americas, was not a republic and therefore should not be a member of the Pan-American Union (renamed the Organization of American States in 1948). At the Sixth International Conference of American States held in Havana in February 1928, Secretary of State Kellogg stated that the conferences were “of governments and not of mere geographical groups or territorial units...If colonies, possessions or dominions, whose foreign relations are controlled by European States, were represented in these conferences, the influence and policies of European Powers would be injected into the discussion

⁵⁵ State-War-Navy Coordinating Committee, *Statement of Policy Governing the Provision by the U.S. of Indoctrination, Training, and Equipment for the Armed Forces of the Other American Republics*, report no. 4/10, Lend Lease Military Equipment and Training to Latin America, Jan.-Dec. 1945 (1945), 2.

and disposition of questions affecting the political entities of this hemisphere.”⁵⁶ Canada was not only seen as a proxy for London, but as a Trojan Horse for British interests. Thus, Canada did not fit into the Pan-American vision.

This attitude that Canada was too closely aligned with Britain and thus should not be admitted into the Pan-American Union continued into the war. First, American leaders were skeptical of the early Canadian declaration of war: Douglas Anglin, Professor of Political Science, remarked in 1961 that “despite the elaborate precautions taken to emphasize Canada’s independent declaration of war, its prompt response to Britain’s lead revived latent doubts concerning the degree to which it had shaken itself free of British influence and become truly American in outlook.” As a result, he calls the prospect of Canadian attendance at the Second Meeting of Foreign Ministers that took place in Havana in July 1940 “inconceivable, despite Ottawa’s obvious interest in the items under discussion.”⁵⁷ Yet as the war progressed and the situation changed, Canadian leaders were hopeful that they had proven their service to the American cause and were eager for an invitation to the Third Meeting of the Foreign Ministers of the American Republics scheduled for January 1942 in Rio. However, they were again rejected from participation in Pan-Americanism, still with the reasoning that they were not a republic.⁵⁸

What is interesting to note is that other countries in the Pan-American system were not so eager to reject Canadian membership. Ottawa reported in March 1942, not long after the January conference in Rio, that many of the major Latin American countries had informed Canada that they sought its inclusion in the union. These rumors were unsurprising to Sumner Welles, US Under Secretary of State, but he knew that “when it came to the point of voting” the countries

⁵⁶ “The Secretary of State to the American Delegation,” January 5, 1928, in *U.S. Department of State, Papers Relating to the Foreign Relations of the United States*, 1928, vol. 1, <https://history.state.gov/historicaldocuments/frus1928v01/d363>.

⁵⁷ Douglas G. Anglin, “United States Opposition to Canadian Membership in the Pan American Union: A Canadian View,” *International Organization* 15, no. 1 (1961): 6-7, JSTOR.

⁵⁸ Anglin, “United States Opposition,” 10.

that sought Canadian membership would “vote the other way.”⁵⁹ By this point, it is clear that the US had asserted its authority as the leader of the Pan-American Union. However, the US had not created its autarkic block through on-the-ground invasion and occupation as Germany or Japan did – the US did not hold authority over the hemisphere by occupation but through diplomacy, and the Latin American states sought Canada’s membership in the Union as a counterbalance to Washington.

Chile brought the Canadian issue to the table in February 1945 at the Chapultepec Conference. The Chapultepec Conference, which began at Mexico City in February 1945 and extended into March, was another event to which Canada was not invited due to their status as a dominion, according to Secretary of State Edward Stettinius. Canadian newspapers were perplexed by their exclusion from a conference that intended to address continental defense. C.R. Blackburn of the Montreal *Gazette*, writing on the Act of Chapultepec, wrote that “the fact that it set up machinery for the defence of the Americas without participation by Canada has raised anew the question of Canada’s place in pan-American affairs.”⁶⁰ At the conference, however, Chile introduced a resolution to formally extend membership to Canada. The resolution stated that an invitation would “pay a tribute of admiration and gratitude to Canada for its magnificent war effort in the defense of the American Continent.”⁶¹ Washington recognized that the states were becoming increasingly restless about the Canadian issue but continued to postpone the issue until the Ninth International Conference of American States.

In their report on developments at the conference, American diplomats note that the “attitude of delegates” at Chapultepec indicated that the issue of Canadian membership “might

⁵⁹ Anglin, “United States Opposition,” 11.

⁶⁰ C.R. Blackburn, “Canada Held Unseated Delegate at Hemisphere Security Parley,” *The Gazette* (Montreal, Quebec), March 16, 1945.

⁶¹ Anglin, “United States Opposition,” 15.

become lively topic at Bogotá Conference of American States in 1946.”⁶² Anglin writes that Chile’s resolution was “effectively emasculated.”⁶³ The resolution that *was* adopted at Chapultepec dodged the issue of Canadian membership and simply recognized that ties between Canada and the union would continue to grow. Notably, even though the Chilean resolution explicitly recommended that “the Governing Board of the Pan American Union should immediately invite the Government of Canada to form part of the Union.”⁶⁴ The American Delegation at the Conference wrote afterward that the “Present resolution does not mention participation of Canada in Pan-American Union.”⁶⁵ The US was successful at consolidating its hemispheric authority, clear from its dismissal of the appeals of the other Union states, and was approaching its position as a global hegemon as the war neared its end.

Although excluded from the Pan-American Union, King continued to forge a strong relationship with Roosevelt and to work to prove that Canada was separate from Britain. As a corollary to the Ogdensburg Declaration and PJBD, King and Roosevelt had signed the Hyde Park agreement in April 1941 to integrate the two nations’ economies to better allow resources to be distributed efficiently and effectively to meet wartime needs. Coordination of the industrial and military production of the two countries through the Hyde Park Agreement pinpointed a specific moment when Canada saw itself becoming equal to the US in terms of its ability to contribute to the war effort. When King presented the agreement to the House of Commons on April 28, he emphasized the significance of economic integration and the great triumph of Canadian production in being able to meet American demands. He remarked that the agreement

⁶² “The American Delegation to the Acting Secretary of State,” March 6, 1945, in *Foreign Relations of the United States: Diplomatic Papers, 1945, The American Republics*, Volume 9, (Washington, D.C.: Government Printing Office), <https://history.state.gov/historicaldocuments/frus1945v09/d90>.

⁶³ Anglin, “United States Opposition,” 15.

⁶⁴ Anglin, “United States Opposition,” 15.

⁶⁵ “The American Delegation to the Acting Secretary of State,” March 6, 1945 in *FRUS: Diplomatic Papers 1945*, vol. 9.

“constitutes an acceptance of the economic interdependence of Canada and the United States as the foundation of the programme of war” and that “The fact that Canadian war production is so well organized in many fields as to enable Canada to meet speedily many United States requirements is a high tribute to Canadian industry and Canadian labor.” The Hyde Park Agreement drew estimates for a whopping \$200-300 million worth of defence materials to be produced for the US.⁶⁶

King’s concluding remarks and the discussion that followed in the House of Commons paint a clear picture of the satisfaction that Canadians felt to be placed on equal footing with the US. Members of parliament believed that Canadian contributions to the war effort would give them a leading role in the new world order alongside the US. King concluded by stating, “The Hyde Park declaration is, I believe, a further convincing demonstration that Canada and the United States are indeed laying the enduring foundations of a new world order, an order based on international understanding, on mutual aid, on friendship and good will.”⁶⁷ King did not say that the Canadians, British, and Americans would build the foundations for the new world order together; there was a new world order being built, and King believed they would be building it side by side with the US. Other parliamentary representatives expressed similar optimism about the agreement's implications for international balances of power. Hanson, who previously opposed partnership with the US, stated that the Hyde Park Agreement “meant the closing of the ranks of the democratic nations to meet a common peril.”⁶⁸

So, to what extent did the ranks actually close in the postwar, and did Canada effectively prove itself enough during the war to write itself into the new world order? Historians J.L.

⁶⁶ Canada, Parliament, House of Commons, *Debates*, 19th Parl., 2nd sess., vol. 3, 2287-2288, “Hyde Park Declaration” (April 28, 1941), https://parl.canadiana.ca/view/oop.debates_HOC1902_03.

⁶⁷ Canada, House of Commons, *Debates*, 19th Parl., 2nd sess., vol. 3, 2289, (April 28, 1941).

⁶⁸ Canada, House of Commons, *Debates*, 19th Parl., 2nd sess., vol. 3, 2290, (April 28, 1941).

Granatstein and R.D. Cuff, writing on the significance of the Hyde Park Declaration, recognized that the world order was indeed changing and that Britain's position was falling, with the US vying to be the replacement. However, they call King's belief that Canada and the US were creating the new world order together "wishful thinking."⁶⁹ I agree with their opinion that Canada was not equal to the US in the new world order, but I intend to do this by turning back to our discussion of the Arctic in the postwar period to demonstrate the breach of Canadian sovereignty and the ultimate devastation inflicted on the Canadian North by the US.

When the war ended and the perceived theatre of threat shifted from the European continent to the Arctic, the spotlight was now on Canada to see if it had successfully carved out a path to be an influential hemispheric power that was not subservient to Britain or the US. Stephen Jones, previously referenced for his evaluation of US military preparedness for dealing with Arctic conditions, accurately recognized the new levers of power Canada held in the postwar period. According to Jones, in the postwar, "the diplomatic position of Canada is different, and in some ways stronger, than it has been in the past. Formerly, Canada was strategically dependent on Britain and the United States, but those great powers were not vitally dependent upon Canada." Yet, now, "The atomic bomb and long-range aircraft have changed Canada's position. As the possessor of what may be the world's largest source of uranium, Canada is now a highly desirable associate in world affairs. Most great circles between the United States and Eurasia pass over Canada... It is obvious that Canadian-American dependence is now reciprocal."⁷⁰ What emerged here was a need by other powers (the US) for Canadian resources. Yet with its hemispheric superiority, Washington effectively exploited Canada's resources, more specifically its land in the far north; the American presence in and impact on the

⁶⁹ J.L. Granatstein and R.D. Cuff, "The Hyde Park Declaration 1941: Origins and Significance," *The Canadian Historical Review* 55, no. 1 (1974): 79, Project MUSE.

⁷⁰ Jones, "The Arctic," 18.

landscape of the Canadian Arctic during the Cold War demonstrates that Canada did not successfully establish an equal place in the world.

To return to the idea of Pan-Americanism, membership to the Pan-American Union was finally extended to Canada only after the war ended. Pan-Americanism was a way for the US to consolidate its hemispheric hegemony as a stepping block towards global hegemony, a process that began with the Good Neighbor Policy, as historians Andrew Buchanan and Ruth Lawlor argue in “Latin America, the Good Neighbor, and the Global Second World War.” And Canada, which indeed proved to be a force during the War, presented a challenge to this process. It was not until after the war had ended and the US had effectively established its hemispheric and global hegemony that Canada was offered membership to the Union. At this point, though, Ottawa was no longer interested. Prime Minister Louis St. Laurent (Liberal Party) stated that Ottawa saw no “decided advantages in a formal membership in the Pan American Union.”⁷¹ Ottawa’s turn away from seeking greater hemispheric integration was a defensive reaction to the reality of US hegemony and to the illusory nature of the equal partnership between King and Roosevelt.

The American continent was decidedly under Washington’s authority, so Canada turned to other outlets to develop and exercise global influence. For example, Canada focused on making the United Nations a success, a system that presented a liberal alternative to US neocolonialism and of which Canada was a founding member. As Anglin writes, “By the time it became necessary to retreat into regionalism, Canada realized that its destiny lay more with the northern hemisphere than with the western.”⁷² Canada was unsuccessful in becoming a driving force in the new world order; as the US took the place of Britain as the global hegemon, it also

⁷¹ Anglin, “United States Opposition,” 17.

⁷² Anglin, “United States Opposition,” 17.

slipped into Britain's role as the dominant power over Canada. George F.G. Stanley, a Canadian who held many roles as an author, soldier, lieutenant-governor, historian, and even the designer of the Canadian flag, remarked that after WWII "Canadians are obliged to accept a larger measure of dictation in defence matters from Washington than they were ever willing to take from London in the ninety years since Confederation."⁷³ In the postwar, Ottawa had little leverage to deny US encroachment and the resulting environmental destruction of its Arctic.

US-Canadian Defense Integration in the Postwar

A look into the postwar projects that unfolded in the Canadian Arctic demonstrates that Canada's efforts at establishing a new position in the world order proved futile. Using the *Foreign Relations of the United States* series, it is clear that in the immediate postwar the US simply slipped into Britain's place as the presiding power over Canada. On August 28, 1946, Ambassador to Canada Ray Atherton wrote to the US Secretary of State about the necessity for collaboration on defense with Canada. But, he did so by identifying the US as the "arsenal of democracy" and that "Canada must look first and primarily to the United States for assistance in defending herself." This attitude put Canada on the primary defensive in the face of Soviet attack, not the US. By emphasizing this collaboration as an aid to Canada, the US created room for itself to insist on access to Canadian land for defense projects. This section will show a deepening postwar integration between Ottawa and Washington for purposes of defense in order to understand where the DEW Line came from. The two nations were militarily integrated for defense on a foundation of US hemispheric hegemony, ultimately resulting in the abuse of Canadian sovereignty.

⁷³ John W. Warnock, *Partner to Behemoth; The Military Policy of a Satellite Canada* (Toronto: New Press, 1970), 129.

Atherton recognized that the Canadian anxiety of moving away from Britain and towards the US for defense collaboration could prove to be an obstacle to collaboration. He recognized that Canada looking to the US “causes a wrench at the heartstrings and requires a complete reorientation of Canadian military thinking which prior to the war looked to Britain for guidance and aid.”⁷⁴ This apprehension reappeared less than two months later in an October memorandum from Dean Acheson, Acting Secretary of State, to President Truman. He knew they would face questions over the issue of violating Canadian sovereignty, writing, “Some Canadians fear we would encroach on their sovereignty and some fear that Canada might ultimately have to withdraw from the British Commonwealth.” It was clear from the get-go that the US recognized that a successful defense of the North American continent would require assurance to the Canadians that their sovereignty was not in jeopardy; Atherton recommended to the Secretary of State “that if some way can be found to allay the suspicions of this element and to assure to Canada that joint defense with the United States will not lead to withdrawal from the Commonwealth our path would be much easier.”⁷⁵ In light of this recommendation, a pattern emerges – on paper, projects that need to take place in the Canadian Arctic are developed under the auspices of an equal US-Canadian relationship. But once the projects are put in place and US troops cross the border, it soon becomes clear who is in charge, leading to bitter claims of an assault on Canadian sovereignty.

The recommendations made by the Permanent Joint Board of Defense for how to proceed with continental defense clearly demonstrate the Canadian concern over maintaining its sovereignty. In April 1946, the PJBD submitted Recommendation 35 to outline the collaboration

⁷⁴ Memorandum by Acting Secretary of State Dean Acheson to President Truman, October 1, 1946, in *Foreign Relations of the United States, 1946, The British Commonwealth, Western and Central Europe*, vol. 5, (Washington, D.C.: U.S. Government Printing Office, 1969), 56.

⁷⁵ Memorandum by Acting Secretary of State Dean Acheson to President Truman, October 1, 1946, in *FRUS, 1946*, vol. 5, 56.

between the Armed Forces of the two nations. It calls for measures such as the interchange of personnel, the ability for military vehicles and vessels to travel through the territories and use the facilities of the other country, and the standardization to the extent possible of arms/equipment/training methods⁷⁶ (note the effort of continental standardization pursued by the State-Navy-War Coordinating Committee discussed in the previous section). Editorials about the recommendation commented on the role the agreement would play in filling gaps in research, even mentioning previous studies like Operation Musk-Ox. A *New York Times* article from May 1946 writes: “But all Operation Musk-Ox is said to have proved is that neither the United States nor Canada knows very much about the problems of keeping men alive and vehicles moving at temperatures around 50 degrees below zero” but the agreement would allow both nations to “find out and study the problems of making war under conditions that no army on this continent has ever attempted.”⁷⁷ Yet the recommendation was rejected by Ottawa; the conditions of the document were not enough to reassure Canada of its independence.

Truman attempted to persuade King to approve the recommendation by reemphasizing the importance of defense integration. He wrote to King on October 1, 1946, reminding him that two world wars “have demonstrated that an aggressor must destroy the power of North America or be defeated” and that geography is no longer enough to protect the two nations.⁷⁸ He further called King’s attention to the fact that the US and Canada both “lag in cold weather knowledge and experience...because of this lag and because of the expense involved, defense plans will take

⁷⁶ Memorandum by Acting Secretary of State Dean Acheson to President Truman, October 1, 1946, in *FRUS, 1946*, vol. 5, 56.

⁷⁷ James Reston, “Unified Arctic Defense Plan Proposed by U.S. to Canada; Joint Bases, Weather Stations in Far North, Coordinated Training and Equipping of Forces in Scheme Put to Ottawa PLAN for DEFENSE in ARCTIC SET out Basic Coordination Projected Factors of Cost and Policy Security of U.S. Involved Political Effect Discounted,” *The New York Times*, May 18, 1946, 6, <https://www.nytimes.com/1946/05/18/archives/unified-arctic-defense-plan-proposed-by-us-to-canada-joint-bases.html?searchResultPosition=57>.

⁷⁸ Oral Message from President Truman to Prime Minister Mackenzie King, October 1, 1946, in *FRUS, 1946*, vol. 5, 59.

years to implement.” Truman acknowledged that issues of sovereignty may be standing in the way of approval of the 35th Recommendation; he reassured King on the issue, saying that US leaders on defense “are aware of the special problems that face Canada, a member of the British Commonwealth of Nations. They have been instructed that the sole purpose of close military collaboration is defense, that every precaution must be taken to protect the traditional relations of the two countries and the position which each, respectively, enjoys.” Finally, Truman acknowledged the financial question. He told King that financial questions should not stand in the way of progressing with defense measures and that the US would pay their equitable share.⁷⁹ Many Canadians will later argue that Canada sold away its independence when the US financed the majority of the bill for the DEW Line,⁸⁰ but in 1946, Truman’s assurances on the sovereignty and financial questions, combined with a revision of the 35th Recommendation, pushed defense integration forward.

The approved 36th Recommendation added clear language that addressed the issue of sovereignty. Both countries approved Recommendation 36, a revised version of the PJBD’s original guidance, in November 1946.⁸¹ The revised version included the same text as the 35th, but with one additional measure that addressed the principles that should be followed for the construction and maintenance of joint military projects. It stated in clear terms that “Military projects, tests or exercises, agreed to by both countries, whether jointly conducted or not, are without prejudice to the sovereignty of either country, confer no permanent rights or status upon either country, and give only such temporary rights or status as are agreed upon by the appropriate authorities of the two countries in authorizing the projects, tests or exercises.”⁸² The

⁷⁹ Oral Message from President Truman to Prime Minister Mackenzie King, October 1, 1946, in *FRUS, 1946*, vol. 5, 60.

⁸⁰ Ralph Allen, “Will the Dewline Cost Canada its Northland?,” *Maclean's*, May 26, 1956.

⁸¹ Nicholas Glesby, “The Canada-United States Permanent Joint Board on Defence (PJBD): An examination of its advice outcomes legacy, 1940-2023,” (master's thesis, University of Manitoba, 2023), 49.

⁸² “Recommendation of November 20, 1946 by the Permanent Joint Board on Defense,” in *FRUS, 1946*, vol. 5, 66.

differences between the 35th Recommendation and the 36th, the former rejected and the latter approved, demonstrate just how fundamental it was for Canada to receive assurance of its sovereignty in order to accept collaboration with the US.

Both countries released a statement on February 12, 1947, through the PJBD announcing the partnership. The announcement reiterated the measures outlined by the 36th Recommendation regarding the specifics of equipment testing and standardization, interchange of staff, etc., but also emphasized the “underlying principle” that “all cooperative arrangements will be without impairment of the control of either country over all activities in its territory.”⁸³ The announcement did not directly alert to the Soviet threat, but remarked that the nations decided to work together in order to fulfill “their obligations under the Charter of the United Nations for the maintenance of international peace and security...Both Governments believe that this decision is a contribution to the stability of the world and to the establishment through the United Nations of an effective system of worldwide security”⁸⁴ The statement also reminded its reader that the two nations did not enter into a treaty or formal contract and either nation may remove itself from the partnership at any time.

Mackenzie King struggled to convince the Canadian Parliament that the agreement for mutual defense would not put Canadian sovereignty in jeopardy. Delivering the February 12 statement of cooperation to the House of Commons, he explicitly addressed Canadian fears of losing sovereignty, stating:

The subject has naturally engaged the attention of many people both here and abroad and some quite unfounded suggestions have been put forward. There is a persistent rumor, for example, that the United States government has asked for bases in the Canadian north. This is a rumor which I should like to deny emphatically. There has been talk of Maginot

⁸³ *Joint Statement Regarding Defence Co-Operation*, February 12, 1947
<https://www.treaty-accord.gc.ca/text-texte.aspx?id=100977>.

⁸⁴ *Joint Statement Regarding Defence Co-Operation*, February 12, 1947
<https://www.treaty-accord.gc.ca/text-texte.aspx?id=100977>.

lines, or large-scale defense projects, all of which is unwarranted and much of it fantastic. What we are trying to do is view the situation soberly, realistically, and undramatically.⁸⁵

However, some news reporters were able to read between the lines. In an article published the day after King's announcement, one correspondent from *The Winnipeg Tribune* noted how King avoided explaining how there would be a visible US presence in Canada. The correspondent wrote, "Prime Minister King Wednesday properly denied that the U.S. had asked for bases in the north of his country. What he did not say, however, was the possibility that the U.S. might help build such a base and help staff the majority with the Canadians was very much under discussion last summer."⁸⁶ The line between cooperation and control became ambiguous as US forces entered Canadian soil.

There was an effort to obscure defense efforts with a civilian cover. In top-secret meetings held in Ottawa on December 16 and 17, 1946, the Canadian representatives "expressed the view that there were advantages in providing a civilian "cover" for at least some of the defense projects in their early stages, air warning research, mapping and weather coverage being mentioned." The representatives from the US "felt that this was primarily a Canadian problem but that such 'cover' could be provided in certain cases, although it would tend to complicate the problem in most fields."⁸⁷ The exact reasoning for the push for a civilian cover by the Canadian representatives is not clear from the meeting notes, yet the idea that it was considered a "Canadian problem," combined with the Canadian anxiety throughout the partnership regarding the protection of its sovereignty, leads to the conclusion that a civilian cover would have allowed Canadian officials to avoid claims from the Canadian public that they were giving away their

⁸⁵ Canada, Parliament, House of Commons, *Debates*, 20th Parl., 3rd sess., vol. 1, 347, "Defence Cooperation" (February 12, 1947), https://parl.canadiana.ca/view/oop.debates_HOC2003_01.

⁸⁶ Dick Sanburn, "Arctic Defense May Be Boosted," *The Winnipeg Tribune* (Winnipeg, Manitoba), February 13, 1947.

⁸⁷ Memorandum of Canadian-US Defense Conversations Held in Ottawa, December 16 to 17, 1946, in *FRUS, 1946*, vol. 5, 72.

independence. This is further evidenced by King's February 12 statement to the House of Commons in which he spoke about the civil importance of Arctic research while outlining the measures of the US-Canadian partnership. He said, "As the government views it, our primary objective should be to expand our knowledge of the north and of the conditions necessary for life and work there with the object of developing its resources. Canada's northern programme is thus primarily a civilian one to which contributions are made by the armed forces."⁸⁸ Yet King's messaging about the civilian importance of the defense mission, combined with assurances that Canadian sovereignty would be protected, was not sufficient to ease Canadian worries.

Debates erupted in the House of Commons over the presence of US forces in Canada just a few months after King's announcement, foreshadowing the rocky years ahead as the US presence in Canada would continue to grow. On June 6, 1947, debate continued between members of Parliament over the Visiting Forces Act, a bill previously introduced to regulate the rights and conditions of US troops in Canada. The core of the discussion addressed the ambiguity of whether forces in Canada were there for training or something more permanent and invasive. Were US forces truly there for training, or would they establish posts and occupy Canadian territory?⁸⁹ Louis St. Laurent, Secretary of State for External Affairs, tried to calm fears about the US presence by referring to the section of the 36th Recommendation and of King's February 12 statement that stated that US troops were in Canada solely to become familiar with the landscape and to test material and equipment. However, members of Parliament from across parties responded with frustration. Representative Howard Green (PC – Vancouver-Quadra) snidely asked St. Laurent, "Does the cabinet not pass at all on any of these invitations to foreign troops

⁸⁸ Canada, House of Commons, *Debates*, 20th Parl., 3rd sess., vol. 1, 347, (February 12, 1947).

⁸⁹ Canada, Parliament, House of Commons, *Debates*, 20th Parl., 3rd sess., vol. 5, 3866, "Visiting Forces" (June 5, 1947), https://parl.canadiana.ca/view/oop.debates_HOC2003_04.

to come to Canada?”⁹⁰ Representative Jean François Pouliot (L – Témiscouata) sarcastically remarked “My suggestion is that, instead of a bill of this kind, we should send to the United States on the occasion of the visit of the President of the United States an invitation to join our empire with the status of a dominion.”⁹¹ This suggestion, although unserious, gives insight into the irritation felt by Canadians time and time again over the ways the US saw itself as the North American hegemonic power and, after WWII, the global one.

Other members of Parliament responded directly to the sovereignty issue. M.J. Coldwell (CCF – Rosetown-Biggar) said that if Canada were to give away any measure of its sovereignty, it should be to the UN. He argues that Canadian sovereignty should not even be given to other members of the Commonwealth, much less to the US. He recognized that Canada already felt intense pressure from the US due to economic integration and geographic proximity, so they should do nothing to put their independence further at risk.⁹² Other members of Parliament feared for the message that would be sent to the Soviets, like representative Thomas Langton Church (PC – Broadview):

I would go so far as any person in this house in supporting that great nation, the United States, which has done so much in coming to the relief of the world and saving civilization. As I said, I see no objection to a reasonable number of them coming into Canada as they did before in the last war when they came in voluntarily, not by any act of parliament. As a matter of public policy, this bill has an important effect, in the present state of affairs, on Russia, our ally in the last war. They will take it that we shall be wrapped up with the United States in a military sense. It will have a serious effect on federal affairs.⁹³

Before addressing the effect on Soviet understanding of the relationship, it is essential to point to the secondary message of this statement of American prowess. Church’s remark that the United

⁹⁰ Canada, House of Commons, *Debates*, 20th Parl., 3rd sess., vol. 5, 3867, (June 5, 1947).

⁹¹ Canada, House of Commons, *Debates*, 20th Parl., 3rd sess., vol. 5, 3872, (June 5, 1947).

⁹² Canada, House of Commons, *Debates*, 20th Parl., 3rd sess., vol. 5, 3870, (June 5, 1947).

⁹³ Canada, House of Commons, *Debates*, 20th Parl., 3rd sess., vol. 5, 3874, (June 5, 1947).

States “has done so much in coming to the relief of the world and saving civilization” is the exact thinking that allowed the United States to go so far in pushing the boundaries of the US-Canadian relationship and subsequently in inflicting destruction on Canadian environments. Connecting earlier to Ray Atherton’s statements that Canada would have to rely on the US for defense, it becomes clear that there was a mindset on both sides of the border of superior American strength. Church is not concerned with American troops coming into Canada but the fact that they are being permitted to do so through an act of Parliament. He is concerned with what signals this sends to the Soviets about Canadian sovereignty.

There is evidence to support the fact that the Soviet Union did take note of the debates over US troops on Canadian soil and of Canada's slipping grip on its sovereignty. An article from *The Ottawa Journal* details a Soviet broadcast which discussed how Canadians were growing “more and more uneasy” about the presence of US troops. The broadcast further invoked the Parliamentary debate directly, saying “several Canadian members of Parliament have recently expressed their discontent over the fact of continuing in peacetime the U.S.–Canadian close co-operation begun during the war.”⁹⁴ Other newspapers from across Canada published a report of the broadcast as well, such as *The Moncton Transcript* from New Brunswick⁹⁵ and the *Victoria Daily Times* from British Columbia.⁹⁶ The latter took note of a segment of the broadcast that stated that “Several observers consider that the final approval of this draft will be only a further step toward Canada’s final subservience to the U.S.A.”⁹⁷ Although it is essential to recognize that this broadcast came from Moscow and was likely produced to inflame Canadian–US

⁹⁴ “Moscow Radio Says Canada Alarmed by U.S. Army Moves,” *The Ottawa Journal* (Ottawa, Ontario), June 2, 1947.

⁹⁵ “Claim Impending ‘Infiltration’ Of U.S. Troops Making Canadians ‘Uneasy,’” *The Moncton Transcript* (Moncton Parish, New Brunswick), June 3, 1947.

⁹⁶ “Moscow Says Canada Getting Uneasy At U.S. Infiltration,” *Victoria Daily Times* (Victoria, British Columbia), June 2, 1947,

⁹⁷ “Moscow Says Canada,” 10.

relations, its remarks that Canadians were growing “more and more uneasy” were not untrue. In fact, the two continued to grow more frustrated with each other as defense projects developed and US troops continued to enter Canada.

Canadian leaders began to become irritated and rejected US requests for admission to and use of the Arctic as they started to pile up. In May 1951, Canada announced a new policy that the US would not be given more leases for means of defense. They would be permitted to utilize Canadian installations “if that were necessary for joint defense or for NATO purposes.” This decision was made in reflection of “the sensitivity of the Canadian Government with respect to its sovereignty and its fear of adverse public reaction to the stationing of large numbers of United States troops in Canada.”⁹⁸ The use of the North Atlantic Treaty Organization (NATO) here is critical for understanding the US as the hemispheric hegemon in the postwar. Although led by Eisenhower and subsequent American Generals as the Supreme Allied Commander Europe (SACEUR), NATO’s decisions were made by group consensus. Working on joint defense through NATO would prevent Ottawa from slipping into a subordinate position under Washington’s authority. Canadian leaders will use the same strategy of invoking the NATO framework to limit power imbalances in the US-Canadian relationship as the development of the DEW Line began.

The US did not appreciate this defiance from Ottawa. In November 1951, the Canadian government agreed to provide the requested land for radio installations at Harmon Air Force Base, Newfoundland, and at Goose Bay, Labrador, under the condition that the Canadians possessed the unilateral right to dissolve the agreement, providing the US twelve months' notice

⁹⁸ Memorandum by Assistant Secretary of State for European Affairs George Perkins to Secretary of State Dean Acheson, April 11, 1952, in *Foreign Relations of the United States, 1952-54, Part 1, Western Europe and Canada*, Volume 6, ed. David M. Baehler, Ronald D. Landa, Charles S. Sampson, John A. Bernbaum, Lisle A. Rose, and David H. Stauffer (Washington, DC: Government Printing Office, 1986), 2026.

to depart.⁹⁹ The US was more than displeased with this arrangement, arguing that it created grave complications for military planning and for the defense of the continent. The US response to the Canadian decision illustrates the deterioration of relations between the two nations, as summarized in April 1952:

During the past year, we have been disturbed by a tendency for Canada to whittle away the terms granted the United States for military projects, apparently with a view to reducing these to the lowest possible common denominator. The present Canadian proposal, we feel, might have such grave consequences by way of precedent that it should not be accepted. It is possible that the Pentagon may feel it is so vital to have the communications system installed this year that this should override the value of having our arrangements with Canada kept on a basis of *mutual* determination.¹⁰⁰

The statement that the US may “override the value of having our arrangements with Canada kept on a basis of *mutual* determination” is remarkably threatening language to direct at their ally in the north, even though there was an understanding of where this attitude was coming from; George Perkins, Assistant Secretary of State for European Affairs, wrote to the Secretary of State that “The sudden realization by Canadian Government officials of the magnitude of the United States defense build-up in the Far North, plus a number of minor irritations caused by the U.S. Armed Services, are believed to have contributed to an element of concern... which led to adoption of the new restrictive policy.”¹⁰¹ Washington recognized the discomfort their encroachment was causing Canadian leaders, but proceeded regardless with threatening language that asserted that the US was the one with the authority to decide what the Canadians must provide in their relationship. Washington had a clear perception of itself as the hemispheric hegemonic power in the postwar period.

⁹⁹ Memorandum by George Perkins to Dean Acheson, April 11, 1952, in *FRUS, 1952-1954*, vol. 6, 2026.

¹⁰⁰ Memorandum by George Perkins to Dean Acheson, April 11, 1952, in *FRUS, 1952-1954*, vol. 6, 2027.

¹⁰¹ Memorandum by George Perkins to Dean Acheson, April 11, 1952, in *FRUS, 1952-1954*, vol. 6, 2027.

The following months were marked by rising tensions between Washington and Ottawa as Canadian leaders continued to be reluctant to approve further requests for installations on Canadian soil. This reluctance was attributed, according to a November 1952 memorandum by Perkins, to factors including resistance by the Canadian Cabinet of more US troops entering Canada, failure of the US to properly coordinate and provide the Canadian Cabinet with sufficient details on US plans, and a sense that the US military conducted studies and formulated plans without informing Canadian leaders along the way and instead merely make “frequent and fragmentary requests.” Overall, the reasons attributed by Perkins for troubles in the working relationship indicate mounting fears of Canadian leaders of losing sovereignty. This is confirmed by Perkins’ conclusion, in which he hopes that the US will be able to demonstrate that there is “no desire to infringe on Canadian sovereignty or legitimate interests” and that Washington is “motivated solely by [its] wish to build up adequate defenses for the U.S.-Canadian region.”¹⁰²

Included in the same document, the Officer in Charge of Commonwealth Affairs Avery Peterson encapsulates the sentiment that Canadian leaders are expected to follow the US lead without resistance. He writes that “The sense of urgency prevalent in Washington is not matched in Ottawa nor generally in Canada” and Ottawa has “no urgency about preparations for any direct attack from Russia. Inevitable delays and frustrations in carrying out their defense program are being accepted with equanimity. The Canadians prefer to keep hemispheric defense in the planning stage rather than follow our lead in actually placing forces and facilities in position.”¹⁰³

This last piece is key to understanding why negotiations on continental defense became stagnant – Washington expected Ottawa to “follow [its] lead” and approve projects without pushback.

¹⁰² Memorandum by Assistant Secretary of State for European Affairs George Perkins to Deputy Under Secretary of State H. Freeman Matthews, November 14, 1952, in *FRUS, 1952-1954*, vol. 6, 2047.

¹⁰³ Memorandum by George Perkins to H. Freeman Matthews, November 14, 1952, in *FRUS, 1952-1954*, vol. 6, 2049-2054.

But, as explored in the previous section, Ottawa sought its own place as a world power. King and others had not worked with such tenacity to distance themselves from the British only to slip under American authority. It was clear to leaders in Washington that, going forward, in order to gain approval for the use of Canadian territory or infrastructure, Ottawa would need to be convinced of the vital necessity of any requests.

The Distant Early Warning (DEW) Line: Construction and Operation

Washington *was* able to convince Ottawa of the necessity for the Distant Early Warning (DEW) Line project. This work will now turn to exploring the development of the DEW Line, a chain of radar installations that extended across the 69th parallel from Alaska to Greenland. The purpose of the DEW Line was to bolster the two other warning lines built in Canada: the Pine Tree Line located along the 49th parallel and the Mid-Canada Line across the 55th parallel. The DEW Line was specifically chosen for analysis in this work due to the ways that its distant location afforded Washington an easy evasion of responsibility for both the infringement of Canadian sovereignty and the resultant environmental destruction. An analysis of the DEW Line project emphasizes Washington's abuse of Canadian sovereignty by way of the hemispheric hegemony they consolidated during the war. Emphasizing this unequal relationship through an environmental lens, using the damage the DEW Line caused after its abandonment, will allow for a better understanding of how an environmental history of the Cold War can offer fresh evidence for the perspective of the US as the hemispheric hegemon in the postwar. To get there, this section will first address its construction and operation and the associated abuses of sovereignty in these stages.

The idea for the DEW Line emerged after it became clear that present systems did not afford Washington and Ottawa an adequate amount of time to respond to a Soviet attack across the Canadian Arctic. After contracting with the USAF, the Massachusetts Institute of Technology was tasked with finding a solution to the problems of air defense against atomic missiles over a cold and remote Arctic – a situation drastically different from air defense in WWII. The result was Project Charles, a study that emphasized the deficiencies of present warning systems and the alarming rapidity with which the US was becoming exposed to Soviet attack, which led to the creation of the MIT Lincoln Laboratory, dedicated to studying the issue.¹⁰⁴ In August 1952, the laboratory’s Summer Study Group recommended a warning line across Canada’s 70th parallel,¹⁰⁵ which was initially rejected due to its high cost and “the political questions involved in its establishment and operation.”¹⁰⁶ Yet, the Soviet development of a hydrogen bomb added a new urgency to the situation, combined with a fresh outlook on solutions to defense from the new Eisenhower administration, boosted the project into development.¹⁰⁷ A Report from the Canada-United States Military Study Group, released in June 1954, recommended that “The two governments agree in principle to the need for the establishment of a distant early warning line across the most northerly part of North America.”¹⁰⁸ Conversations were soon underway between the two nations to develop the conditions of the project.

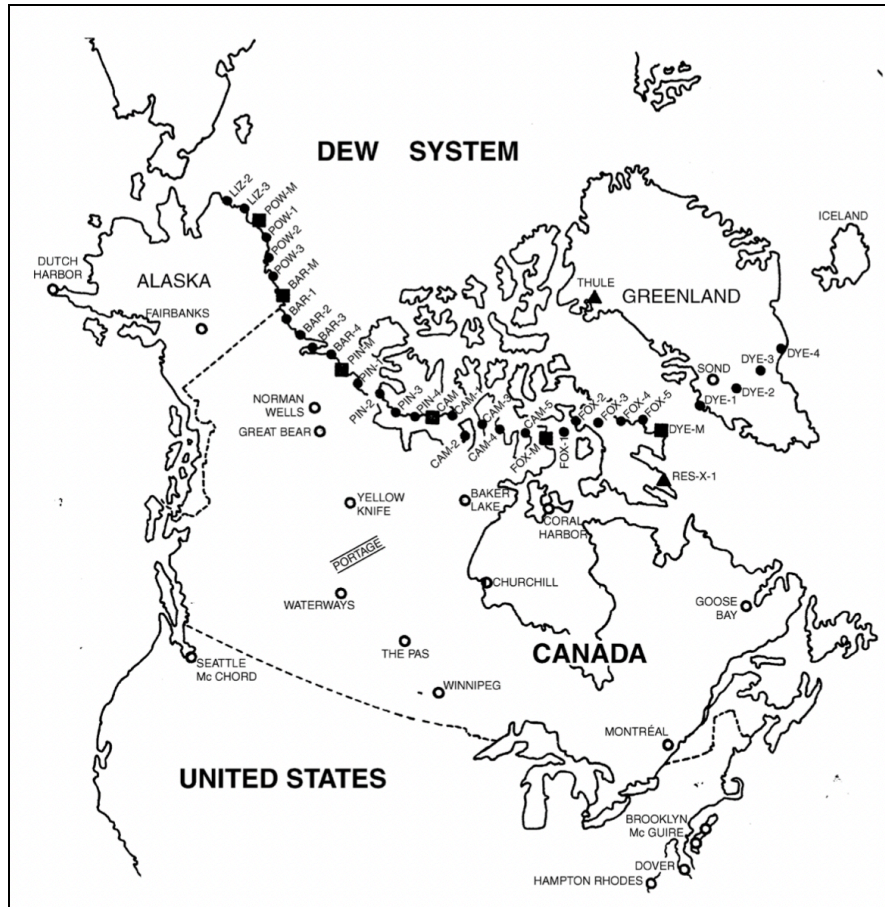
¹⁰⁴ Lackenbauer and Farish, *The Distant*, iv.

¹⁰⁵ U.S. Army Center of Military History, *History of Strategic Air and Ballistic Missile Defense, 1945–1955: Volume I* (2013), 130.

¹⁰⁶ U.S. Air Force Project Rand, *U.S. Active Air Defense, 1956–1960: Attrition and Target Damage Estimates*, by L. D. Attaway, J. R. Brom, P. M. Dadant, V. S. Dudley, and P. C. Keith, Research Memorandum no. 1166 (The Rand Corporation, 1954), 26-27.

¹⁰⁷ U.S. Army Center of Military History, *History of Strategic*, 130.

¹⁰⁸ Third Interim Report by the Canada-United States Military Study Group, June 3, 1954, in *FRUS, 1952-1954*, vol. 6, 2128



“The DEW System” from Lackenbauer, P. Whitney, and Matthew Farish. *The Distant Early Warning (DEW) Line Coordinating Committee Minutes and Progress Reports, 1955-63*. N.p.: University of Calgary, 2019. Attributed to the Federal Electric Corporation.

It is clear from the beginning of the project’s conception that Canadian leadership was primarily concerned with infringements on sovereignty. In the House of Commons in February 1955, representative and future PM John Diefenbaker (PC – Prince Albert) questioned Prime Minister St. Laurent over the terms of the project. He asked, “In order to remove the idea that some people have, that the joint venture of the United States and Canada may in some way be an invasion of or an impingement on Canada’s sovereignty, what are the terms of the agreement with the United States to assure that there shall not be any invasion of that sovereignty?” The Prime Minister, after withholding specific details on the project for reasons of security,

responded: “With respect to the invasion of Canadian sovereignty, nothing has been done that does not follow quite naturally and appropriately from the commitments we have made under the North Atlantic treaty for the common defence of the area envisaged in that treaty.”¹⁰⁹ This remark demonstrates that Canadian leaders saw NATO as a way to relax fears over the sovereignty issue. And, this strategy did work to convince Canadians of the project’s necessity. An article published in *Saturday Night* in April 1955, written before construction began, questions whether the DEW Line will lead to an infringement of Canadian sovereignty, but it also recognizes: “With continental defence recognized as a NATO problem, of course, there could be no objection to the placing of NATO troops where they would do the most good, which in this case meant the stationing of more American military forces in Canada.”¹¹⁰

NATO was used again the following month as a means to assure Canadians of their independence. In March 1955, Canadian and American leaders on foreign affairs met in Ottawa to discuss continental defense. Lester B. Pearson, Canadian Secretary of State for External Affairs, expressed concerns over the fact that the use of solely American personnel to man refueling stations at airstrips “raised some political and psychological problems in Canada. Therefore, the Canadians in the future wished to do as much as possible to supplying the personnel to meet such requirements.” He is also said to have “wished to start re-orienting Canadian thinking so that they would no longer look upon such cooperative defense arrangements in a nationalistic way but would think of northern Canada and the Polar region in terms of a NATO sector.” This would make it more “normal to have foreign personnel stationed in view of our common defense”¹¹¹ The DEW Line was not a NATO project and Pearson is not

¹⁰⁹ Canada, Parliament, House of Commons, *Debates*, 22nd Parl., 2nd sess., vol. 2, 1376, “National Defence” (February 22, 1955), https://parl.canadiana.ca/view/oop.debates_HOC2202_02.

¹¹⁰ “The Front Page,” *Saturday Night* 70, no. 29 (April 23, 1955): https://archive.org/details/sim_saturday-night_1955-04-23_70_29/page/3/mode/1up, 3.

¹¹¹ Memorandum of a Conversation Between Canadian and US Officials Regarding Continental Defense in Ottawa, March 18, 1955 in *Foreign Relations of the United States, 1955-1957, Western Europe and Canada*, Volume 27, ed.

suggesting here that it become one. Instead, an evaluation of the Canadian attitudes as provided by the report of this meeting suggests that Canadian leaders understood that the US was the leading figure for this project and of the continent in general. Canadian leaders simply did not have the influence or economic ability to lead the project. Much like the Latin American states in the Union accepted their position in Washington's orbit by the postwar, all that Canada could do now was to *alleviate*, not stop, the encroachment on its sovereignty and the resultant public reaction. Ottawa could only do "as much as possible."

May 5, 1955, marked the official establishment and announcement by Washington and Ottawa of the DEW Line project. In the exchange of notes that created the treaty, the DEW Line was explicitly written as a US project. The Canadian Ambassador to the US Arnold D.P. Heeney wrote to John Dulles, US Secretary of State, that Ottawa "has now considered a proposal put forward through the Permanent Joint Board on Defence that the construction of the Distant Early Warning element of the over-all joint Canada-United States warning system should be the responsibility of the United States Government." This responsibility included bearing the costs of construction and operation. Going back to the idea that Ottawa could only do as much as possible in their situation, Heeney wrote that Ottawa still "wishes to state its intention to participate in the project, the nature and extent of such participation to be determined in the near future." The agreement, as a whole, represents a considerable deference to Washington and its needs to complete the project. In fact, the conditions for the project state that the agreement is not separated from Canadian law, *but* if the statutes of Canadian law were to

lead to unreasonable delay or difficulty in construction or operation, the United States authorities concerned may request the assistance of Canadian authorities in seeking appropriate alleviation. In order to facilitate the rapid and efficient construction of the

Madeline Chi, Stephen Harper, Nancy Johnson, Margaret Kohutanycz, and Lorraine Lees (Washington: Government Printing Office, 1992), Document 344, 851-852.

DEW System, Canadian authorities will give sympathetic consideration to any such request submitted by United States Government.¹¹²

The above conditions inevitably led to an unequal partnership in the creation and operation of the project.

The following construction of the DEW Line was nothing short of remarkable. According to Western Electric, which was given the contract for the project at an estimated cost of over \$400 million, over one million miles were traversed for mapping with 80,000 aerial photographs taken. 460,000 tons of material were moved from the US into Canada. This included 75 million gallons of petroleum products, 22,000 tons of food, 12 acres of bed sheets, 6 acres of rugs, 3 miles of window shades, and 9.6 million cubic yards of gravel, enough to build two replicas of the Great Pyramid or an 18-foot wide road from Jacksonville, Florida, to San Diego, California.¹¹³ A 1957 article from *Geographical Magazine* written by C.J. Marshall, an officer from the Canadian Department of Northern Affairs and Natural Resources, provides insight into just how substantial the construction of the DEW Line sites was. Marshall wrote that the DEW Line “required the biggest task-force of ships since the invasion of Europe and the largest air operation since the Berlin airlift to take in the supplies.”¹¹⁴ The DEW Line, for the speed at which it was constructed and the obstacles it overcame, represented a complete conquering of the Arctic environment.

Reports from the frontlines of construction demonstrate the extreme conditions that were overcome to transport supplies and build the infrastructure for the project’s operation. The engineers and construction workers were given a target date for completion of July 31, 1957,

¹¹² Government of Canada, *Exchange of Notes Between Canada and the United States of America Governing the Establishment of a Distant Early Warning System in Canadian Territory*, Canada Treaty Series 1955, no. 8, <https://www.treaty-accord.gc.ca/text-texte.aspx?id=101010>.

¹¹³ Western Electric Company, *The DEW Line Story* (1960), 24-25.

¹¹⁴ C.J. Marshall, “North America's Distant Early Warning Line,” *Geographical Magazine*, 1957, 616.

which allowed them, according to Western Electric's report, "only two short Arctic summers totaling about six months in which to work under passable conditions." As a result, "the bulk of the work would have to be completed in the long, dark, cold Arctic winters."¹¹⁵ Marshall describes well the simply brutal conditions of working in the Arctic:

The natural hazards included difficult, inaccessible country and one of the most severe climates in the world. The route stretches for approximately 2500 miles across terrain ranging from flat tundra in the east to rugged 7000-foot mountains in the west. Edmonton, the nearest city of any size, is 1000 miles to the south and many parts of the region have no transportation facilities of any kind. Added to this is the cold. Temperatures during the short summer seldom rise above 60°F and they can hover at -40° for weeks at a time during the long winter.¹¹⁶

Another reporter who observed the feats of the construction stated that the workers were "attempting the first mass assault on the Arctic" and likened the complexity of the operation to a "large-scale military invasion."¹¹⁷ It was not long before the Canadian public questioned how this "large-scale military invasion" was not an infringement of Canadian sovereignty.

Canadian media was soon flooded with reports of US activity in the north and cried out over issues of sovereignty. Historian James George Eayrs wrote in 1959 that the piling stories of sovereignty abuse

gave rise to a vague but uneasy conception that for all the rules and regulations drawn up in the intergovernmental agreement of 1955, de facto control of the Canadian North has passed into American hands...Stories of the impairment of sovereignty, sometimes true, sometimes partly true, sometimes wholly false, but always disturbing, began to trickle down from the north country into Parliament and the press.¹¹⁸

One of these stories was an article published in *Maclean's* in May 1956 that questioned whether Canada had sold away its independence. The author Ralph Allen, who visited the frontline of

¹¹⁵ Western Electric Company, *The DEW Line*, 6.

¹¹⁶ Marshall, "North America's," 617.

¹¹⁷ Leslie Roberts, "The Great Assault on the Arctic," *Harper's Magazine*, August 1955, 37-39.

¹¹⁸ James George Eayrs, *Canada in World Affairs, October 1955 to June 1957* (Toronto: Oxford University Press, 1959), 151.

construction, calls the DEW Line the “story of the blind men and the elephant” and writes that “For a sum of money that has been officially estimated at four hundred million dollars we have at least temporarily traded off our whole northern frontier. In law we still own this northern frontier. In fact we do not.”¹¹⁹ He drives at the point that Canadian leaders did not just sign away the country’s sovereignty, they delivered it to the US tied up with a nice bow. He remarks, “We have done nothing so passive as simply giving up our sovereignty in the Canadian north: we have thrust it away from us...In return for the luxury of not spending money on the Dewline we Canadians have surrendered something that for the last generation we have regarded as our greatest necessity: our independence.”¹²⁰

The Defence Department tried again to use NATO to ease concerns. In June 1956, R.O Campney, Minister of National Defence, reminded the House of Commons that the three-line radar system, which included the DEW Line, Pinetree Line, and Mid-Canada Line, would “alert our sister NATO nations if the Canadian north should be chosen as the first point of any attack.” He integrates NATO with the need for close US-Canadian integration; after explaining that the warning lines will not guarantee full protection, he states, “these lines will nevertheless contribute very materially to NATO air defence plans generally and to Canada-United States effectiveness in particular...Realistic policy for continental air defence requires the closest co-operation between our two countries.”¹²¹ However, this tactic proved futile against the barrage of reports coming from the public that claimed an assault on Canadian sovereignty.

Just a few months after the publication of Allen’s article, MP Davie Fulton (PC – Okanagan Boundary) brought the piece’s alarming conclusions to the House of Commons in July

¹¹⁹ Ralph Allen, “Will the Dewline Cost Canada its Northland?,” *Macleans*, May 26, 1956, 17.

¹²⁰ Allen, “Will the Dewline Cost Canada its Northland?” 68-69.

¹²¹ Canada, Parliament, House of Commons, Debates, 22nd Parl., 3rd sess., vol. 5, 5211, "Supply – National Defence" (June 20, 1956), https://parl.canadiana.ca/view/oop.debates_HOC2203_05.

1956. He specifically used the article to show how the Canadian people, and leaders like himself, have been kept in the dark about the DEW Line's purpose and details, remarking that the Department of Defence (DND) has been inept at trying to hide the project's details for matters of security. He details the impact on his ability to lead his own riding: "There is a radar station in the northern part of my riding. I am quite certain that its location is known not only to our potential enemy but to hundreds of my own constituents. It was supposed to be a secret. Suddenly a large number of United States service personnel began to move into the area with bulldozers, trucks and other equipment." His constituents "wanted to know what they could do about getting compensation from the government for the damage they had suffered because of the construction of this radar station. I told them there was not much point in my trying to obtain anything about it." Upon his return, he expressed his frustration to the then-Minister of Defence. He said that he

felt it was absolute folly that the last person to learn of the installation of a radar station in a constituency should be the member who represented that constituency...How absolutely ridiculous it is. Not only are we not told in this house the particulars of the cost and purposes of these things, we are told that we cannot even be told where they are located. We go home and are asked by our constituents about it, and we are the last people to find out about it...We are told this is all supposed to be secret, and these things are to be installed and the Americans are manning them."¹²²

The project was kept in the dark from Members of Parliament, and the Canadian public because the Defence Department and other higher-ups in the Canadian government knew it would be extremely difficult to prove that a project financed and planned almost entirely by a foreign nation and constructed with the aid of foreign troops was somehow not an abuse of Canadian independence.

¹²² Canada, Parliament, House of Commons, Debates, 22nd Parl., 3rd sess., vol. 5, 6145-6146, "Supply – National Defence" (July 18, 1956), https://parl.canadiana.ca/view/oop.debates_HOC2203_06.

This question of who was constructing the line and manning it was a contentious issue and an important point in the debate over the status of Canada's independence. MP George Randolph Pearkes (PC – Nanaimo) questioned the Minister of National Defence on the manning of the DEW Line. Although he accepted that the project was necessary and that US money was needed for its creation, he brings up the point, "One must question the wisdom of having United States contractors manning and operating this D.E.W. line for the next three years. Naturally, having some pride in our own Canadian sovereignty, we would have preferred to see Canadian personnel doing that work."¹²³ The official conditions as agreed by both nations stated that contractors from the US and Canada would be given "equal consideration" for contracts for construction.¹²⁴ Yet, an editorial published on March 8, 1956, from Whitehorse in the Yukon territory claimed that Canadian contractors were not given a chance to bid on a winter freight haul. The article even referenced the condition that equal consideration was to be given to American and Canadian contractors, arguing that the US was not following the agreement. The Whitehorse Board of Trade was perplexed that they were not given consideration, given that "there are men in the territory with many years experience in cat train work, whose experience could be used to advantage. It was felt that sufficient backing could have been readily obtained to handle such a contract."¹²⁵ Although on paper the DEW Line was supposed to be constructed and operated equally, the reality was much different.

Ralph Allen's article supports the notion that any terms of equality for the project were not respected nor felt. After seeing the operation firsthand, Allen wrote in his article, "The suggestion that Canada is only the nominal ruler is not taken seriously anywhere except on the

¹²³ Canada, House of Commons, *Debates*, 22nd Parl., 3rd sess., vol. 5, 5219, (June 20, 1956).

¹²⁴ Government of Canada, *Exchange of Notes*, Canada Treaty Series 1955, no. 8.

¹²⁵ "Board Hits DEW Line Nerve," *Whitehorse Daily Star* (Whitehorse, Yukon), March 8, 1956.

Dewline itself. There the truth is palpable and inescapable.”¹²⁶ While there, he asked a Canadian worker whether he resented the presence of the Americans. The Canadian responded, “No...it’s the other way around. They resent our presence here.” What is especially captivating from this Canadian worker’s perspective is that he tells Allen that the Americans indeed feel like the authority on the project, but he understands why. The worker stated, “Most of [the Americans] came up here believing they were to be in full and absolute command. Most of them still believe it and to a large extent they’re right. They’re spending money on the Dewline and we’re making money on it.”¹²⁷ Although stories from Canadians continued to pile up, the DND and other higher-ups made few complaints. There was a clear deference to the authority of the US for the project and for continental defense more generally.

A dispatch from the US Embassy in Canada written in March 1957 points to the same attitude of US superiority. The dispatch writes that the Canadian Government and people are committed to joint defense and they “realize that the United States is at the same time the leader and chief bastion of the free world, as well as the number one target of the potential aggressor in any general hostilities, and that their continuing existence as a free and independent nation is tied to that of the United States, upon which they must in the final analysis rely for their defense.” The dispatch also calls the recent stories about the abuse of Canadian sovereignty the work of the Communists: “Although numerically small and ineffectual, the Communists in Canada have succeeded in a few relatively unimportant instances, through distortion and misrepresentation, in stimulating unfavorable reports in the Canadian press concerning United States defense activities.”¹²⁸ This dispatch emphasizes just how easy it was for Washington to dismiss Canadian

¹²⁶ Allen, “Will the Dewline Cost Canada its Northland?,” 68.

¹²⁷ Allen, “Will the Dewline Cost Canada its Northland?,” 72.

¹²⁸ “Dispatch From the Embassy in Canada to the Department of State,” March 1, 1957, in *Foreign Relations of the United States, 1955-1957*, vol. 27, 881.

anxieties. It calls the media stories “small and ineffectual” and produced “through distortion and misrepresentation.” The stories were not distorted, as many of them came from reporters, like Allen, who was present at the site of the DEW Line. They were also not “small and ineffectual” as demonstrated by the topic’s constant appearance in the House of Commons debates and direct referral in the House to stories including Allen’s.

Canadian complaints were not entirely dismissed – there were adjustments made to make the partnership more equal, but they were essentially just illusory. In 1959, the RCAF was given control of the DEW Line operations. An article published in January 1959 in *The Windsor Star* titled “DEW Line Transfer Boosts Sovereignty” argues that this was done by Canadian leaders to preserve the country’s sovereignty. The article says that John Diefenbaker, now PM, saw the move as “a step to assure that there will be no misunderstanding as to whom the North belongs.”¹²⁹ However, the article points out that the change only meant that 20 RCAF officers would become squadron leaders. As Historian Kenneth Eyre points out, this was “a symbolic gesture by the Canadian Government to reduce internal political pressure. The system continued to be operated and paid for by the United States. Canada historically had been given to symbolic gestures in the North; assuming operational control of the DEW Line was within the pattern that exists to this day.”¹³⁰ The government had to accept not only that the DEW Line was an American project, but that Washington was the hemispheric authority. As Allen put it, Canada was “the world’s most northerly banana republic.”¹³¹

¹²⁹ “DEW Line Transfer Boosts Sovereignty,” *The Windsor Star* (Windsor, Ontario), January 20, 1959.

¹³⁰ Kenneth C. Eyre, “Forty Years of Military Activity in the Canadian North, 1947-87,” *Arctic* 40, no. 4 (1987): 294, JSTOR.

¹³¹ Allen, “Will the Dewline Cost Canada its Northland?,” 17.

A Visible Violation of Canadian Sovereignty: The DEW Line's Environmental Impacts

The most concrete example of the violation of the terms of the conditions of the DEW Line and Canadian sovereignty, and the least discussed, are the environmental impacts that the stations had on the landscape of the High North. The achievements of the DEW Line's construction were nothing short of remarkable. But, it is essential to point out that all of the material sent north (460,000 tons), much of which was toxic and hazardous, was brought into comparatively untouched land. It is clear that many Canadians viewed the creation and operation of the DEW Line as an overextension of American authority. However, little attention is given to the stage that came *after* creation and operation: cleanup. The DEW Line became obsolete in the 1960s in the face of intercontinental ballistic missiles (ICBMs).¹³² As a result, Washington deactivated 21 of the intermediate DEW sites in May 1963 (the components of the DEW Line which were not abandoned were later transformed into the North Warning System in the 1980s and 1990s, which ironically just brought even more hazardous waste to the Arctic). The US did not follow the procedures that governed the removal of infrastructure and waste, and the remediation was left to Ottawa. The Canadian Department of National Defence launched a clean-up project in 1996 and worked with agencies including the Department of Indian and Northern Affairs, Health Canada, and Environment Canada, as well as with the support of local Inuit and Inuvialuit communities, to remediate the former DEW sites. The clean-up was not completed until 2014 and cost the Canadian government a staggering \$575 million.¹³³

¹³² Report by the National Security Council on US Defense Policy, December 13, 1960, in *Foreign Relations of the United States, 1958–1960, Volume 3, National Security Policy; Arms Control and Disarmament, Microfiche Supplement*, ed. Edward C. Keefer and David W. Mabon (Washington, D.C.: Government Printing Office, 1998).

¹³³ Government of Canada, "The Distant Early Warning Line: An Environmental Legacy Project," Canada.ca, last modified July 9, 2018, <https://www.canada.ca/en/department-national-defence/corporate/video/other/distant-early-warning-line-an-environmental-legacy-project.html>.

Upon the project's closure, the remoteness of the DEW stations, combined with the authority of the US surrounding the project, made it easy for the US to leave behind open junk and waste – Canadian officials were not going to make a trip so far north to check the work (an indictment of their lack of commitment to the well-being of the local Indigenous populations, an important and underrepresented group in the DEW Line narrative). It was not until the 1990s that the environmental effects of the DEW Line were brought to light. In the years before the debris was discovered, the hazardous waste wreaked havoc on a fragile Arctic environment as chemicals soaked into the soil and made their way into local food chains with drastic repercussions for the local Inuit and Inuvialuit populations. A more thorough look at the closure and abandonment of the DEW Line, not just its creation and operation, provides a new way to demonstrate the strength of US hegemony in the postwar *and* into the twenty-first century. This final section will use a combination of scientific studies and public media to show not only the intensity of the environmental ruin inflicted by the DEW Line but also the ease with which Washington exonerated itself from responsibility.

Canadian officials were concerned with the potential environmental impacts of the DEW Line from the very start of the project. When the two nations agreed to the project in 1955, explicit guidelines outlined an appropriate process for the removal of infrastructure and remediation of the sites:

Ownership of all removable property brought into Canada or purchased in Canada and placed on the sites, including readily demountable structures, shall remain in the United States. The United States shall have the unrestricted right of removing or disposing of all such property, provided that the removal or disposition shall not impair the operation of any installation whose discontinuance had not been determined...and provided further that removal or disposition takes place within a reasonable time after the date on which the operation of the installation has been discontinued.¹³⁴

¹³⁴ Government of Canada, *Exchange of Notes*, Canada Treaty Series 1955, no. 8.

Agreements made after the closure of the sites further specified that structures could remain, but items within structures would need to be removed. This included things like “Communications-electronic equipment, vehicles and other machinery that is self-propelled, power plants, generators, etc.” It was noted that the “U.S. would like to have the abandonment completed by this fall but if this is not possible, will request permission to return in the Spring or as soon as convenient.”¹³⁵ Although requirements were in place for the proper closure and clean-up of the sites, they were not followed in any regard. The sites were abandoned with such haste and carelessness that the fact that it was believed that the US would return the following season to clean up anything that was left is comical. However, because the sites were so remote and inaccessible, the details of the abandonment and the extensive damage that resulted were not discovered until a significant amount of time later.

Scientific studies began to uncover the extent of the damage in the early 1990s. When scientists started to look at the abandoned sites, it was said that the “human influence on a pristine environment becomes as obvious as a boot cleat in the face.”¹³⁶ A 2016 article from the Northern Review makes clear the variety and toxicity of the garbage that was left:

The various DEW Line remediation projects have uncovered an extensive list of contaminated and uncontaminated waste: waste oil, PCB transformers/capacitors, asbestos, sewage, lead-based paints, radioactive tubes, scrap metal, radar components, fuel barrels, lime, antifreeze, wood, aviation fuel, sulfamic acid, cathode ray tubes and screens, filtron tubes, oscillators, meters, copper wire, transmission fluid, 1-1-1-trichloroethane, PBX telephone equipment, mercury vapour rectifier tubes, paint thinners, batteries, chlorinated hydrocarbons, corrosion inhibitors, lye, corrosives, paper, plastic, solvents, dynamite, RF interference filters, generators, scopes, vehicles, and rubber fuel bladders.¹³⁷

¹³⁵ Lackenbauer and Farish, *The Distant*, 374.

¹³⁶ Sandro Contenta, “DEW Line: Canada is cleaning up pollution caused by Cold War radar stations in the Arctic,” *Toronto Star*, August 4, 2012, https://www.thestar.com/news/insight/dew-line-canada-is-cleaning-up-pollution-caused-by-cold-war-radar-stations-in-the/article_3b7cc76e-ddb9-5cfb-99fd-36928bd966bc.html.

¹³⁷ Hird, “The DEW Line,” 32.

These products sat untouched for years, soaking into the soil and making their way into local ecosystems.

The details of the ecological consequences of the DEW Line are just as staggering as the statistics of its construction. At Hooper Bay, Cape Romanzof, and Point Hope, 80,000 gallons of petroleum leaked into the environment.¹³⁸ At Goose Bay, leakage from storage tanks created a “4-million-litre blob in the water table,” the section of the ground that absorbed groundwater, which would contaminate the ground for 100 to 300 years. Landscapes scattered with empty barrels, many of which are buried, are a common theme in the scientific reports. Many of the barrels were empty, but some still contained hazardous materials such as fuel, lubricating fluids, and waste oils. At the Cape Dyer site, there were 8000 visible barrels¹³⁹ while up to 20,000 drums were left at other sites.¹⁴⁰ At the DYE-Main site, scientists were perplexed when they found thousands of drums scattered at the bottom of the slope until they realized that the DEW workers were playing a game to see who could roll an empty barrel the farthest.¹⁴¹ Many in charge of cleaning the sights after their closure practiced “ocean dumping” – they would leave waste on the ice and simply wait for spring to arrive for it to disappear. At Cambridge Bay, there were vehicles, two aircraft, hundreds of empty barrels, and trash such as kitchen sinks, bedsprings, and batteries that were discarded in this manner.¹⁴² A *Toronto Star* article estimated that the total volume of waste disposed of by the clean-up was enough to fill 208 Olympic-sized pools. This included 202,000 cubic meters of soil that had been polluted by diesel fuel and would

¹³⁸ Hird, “The DEW Line,” 32.

¹³⁹ *DEW Line Cleanup: Scientific and Engineering Summary Report* (Environmental Sciences Group & UMA Engineering, 1995), III-15.

¹⁴⁰ Contenta, “DEW Line.”

¹⁴¹ Contenta, “DEW Line.”

¹⁴² *DEW Line*, III-13.

need to be remediated by “land farms” where it was brought back to safe levels by turning it over to evaporate hydrocarbon.¹⁴³

One major component of the scientific studies was the effect of PCBs. PCBs, or Polychlorinated Biphenyls, are man-made chemicals that were used in a variety of commercial products such as electrical equipment, transformers and capacitors, insulation materials, and paint until they were banned in 1979 by the Toxic Substances Control Act. PCBs do not break down easily and are proven to cause cancer in animals and humans.¹⁴⁴ Scientific investigations conducted from 1989 to 1994 by Canadian engineering firms found that PCBs were “detectable in virtually every [soil] sample collected in the vicinity of the sites.” The study also confirmed that PCBs, in addition to lead, copper, and zinc, were traveling through water streams connected to freshwater and marine ecosystems.¹⁴⁵ The studies emphasize the extreme fragility of Arctic ecosystems, remarking that “Many Arctic organisms have adapted to cold climate and periods of low food availability by building up fat stores in their bodies, as energy reserves. This adaptation has made them particularly susceptible to the accumulation of some chlorinated contaminants such as PCBs.” Additionally, Arctic food chains are much shorter, meaning that any minor disturbance to a species will have a calamitous effect on the entire chain.¹⁴⁶

The levels of PCBs that scientists discovered across the abandoned sites are astonishing. Canadian hazardous waste specialist Robert Eno, describing the scene at Resolution Island (abandoned in 1974), remarked: ““Looking at what you’d found there, you’d think that Americans took big hoses and sprayed PCB liquid all over the site.”” The spread of PCBs is made worse by the “Halo Effect” – PCBs can travel at great distances away from their original

¹⁴³ Contenta, “DEW Line.”

¹⁴⁴ “Learn about Polychlorinated Biphenyls,” United States Environmental Protection Agency, last modified March 28, 2025, <https://www.epa.gov/pcbs/learn-about-polychlorinated-biphenyls>.

¹⁴⁵ *DEW Line*, II-13.

¹⁴⁶ *DEW Line*, III-2-3.

site in all directions.¹⁴⁷ PCBs were found over 12 miles away from their original DEW sites, where they were often “absorbed by plant and animal life.”¹⁴⁸ At Resolution Island alone, over 8,000kg of PCBs were abandoned, where, in addition to contaminating 5000 cubic meters of soil,¹⁴⁹ they “migrated through a valley, descended cliffs, and moved into Frobisher Bay, from which local Inuit fish.” Americans also haphazardly dumped fuel and oil before their departure, which “forged a path for the PCBs, facilitating their migration over the land and into the sea.”¹⁵⁰ There has been extensive documentation that PCBs, in addition to petroleum and DDT, made their way into the food that local Inuit depended on, such as polar bears, foxes, voles, trout, and other animals.¹⁵¹ The Inuit, at the top of the food chain, were not only externally exposed to PCBs but were (and indeed still are) consuming wildlife with high levels of PCBs.

PCBs and other aspects of the environmental damage from DEW posed an enormous risk to the health of local Indigenous populations. Studies have demonstrated that the levels of PCBs in Inuit communities are high enough to result in developmental problems in children. Inuit leaders have stressed that the levels of PCBs and of other pollutants in the blood and fatty tissues of the local populations are five to 10 times as great as national averages. The Inuit cannot escape the contaminants. They are everywhere – in addition to being present in the air they are breathing and the food that they are eating, health advisories and pamphlets had to be distributed after it was discovered in 2000 that PCB-coated wood from former DEW sites was being used as fuel in stoves.¹⁵² Going back to the idea that the Americans repeatedly broke the agreements that

¹⁴⁷ John S. Poland, Scott Mitchell, and Allison Rutter, “Remediation of Former Military Bases in the Canadian Arctic,” *Cold Regions Science and Technology* 32, nos. 2-3 (2001): 96, [https://doi.org/10.1016/s0165-232x\(00\)00022-7](https://doi.org/10.1016/s0165-232x(00)00022-7).

¹⁴⁸ David Pugliese, “An Expensive Farewell to Arms,” *The Gazette* (Montreal, Quebec), April 28, 2001.

¹⁴⁹ Poland, Mitchell, and Rutter, “Remediation of Former,” 96.

¹⁵⁰ Hird, “The DEW Line,” 33.

¹⁵¹ K.L. Capozza, “Ditched Drums and All,” *Bulletin of the Atomic Scientists* 58, no. 1 (2002): 16, <https://dewlinemuseum.com/wp-content/uploads/2020/08/Ditched-Drums-Cleanup.pdf>.

¹⁵² Pugliese, “An Expensive Farewell.”

regulated all stages of the DEW Line – like equal consideration for both American and Canadian contractors and the appropriate removal of property – there were conditions agreed upon way back at the project’s conception to limit the DEW’s impact on the local communities. These conditions, of course, were not followed. Part of the exchange of notes in 1955 outlined:

The Eskimos of Canada are in a primitive state of social development. It is important that these people be not subjected unduly to disruption of their hunting economy, exposure to diseases against which their immunity is often low, or other effects of the presence of white men which might be injurious to them... There shall be no local disposal in the north of supplies or materials of any kind except with the concurrence of the Department of Northern Affairs and National Resources, or the Royal Canadian Mounted Police acting on its behalf.¹⁵³

Washington was only concerned about the Inuit when it benefited the project’s development – the Inuit were a major source of manpower for the DEW lines construction, which destroyed their way of life.

Employing Inuit workers for construction and operation, the DEW Line negatively altered Inuit lifestyles at a rapid pace. Inuit employment on the DEW Line transformed their communities from cultures of hunting and gathering to the norms of a wage economy. The article from the *Toronto Star* emphasizes how this transformation “was a fast, traumatic shift that left deep social scars, including alcohol-related violence.” The article cites Columbia University professor Frank Tester, who studies the social transformations of the Inuit. Tester powerfully remarks, ““In all of recorded human history, there is no group of people who went from a hunting and gathering culture to a modern one in such a short period of time.””¹⁵⁴ The rapid lifestyle change created communities “split in two: the men working at the DEW line site, the women and children trying to maintain a traditional life in an economy in which they have no part.” The Inuit men who worked at the construction sites were provided food, while no one went hunting for

¹⁵³ Government of Canada, *Exchange of Notes*, Canada Treaty Series 1955, no. 8.

¹⁵⁴ Contenta, “DEW Line.”

food for their wives and children at home. Then, when the DEW shut down almost as fast as it was created, there were no jobs for these men whose lifestyles had completely transformed. Many turned to alcohol as a result. One Inuit mother stated that “The DEW Line destroyed lots of families...It’s a big dark secret here. Nobody talks about it.”¹⁵⁵

The local populations cried for help, but their calls often went unanswered or were dismissed. In 2013, a resident from the City of Iqaluit penned an open letter in the *Nunatsiaq News* to “all federal and territorial ministers with responsibility for contaminated sites.” He wrote that the “Inuit have always lived in harmony with the land and animals. The contaminated sites are a threat to that way of life...Driving from the airport to the hotel, the view should not be discarded metal and rusty old drums littering creeks and the land. It should be flowers and plants.”¹⁵⁶ Many Inuit were left to clean up the sites with no funding or aid. During each summer at Resolution Island, a local Inuit named Harry Flaherty “sorts through mountains of rusted oil drums, leaking transformers, discarded heavy machinery, solvents, and batteries...Last year, the team laid down floating spill booms, often used to soak up oil slicks, to absorb a rivulet of PCB-laced liquid that was dripping into Brewer Bay where beluga and bowhead whales calve.” Flaherty reports that birds no longer nest at Resolution Island and the polar bears are found with high levels of PCBs.¹⁵⁷ Washington felt no remorse for the devastating implications of the DEW’s construction and hasty abandonment.

The few agreements made between the US and Canada for the remediation of the sites were, as could be predicted, extremely unfavorable to the Canadians. In November 1991, an article published in the *Toronto Star* stated that the US Air Force conducted a study that

¹⁵⁵ Contenta, “DEW Line.”

¹⁵⁶ Terry Dobbin, “Iqaluit needs help with contaminated site clean-ups,” *Nunatsiaq News*, January 14, 2013, https://nunatsiaq.com/stories/article/65674iqaluit_needs_help_with_contaminated_site_clean-ups/.

¹⁵⁷ Capozza, “Ditched Drums,” 15.

produced estimates of \$300 million for the cost of cleanup. But as the article points out, “neither the Canadian nor U.S. defence departments has figured out who will pay for the massive job of cleaning up oil spills, PCBs, pesticides and rubble left at the 21 remaining defence radar sites known as the DEW line.” They did not reach an agreement until 1996. Washington agreed to pay a meager \$100 million for remediation of four installations, which covered 21 former DEW sites. The opinions of the two nations on the legal obligations for payment differed drastically. While Ottawa believed international law mandated payment, Washington claimed that

it has no legal obligation under current United States and international law to reimburse the costs of environmental clean-up at the four former military installations...Nevertheless, because the remediation in question concerns work that would ordinarily have been conducted by United States forces at the four installations in Canada prior to their closure, the United States Government shall make an *ex gratia* settlement in the sum of \$100 million.¹⁵⁸

The remediation would not have just “ordinarily” been completed by the US – it was *agreed* that cleanup would happen, and it did not. Another agreement in 1998 resulted in a \$100 million payment by Washington to Ottawa, in the form of credit to purchase American military equipment! A journalist of the Arctic region referred to this deal as a “token payment designed to absolve the U.S. government of its responsibility.” Kevin O’Reilly, director of research for the Canadian Arctic Resources Committee, an action group made up of citizens from the north, called the agreement ““a back room deal between two defense departments that was truly scandalous at the time...the ‘arms-for-cleanup deal signed away our ability to get any future compensation.’”¹⁵⁹ The deal was not publicized by Ottawa in the same way that they were not eager to spread the word about increased cooperation with the US for matters of defense in the

¹⁵⁸ Government of Canada, *Exchange of Notes Between the Government of Canada and the Government of the United States of America Constituting an Agreement with Respect to Environmental Issues*, Canada Treaty Series 1996, No. 35, <https://www.treaty-accord.gc.ca/text-texte.aspx?id=101236>.

¹⁵⁹ Capozza, “Ditched Drums,” 14.

postwar. Rosalie Bertell, an epidemiologist who focuses on the environmental and health effects of military pollution, called the agreement a “slippery deal the public knows little about... There’s a reason there has been limited publicity on the costs behind this agreement.” Ottawa was not an equal player in the agreements that created the DEW Line in the 1950s, and they were still unable to find their footing in the remediation agreements. The ease with which the US evaded any responsibility and significant cost for the remediation demonstrates how, at the turn of the century, Washington held the same hemispheric authority as it had in the postwar.

Conclusion

Historical arguments are typically constructed by reading between the lines of declassified diplomatic exchanges or searching archives for relevant sources. Using the land as a source provides an entirely new framework with which to understand levers of global power because the destruction is visible to the naked eye. It does not take a discerning eye to process the sights of thousands of scattered barrels and mountains of waste, raising important questions on how responsibility can be evaded when the destruction is so plainly obvious. The DEW Line serves as just one example of the American destruction of foreign environments; after the US pulled out of the Philippines, they left behind an estimated \$1 billion in damage while 100,000 undetonated bombs were left on former firing ranges in Panama.¹⁶⁰ The hegemony consolidated by Washington in the twentieth century allowed it to use the land of these foreign environments without substantial opposition until it was no longer needed, leaving behind unprecedented ecological ramifications in nations without the means to repair them.

¹⁶⁰ Pugliese, “An Expensive Farwell.”

Additional research on this topic that evaluates the American destruction of foreign northern environments outside of the Canadian Arctic would allow the argument to naturally address the global hegemony in addition to the hemispheric hegemony possessed by Washington in the postwar period as imagined by Henry R. Luce's 1941 "The American Century."¹⁶¹ Specifically, Greenland provides a parallel example of the situation in Canada. Camp Century is one Cold War project that took place in Greenland that fits the pattern of US exploitation of its authority without answering to the environmental consequences. Camp Century was an under-ice base that was constructed in an attempt to build a 2,000-mile-long tunnel system close to the Soviet Union that could hide 600 nuclear missiles.¹⁶² Camp Century's construction rivaled the feats of the DEW Line – its under-ice tunnels reached lengths of 1,110 feet long and 26 feet wide with 40-foot clear heights, while the nuclear reactor room was 29 feet wide and 60 feet tall.¹⁶³ The Danish government was not informed of the project, and when it failed, the site was abandoned and waste was left behind in the same manner as the closure of DEW. A 2016 study from Michigan State University reports that an estimated 200,000 liters of diesel fuel, 9,200 tons of physical waste from the building's infrastructure, 24,000,000 liters of biological waste, and 1,200,000,000 Bq of radioactive material remain frozen under the ice.¹⁶⁴ As climate change progresses at an accelerated pace, the toxic waste risks seeping into the local ecosystems before remediation can be completed, compounded by Washington's refusal to take responsibility and aid in the cleanup. If the US, under Trump's worrying directives, claims Greenland, will it also take responsibility for the cleanup? It is unlikely.

¹⁶¹ Andrew Buchanan, "Domesticating Hegemony: Creating a Globalist Public, 1941–1943," *Diplomatic History* 45, no. 2 (2021).

¹⁶² Joshua E. Brown, "Secrets Under the Ice," UVM Today, last modified October 31, 2019, <https://www.uvm.edu/news/story/secrets-under-ice>.

¹⁶³ J. H. Kerker, "Polar Research and Development," *The Military Engineer* 52, no. 350 (1960): 453, JSTOR.

¹⁶⁴ William Colgan et al., "The abandoned ice sheet base at Camp Century, Greenland, in a warming climate," *Geophysical Research Letters* 43, no. 15 (2016).

The findings of this paper, on the manifestation of American power in the latter half of the twentieth century, are not frozen in time. In addition to the fact that the Arctic environment and its inhabitants are still facing DEW's repercussions, the DEW Line story and American exploitation of its role as the hegemonic power are more relevant than ever to understanding the current breakdown of the relationship between Ottawa and Washington. On March 28, 2025, the new PM of Canada Mark Carney spoke about the crumbling relationship between the two powers. He remarked: "The old relationship we had with the United States based on deepening integration of our economies and tight security and military cooperation is over."¹⁶⁵ The US could, in 1955, impose its will on Ottawa. But, there was a certain back-door approach to the negotiations. Ottawa understood that there was an element of their sovereignty that was being violated, but both the US and Canada took steps to avoid public comprehension of the nature of the relationship. Both sides understood that there would be an adverse public reaction if the details of the DEW Line were highly publicized, one reason why it remains a relatively unknown story. For the most part, the Americans, at least outwardly, treated their counterpart with respect by acknowledging that projects in the Arctic would not be possible without their cooperation. Today, on the other hand, a substantial population of the Canadian nation has been brought together by Trump's authoritative language in claiming Canada as the 51st state.¹⁶⁶ The boasting of authority by Washington has jeopardized any future projects of cooperation for purposes of continental defense. The landscape of war changed so rapidly by the end of WWII that Canada and the US had to work together, even if it was in an unequal partnership, to ensure their mutual safety. It is unclear how a new global conflict would unfold today, but it is extremely

¹⁶⁵ "Old US-Canada Relationship Is 'over,' Warns Canadian Prime Minister Mark Carney," CNN, last modified March 28, 2025, <https://www.cnn.com/2025/03/27/americas/canada-trump-tariffs-response-latam-intl/index.html>.

¹⁶⁶ *Protests Erupt in Vancouver against Trump and Musk, Canadians Reject 51st State Talk*, produced by ANI News, YouTube, 2025, <https://www.youtube.com/watch?v=NPA4xySdczc>.

disconcerting that the two great North American powers would be unable to work together to meet modern perils.

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