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Between the Devil and the Deep Blue Sea: An Analysis of the Consequences of 20th Century American Imperialism and Nuclear Testing Upon the Marshall Islands and its Inhabitants

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We certify that we have read this document and approve
it as adequate in scope and quality for the degree of Master of Arts.

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Finally, this thesis stands on the shoulders of those individuals who have conducted research on the Marshall Islands previously. Their oral interviews provide the heart to this thesis. Ultimately, this project seeks to amplify the voices of the Marshallese and their activist efforts.

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Introduction

Since their first use in 1945 at the test site at Alamogordo, New Mexico, nuclear weapons occupy the minds of war strategists, physicists, Cold War historians, and the American public through history, public discourse, and popular culture. For some people, nuclear weapons represent the pinnacle of human achievement in mass destruction, while for others, nuclear weapons represent a dangerous consequence of science, engineering, and humanity's arrogance going too far. Now, over thirty years removed from the Cold War's declared end in 1989, Americans, in some ways have become desensitized to the potential realities of nuclear armageddon—except when they are awkwardly and unpleasantly reminded of the Cold War's legacy. Americans have enjoyed indulging in fantasies of nuclear annihilation while other populations have suffered through the realities, consequences, and legacies of the Cold War.[1]

The inhabitants of the Marshall Islands, specifically the Bikinians and the Rongelapese (who represent Bikini Atoll and Rongelap respectively) have endured an unbalanced imperial relationship with the United States since the end of World War II. In 1946, two years after American soldiers liberated the Marshall Islands from the Japanese during the American incursion into the Pacific during World War II, the United States' military began a series of atmospheric nuclear weapons tests (sixty-seven in

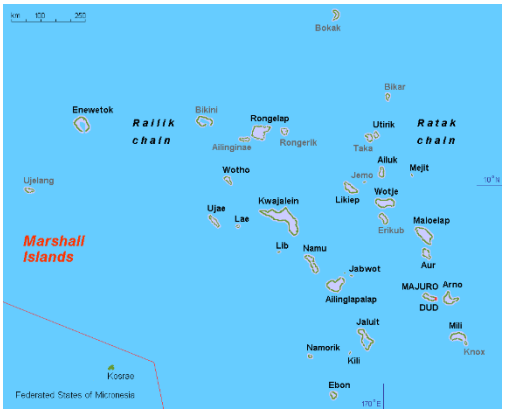

Figure 1. Map of the Marshall Islands. Courtesy of Wikipedia Commons

[1] Some of the groups affected by radiation produced by the nuclear-military-industrial complex, include the following: the survivors of the 1945 Hiroshima and Nagasaki bombings, the Marshallese and the *Lucky Dragon* fishermen who were exposed to fallout from the 1954 Castle Bravo test at Bikini Atoll, American citizens living downwind from nuclear test sites such as the Hanford Reservation in Washington state or Oak Ridge Reservation, Tennessee, American soldiers who received radiation sickness following tests at both the Nevada and Pacific Proving grounds, and Native American tribes, such as the Navajo who have been affected by radiation following the beginning of uranium mining in 1944 by the Manhattan Project. These groups of people continue to endure the consequences of decisions made by the American nuclear-military-industrial complex.

total) at Bikini Atoll. Bikini Atoll is one of twenty-nine coral atolls and 1,156 islands and islets.[2] Following approval from the United Nations in 1947, the United States acquired the Marshall Islands as a "trust territory."[3] The U.S. used the area to practice atomic bomb detonations: for "twelve years, the Marshall Islands experienced the equivalent of 1.6 Hiroshima-sized bombs every single day." In terms of radioactivity, "6.3 billion curies of iodine-131 were released into the atmosphere as a result of the nuclear testing… an amount 42 times greater than the 150 million curies released by atmospheric testing in Nevada, 150 times greater than the estimated 40 million curies released as a result of the Chernobyl nuclear accident, and 8,500 times greater than the 739,000 curies released from the Atomic Energy Commission (AEC) operations at the Hanford Nuclear Reservation" in Washington State.[4] The dirtiest thermonuclear atmospheric test, Castle Bravo, occurred in 1954 at Bikini Atoll which ultimately brought world-wide attention to the dangers of fallout after the crew of the *Lucky Dragon* Japanese fishing boat were exposed to radiation. Meanwhile, the inhabitants of islands downwind from Bikini Atoll were relocated by the U.S. government, thus beginning cycles of Marshallese diaspora caused by forced evacuations from their home atolls due to radiation.[5] As a result of these weapons tests, the Bikinians and Rongelapese are considered "radiogenic communities," meaning they are in

[2] "Australia - Oceania :: Marshall Islands," (Central Intelligence Agency), accessed March 4, 2020, https://www.cia.gov/library/publications/the-world-factbook/geos/rm.html

[3] A trust territory refers to "[a]ny of the territories formerly under a League of Nations mandate, which after 1945 were placed under the trusteeship of the United Nations until ready for independence." "Overview: Trust Territory," Oxford Reference (Oxford University Press, 2020), https://www.oxfordreference.com/view/10.1093/oi/authority.20110803105944449

[4] Holly M. Barker, "From Analysis to Action: Efforts to Address the Nuclear Legacy in the Marshall Islands," in *Half-Lives & Half-Truths: Confronting the Radioactive Legacies of the Cold War*, 1st ed. (Santa Fe, NM: School for Advanced Research Press, 2007), pp. 213-247.

[5] Diaspora, in its most simplistic understanding, refers to the forced migration and dispersion of an ethnic or religious group. Amidst the changes that the humanities fields experienced in the 1960s and onward, diaspora and its impact upon certain groups became an increasingly popular area of study. Over the years, however, diaspora, as a concept, has almost become too popular of a lens through which to study forced migration, to the point in which historians, anthropologists, and sociologists have begun debating the criteria for what makes a population a "diaspora group." Rogers Brubaker, *Grounds for Difference* (Cambridge, MA: Harvard University Press, 2017), 119-120, 122.

the words of anthropologist Barbara Rose Johnston "people whose lives have been profoundly affected and altered by a hazardous, invisible threat, where the fear of nuclear contamination and the personal health and intergenerational effects from exposure color all aspects of social, cultural, economic, and psychological well-being."[6] Following Castle Bravo, the Atomic Energy Commission (AEC) tasked Brookhaven National Laboratory (BNL) with conducting surveys and tests to monitor the effects of radiation upon the people, local wildlife, and their living environment.[7] Following the Treaty Banning Nuclear Weapons Tests in the Atmosphere, in Outer Space, and Under Water which was signed in Moscow on August 5, 1963 by the United States, the Soviet Union, and the United Kingdom, the United States government ceased atmospheric nuclear testing in the Pacific but continued testing weapons at the Nevada Proving Grounds.[8] After years of protest and uncertainty, the Marshall Islands and the United States transitioned to a "Compact of Free Association" agreement in 1986, which provided governing independence to the Marshallese and established the Republic of the Marshall Islands (RMI).[9]

The imperial actions of the United States toward the Marshallese following WWII created an environmental, biological, and sociological disaster with a legacy that has reached into the 21st century. This thesis aims to provide an overview of the detrimental impacts affecting the Marshall Islands and its inhabitants after World War II. In addition, this thesis will provide a concurrent analysis of the imperialist attitudes and Cold War strategic thinking that influenced

[6] Barbara Rose Johnston, "Half-Lives, Half-Truths, and Other Radioactive Legacies of the Cold War," in *Half-Lives & Half-Truths: Confronting the Radioactive Legacies of the Cold War*, 1st ed. (Santa Fe, New Mexico: School for Advanced Research Press, 2007), pp. 1-23.
[7] Barbara Rose Johnston and Holly M. Barker, *Consequential Damages of Nuclear War: The Rongelap Report* (New York, NY: Routledge, 2017), 120.
[8] Lawrence D. Freedman, "Nuclear Test-Ban Treaty," in *Encyclopædia Britannica*, July 19, 2019, https://www.britannica.com/event/Nuclear-Test-Ban-Treaty
[9] Currently, the Compact still intertwines the two countries through reparations payments, military land leases, and bureaucratic and economic interaction. "U.S. Relations With Marshall Islands: Bilateral Relations Fact Sheet" (U.S. Department of State, July 15, 2018), https://www.state.gov/u-s-relations-with-marshall-islands/

decisions made by AEC. American empire building across North America since the 17th century created precedent for how the AEC and its representatives treated the Marshallese. Oral history interviews with Marshallese people who lived through the tests and, or who are second and third generation descendants of survivors provide a new perspective regarding nuclear testing in the Pacific.

The Cold War may have officially ended in 1989, but the Marshallese continue to live in the "ruins of empire" left behind by the United States government. As anthropologist Ann Laura Stoler describes, these "ruins" are *not* "privileged sites of reflection" meant to inspire feelings of romantic grief over something lost forever to time and history. Instead, "ruins of empire" are places of accumulated "imperial debris," which refers to the literal and figurative detrimental structures left behind by colonization and imperialism like laws, social attitudes, and racial hierarchies.[10] Bikini, Enewetok, Rongelap, and other atolls which remain dangerously irradiated to this day were ruined by imperial American military aspirations. Despite enduring this catastrophe, the Marshallese continue to fight for their islands and for their voices to be heard.

The Historiography of the Marshall Islands

Protestant missionaries and European traders who began visiting the Marshall Islands in the l8th century wrote the earliest narratives about what they saw and experienced when they first encountered the islands in the Pacific Ocean.[11] In the decades that followed, the Marshall Islands shifted hands from one colonial power to another: the islands were first "claimed" by the German Empire in the late 19th century, then were possessed and colonized by Imperial Japan in

[10] Ann Laura Stoler, *Duress: Imperial Durabilities in Our Times* (Durham: Duke University Press, 2016), 347.
[11] Holly M. Barker, *Bravo for the Marshallese: Regaining Control in a Post-Nuclear, Post-Colonial World* (Belmont, CA: Wadsworth/Thomson Learning, 2004), 15-16.

the 1930s, then liberated, claimed, and controlled by the United States following World War II.[12] Under the purview of the United States, American anthropologists visited the islands and conducted historical and cultural surveys of the Marshallese people. Jack Tobin, Robert Kiste, and Glenn Alcalay were some of the most prominent American anthropologists to help to create a 20th century historiography of the islands from the 1950s through the 1970s.[13] In 1979, the Marshall Islands and the United States transitioned to a "Compact of Free Association" agreement, which provided governing independence to the Marshallese and established the Republic of the Marshall Islands (RMI) government. Two decades later, the United States began declassifying primary source materials related to the Cold War and American activities in the Pacific through the Advisory Committee on Human Radiation Experiments (ACHRE). Throughout the early 21st century, scholars and members of the Marshallese community had the most access to archived items than ever before, allowing both the community and researchers to better understand the scope of the nuclear tests conducted in the Pacific Proving Grounds. However, online access to digitized materials has fluctuated as the Department of Energy has moved from different domains and databases, causing periods when items previously available are suddenly unavailable. Some of the inaccessibility of documents and medical records has been deliberate to keep those previously affected unaware of the extent of radiation exposure.

Many of the contemporary works written about the Marshall Islands and the Pacific at large focus on World War II. One of these narratives places the United States as a liberating hero in the Pacific and views Kwajalein Atoll, where the U.S. has a military base, as a strategic "ace in the hole" that extends America's military reach into the Pacific alongside Guam.[14] Some

[12] Barker, *Brave for the Marshallese*, 17-18.
[13] Barker, *Bravo for the Marshallese*, 13.
[14] Ruth Douglas Currie, *Kwajalein Atoll, the Marshall Islands and American Policy in the Pacific* (Jefferson, NC: McFarland & Company Inc., 2016), 1-5.

Pacific scholars take a more nuanced approach, explaining that for indigenous islander populations living in the backdrop of the fighting, World War II was a time of doubt, death, and distrust for all three parties involved (the U.S., the Japanese, and the islanders).[15] Former U.S. navy men have written memoirs and military histories about the Pacific theater during World War II as well as their experiences during Operation Crossroads, otherwise known as the first series of nuclear tests at Bikini Atoll. Some of these memoirs describe the American leadership as arrogant, ignorant, and oblivious to the dangerous nature of the radiation produced by the first Pacific test.[16] Some American veterans stationed at the Marshall Islands during Operation Crossroads have come forward and described how they have endured radiation related medical ailments similar to those experienced by the Marshallese.[17] In addition, these works advocate for more transparency regarding what the military and AEC officials knew about the consequences of nuclear tests on the human body. However, the scope of the advocacy predominantly leans toward providing solutions for effected American veterans and less with the needs of the Marshallese.

Dismantling the "Colonial Archive": Oral History and Diaspora Studies

Colonialism has distorted the ways in which history has been written about the Pacific and its various island cultures. The emergence of more diverse voices and perspectives in the 1960s helped pave the way for new humanities disciplines in academia. Some of these new disciplines include (but are not limited to) oral history and diaspora studies. Most significantly,

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[15] Keith L. Camacho, *Cultures of Commemoration: The Politics of War, Memory, and History in the Mariana Islands* (Honolulu, HI: University of Hawai'i Press, 2011), 32, 44, 46, 48. See also Jane Dibblin, *Day of Two Suns: U.S. Nuclear Testing and the Pacific Islanders* (New York, NY: New Amsterdam Books, 1988), 14-19.
[16] William L. McGee and Sandra V. McGee, *Operation Crossroads - Lest We Forget: An Eyewitness Account Bikini Atomic Tests 1946* (Tiburon, CA: BMC Publications, 2016), 75-76.
[17] McGee, *Operation Crossroads - Lest We Forget*, 102.

since the historiographic changes in the 1970s, the study of history shifted from having a "top-down" focus, in which historians merely studied the "big men" of history, to a "bottom-up" focus, which took interest in the study of everyday people. Oral histories are sometimes used by activists to help create convergences of evidence to prove that something happened; thus, oral interviews often push directly against the colonial narratives and "top-down" histories because they reveal violence and trauma that perpetrators likely hoped would never come to light.[18] Diaspora studies is a lens through which to study the impact of forced migration caused by a group's shared, collective experience of trauma whether from war, genocide, or catastrophic environmental destruction. Because of the field's popularity, many scholars have tried to propose criteria to help define and narrow what constitutes a "diaspora group." This has become necessary in order to differentiate diaspora from globalization and historical migration.[19] Most significantly, what makes a "diaspora group" different is that individuals orient their identity with a connection to a lost "homeland," and these individuals hold some degree of maintained loyalty to that "homeland." As sociologist Rogers Brubaker explains, studying diaspora should centrally revolve around understanding the struggles endured by these impacted populations as opposed to the mere movement of groups and their assimilation into another nation-state's hegemonic body.[20]

Historians interested in studying the Marshall Islands must contend unfortunately with what anthropologist Ann Laura Stoler calls "the colonial archive," which refers to primary

[18] Oral history in particular became one of the tentpole methods to seek out the voices of those previously overlooked by scholars. By directly documenting eyewitness accounts through oral interviews, scholars could learn how people digest, remember, and identify with experiences that have meaning to them. Oral interviews place consumers in the historical moment, following the interviewee through a documentary-style historical narrative that matters to that individual person. Oral historians thus study more than just the historical content of the interview itself; they study the subjective qualities of interviews: vocal cadences, emotional emphasis, ideations of the self, and the relationship between the interviewer and the interviewee.
[19] Rogers Brubaker, *Grounds for Difference* (Cambridge, MA: Harvard University Press, 2017), 119-120.
[20] Brubaker, *Grounds for Difference*, 130.

source material about an indigenous group that has been produced exclusively by representatives of a colonial power.[21] These colonial representatives could refer to missionaries, soldiers, traders, and, or bureaucrats. The "colonial archive" makes the production of historical narratives difficult because it requires the historian to sift through even more than usual when working with primary sources. Historians have to sift through layers of bias, bias which often involves redactions, skewed one-sided narratives, and propaganda. Stoler states that "colonial archives" often "have a way of drawing our attention to their own scripted temporal and spatial designations of what is 'colonial' and what is no longer, making it difficult to stretch beyond their guarded frames."[22] As historians, we must be careful not to limit our thinking only to the temporal context in which sources were produced, without any understanding that their content also impacts the present. Just because a source has been deemed "historical" does not mean that its contents and the implications of those documents are to be buried or forgotten. For example, in the case of Atomic Energy Commission (AEC) and Department of Energy (DOE) documents, procedures and policies described in those pages may still be in place in the 21st century.[23] For the purpose of this thesis, I use Stoler's semantics: (post)colonial instead of postcolonial or de-colonial. (Post)colonial, as she describes the syntax, "[emphasizes] a colonial 'presence' in its tangible and intangible forms and to acknowledge that there are colonial 'presents.'"[24]

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[21] The "colonial archive" can also refer to the *literal* remains of colonial empires, such as slave quarters, colonial offices, monuments, and other elements of colonial infrastructure. Ann Laura Stoler, *Duress: Imperial Durabilities in Our Times* (Durham and London: Duke University Press, 2016), 5.

[22] Stoler, *Duress*, 5.

[23] The Atomic Energy Commission was established in 1946 to "manage the development, use, and control of atomic (nuclear) energy for military and civilian applications." In 1974, the AEC was abolished by the Energy Reorganization Act of 1974 and subsequently split into two agencies: The Energy Research and Development Administration and the Nuclear Regulatory Commission. In 1977, President Carter created the Department of Energy in 1977. "Atomic Energy Commission," United States Nuclear Regulatory Commission - Protecting People and the Environment, accessed March 21, 2020, https://www.nrc.gov/reading-rm/basic-ref/glossary/atomic-energy-commission.html and "Brief History of the Department of Energy," Department of Energy, accessed March 21, 2020, https://www.energy.gov/management/office-management/operational-management/history/brief-history-department-energy)

[24] Stoler, *Duress*, Preface.

Seeking the Voice of the Marshallese

Since the 1960s, researchers interested in the Marshall Islands began to investigate, often through oral interviews, the culture of the Marshallese people and the history of the islands following World War II. These works not only seek to inform readers about the Marshall Islands, but also draw connections between the population's continued strife with radiation related illnesses and the global anti-nuclear movement of the 1970s. Key debates within these works focus upon issues commonly found in the studies of other islands in the Pacific: topics include but are not limited to questions regarding decolonization, climate change and other environmental factors, indigenous identity, and cultural change. For the Marshallese, these issues are compounded by the Republic of the Marshall Islands' (RMI) ongoing relationship with the United States and the complexities of the American nuclear legacy in the region. Compared to the breadth of academic interest in studying other Pacific islands such as Hawaii or Guam, the pool of scholars who have contributed to the discussion about the postwar situation in the Marshall Islands is relatively small.

The Marshallese have told the history of their islands predominantly through oral stories passed down through generations and through geographic landmarks. Culturally, the Marshallese share many common practices with other Pacific Islander groups in creating their historical/storytelling frameworks. Oral narratives rooted in geographic markers work hand in hand to teach lessons about a variety of topics such as environmental sustainability, best travel routes from within atoll chains, and why some atolls are inhabited, and others are not.[25] Often, time is viewed as cyclical and not linear as seen in western societies.[26] Plant and animal life hold not only value as environmental elements of consumption, but they also hold cultural and

[25] Barker, *Bravo for the Marshallese*, 11-14.
[26] Epeli Hau'ofa, "Pasts to Remember," in *We Are the Ocean: Selected Works* (Honolulu, HI: University of Hawai'i Press, 2008), 67.

religious importance.[27] Contamination of plant and animal life, soil, air, and water are just as disparaging as loss of human healthiness and livelihood. As Fijian anthropologist and writer Epeli Hau‘ofa explains, damaging the island environment through anthropogenic causes is considered “sacrilegious and of the same order of enormity as the complete destruction of all of a nation’s libraries, archives, museums, monuments, historic buildings, and all its books and other such documents.”[28]

Diaspora studies provide a good lens for analyzing the case of affected Marshallese groups such as the Bikinians and the Rongelapese. Marshallese evacuation and migration should be recognized as a diaspora for a variety of reasons. Ever since 1946, Marshallese impacted by American nuclear tests have been evacuated to other densely urban islands. The Rongelapese have indefinitely been evacuated from Rongelap since 1985. Unable to safely return, the Rongelapese community has become fractured, with some members choosing relocation to Hawaii or the continental United States as opposed to moving to another atoll. These populations have endured a shared collective trauma caused by environmental and health hazards produced by American nuclear ambitions in the Pacific. Of those living in the United States, two-thirds are living in geographic areas which are drastically different from the tropical island atolls they were used to.[29] Because travel to and from the Marshall Islands is expensive, those living in the U.S. often feel disconnected from island based Marshallese culture, and instead partake in a syncretized Marshallese-American cultural experience. While older generations of Marshallese have memories of the island atolls and the trauma of the nuclear tests, generations of Marshallese

[27] Hau‘ofa, “Pasts to Remember,” 73.
[28] Hau‘ofa, “Pasts to Remember,” 74.
[29] Two of the largest Marshallese communities in the continental U.S. are in Washington and Arkansas. Alison Heslin, “Climate Migration and Cultural Preservation: The Case of the Marshallese Diaspora,” in *Loss and Damage from Climate Change: Concepts, Methods and Policy Options* (Springer, 2019), 386.

not born on their ancestors' original atolls may have different understandings of their culture and may feel indifferent about the cleanup and resettlement oriented activist efforts.[30] Ultimately, because of climate change, the threat of permanent diaspora looms overhead. Because the island atolls are either at or slightly above sea level, rising ocean waters will force the entire Marshallese community to relocate if nothing is done to protect the low-lying atolls.[31] These are just a handful of issues that scholars can address when discussing the diaspora of the Marshallese following World War II.

World War II: Becoming Death

American interest in building an atomic bomb followed the discovery made by two chemists in Nazi Germany who had split the uranium atom.[32] The universities of Berkeley and Chicago became the two tent pole research facilities for what became the nuclear industry, and with the establishment of the Manhattan Project in 1942, Los Alamos National Laboratory in New Mexico joined the nuclear network which also included the facilities at Oak Ridge, Tennessee and Hanford, Washington.[33] The Manhattan Project received considerable validation with the success of the Trinity Test conducted in 1945 in the Jornada del Muerto desert of New Mexico. Despite the atomic bomb's visually overwhelming nature and the subsequent fallout dangers slowly recognized in the aftermath, the secret weapon was still considered a "conventional weapon," meaning it was no more destructive or threatening than any other type

[30] Heslin, "Climate Migration and Cultural Preservation," 386-387.
[31] Heslin, "Climate Migration and Cultural Preservation," 383-384.
[32] Welsome, *The Plutonium Files*, 21.
[33] Tensions were high within the Manhattan Project for three significant reasons: one, coordinators of the Manhattan Project felt concerned about the effects of radiation upon the human body and thus felt inclined to begin conducting radiation experiments; two, the United States needed to build an atomic bomb before Nazi Germany and the USSR; and three, utmost secrecy of the nuclear project needed to be maintained to prevent leaks to American enemies.

of bomb. General Leslie Groves promoted this narrative more than anyone else within the Manhattan Project, and he continued to assert this view in the days following the bombings of Hiroshima and Nagasaki.[34] Stafford Warren publicly downplayed the dangers that dust (fallout) and radioactive byproducts of nuclear reactions could inflict upon living tissue and the environment.[35] In addition, Warren minimized the potential hazards of the atomic bomb to placate General Groves. Privately, however, Warren and other coordinators felt deeply concerned about the threat of radiation after seeing the bomb in action.[36] Publicly downplaying dangers while simultaneously fearing radiation privately became the norm throughout the Cold War and was a tactic used by the AEC and the American government to gaslight the Marshallese when they began experiencing radiation related illnesses. Though the American public at large could barely comprehend the scope of the atomic bomb's destructive power in the immediate aftermath of Victory in Japan Day, Americans prioritized the lives of American soldiers over the lives of Hiroshima and Nagasaki's civilians. Prioritizing the safety of Americans over a non-white "other" became a theme and an unspoken practice within the nuclear-military-industrial complex.

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[34] General Groves oversaw the Manhattan Project beginning in 1942 and remained in charge until 1947, when the Atomic Energy Commission took over nuclear weapons production. As the lead military official for the Manhattan Project, he managed all aspects of the atomic bomb's development: scientific research, construction, production, security, intelligence gathering, and later, after the bomb's use, softened the public's perception of the bomb's dangerousness. For more information about Groves' roles in the Manhattan Project see Janet Farrell Brodie, "Radiation Secrecy and Censorship after Hiroshima and Nagasaki," *Journal of Social History* 48, no. 4 (2015): 842-864 and "Leslie R. Groves," Atomic Heritage Foundation, accessed September 16, 2020, https://www.atomicheritage.org/profile/leslie-r-groves.

[35] Stafford L. Warren was an American physician and radiologist who worked on the Manhattan Project as the Chief Medical Officer, appointed by General Leslie R. Groves. He witnessed the Trinity Test and later traveled to Hiroshima and Nagasaki to conduct medical surveys of the victims. He was notorious for downplaying the destructive impacts of radioactive fallout upon the Japanese. In 1946 he participated in Operation Crossroads at Bikini Atoll, where he witnessed navy soldiers being exposed to dangerous levels of radiation in the cleanup efforts of the battleships used in the tests. Following Operation Crossroads, Warren became significantly more vocal about the dangers of fallout, even going so far as warning the general American public through speeches and *LIFE* magazine articles. He then continued studying radiation for medical purposes at the University of California, Los Angeles. "Stafford L. Warren," Atomic Heritage Foundation, June 19, 1896, https://www.atomicheritage.org/profile/stafford-l-warren.

[36] Brodie, "Radiation Secrecy and Censorship after Hiroshima and Nagasaki," 855.

The United States won the race to deploy the first atomic bomb on an enemy faction with the bombings of Hiroshima and Nagasaki and in the process saw the devastation. While the Trinity Test seemingly appeared victimless, the bombing of Hiroshima on August 6, 1945 resulted in cataclysmic devastation. Between 90,000 to 160,000 people died from either the immediate blast, the subsequent fires, or radiation related illnesses developed over the span of four months. Three days later on August 9th, the United States decided to drop a second atomic bomb onto Nagasaki, killing approximately 80,000 people over a span of four months following the attack. On August 14th, Japan surrendered.[37]

At home in the U.S., many Americans celebrated the use of the atomic bomb as the penultimate means to end the war with Japan. Newspapers partook in racist yellow journalism, with political cartoons that mocked Japanese victims.[38] The war with Japan had revived "yellow peril."[39] "Yellow peril" refers to a facet of xenophobia that historically emerged during the California Gold Rush and developed throughout the 19th and early 20th century towards those individuals immigrating from Asia or Pacific Islands. This xenophobia presented itself through anti-immigration exclusionary laws and sensationalized journalism. During World War II, anti-Japanese sentiment resulted from vengeful feelings toward the Japanese military, which had attacked Pearl Harbor but also from the loss of American soldiers lives throughout the war in the Pacific.[40]

While the atomic bombs dropped onto the Japanese were celebrated for ending the war, the weapons themselves were also paradoxically feared. The Soviet Union took note of the

[37] "Bombings of Hiroshima and Nagasaki - 1945," Atomic Heritage Foundation, June 5, 2014, https://www.atomicheritage.org/history/bombings-hiroshima-and-nagasaki-1945.
[38] Paul Boyer, *By the Bomb's Early Light: American Thought and Culture at the Dawn of the Atomic Age* (The University of North Carolina Press, 1994).
[39] Roxanne Dunbar-Ortiz, *An Indigenous Peoples' History of the United States* (Boston, MA: Beacon Press, 2014).
[40] Kurashige, *Two Faces of Exclusio*n, 170.

atomic bomb's destructiveness, and Kremlin leaders worried about what the aftermath of the war would look like if the USSR could not check the United States' newfound power. Thus, the USSR began its own nuclear program.[41] In turn, American military planners and congressmen became enthralled by "atomic anxiety." Most discussions about the bombs' devastation did not frame the focus around what was done to Japan, but instead upon what would be done to Americans. *36 Hour War* published in the November 19, 1945 issue of *LIFE* imagined what Manhattan and greater New York City would look like in the aftermath of an atomic bomb explosion.[42] These fears led to the conclusion within the upper echelons of the U.S. military that the inventions of the Manhattan Project and its network of universities and production sites should not be disassembled. Instead, these new fears and concerns prompted a desire for new innovations and the institutionalization of an American nuclear complex.

Further, competition between the three branches of the U.S. military motivated the drive to continue developing nuclear weapons. The first test at Bikini Atoll exhibited the tension between the U.S. Army (which had deployed the two bombs used against Japan) and the Navy, which felt threatened by burgeoning aerial-nuclear superiority.[43] The Marshall Islands and the inhabitants of these atolls were caught in the middle of this competition and the American need to show the USSR, through a public display, what its nuclear arsenal was capable of.

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[41] Kate Brown, *Plutopia: Nuclear Families, Atomic Cities, and the Great Soviet and American Plutonium Disasters* (Oxford: Oxford University Press, 2015), 81-82.

[42] For more information on how quickly Americans became engrossed with "atomic anxiety" in the wake of August 1945, see Boyer, *By the Bomb's Early Light*.

[43] The U.S. Air Force was part of the U.S. Army until September 18, 1947 with the implementation of the National Security Act of 1947. The Act also created the U.S. Department of Defense, the National Security Council, and the Central Intelligence Agency. "National Security Act of 1947," U.S. Department of State (U.S. Department of State), accessed October 28, 2020, https://2001-2009.state.gov/r/pa/ho/time/cwr/17603.htm.

The Marshallese Perspective of World War II

Prior to World War II, Japan captured, controlled, and began colonizing the Marshall Islands and other south Pacific islands.[44] As an imperial power, Japan hoped to develop the economy of the islands, build infrastructure, establish a Japanese colonial presence through emigration, and to assimilate the local Marshallese population culturally through Japanese language education and through the sharing of Japanese traditions. However, over the course of World War II, the Marshallese endured significant hardships from both the Japanese and American military activities. Shipments of food to the islands were halted by American warships and resources on the island were given priority access to Japanese colonists.[45] Keith L. Camacho, a Professor of Pacific Islander studies at UCLA describes in his book *Cultures of Commemoration: The Politics of War, Memory, and History in the Mariana Islands* how for many Pacific Islanders, World War II was a period of great turmoil, trauma, and tragedy due to the respective military occupations of the Japanese and then the Americans following liberation. As figure 2 shows, Kwajalein Atoll especially endured a significant portion of World War II's violence.[46] For the Marshallese, deciding where to place one's loyalty, whether for Japan or for the United States, was a life and death choice. In this moment and time, there was no guarantee that the Americans would win the war in the

Figure 2. Kwajalein, Marshall Islands. Wrecked trucks and shattered trees litter Kwajalein, soon after its capture in February 1944. Courtesy of Naval History and Heritage Command and the National Archives.

[44] The western name "Marshall Islands" refers to British captain John Marshall, who visited the islands in 1788. Following his visit, these island atolls began to appear on European maps. The islands have been called "jolet jen Anij" (gifts from God) in local folklore. For more information see Barker, *Bravo for the Marshallese*, 16 and "Marshall Islands," Pacific RISA - Managing Climate Risk in the Pacific, August 1, 2018, https://www.pacificrisa.org/places/republic-of-the-marshall-islands/.
[45] Barker, *Bravo for the Marshallese*, 17.
[46] Dibblin, *Day of Two Suns*, 17 and see Figure 2.

Pacific, and it was possible the Japanese would punish the islanders for their lack of loyalty should Japan win the war. In turn, the islanders were afraid that if the United States won the war, they would be treated with suspicion for having previously been a part of a Japanese colony.[47] Yellow journalism further subsumed Pacific Islander identities with the Japanese and other Asians. U.S. military forces occupying the Marshall Islands destroyed all remnants of Japanese infrastructure that had not been ruined by repeated bombings of the atolls during the war. Post liberation, the navy hoped to prevent another "Pearl Harbor" by drastically militarizing islands such as Guam and Kwajalein Atoll by creating a network of bases across the Pacific Ocean. Across the Pacific, American occupation of islands led to "military rehabilitation" projects. Figure 3 provides an example of the kind of new infrastructure the American government promised to build: "better" infrastructure that would support the U.S. occupation and Marshallese economic recovery. These infrastructure projects also hoped to encourage Pacific Islander loyalty to the United States; militarization of these islands was meant to be a show of kindness towards the indigenous peoples living on these islands, tepid vows that the United States would protect these islands and respond accordingly should any of them be attacked by a foreign entity.[48] U.S. military bases, airports, and post offices represent the only types of physical infrastructure produced by Americans on the islands that remains to this day.[49] However, schools, hospitals, and other civilian necessities were not part of the "military

Figure 3. Quonset-Hut Variation at Eniwetok Base. Courtesy of Naval History and Heritage Command and the National Archives.

[47] Camacho, *Cultures of Commemoration*, 56-57.
[48] Camacho, *Cultures of Commemoration*, 78-79.
[49] See Figure 3. Dibblin, *Day of Two Suns*, 18

rehabilitation." The lack of civilian hospitals and medical clinics would later lead to the Marshallese in particular needing to travel abroad for extensive medical treatments caused by radiation exposure.[50]

The Bikini Tests and the Formation of the Trust Territory of the Pacific Islands

After World War II, the Marshall Islands became the staging area for the American Navy to assert its superiority as the "muscular system" for the country's nuclear capabilities. With an already established presence in the Pacific, the Navy took interest in Bikini Atoll in particular. With a population of 167 people in 1946, Bikini was perceived as remote and sparsely inhabited, with a calm climate which could support U.S. naval activity. More importantly, the islands were sufficiently away from the prying eyes of potential Soviet spies.[51] The 1,225 individual islands which make up the Marshall Islands vary in shape and size and starkly contrast with the geography of the continental United States. Anthropologist Holly M. Barker describes the "geographic shock" of seeing low-lying island atolls that are extremely narrow in width and that have no mountains or rivers when she first visited the Marshall Islands.[52] Mapping the islands collectively in their fullest and identifying each through a program such as GIS (Geographic Information Systems) is even difficult due to the size of the islands and how they are relatively spread out (one cannot easily put all of the collective islands into one picture and have them prominently be shown).

[50] Johnston and Barker, *Consequential Damages of Nuclear War*, 240.
[51] Barker, *Bravo for the Marshallese*, 18-19.
[52] Barker, *Bravo for the Marshallese*, 4-5.

Military planners hoped to test nuclear weapons on the islands and ideally not threaten the health and safety of American citizens in the United States; little consideration was given to the Bikinians living on the atoll already.[53] Thus, Navy Commodore Ben H. Wyatt approached the Bikinians in 1946, on behalf of the U.S. military at large, for permission to use Bikini Atoll for nuclear weapons tests. Wyatt knew enough about the Bikinians to know that they had been converted to Christianity a century ago by American missionaries. Shortly after Chief Juda Kessibuki and his people attended Sunday church mass, Wyatt while being filmed, asked the Bikinians if they would be willing to help the United States develop nuclear weapons. He compared the Bikinians to the children of Israel, explaining that their sacrifice of land would help America learn how to use nuclear weapons "for the good of mankind."[54] However, no terms were laid out regarding how long these tests would occur, nor what the tests would entail and

[53] Though the Atomic Energy Commission idealistically believed it could protect American civilians from the dangers of nuclear weapons, the continental production of nuclear weapons led to inevitable exposures, leading to environmental injustices with consequences that are still felt today in impacted areas across the United States. Further worries about the scale and scope of the USSR's nuclear weapons capabilities prompted the United States to begin testing smaller, lower grade nuclear weapons in Nevada. Despite these weapons being significantly less dirty than those weapons tested at the Marshall Islands, fallout still spread from Nevada towards nearby states, threatening American civilians. In addition, the nuclear-military-industrial complex harmed American civilians through its network of sites across the United States. Nuclear weapons production facilities produced harmful chemicals that were poorly disposed of in addition to fallout particulate matter. Communities living downwind of sites such as Hanford and Oakridge, two of the most prominent facilities producing nuclear weapons parts, unknowingly breathed in dangerous chemicals and drank and used tainted water. They endured similar bouts of cancer, a higher rate of infant mortality and miscarriages, infertility, and genetic mutations in children as the Marshallese. For further information about the impact of the nuclear-military-industrial complex on continental American communities, see Brown, *Plutopia.*

[54] Dibblin, *Day of Two Suns*, 21. In addition, Commodore Wyatt's actions and use of religious reference to sway the Marshallese harkens back to previous colonial interactions between continental indigenous populations living across North America and the invading presence of white Europeans. Colonial Americans in the Massachusetts Bay Colony led by John Winthrop hoped to establish a "city upon a hill," an idealized utopia of Christian civilization. Manifest Destiny employed religious fervor as a justification for colonization and forced assimilation, relocation, and/or eradication of indigenous Native Americans. The "city upon a hill" required capital and technology, and thus, industrialization became another component of this ideal. The natural world of North America needed to be tamed according to colonizers and expansionists. The creation of the atomic bomb by the Manhattan Project signaled the first serious sign that the atom, the building block of existence could also be tamed. However, the atomic bomb needed to be tested. Use of indigenous island lands in the Pacific became another extension of militarized American empire building and the emergence of a 20th century "city upon a hill" where white, capitalist America needed to be protected from the evils of secular communists. Amy S. Greenberg, *Manifest Manhood and the Antebellum American Empire* (New York, NY: Cambridge University Press, 2005), 11, 20, 99.

what their impact would be upon their homeland.[55] The Bikinians evacuated their atoll, moving to Rongerik Atoll 125 miles away, which was historically considered inhospitable by the Marshallese themselves due to its limited resources and unsustainability.[56] On July 1, 1946, the United States began Operation Crossroads with Test Able and Test Baker, which were witnessed by several hundred American journalists and congressmen who had been invited.[57] The Able and Baker tests became the first radiation disaster in the Pacific. The ships appeared spotless, but the film tests, Geiger counters, and dosimeters showed otherwise.[58] "Atomic anxiety" and a need to produce and test nuclear weapons outweighed early warning signs of the dangers of radiation endured by both American sailors and the Marshallese.

The Marshall Islands, like other U.S. controlled islands in the Pacific, would ultimately serve a strategic military purpose. Pearl Harbor as a naval base was valuable, but the base had also exposed the vulnerabilities of America's limited pre-World War II military presence in the Pacific. The State Department and the Department of War debated what type of governing relationship the U.S. would have over the Marshall Islands. The status of the Marshall Islands

[55] Barker, *Bravo for the Marshallese*, 19 and Dibblin, *Day of Two Suns*, 21.
[56] The Bikinians were resettled temporarily in 1969, only to be reevacuated in 1978 after years of enduring bodily mutations, birth defects, increased rates of cancer, and famine. "Marshall Islands," Atomic Heritage Foundation, accessed September 21, 2020, https://www.atomicheritage.org/location/marshall-islands.
[57] The first few tests at Bikini Atoll exhibited a continued underestimation of the dangers of radiation upon the human body. Although Test Able had been deemed a rather poor spectacle for its civilian audience of radiomen and journalists, Test Baker, an underwater test on the other hand, rained seawater, coral, fish, and debris onto nearby navy ships that happened to have animals on board.
[58] While the majority of the ships endured the force of the blast with no damage (pleasing navy officials), the ships themselves became highly irradiated. Navy sailors and divers were tasked with attempting to clean these ships, using practically anything that could be found nearby in conjunction with seawater that was irradiated as well. Marine life such as algae and barnacles that adhered to the hulls contained concentrated quantities of fission products causing radiation readings to exceed the standards used during the Manhattan Project. It is difficult to conclude whether commanding officers allowed this because of general ignorance about the dangers of exposure to radiation, or because they were told to make these commands due to the of curiosity of their superiors and AEC scientists regarding what could happen if sailors were exposed to radiation following an attack or an accident. Former navy veterans who served in the Pacific during Operation Crossroads recount how scientists and radiation monitoring staff always wore full clothes, including rubber gloves and boots which were not equally provided to everyday soldiers. See Weisgall, *Operation Crossroads*, 230-232 for more information about the cleanup procedures following Tests Able and Baker.

would determine the type of rights to be granted to the Marshallese, including the question of citizenship, and the degree of sovereignty they would be able to exert over their own islands.

Secretary of the Navy Frank Knox asserted that bases produced in the postwar period needed to be distributed more widely across the Pacific. The establishment of these bases could ensure that the United States would never be caught off-guard again.[59] Some congressmen and members of the War Department believed that because the U.S. military forces moved through and occupied former imperial Japanese colonies, the military had essentially conquered the islands. In the eyes of these Americans, the Pacific Islands were the spoils of war, building blocks which continued American's Manifest Destiny fantasies further into the Pacific.[60] In addition, some congressmen felt entitled to the islands because American servicemen had died in the region during the course of the war. Senator Richard Russell Jr. of Georgia stated to the Senate in 1943,

> Certainly as a result of the sacrifices of these men and to prevent the further killing of the boys of the second and third generations moving back into the islands in some future war, we should have a definite policy with respect to the future status of these islands which will assure the defense of the United States as well as contribute to the peace of the world. We have rights in these islands that are being purchased today with the blood of American boys.[61]

Annexation of the Marshall Islands did not formally occur, however. Instead, for three years the Marshall Islands were occupied by the U.S. and used for nuclear testing through the

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[59] "Knox, Frank," Naval History and Heritage Command, accessed May 26, 2020, https://www.history.navy.mil/our-collections/photography/us-people/k/knox-frank.html.

[60] Generalized racism towards non-white, non-Christian groups had existed in other forms since the birth of the U.S., and racism towards these perceived "others" was one of the engines fueling American empire building in the 19th century. Further, the attitudes expressed in the discourse among the U.S. Navy planners, members of congress, and the Atomic Energy Commission arrogantly believed that the Marshall Islands were simultaneously being underutilized by the indigenous people and could better serve the U.S. as a prime strategic position while also arguing that the Marshall Islands were so forgettable no world power would complain if the U.S. began nuclear tests there. For more information on this imperial justification tactic for acquiring territories see Greenberg, *Manifest Manhood and the Antebellum American Empire*, 76, 96-99.

[61] Text of an Address Delivered on the Floor of the Senate, October 28, 1943 by Senator Richard B. Russell in *Investigation of the National Defense Program*, 78th Congress, 2nd Session, Report No. 10, Part 16 of the Special Committee Investigating the National Defense Program, United States Senate, 1944, 528.

aforementioned spoken agreement between Chief Juda Kessibuki and Commodore Wyatt.[62] Given the attitudes held by American congressmen and Secretary Knox, the Marshallese were placed in an awkward position in which they may have felt like they could not decline permission for the U.S. military to use Bikini Atoll as their test site. The Bikinians had experienced the capabilities of the U.S. military through World War II as innocent people caught between two superpowers. In oral interviews, many Bikinians recall feeling indebted to the United States for liberating them from Japanese control three years earlier.[63] However, Chief Kessibuki likely did not want to see the full force of the U.S. military set to conquer and claim the atoll through whatever means necessary, as exemplified by Kwajalein's destruction seen in Figure 3 during World War II. Johnathan Weisgall, a U.S. attorney representing the Bikinians and Rongelapese for over thirty years in health and land compensation lawsuits, argues that the islanders felt as if there was no other alternative, but compliance, in the face of the power of the American military which had been on full display during the war.[64]

In July 1947, the United States government officially established the Trust Territory of the Pacific Islands (TTPI) in order to manage the newly acquired Pacific Islands.[65] Having just participated in the creation of the United Nations in 1945, the U.S. State Department concluded that an international trusteeship would serve as the most suitable legal relationship between the Marshall Islands and the United States. As established by Articles 75 and 76 of the United Nations Charter, an international trusteeship is supposed to "promote the political, economical, social, and educational advancement of the inhabitants of the trust territories, and their

[62] Dibblin, *Day of Two Suns*, 21.
[63] Dibblin, *Day of Two Suns*, 14-19.
[64] Weisgall, *Operation Crossroads*, 101.
[65] Barker, *Bravo for the Marshallese*, 20.

progressive development towards self-government or independence."[66] In creating the Pacific Trust Territory, the United States vowed to take responsibility for its actions towards the Marshall Islands and its people. However, because of its position as a member of the United Nations Security Council, the United States has few international entities who can hold it accountable. The Marshallese were thus placed in a position in which they needed to be their own legal advocates.

Castle Bravo: The Test the United States Could Not Deny

While the consequences of *all* the nuclear weapons tests continue to be felt today in the Marshall Islands, the Castle Bravo test, in particular, shoulders a significant portion of the blame. The Castle Bravo shot took place on March 1, 1954 at Bikini Atoll. What made this nuclear weapons test unique from its predecessors was that it was the largest thermonuclear bomb in the Operation Castle series.[67] The test yielded fifteen megatons of TNT and released fallout that spread across the globe as far as the U.S. Midwest where cattle were found to be hot with radioactivity.[68] As professor Alex Wellerstein of the Stevens Institute of Technology describes on his blog *Restricted Data: The Nuclear Secrecy Blog*, Bravo was supposed to yield six megatons, not fifteen, a 250% margin of error. As this was the first time a bomb of this type had been tested, the significance of the Bravo accident shows how deeply in the dark scientists and designers were when dealing with a new mixture of radioactive materials. Despite the newness

[66] "Chapter XII," United Nations (United Nations), accessed May 27, 2020, https://www.un.org/en/sections/un-charter/chapter-xii/index.html.
[67] The Castle series of nuclear tests included five others in addition to the initial test, Bravo. The United States has not tested a bomb bigger than Bravo since. "Hydrogen Bomb - 1950," Atomic Heritage Foundation, June 19, 2014, https://www.atomicheritage.org/history/hydrogen-bomb-1950.
[68] "Castle Bravo," Atomic Heritage Foundation, March 1, 2017, https://www.atomicheritage.org/history/castle-bravo.

of this type of test, the size of the bomb, and the potential danger of fallout, the United States did not evacuate the residents of Rongelap and other atolls potentially in the path of fallout. They did not warn the islanders ahead of time about the potential dangers of radiation exposure, while the weathermen stationed on the island were warned not to eat or drink anything after the test, to wear clothes that covered their skin fully, and not to go outside of the U.S. military-built shelters installed on Rongerik.[69] Weather reports taken in the days prior to March 1st predicted that the wind patterns would blow fallout predominately over open ocean, away from inhabited atolls.[70] Instead, the winds shifted the day of the test, causing fallout to move east towards Rongelap, Alinginae, Rongerik, Utirik, Likiep, Ailuk, and other eastern atolls.[71] In addition, the Japanese fishing boat *Daiyo Fukuryu Maru* (*Lucky Dragon*) and its crew of twenty-three men, which had been sailing eighty miles east of Bikini Atoll, were exposed to radiation.[72]

Marshallese Experiences of Castle Bravo: Witnessing Disaster

During previous tests taking place in the Marshall Islands before 1954 and before the Bravo test, downwind communities were evacuated from their islands. According to the U.S. government, Operation Crossroads and subsequent tests before 1954 did not produce significant damage to the three atolls closest to Bikini: Rongelap, Wotho, and Eniwetok. Trust Territory High Commissioner Elbert Thomas felt that evacuating the people on these nearby atolls for the Castle Bravo test would cause distress and fear over the possibility of displacement and inability

[69] Johnston and Barker, *Consequential Damages*, 97.
[70] Johnston and Barker, *Consequential Damages*, 96.
[71] Johnston and Barker, *Consequential Damages*, 21.
[72] Similar to how the survivors of Hiroshima and Nagasaki faced social stigma for having been exposed to radiation, the *Lucky Dragon* crew members also faced ostracism within Japanese society. As Parsons and Zaballa describe, the *Lucky Dragon* exposure contributed to the creation of narratives within Japanese popular culture that focused on the danger of radioactivity and its impact upon both humans and the environment. Due to the international nature of the *Lucky Dragon* exposure, the Castle Bravo incident inevitably gained global public attention. Keith M. Parsons and Robert A. Zaballa, *Bombing the Marshall Islands: A Cold War Tragedy* (Cambridge, United Kingdom: Cambridge University Press, 2017), chapter 4 and "Castle Bravo," Atomic Heritage Foundation.

to return to their atolls.[73] In light of the weather report asserting that low winds (10,000 ft and below in the atmosphere, everyday wind patterns) would not push radioactive materials toward the east, where the inhabited atolls existed, the three closest islands to Bikini were not pre-evacuated because the U.S. military believed there would be no threat to the islanders living there.[74] However, because the high winds (10,000-20,000 ft) shifted overnight before the test, the three closest islands and their inhabitants were exposed to significant levels of radiation. Plans at the time were not made with potential worst-case scenarios in mind. The decision to fire the Bravo shot was based on previous experiments with atomic weapons and the combined cause and effect of weather assessments and resulting fallout patterns. Earlier bombs had been smaller, not nearly as "dirty," and not thermonuclear.[75] Castle Bravo's radioactive plume stem reached 130,000 ft into the stratosphere (which begins at approximately 40,000 ft above sea level).[76]

The United States waited two days before evacuating the residents of Rongelap who were directly affected by the spread of radioactive material caused by the Castle Bravo test. Following previous nuclear tests at the Marshall Islands, the U.S. military had a plan to evacuate islanders if radiological conditions became too dangerous for the Marshallese. With Castle Bravo, the U.S. waited to evacuate the Marshallese but evacuated the American weathermen on March 2, 1954 the day after the Castle Bravo test.[77] During this two-day period, Rongelapese children played in

[73] Elbert D. Thomas, high commissioner of the Trust Territory of the Pacific Islands, letter to James P. Davis, director of the Office of Territories at the U.S. Department of Interior, February 2, 1953.
[74] Thomas Kunkle and Byron Ristvet, *Castle Bravo: Fifty Years of Legend and Lore a Guide to Off-Site Radiation Exposures* (Kirkland, NM: Defense Threat Reduction Agency), 2013 and "Castle Series 1954: United States Atmospheric Nuclear Weapons Test Nuclear Test Personnel Review," Castle Series 1954: United States Atmospheric Nuclear Weapons Test, 202, accessed December 9, 2020, https://www.osti.gov/opennet/servlets/purl/16380885-g1vuWf/16380885.pdf.
[75] Parsons and Zaballa, *Bombing the Marshall Islands*, 64.
[76] "Castle Bravo," Atomic Heritage Foundation and "Earth's Atmosphere: A Multi-Layered Cake – Climate Change: Vital Signs of the Planet," NASA (NASA, October 16, 2019), https://climate.nasa.gov/news/2919/earths-atmosphere-a-multi-layered-cake/.
[77] Johnston and Barker, *Consequential Damages*, 95, 98.

the raining fallout as if it were snow, even letting flakes fall on their tongues. The inhabitants continued to consume coconut crab and other fish from irradiated waters.[78] For the Rongelapese, the sun rose twice on March 1st, and the United States provided no warning or information about the risks of fallout.

Oral testimonies from the Marshallese people themselves provide the bedrock of evidence for what was experienced during these two days while the United States failed to abide by the promises laid out in the United Nations' mandates for trust territories. As expressed at the beginning of this project, oral history is critical to Marshallese culture and record keeping. This section will provide excerpts from statements explaining what it was like to experience the immediate impact of a thermonuclear bomb and how the United States failed to inform the Marshallese people of the dangers of fallout.

At the time of the Castle Bravo test, John Anjain was the magistrate of Rongelap Atoll in 1954. In 1968, he described what he saw in the two days before he and his people were evacuated from Rongelap:

> Early in the morning of March 1st 1954, sometime around five or six o'clock, American planes dropped a hydrogen bomb on Bikini Atoll. I expect the reason people didn't go inside their houses right away was because the yellow, green, pink, red, and blue colors which they saw were such a beautiful sight before their eyes.
>
> The second thing that happened involved the gust of wind that came from the explosion. The wind was so hot and strong that some people who were outside staggered.
>
> The third thing that happened concerned the smoke-cloud which we saw from the bomb blast. The smoke rose quickly to the clouds and as it reached them we heard a sound louder than thunder. When people heard this deafening clap some of the women and children fled to the woods...

[78] Johnston and Barker, *Consequential Damages*, 99-100.

Later, some men went fishing, including myself... I walked along the beach I looked at the sky and saw it was white like smoke; nevertheless I kept on going... I began to feel a fine powder falling all over my body and into my eyes. I felt it but didn't know what it was.

I went ahead with my fishing and caught enough fish with my throw net to fill a bag. Then I went to the woods to pick some coconuts. I came back to the beach and sat on a rock to drink the coconuts and eat some raw fish. As I was sitting and eating, the powder began to fall harder. I looked out and saw the coconuts had changed color. By now all the trees were white as well as my entire body...

When I returned to Rongelap village I saw people cooking food outside their cook-houses. They didn't know the powder was very dangerous. The powder fell all day and night long over the entire atoll of Rongelap. During the night people were sick. They were nauseous, they had stomach, head, ear, leg, and shoulder aches...

The next day, March 2, 1954, people got up in the morning and went down to get water. It had turned a yellowish color... They were sick and so Jabwe, the health-aide walked around in the morning and warned people not to drink the water. He told them if they were thirsty to drink coconuts only.

...A seaplane from Enewetak Atoll landed in the lagoon of Rongelap and two men came ashore. [They said] they had come to inspect the damage caused by the bomb. They said they would spend twenty minutes looking at the wells, cement water catchments, houses, and other things. The two men returned quickly to their plane and left without telling anyone that the food, water, and other things were harmful to human beings.

...On that day we looked at the water catchments, tubs, and other places where there was a great deal of water stored. The water had turned yellow and those who drank it said it tasted bitter.

On March 3, early in the morning, a ship and a seaplane... appeared on Rongelap. Out of the plane came Mr. Oscar [DeBrum] and Mr. Wiles, the governor of Kwajelein Atoll. As their boat reached the shore, Mr. Oscar cried out to the people to get on board and forget about their personal belongings for whoever thought of staying behind would die... Therefore, none of the people went back to their houses but immediately go on the boats and sailed to board the ship that would take them away. Those who were sick and old were evacuated by plane.

...At ten o'clock in the morning we left Rongelap for Ailinginae Atoll and arrived there at three in the afternoon. We picked up nineteen people on this atoll and by five o'clock we were on our way to Kwajalein.[79]

[79] Excerpts from John Anjain, "The Fallout on Rongelap Atoll and Its Social, Medical, and Environmental Effects," ed and trans. by Richard A. Sundt (unpublished manuscript, 1973).

For the Marshallese people, everything changed on March 1st, 1954. Holly M. Barker in the prologue of *Consequential Damages of Nuclear War: The Rongelap Report*, asks several questions: What is it like to witness and endure the aftermath of a nuclear detonation? How does an individual, let alone an entire culture and its people recover from the lasting impact of the hydrogen bomb's invisible yet pervasive poison that infects all life, water, and air? She writes, "After years and years of living in a radioactive laboratory as the subject of scrutiny and study what does it mean to find your fears confirmed–that your favorite foods are taboo, that your loved ones grow old before their time and your children fail to thrive?"[80]

Enduring Nuclear Debris in the Wake of Bravo

The Rongelapese people were evacuated to Kwajalein Atoll on March 3, 1954, beginning their diaspora with little information about their home atoll, its fate, and if they would ever return. As discussed in a previous chapter, the Marshallese people have a special relationship with their atolls that has been sustainable and symbiotic for thousands of years. While outsiders viewed these atolls as barren, scarcely inhabitable, or inhospitable, the Marshallese saw their islands as plentiful gardens full of plants and animal life. As anthropologists Johnston and Barker explain, "Cultivation and husbandry of trees and bushes were elements of a broader subsistence strategy that utilized the resources provided by the currents of wind and water; migratory birds, fish, and marine mammals were all essential elements of the Marshallese subsistence economy."[81] John Cordell, another anthropologist, describes island geographical markers and

[80] Johnston and Barker, *Consequential Damages of Nuclear War*, 15.
[81] Johnston and Barker, *Consequential Damages of Nuclear War*, 58-59.

sites hold spiritual value which is connected to mythical entities and cultural history for Pacific Islanders.[82] Epeli Hau'ofa compares the loss of island lands to the destruction of a national archive or library.[83] Because the Marshallese people pass down land through families, proper land management is expected to help aid future generations with cultivation and sustainability.[84] The Marshallese national anthem further exemplifies the significance of island land to the people:

> Ij iokwe lok aelon eo ao
> Ijo iar lotak ie.
> Melan ko ie im iaieo ko ie.
> Ijamin ilok jen e
> Bwe ijo jiku emool.
> In ao lamoren in deo emman.
> Lok ne inaaj mij ie.
>
> I love my island
> Here where I was born.
> The beautiful surroundings and joining together with friends.
> I don't want to leave here
> This is my true place.
> It's my inheritance forever
> It's best for me to die here.[85]

Despite the arrival of missionaries to the Marshall Islands in the 19th century and the subsequent conversion of the Marshallese people to Christianity, indigenous spiritualism still has a significant place in Marshallese society that is intimately connected to the atolls. Families are unable to visit their buried ancestors on Rongelap without endangering themselves to radiation exposure.

Oral interviews conducted between Holly Barker and former residents of contaminated atolls reveal the deep threads of longing and nostalgia for their homeland. Mwenadrik Kebenli

[82] John Cordell, *A Sea of Small Boats* (Cambridge, Mass: Cultural Survival, 1989), 1, 9.
[83] Hau'ofa, "Pasts to Remember," 75.
[84] Johnston and Barker, *Consequential Damages of Nuclear War*, 70.
[85] Johnston and Barker, *Consequential Damages of Nuclear War*, 71-72.

states, “Without the land, all shatters. Land binds us. I was really happy on Rongerik because its my place, I grew up there.”[86] Boney Boaz recalls life on Rongelap,

> On Rongelap I went everywhere. No one told me I was forbidden from going anywhere. In Ebeye, I just go from home to work and back again. What is the importance of land? It's so important! The land is what is important. Here are some examples: I planted so many coconut and pandanus seedlings. It used to be great. I didn't watch my father work. I planted the seedling myself. But now I'm not there to see the trees I planted.[87]

Second and third generation offspring of Castle Bravo's survivors have different experiences and internalized responses toward being disconnected from their ancestors' homeland. Some may experience anger, sadness, and loss for their ability to know a time before the impact of the nuclear tests. Others have indifference and may feel disconnected with the idea of returning to Rongelap.

Diaspora affects all individuals and families differently, and the inability to return home due to radioactive environmental damage represents a facet of “colonial intimacies.”[88] Radiation is an invisible poison that permeates land, water, and the body, and thus it forces individuals to become separated from their island homelands. The Rongelapese people, much like those people evacuated from Chernobyl in Ukraine, were told to leave their personal effects behind–their memories and valuables. The Marshallese left without a clear understanding of the danger that the United States created on March 1st with the Bravo Test.

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[86] Excerpt from Mwenadrik Kebenli interview with Holly M. Barker, Ebeye, March 16, 1999 found in Johnston and Barker, *Consequential Damages of Nuclear War*, 73.

[87] Excerpt from Boney Boaz interview with Holly M. Barker, Ebeye, March 17, 1999 found in Johnston and Barker, *Consequential Damages of Nuclear War*, 73.

[88] “Colonial intimacies” refers to “forms of bodily exposure: to intimate violence and humiliation in the nondomestic space of prisons, checkpoints, and immigration offices that open to embodied and affective injuries.” Fallout pollution created by the nuclear weapons tests created moments of “colonial intimacy” between the Marshallese and the United States through evacuations and invasive and public medical examinations. For more information, see Stoler, *Duress*, 16.

Project 4.1

Following their evacuation from Rongelap and Ailinginae and arrival on Kwajalein, the Rongelapese people became unknowing participants of the biomedical research study known as Project 4.1. Coordinated by Eugene P. Cronkite, the former head of the Naval Medical Research Institute who became the head of Brookhaven National Laboratory's Division of Experimental Pathology in 1955, Project 4.1 involved the use of the following military research laboratories: Los Alamos National Laboratory, Brookhaven National Laboratory, the Applied Fisheries Laboratory at the University of Washington, and the Hanford nuclear site, which were all under the umbrella of the Atomic Energy Commission.[89] Project 4.1 involved a six and twelve-month study of sixty-four residents of Rongelap, eighteen residents of Ailinginae, 157 residents of Utrik, and twenty-eight Americans from Rongerik who represented a sample population of individuals exposed to radiation from the Bravo Test. As its control population, the study used 117 "unexposed" Marshallese people living in Majuro, the capital of the Marshall Islands, and 105 U.S. service members. The goals of Project 4.1 were the following:

> 1) document and treat immediate effects of acute radiation exposure, 2) document the population and control groups in ways that set a baseline for further studies on the long-term effects of radiation, 3) obtain samples, measurements, and biological responses that suggested exposure levels, and 4) provide information to ongoing studies on absorption rates, elimination processes, and other questions of interest to the national security and military defense of the United States.[90]

While on Kwajalein, the evacuated Marshallese people were unaware of what had happened on March 1st and why they were experiencing terrible medical problems such as nausea, headaches, eye pain, hair loss, skin burns and discoloration, and diarrhea.[91] Also, pain related to burns or

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[89] See the "Introduction" of E.P. Cronkite, C.L. Dunham, David Griffin, S.D. McPherson, Kent T. Woodward, *Twelve-Month Postexposure Survey on Marshallese Exposed to Fallout Radiation* (Upton, NY: Brookhaven National Laboratory, August 1955), https://catalog.hathitrust.org/Record/011573788
[90] Johnston and Barker, *Consequential Damages of Nuclear War*, 104-105.
[91] Johnston and Barker, *Consequential Damages of Nuclear War*, 99.

body aches (symptoms of radiation sickness) were not treated.[92] Health aide Jabwe Jojur explained in an interview with Glen Alcalay in 1981 the degree to which the Rongelapese were not told about what was going on:

> When we arrived in Kwajalein we immediately showered for several hours at the military base there. After some days a medical team flew out from the U.S., and they are still treating us today. After three days we had burns all over our bodies, and our hair began to fall out: some people actually went bald. When we asked the Atomic Energy Commission doctors to help us understand what had happened, they do not tell us, and today they do not tell us the truth about our problems.[93]

Many interviewees expressed that they felt violated and humiliated during public medical examinations by doctors and scientists. Indigenous men and women stripped naked in front of one another while doctors took biological samples or conducted tests on their bodies. Lijon Eknilang describes one instance of humiliation that represents the "colonial intimacy" of public medical examinations:

> …Three times a day for three months, the Rongelapese women were told to undress and stand naked at the lagoon's edge. The women would cry from embarrassment and try to cover their genitals with their hands. U.S. government officials, all men, ran Geiger counters up and down the bodies of the naked women both before and after they bathed in the lagoon. Frequently, the Geiger counters would start clicking wildly when taking readings from the hair on the women's heads and from their pubic hair. The U.S. government workers would tell women to soap their pubic hair again, in front of everyone, before a second reading… [People] tried to avert their eyes whenever possible, but their presence by their naked mothers and sisters was mortifying.[94]

Many did not receive explanations about what the tests were for or what the doctors hoped to achieve. Rongelapese survivors of the Castle Bravo Test recalled that some doctors removed

[92] Barker, *Bravo for the Marshallese*, 41.
[93] Glenn Alcalay, *Cultural Impact of the US Atomic Testing Program Marshall Islands Field Report* (March 4-April 7, 1981), Rutgers University, paper for graduate program in anthropology, 21.
[94] Excerpt from Lijon Eknilang, interview by Holly M. Barker, Majuro, March 28, 2001 found in Johnston and Barker, *Consequential Damages of Nuclear War*, 102.

healthy molars (presumably to see how radiation had settled in the mouth).[95] During a 2001 interview with Holly Barker, Chiyoko Tamayose stated,

> We never knew what was going on. There was a time where they took my blood, mixed it with something, and then shot it back into me. They never asked me if they could do this, they just did it. I didn't understand what they were doing and I still don't.[96]

In addition to providing little no explanations about what was going on with their islands and their bodies, U.S. researchers were not always consistent in obtaining informed consent for invasive procedures from the Marshallese. The lack of clear communication from the doctors and researchers was a reflection of the reckless attitudes of the Cold War American medical community which profusely claimed to be different from the likes of Josef Mengele and other Nazi criminals who conducted similar humiliating genocidal medical experiments upon their imprisoned victims.[97] Further, the behaviors of the Atomic Energy Commission and the research laboratories working within the agency were motivated by a pressing need to secure the United States as a capable nuclear power in the postwar period. Imperial hierarchies of eugenics inherited from generations of interactions between indigenous populations and American expansionists created a precedence for how the AEC at large and the researchers on the ground treated the Marshallese people.[98]

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[95] Johnston and Barker, *Consequential Damages of Nuclear War*, 46.
[96] Johnston and Barker, *Consequential Damages of Nuclear War*, 106.
[97] When the medical horrors of the Holocaust were revealed to the world at large following the liberation of Nazi concentration camps across Europe and the conclusion of the 1946 Nuremburg Trials, medical organizations and government institutions established ethical rules and guidelines to distance themselves from the atrocities of Josef Mengele and other Nazi doctors. The American Medical Association asserted that subjects participating in medical experiments had to be volunteers and be supervised by medical professionals. In addition, research in any particular area needed to have been conducted on animals prior to experimenting on humans.
[98] The American military-nuclear-industrial-academic complex organized various human radiation experiments across the United States and employed research institutions, think tanks, and the branches of the military to understand radiation and its effects on the human body. Some of these experiments include the following: Massachusetts Institute of Technology's experiments during the 1940s and 1950s upon unknowing mentally disabled children at the Fernald State School, where young boys were being served free breakfasts of Quaker oatmeal laced with radioactive tracers (radioactive iron and calcium); the Hanford Nuclear Site in Washington State worked with the University of Washington to conduct experiments upon volunteer male convicts who agreed to

Doctors and researchers failed to warn the Marshallese people living downwind of the nuclear tests about the dangers of radioactive debris (fallout), concepts that were beginning to be understood by nuclear physicists, medical researchers, and AEC leadership in the postwar period through research conducted in the aftermath of the bombings of Hiroshima and Nagasaki.[99] In addition to failing to warn the Marshallese ahead of time about the dangers of consuming nuclear dust, the written summary of Project 4.1 concluded, "In general, the Marshallese have recovered satisfactorily from the radiation injury received during March 1954."[100] While follow up medical research was recommended in the conclusion of this study, the Marshallese, as will be further explored in the following chapters, felt like they were being treated as test subjects in a broader series of experiments rather than victims of a nuclear disaster needing aid.

Immediate Environmental Pressures

New problems emerged as the Rongelapese were relocated first to Kwajalein, then Ejit island on Majuro Atoll. Given the small surface areas of the island, the sudden population spike on Ejit created environmental pressures: a larger amount of people meant sharing space and resources, disrupting a socio-economical system that had previously been sustainable. Further, the Rongelapese people began to experience the social stigma that comes with exposure to

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have x-rays directed at their testes in exchange for monetary payments. For more information see Lorraine Boissoneault, "A Spoonful of Sugar Helps the Radioactive Oatmeal Go Down," *Smithsonian Magazine* (The Smithsonian, March 8, 2017), https://www.smithsonianmag.com/history/spoonful-sugar-helps-radioactive-oatmeal-go-down-180962424/ and Brown, *Plutopia*, 252.

[99] Shields Warren, a Harvard doctor and future manager of the AEC's Division of Biology and Medicine, visited Japan in September 1945 to study the victims of Hiroshima and Nagasaki. He recorded his medical observations in his diary. In his entries, he concluded that many of the Japanese fatalities and injuries were likely caused by ionizing radiation-blast effects and gamma rays. Later he noted in an article published in 1946 that the effects of radiation take a long time to appear in the human body and thus, it appeared at the time that more Japanese had died from the bomb's fires and from wreckage than radiation. Shields Warren, "The Pattern of Injuries Produced by the Atomic Bombs at Hiroshima and Nagasaki." U.S. Naval Medical Bulletin, 46, no. 9 (September 1946), 1349-1353.

[100] Cronkite et. al, *Twelve-Month Postexposure Survey on Marshallese Exposed to Fallout Radiation, 11.*

invisible toxins in one's living environment.[101] Almira Matayoshi describes how social stigma made the Rongelapese feel isolated: “People didn’t want to shake our hands for fear we would contaminate them. We were embarrassed to walk around where there were other Marshallese, because they would say things like ‘Rej kamour kiraap’ [They give birth to grapes].”[102] As time passed, the people of Rongelap hoped to one day return to their home island.

For three years, 1954 to 1957, while Rongelap was evacuated and uninhabitable, the U.S. government conducted studies on the island to discover how radiation impacted the natural environment with the help of the University of Washington’s Applied Fisheries Laboratory.[103] According to the laboratory’s 1955 report, sources of food on Rongelap, which included coconuts, pandanus, papaya, and squash, were noted to be significantly contaminated with Strontium 90 (Sr-90).[104] Arrowroot and coconut crab, two staples of the Marshallese diet, had accumulated high levels of radioactive isotopes, most prominently Sr-90 and Cesium-137 (Cs-137).[105] Essentially, the entire food chain system on Rongelap was contaminated by radiation. Unfortunately, this scientific information was not shared with the Rongelapese when they were

[101] Radiation related social stigmas are an experience the Marshallese share with other groups of people exposed to radiation, including the victims of Hiroshima and Nagasaki, the fishermen of the Lucky Dragon boat, and victims of the Chernobyl nuclear accident.
[102] Excerpt from Almira Mataoyshi interview by Holly M. Barker, Honolulu, June 13, 2001 found in Johnston and Barker, *Consequential Damages of Nuclear War*, 152.
[103] “History of the Applied Fisheries Laboratory,”::: Donaldson (Lauren R.) Collection of Northern Pacific Ocean Radiological Surveys, 1946-1964 ::: accessed November 4, 2020, https://content.lib.washington.edu/donaldsonweb/history.html.
[104] Strontium-90 is a radioactive isotope that is known notoriously for being a “bone seeker.” It is a product of nuclear fission and is one of the isotopes found in nuclear fallout from nuclear tests. When ingested via contaminated food or water, strontrium-90’s presence in the body can cause bone cancer, cancer in nearby tissues, and leukemia. “Radionuclide Basics: Strontium-90,” EPA (Environmental Protection Agency, August 8, 2017), https://www.epa.gov/radiation/radionuclide-basics-strontium-90.
[105] Cesium-137 is another byproduct of nuclear fission, and it is one of the isotopes found in nuclear fallout from nuclear tests. According to the Environmental Protection Agency, Cs-137 binds easily to soil and can be taken up by plants and vegetation. Arrowroot grows best in pits in the soil, where Cs-137 could accumulate easily. External exposure to Cs-137 results in burns, acute radiation sickness, and death if the exposure is significant enough. Ingestion of Cs-137 can cause cancer within soft tissue, particularly muscle tissue. “Radionuclide Basics: Cesium-137,” EPA (Environmental Protection Agency, May 4, 2017), https://www.epa.gov/radiation/radionuclide-basics-cesium-137. Barker, *Bravo for the Marshallese*, 45-46.

eventually resettled back on Rongelap in 1957; instead, they were told a year later not to eat coconut crab after having resumed their normal dietary habits. Nerje Joseph remarked, "First they said we could eat the crabs, and then they said stop. What's the point when we already ate them?"[106] Further, given the infrequent arrival of U.S. supply ships to the Marshall Islands which carried prepackaged foods, the Rongelapese people had little choice but to eat the contaminated foods found on their home island or face starvation.[107]

Relocation Back to Rongelap: Imperial Malpractice Manifests

American attitudes towards the indigenous people continued to deteriorate following the Castle Bravo shot. As declassified committee minutes for various AEC related congressional bodies reveal, many officials managing the developing situation back in the United States held imperialistic beliefs about the affected Marshallese people. The director of the AEC Health and Safety Laboratory, Merril Eisenbud, stated the following comments to the Advisory Committee on Biology and Medicine in 1956:

> We think that one very intriguing study can be made and plans are on the way to implement this–'Uterik' Atoll is the atoll furthest from the March 1 shot where people were exposed got initially about 15 roentgens and they were evacuated and they returned.
>
> They had been living on that Island; now that Island is safe to live on but by far the most contaminated place in the world and it will be very interesting to go back and get good environmental data, how many per square mile; what isotopes are involved and a sample of food changes in many humans through their urines, so as to get a measure of the human uptake when people live in a contaminated environment.
>
> Now, data of this type has never been available. While it is true that these people do not live, I would say, the way Westerners do, civilized people, it is

[106] Interview with Nerje Joseph by Holly M. Barker, 1999, found in Barker, *Bravo for the Marshallese*, 46.
[107] Johnston and Barker, *Consequential Damages of Nuclear War*, 127.

> nevertheless also true that these people are more like us than mice. So that is something which will be done this winter.[108]

This quotation reflects the American imperial rhetoric that has been historically used to depict indigenous populations as subhuman. Previous radiation research involved the use of animals such as dogs and mice.[109] The people of Utirik Atoll, and the exposed Marshallese at large, could provide data on the effects of radiation on the human body. Eisenbud places the Marshallese people into a hierarchical category somewhere between western "civilized" populations and lab mice. This attitude continued the train of thought of Navy Commodore Ben H. Wyatt and other American congressmen held in 1946 at Bikini Atoll: the indigenous people of the Marshall Islands were not civilized enough, not Christian enough, and not populated enough to be given dignity. Much like American prisoners, disabled children, and minorities who were vulnerable to the runaway train of Cold War scientific research, the Marshallese people were just another population deemed useful as subjects for experiments.[110] Thus, Project 4.1 and its inconsistent acquisition of informed consent was considered acceptable operating procedure. After three years of displacement, the U.S. government informed the displaced Rongelapese people that they would be able to return home to their island in 1957. This decision came after radiological surveys of the island suggested that the levels of radioactivity subsided enough to allow for repatriation.[111]

Concurrently, the United States government faced a global public relations problem given the Castle Bravo test radioactively contaminated the fishermen on the Lucky Dragon, as well as

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[108] Atomic Energy Commission, *Advisory Committee on Biology and Medicine*, January 14, 1956, 232. https://www.osti.gov/opennet/detail?osti-id=16383814
[109] Brown, *Plutopia*, 65-66.
[110] Barbara Rose Johnston, "More Like Us Than Mice: Radiation Experiments with Indigenous Peoples," in *Half-Lives & Half-Truths: Confronting the Radioactive Legacies of the Cold War*, 1st ed. (Santa Fe, New Mexico: School for Advanced Research Press, 2007), 26.
[111] Johnston and Barker, *Consequential Damages of Nuclear War*, 114-115.

the Rongelapese and other indigenous Marshall Island inhabitants. On April 20, 1954, with a petition to the United Nations Trusteeship Council pleading for the cessation of nuclear testing, the Marshallese people themselves revealed to the world that their islands were being used for testing. Though the council agreed that "no stone [would] be left unturned to safeguard the present and future well-being" of the Marshallese people, the U.S. government was able to continue atomic testing in the region until 1958 and at the Nevada Test Site until 1963.[112] As a result of the global concern which raised questions regarding fallout, radioactive particles traveling on air currents beyond the detonation site, the Advisory Committee on Biology and Medicine (ACBM) initiated the repatriation to Rongelap in the following statement:

> The current low morale of the natives was pointed out and the advantages of returning them to their homes presented as a factor which should be balanced against the possible radiation hazard in their return... It was agreed that because of the already high relative exposure to which the natives had already been subjected, limiting their exposure in terms from now on was unrealistic; but on the other hand, the psychological effect of permitting them to receive more radiation than our own people, could be subject to criticism.[113]

In a 1956 letter to Lewis L. Strauss, chairman of the AEC at the time, from G. Failla, chairman of the ACBM, Failla explained the committee's decision to create a non-evacuation policy once the Rongelapese people were repatriated to their island:

> It is moved that the ACBM approve the Division of Biology and Medicine's proposal to return the Rongelapese to their native atol[sic]. However, it is the opinion of the ACBM that if it should be necessary to re-evacuate because of further tests, there would result world opinion unfavorable to the continuation of weapons testing.[114]

[112] Johnston and Barker, *Consequential Damages of Nuclear War*, 18-19.
[113] (ACBM minutes, Nov. 16-17, 1956)
[114] Letter from the Advisory Committee on Biology and Medicine to Lewis L. Strauss, Chairman of the U.S. Atomic Energy Commission, November 19, 1956 reprinted in the appendix of Johnston and Barker, *Consequential Damages of Nuclear War*, 256.

Following their relocation to Rongelap in 1957 and the implementation of the non-evacuation decision, the Rongelapese people continued to endure the bodily burden of nuclear imperial debris. Because Rongelap had not been decontaminated in the three years since 1954, the repatriated Rongelapese were re-exposed to the lingering radiation and additional new exposures due to continued nuclear testing at Bikini Atoll. Brookhaven National Laboratory continued its role as the primary biomedical research and support organization managing the Marshall Islands radiation studies. Few clear answers, non-therapeutic treatment, and repeated disregard for gender norms and familial values fueled rising Marshallese animosity.

Reproductive health is one of the most significant facets of Marshallese culture impacted by Castle Bravo. Within the Marshallese culture, family is central to everyday life. Thus, having children and expanding one's family were deeply affected by radiation exposure. Within families, differences in cultural food consumption led to differences in radiation uptake and reproduction:

> For example, babies and the elderly tended to eat softer foods such as boiled pandanus. Women tended to suck on the bones and eat the organs of fish, while men ate more of the flesh. Surveys of radiation levels in fish detected high levels of radioactivity in the liver and viscera of fish–the parts often consumed by women–which led to a greater consumption of organ–and bone-seeking radionuclides in women.[115]

Oral interviews with women who experienced painful pregnancy complications in the months post-Bravo describe feelings of shame and humiliation. As explained by Holly Barker, childbirth is a public experience for Marshallese women, in which matriarchs and young women come together to help a pregnant woman give birth. Giving birth to a baby with severe deformities

[115] Johnston and Barker, *Consequential Damages of Nuclear War*, 127.

brought stigma and embarrassment to the mother.[116] Almira Matayoshi describes her experience to Holly Barker as the worst time in her life:

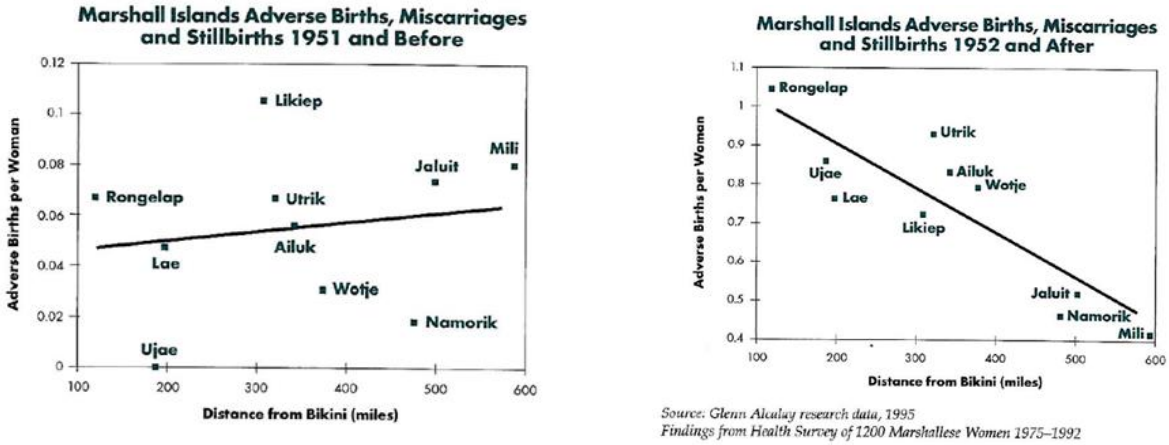
> I was pregnant when they dropped the bomb [Bravo]. I was flown off of Rongelap with the other pregnant women and the elderly people. The rest of the people left on the boat. I gave birth to Robert on Ejit, and he was normal.
>
> The child I had after Robert, when we had returned to Rongelap, I gave birth to something that was like grapes. I felt like I was going to die from the loss of blood. My vision was gone, and I was fading in and out of consciousness. They emergency evacuated me to Kwajalein, and I was sure I was going to die.
>
> After the grapes, I had a third child. It wasn't like a child at all. It had no bones and was all skin. When I gave birth, they said, 'Ak ta men en?' [What is that thing?] Mama said *uror* [a term denoting exacerbation]. It was the first strange looking child that people had seen. I was the first.
>
> That time was the worst time in my life. The two times I gave birth to these things was the worst suffering of my life. I feel both angry and embarrassed. Many of the children born on Rongelap died.[117]

Almira's experience mirrors the experience endured by many Marshallese women. These women felt shame and confusion over why they were having these "jellyfish" or "grape" babies, as they were often referred to.[118] Also, in the absence of a medical explanation, some Likiepese women believed that the occurrence of miscarriages in a family was a result of a wife's infidelity to her spouse.

Glenn Alcalay interviewed over 1,200 women between 1975 to 1992, asking them to document and share their history of reproductive health problems. He found that women recalled significantly fewer instances of miscarriages and stillbirths prior to 1951, and a significantly higher rate of reproductive problems following 1952. In addition, Alcalay compared the rates of problems between people living in "northern Marshallese" atolls (Bikini, Enewetak, Lae, Ujae,

[116] Barker, *Bravo for the Marshallese*, 106-107.
[117] Johnston and Barker, *Consequential Damages of Nuclear War*, 130-131.
[118] Johnston and Barker, *Consequential Damages of Nuclear War*, 106, 108.

Ailuk, Rongelap, Likeip, Wotje, and Utrik) with the rate of problems of those living in "southern Marshallese" atolls, which would be furthest from the Bikini Test site (Jaluit, Namorik, and Mili).[119] As Figures 4 and 5 show, the closer the atolls were to the Bikini Test site, the higher the rate of reproductive health problems. Women were exposed to higher amounts of fallout in the



Figures 4 & 5. Credit Glenn Alcalay 1995.

years following 1952 due to a change in the type of nuclear weapons being tested. With the Ivy Mike shot on November 1, 1952, the United States began testing thermonuclear weapons.[120] Further, as linguistic anthropologist, Barker observed through her oral history interviews, the Rongelapese women began using new words to describe the deformed children. Descriptive terms such as 'octopus,' 'grapes,' 'hermit crabs,' 'dog,' and 'jelly fish' referred to the babies born with problems post 1954. The term "jibun" refers to stillbirths. Before 1954, the Marshallese language did not have formal names for these reproductive problems.[121] The Marshallese themselves recognized that something in their environment had changed.

[119] Holly R. Barker, "Marshall Islands Stand at a New 'Crossroads'...," *Physicians For Social Responsibility* 3, no. 1 & 2 (1996).
[120] "Hydrogen Bomb - 1950," Atomic Heritage Foundation.
[121] Johnston and Barker, *Consequential Damages of Nuclear War*, 147.

One trend that Holly Barker uncovered in her oral histories is outright anger and bitterness towards the American health officials of Brookhaven National Laboratory. Barker states that though the Rongelapese women, in particular, were warned about the possible rise in birth abnormalities, she believes that some of the anger felt by the Rongelapese likely resulted from being rebuffed and patronized by American doctors. Barker recalls an incident she experienced with a government doctor working for Brookhaven National Laboratory while she was conducted research herself: "This doctor, a woman, told me that the birthing abnormalities are probably because of incest and inbreeding and that the populations were too small to make any statistically relevant conclusions linking radiation to birthing abnormalities."[122] In the data collected in the annual surveys and reports compiled by Brookhaven National Laboratory, there are few references to the distress experienced by Marshallese women regarding the sudden rise in "jellyfish babies" and miscarriages.[123] During Project 4.1, Doctor Eugene Cronkite stated in *Conference on Long Term Surveys and Studies of the Marshall Islands*, that there was a sense of hesitation among American researchers to study reproduction among the Marshallese:

> My feeling toward it is very simple. We should not attempt to do any studies for fertility for obvious psychological reasons for natives themselves. It becomes a fairly personal thing for getting specimens of semen and prying into these things. It is difficult enough to get a specimen of urine, and feces, let along inducing masturbation on a large scale of Marshallese.[124]

This belief reflects how uninterested researchers were with studying the long-term reproductive impacts of radiation upon the Marshallese. As described repeatedly in many oral interviews, the Marshallese already felt exposed and humiliated due to invasive medical examinations that

[122] Johnston and Barker, *Consequential Damages of Nuclear War*, 108.
[123] Dibblin, *Day of Two Suns*, 40-41.
[124] S. H. Cohn, *Conference on Long Term Surveys and Studies of the Marshall Islands* (Washington, DC: AEC Division of Biology and Medicine, 1954), 59.

involved them being photographed while naked, having their teeth removed, and bodily fluid samples taken.

Feelings of abuse combined with the dismissive attitudes of Congressmen in the 1950s toward the concerns of the Marshallese, explains why the Marshallese seek justice for what was done to their homeland's environment, their bodies, and the bodies of future generations. The medical researchers sent by Brookhaven were not trusted or liked by many of the Marshallese, but the decline in reproductive health following Castle Bravo in particular further deteriorated the relationship between the Marshallese and American researchers.

Even in contemporary study of the Cold War Marshall Islands tests and their impacts, there are some researchers trying to dispute the prevalence of reproductive problems experienced by the Marshallese. In their work *Bombing the Marshall Islands: A Cold War Tragedy*, Keith M. Parsons, a professor of philosophy and a historian of science, and Robert A. Zaballa, a nuclear physicist, refer to the 2013 Kunkle and Ristvet article which claims that the statistical occurrence of miscarriages after March 1954 cannot be studied retroactively, despite the previous efforts of other researchers (see figures 4 and 5 produced by Glenn Alcalay).[125] Parsons and Zaballa criticize the Marshallese for not keeping written records and for not conducting medical studies of their own people, while simultaneously stating that the individual populations of each respective island atoll is too small to create statistics of.[126] The two authors go back and forth on whether or not the eyewitness testimonies of reproductive problems within the Marshallese can be trusted, stating that while the testimonies should not be dismissed outright, they should be treated with significant skepticism and compared with the information compiled by Brookhaven National Laboratory's annual surveys and studies. Parsons and Zaballa, throughout their

[125] Parsons and Zaballa, *Bombing the Marshall Islands*, 77.
[126] Parsons and Zaballa, *Bombing the Marshall Islands*, 78.

scholarly work, do not provide any reference to oral history theory. Oral history as a field has become a contemporary staple of studying indigenous populations, who have maintained oral traditions for generations. Oral history theory provides researchers with the tools needed to study the intricacies of speech patterns, memory, and the impact of trauma has on subjective memories.[127] The Marshallese have been maintaining their history through oral traditions: storytelling, songs, and geographic markers around their atolls.[128] As previously noted, the head researchers conducting both Project 4.1 and later the annual health surveys of the Marshallese were reluctant to conduct any studies centered around reproductive health. Parsons and Zaballa ultimately take a stance that leaves room for doubt with regard to the occurrence of miscarriages caused by radiation exposure stating, "It seems possible, then, even plausible, that the examinations by the Brookhaven doctors, though thorough, might have underreported some of the medical problems of those exposed to fallout."[129] Professionally trained historians know that written records can be just as subjectively biased and flawed as oral history testimony.[130] Further, perpetrators of serious, national crimes often hide information in written sources through redactions, sanitization of documents, or through simply omitting data. Perpetrators obfuscate narratives to absolve themselves of responsibility or to make themselves appear innocent.[131] Parsons and Zaballa do not interrogate the written sources produced by American researchers in the same manner that they question the validity of the oral testimonies of the Marshallese, which

[127] Lynn Abrams, *Oral History Theory*, 2nd ed. (New York, NY: Routledge, 2016), 16.
[128] Johnston and Barker, *Consequential Damages of Nuclear War*, 68.
[129] Parsons and Zaballa, *Bombing the Marshall Islands*, 78.
[130] Abrams notes that early on in the field of oral history, historians concerned with traditional primary sources were skeptical about the use of oral sources due to their inherent subjective nature. Many early oral historians felt pressured to try to cross-check the information uncovered from interviews. As the field began to receive more interest and more attention, oral historians began to feel more confident and more validated, especially with the rise in memory studies. Oral history is recognized for its place in interpreting the past through the production and study of oral interviews. Oral history studies not only the past but also social relationships and how individuals perceive themselves and place themselves in a community. Abrams, Oral History Theory, 5-8.
[131] Stoler, *Duress*, 25.

shows an overall lack of research into current historical discourse. Written documents, eyewitness testimony, photographs, geographic and environmental changes, and inferential evidence are all tools used by historians to prove that something happened.[132] Further, in the 21st century, scientists and medical doctors know that radiation is dangerous for pregnant women especially based on scientific research and in the aftermath of other nuclear tragedies around the United States and the world.[133] Because the Marshallese do not have access to their own medical records, they cannot compare their radiation related illnesses to those endured by other radiogenic communities.[134]

"Exposed" vs. "Unexposed": Annual Medical Surveys

In medical studies and experiments, it is not uncommon for researchers to compare groups of subjects. During the Cold War, the AEC contracted laboratories like Brookhaven National Laboratory to oversee the Marshallese radiation studies and health management. Project 4.1 and the annual health assessments conducted following the Rongelapese people's return to Rongelap hoped to gain knowledge regarding how long-term radiation affects humans and their environment in the event Americans became exposed to radiation, whether through acts of war or industrial accidents. The original Rongelapese people exposed to radiation on March 1, 1954, were considered to be the "exposed" group of the Marshallese upon returning to the island in 1957. Other family members, friends, and healthcare and contract workers who migrated or traveled to Rongelap and who were now exposed to lingering environmental radiation were considered part of the "unexposed" group. American researchers used the "unexposed" group as

[132] Shermer and Grobman, Denying History, 32-33.
[133] Will Boggs and Md, "Chernobyl Fallout Affected Unborn Babies," Reuters (Thomson Reuters, April 22, 2009), https://www.reuters.com/article/us-chernobyl-babies/chernobyl-fallout-affected-unborn-babies-idUKTRE53L5Y020090422.
[134] Johnston and Barker, *Consequential Damages of Nuclear War*, 240.

a control group. This decision was problematic in the context of how radiation embeds itself into the environment and in the human body. In experiments, the control group usually refers to the subjects not given a drug, procedure, or some other outside variable.[135] The Rongelapese moving to Rongelap post 1957, who had not been on the island for the original March 1954 exposure, were now becoming exposed to radiation. Further, as members of this "control" group continued to live on Rongelap, they began experiencing the harmful effects of radiation sickness, as the daily dose they received accumulated over time. This "unexposed control group" began to exhibit similar illnesses as the "exposed" group–thyroid nodules, cancers, and reproductive problems.[136] As Barker explains,

> From 1954 until 1998 when the DOE contractor changed, DOE summaries of its medical findings maintained that the health effects of radiation exposure in the Marshall Islands are minimal because the 'unexposed' control group experience the same medical problems as the 'exposed' population...[the] DOE says that the medical problems experienced by the 'exposed' population are nothing out of the ordinary since they also appear in a population that is 'unexposed' to radiation.[137]

Interactions between the Marshallese and representatives of the Brookhaven National Laboratory (BNL) conducting annual medical surveys of the Rongelapese people remained tense because the "exposed" and "unexposed" populations were treated differently by the BNL staff.

Robert Conard, the Director of Brookhaven National Laboratory as of 1958, proferred the idea that the "unexposed" population living on the island post-1957 would not face radiation related illnesses, despite Rongelapese individuals coming to him with questions regarding the sudden rise in cancers and miscarriages. He asserted to residents on Rongelap that the food and water was safe to eat and drink with the exception of the coconut crab.[138] Conard and the other

[135] Mary Earick Godby, "Control Group," Encyclopædia Britannica (Encyclopædia Britannica, inc., May 14, 2020), https://www.britannica.com/science/control-group.
[136] Barker, *Bravo for the Marshallese*, 37.
[137] Barker, *Bravo for the Marshallese*, 37-38.
[138] Johnston and Barker, *Consequential Damages of Nuclear War*, 138.

medical staff constantly tried to downplay the fears felt by the Rongelapese. In reality, the "unexposed" control group's status was inherently flawed; by having both the "exposed" and "unexposed" groups living on the contaminated atoll of Rongelap, both groups were exposed to radiation on a daily basis. Conard and his staff pitted the medical problems experienced by the "unexposed" group against those experienced by the exposed group, which sowed confusion amongst the Rongelapese people. All the while, the BNL medical team asserted that the United States had the best interests of the Marshall Islands in mind when conducting the medical examinations.[139] United States sought to maintain its status quo of nuclear secrecy during the Cold War in order to continue its weapons testing, both nuclear and later biological.

In retrospect, Robert Conard represented the colonial face of American power to the Marshallese people. As expressed in Anjain's letter, Conard made little attempt to connect with the Rongelapese on a personal, let alone cultural level over the years. Despite the presence of assigned anthropologists and Peace Corps workers to the islands, Conard failed to respect, let alone understand, the impact the nuclear tests and medical examinations were having upon the Rongelapese and their culture.[140] The Rongelapese were told not to eat coconut crab, but no other warnings were given about the other staples of their island diet, such as arrowroot, pandanas, coconuts, other fish.[141] Conard and the other researchers failed to understand that the

[139] Johnston and Barker, *Consequential Damages of Nuclear War*, 138. For more information about Robert Conard's role as the BNL director, see Johnston and Barker, Consequential Damages of Nuclear War, note 166.
[140] Brookhaven National Laboratory had access to the research of anthropologists studying in the Pacific, including the works of Jack Tobin, who wrote books on his experiences living amongst the Marshallese. In addition, Alexander Spoehr and Leonard Mason also conducted anthropological studies of the Marshallese during the period of nuclear tests. All three of these men wrote about the negative impact the nuclear tests were having upon the Marshallese, from discussing the impact the tests had upon the Marshallese diet to how diaspora disrupted everyday Marshallese life. Following 1958, anthropologists not hired by the U.S. military began to visit the island. Bryon Bender, Nancy Pollock, and Robert Kiste continued anthropological research of the Marshallese into the 1970s. Robert Conard and other BNL doctors and researchers had little excuse; anthropological information about the Marshallese was available, they simply chose to ignore it. For more information about the historiography of the anthropology of the Marshall Islands, see Barker, *Bravo for the Marshallese*, 25-28.
[141] Johnston and Barker, *Consequential Damages of Nuclear War*, 121.

Rongelapese risked starvation if they waited solely for the U.S. resupply ships with prepackaged food. Further, when asked about why arrowroot was making residents sick, Conard asserted that those affected had simply become allergic, assuming that the Rongelapese would be unable to understand how allergies work.[142] Conard and the other doctors likely expected a rise in impotence and miscarriages among the Rongelapese people as a result of radiation exposure and consumption but they did not advocate for re-evacuation from the contaminated islands.[143] Women were allowed to continue having babies without clear knowledge about what was happening to their bodies, and when the miscarriages and birth defects occurred, medical staff denied any connection with radiation exposure. Conard, Brookhaven Laboratory, and the AEC's rampant lack of concern for the worries of the Marshallese is best reflected in a statement Conard made in 1958,

> I found that there was a certain feeling among the Rongelap people that we were doing too many examinations, blood tests, etc. which they do not feel necessary, particularly since we did not treat many of them. Dr. Hicking and I got the people together and explained that we had to carry out all the examinations to be certain they were healthy and only treated those we found something wrong with. I told them they should be happy so little treatment was necessary since so few needed it... etc., etc. Perhaps next trip we should consider giving more treatment or even placebos.[144]

Conard believed that providing placebos instead of honest explanations about the medical problems that the Marshallese people were experiencing was an acceptable treatment. Being

[142] Johnston and Barker, *Consequential Damages of Nuclear War*, 126.

[143] Similar reproductive and health problems appeared among the radium girls of the 20s and 30s. Similar problems arose among researchers at Los Alamos. Workers across the United States participating in the production of nuclear weapons parts at Hanford and Oak Ridge experienced similar problems. Conard and the BNL workers were not unaware of these medical problems due to exposure to radiation; information was not made public, but within the AEC's classified scientific community, journals revealed this troubling reality. The AEC took advantage of a group of people which could be used for long term medical research and chose to prioritize data over human lives. For more information on previous radiation exposures among researchers and workers outside of the Marshallese, see Kate Brown's *Plutopia* and Eileen Welsome's *Plutonium Files*.

[144] Robert Conard to Charles Dunham, 5 June 1958, referenced in Advisory Committee on Human Radiation Experimentation, *Final Report*, 593 https://fowlchicago.files.wordpress.com/2014/02/advisorycommitte00unit.pdf

forthcoming would have required Brookhaven Laboratory, the AEC, and the U.S. military to acknowledge its failure to honor its role as a Trust Territory manager and accept culpability for exposing the Marshallese to radiation in the first place. Conard's patronizing tone in the statement falls in line with the imperial apathy and racism exhibited among others in charge within the AEC and the larger bureaucratic network that made up the Cold War nuclear-military industrial complex. Conard and other BNL medical staff ignored complaints and concerns of the families, and in the process failed to treat the Rongelapese people with the dignity of acknowledging that something new was happening on their island.[145] While assessing the situation in the radiation soaked islands of the Pacific, the ACBM and its representatives asserted not only a non-evacuation policy and conducted more nuclear tests, some congressmen believed that the Marshallese should be grateful to the Brookhaven doctors for "free healthcare and baths."[146]

Pushing Back Against the United States

After almost two decades of Brookhaven medical studies and a continued lack of answers regarding the safety of their islands, the Rongelap community directly expressed their anger to Conard, Brookhaven Laboratory, and the AEC. In a letter dated April 1975 addressed to Conard from Nelson Anjain, the Magistrate of Rongelap at the time, Mr. Anjain wrote,

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[145] Another example of American apathy towards protecting the Marshallese occurred in 1958 during Operation Hardtack. All U.S. military personnel were ordered to receive the polio vaccine, while the Marshallese people were not given it. Former Navy medical officer Dr. James P. Nolan describes in a June 2001 letter to the *New York Times* how the Marshall Islands endured a severe polio outbreak in the late 1950s. In 1963, the annual medical survey team found twenty-two paralytic cases in children and three cases of polio in adults, with one death. Thus, the survey team was not providing treatment for problems that arose on the islands; instead, the team's interest continued to lie in the American medical community's need to understand various illnesses using vulnerable populations. James P. Nolan, "Sad Tales of the Pacific ," *New York Times*, June 18, 2001, p. A22 and Robert A. Conard, *Preliminary Statement of the Medical Surveys of the Rongelap and Utirik People, March 1963, Nine Years After Exposure to Fallout Radiation* (Upton, NY: Brookhaven National Laboratory, 1963).

[146] "Archives Week, Day 5: The Lost JCAE Hearings," Restricted Data: The Nuclear Secrecy Blog, accessed September 24, 2020, http://blog.nuclearsecrecy.com/2011/12/23/archives-week-day-5-the-lost-jcae-hearings/.

> I am writing to you to clarify some of my feelings regarding your continued use of us as research subjects.
>
> I realize now that your entire career is based on our illness. We are far more valuable to you than you are to us. You have never really cared about us as people–only as a group of guinea pigs for your government's bomb research effort. For me and for other people on Rongelap, it is life which matters most. For you it is facts and figures. There is no question about your technical competence, but we often wonder about your humanity. We don't need you and your technological machinery. We want our life and our health. We want to be free.
>
> I'll never forget how you told a newspaper reporter that it was our fault that Lekoj died because we wouldn't let you examine us in early 1972. You seem to forget it is your country and the people you worked for who murdered.
>
> ...I've made some decisions what I want you to know about. The main decision is that we do not want to see you again. We want medical care from doctors who care about us not about collecting information for the U.S. government's war makers.
>
> We want a doctor to live on our island permanently. We don't need medical care when it is convenient for you to visit. We want to be able to see a doctor when we want to. America had been trying to Americanize us by flying flags and using cast-off textbooks. It's about time America gave us the kind of medical care it gives its own citizens.
>
> We've never really trusted you. So we're going to invite doctors from hospitals in Hiroshima to examine us in a caring way.
>
> We no longer want to be under American control. As a representative of the United States, you've convinced us that Americans are out to dominate others, not help them. From now on, we will maintain our neutrality and independence from American power.
>
> There will be some changes made. Next time you try to visit be prepared. Ever since 1972 when we first stood up to you, we've been aware of your motives. Now that we know that there are other people in this world willing to help us, we no longer want you to come to Rongelap.[147]

The Brookhaven team notoriously made the Rongelapese people feel dehumanized and patronized. These types of colonial behaviors have marked many of the interactions between

[147] Nelson Anjain letter to Dr. Robert Conard, April 9, 1975 found in Johnston and Barker, *Consequential Damages of Nuclear War,* 139.

American imperialists and indigenous peoples around the world.[148] Before the 1975 letter by Anjain, the Magistrate of Rongelap, the Marshallese people used songs and other forms of protest to express their anger towards the Americans managing their islands. The Rongelapese song *Lo Rauut* reflects the common experience of being shuffled around from doctor to doctor and the inadequacy of the treatments received. What follows is the song in Marshallese and its translation into English:

> *Lo Rauut*
>
> Rube im kalikar ialin jen Robert non LoRauut
> Bun rokean ko ion to lien wot LoMejenma
> Bun-nineaan ko ion tol lanin im raan dron
> Jen na ubon im ban ke kim jo ro-koen non LaUkokut
> Oh LoTalim ej jutak wot
> Jekdron bwe LaBija ej watch raan im bon
>
> *Mr. Urine*
>
> Show the way from [Dr.] Robert [Conard's] examination room to Mr. Urine [Collector]
> Over the hill to the right is Mr. Eyes [who gets so close to the patients he can almost kiss them]
> Over the hill to the left is Mr. Call Numbers and Names and Assistants (to escort patients to the examination rooms.)
> From the chest to the back is examined by Mr. Spin Around [patients were on rotating equipment.]
> Oh, Mr. Touch [and Examine Internal and External Parts] is at ease while
> Mr. X-ray watches day and night.[149]

[148] Ann Laura Stoler notes that history is often "recursive," meaning that elements and trends often repeat throughout history. These patterns do not necessarily happen in the same way or to the same people. Broad generalizations of these trends can be defined as follows: 1)When exerting influence over another territory and its people, colonists generally hold the attitude that the land is remote, uninhabited, and free to be claimed and thus used to further colonial economic and military interests. 2) Simultaneously, new territories are both perceived as paradoxically uninhabited and also inhabited by peoples who are not making the best use of the occupied land and its resources. 3) This new territory becomes occupied (whether through the consent of the indigenous people or not), through military, political, and/or economic maneuvers. This occupation is viewed as a sign of societal progress and the "civilizing" of an area. Cultural attitudes of difference fuel the marginalization of the indigenous peoples. Apathy, ignorance, and the lack of visibility contribute to this divide. 4) The colonial metropole changes its relationship with its acquired territory. The indigenous peoples are either subsumed into the domain of the U.S. (whether as a state, as a reservation, as a protectorate, or as a military base) or they receive independence. The cultural hegemony of the metropole may still remain. 5) With the colonizing power absent from the territory, the indigenous people begin to live in the "ruins of empire." Stoler, *Duress*, 23.

[149] Collected and translated by Abacca Anjain-Maddison, found in Barker, *Bravo for the Marshallese*, 93.

In her analysis of this song, Barker explains, "In this song, the doctors create a feeling of discomfort by getting too close to the patients, they subject the patients to procedures the people do not understand (the spinning), they examine every square inch of the patients, both inside and out. and they reduce the Rongelapese to a number."[150] In her interviews, interviewees expressed feeling as if the Brookhaven doctors had reduced them to their body parts. The doctor's concerns extended only to their urine, their thyroids, or their corpses, in the case of autopsies. The Rongelapese received U.S. government issued ID cards and were referred to by their numbers, not their names.[151] For a country that had been quick to denounce the heinous crimes of the Nazis at the Nuremburg Trials, the United States proliferated the faux presence of "medical objectivity," failed to obtain informed consent for procedures, and behaved coldly toward afflicted, suffering people.

Re-evacuation From Rongelap: Indefinite Diaspora

After three decades of dealing with the imperial debris of the Pacific Testing ground, the Rongelapese people reached out to Greenpeace, an environmental activist organization, to help them evacuate from their home island. Key U.S. government reports led the community to this decision. An official Defense Nuclear Agency (DNA) 1984 report discussed the Bravo incident and the wind shift that occurred prior to test which ultimately caused the fallout to move toward Rongelap and other Marshall atolls. This report confirmed Rongelapese fears that the AEC knew the wind had shifted toward Rongelap the midnight before the March 1st. The report confirmed the United States was extremely unprepared for the scope of a thermonuclear bomb's fallout

[150] Barker, *Bravo for the Marshallese*, 94.
[151] Barker, *Bravo for the Marshallese*, 94.

patterns.[152] This report's information was further supported by senior weather technician Gene Curbow, who was on Rongerik alongside other American weather monitors; he claims that the wind was blowing towards their station. In the 1984 DNA report, the American weathermen reported changing their clothes from shorts and short-sleeved shirts to clothes that covered their entire body.[153] The weathermen had received more information about the protocols for radiation safety, as primitive as they were in the early 1950s. Thus, through negligence and disregard for the safety of the Marshallese and the American weather monitors on the islands east of Enewetok, the Bravo test was not cancelled.[154] A 1978 Department of Energy report released in 1982 further asserted that Rongelap had received substantial fallout from the Bravo test.[155] This contradicted claims the AEC had been asserting for nearly three decades since the original Bravo test. This report confirmed the fears that the Rongelapese had on a daily basis: their island home was not only deemed unsafe, it has been silently poisoning them for years, and the United States had done nothing except conduct medical surveys. Further, the report showed that the Rongelapese had been lied to when the community was repatriated in 1957. Lemoyo Abon, a schoolteacher, eloquently describes the shockwaves that wracked the Rongelapese community:

> When we learned from the 1982 report that our atoll was still highly contaminated, after all they had told us about it being safe, we were angry. We lost our appetite for food. Really, it just confirmed what we already knew. We knew because most of the time we'd lived there after Bravo we felt something was wrong with our bodies and we ate local foods we'd often get stomach ache. And when we moved around, something would hurt in our stomachs, like an electric shock. We couldn't go on living there. We were terribly afraid for ourselves and our children.[156]

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[152] "Castle Series 1954: United States Atmospheric Nuclear Weapons Test Nuclear Test Personnel Review," 202.
[153] "Castle Series 1954: United States Atmospheric Nuclear Weapons Test Nuclear Test Personnel Review," 217.
[154] Judith Miller, "4 Veterans Suing U.S. Over Exposure in '54 Atom Test," *New York Times*, September 20, 1982, p. B15.
[155] U.S. Department of Energy, *Radiological Survey Plan for the Northern Marshall Islands*, 1972 (released 1982). https://www.osti.gov/opennet/servlets/purl/16380918.pdf
[156] Lemoyo Abon interview with Glenn Alcalay found in Dibblin, *Day of Two Suns*, 66.

After their request for the immediate evacuation from Rongelap was denied by the U.S. government, the Rongelapese turned to the organization Greenpeace. Greenpeace designated 1985 as "The Year of the Pacific." In this spirit, many of the organization's actions were directed at calling attention to American and French nuclear weapons tests in the Pacific.[157] The organization sent its flagship the *Rainbow Warrior* to the Marshall Islands to assist in the relocation of three-hundred and fifty people from Rongelap to Mejatto, a small island located on the western side of Kwajalein Atoll which is home to the U.S. military base. The Rongelapese were tasked with rebuilding their entire way of life on an island that previously was not inhabited. This entailed meticulously tending to new plants in order to grow and provide food and navigating new waters in order to fish for the best seafood possible to support the community's diet.[158]

While living in diaspora, the Rongelapese needed great strength and courage to rebuild their lives and preserve their sense of community. A song written and sung by Rongelapese women encapsulated the forlorn attitudes held by many members of the displaced community:

> Let us give thanks for the good times
> We've had together
> Hello, hello, how are you?
> Hello, hello, from the Women's Fellowship
> The song we sing is to give you peace of mind
> We come from our land, where our hearts belong,
> The place which reminds us of our past
> On Mejato we try to live as we once did on Rongelap
> But we can't forget our home
> And the good times

[157] For their efforts to shed light upon the nuclear tests taking place in the Pacific and the effects these tests were having upon the indigenous Pacific Islanders, Greenpeace was clandestinely attacked by the French government in 1985. French secret service agents planted two bombs upon the Rainbow Warrior, sinking the ship and killing Fernando Pereira, a Portuguese photographer who documented the French nuclear tests. The French government attempted to cover up the bombing and denied involvement in the *Rainbow Warrior's* sinking but were eventually made culpable in 1986. "Nuclear-Free New Zealand," New Zealand History, accessed September 25, 2020, https://nzhistory.govt.nz/politics/nuclear-free-new-zealand/rainbow-warrior and Dibblin, *Day of Two Suns*, 70.
[158] Johnston and Barker, *Consequential Damages of Nuclear War*, 159-160.

We've had together[159]

Holly Barker describes that when some Rongelapese relocated to Mejatto, the atoll lacked "meaningful infrastructure." The Rongelapese were reliant upon aid ships, imported foods, and forced to develop new skills in order to find new jobs.[160] Other Rongelapese chose to move to the island of Ebeye, which is the most populous island of Kwajalein Atoll in the Marshall Islands, that portion of the community faced the cultural shock of urbanization since this island was overcrowded. Relocation made finding housing, amenities, utilities, employment, education, healthcare, and leisure areas very difficult. Older generations lamented being unable to teach younger generations traditional knowledge and skills associated with life on Rongelap such as fishing and agricultural techniques, as well as sharing the rich environmental history of Rongelap and its closest islands.[161] Being forced to rent and live on someone else's land led to a sense that personal independence and self-reliance had been lost. Living on the islands of Majuro, Mejatto, or Ebeye meant and continues to mean not having access to coconut, pandanus, and other natural resources, including marine resources that did not require asking permission to hunt.[162] Over the years since 1985, this has led to food insecurity and has prevented the Rongelapese from using their traditional homeopathic healthcare techniques.[163] When loved ones passed, the Rongelapese were forced to cremate those that died due to overcrowding of burial grounds. This was an uncomfortable solution that ran counter to their religious and spiritual beliefs.[164] According to

[159] Written and sung by Rongelapese women, translated from Marshallese by Roko Laninvelik and Hermy Lang, found in Dibblin, *Day of Two Suns*, 71.
[160] Johnston and Barker, *Consequential Damages of Nuclear War*, 164.
[161] Johnston and Barker, *Consequential Damages of Nuclear War*, 163.
[162] Kwajalein island holds the U.S missile base, Mejatto is where the Rongelapese community relocated in 1985, and Ebeye houses residence for many Marshallese working around Kwajalein at large. "Kwajalein Atoll • Marshall Islands Guide," Marshall Islands Guide, December 15, 2019, https://www.infomarshallislands.com/atolls-a-l/kwajalein-atoll/.
[163] Johnston and Barker, *Consequential Damages of Nuclear War*, 168.
[164] Johnston and Barker, *Consequential Damages of Nuclear War*, 165.

the Rongelapese, the spirits of the dead cannot rest properly unless they are buried on their own land. Despite these problems and challenges that have emerged since relocation, the Marshallese people eventually achieved independence from the United States in 1986 after fifteen years of prior negotiations.

The Compact of Free Association

In 1979, the Marshall Islands separated itself from the rest of the trust territory in order to become a self-governing republic; however, they remained under the colonial control of the United States. Six years later, the Compact of Free Association Act was approved by the U.S. Congress in 1986 which gave the Republic of the Marshall Islands (RMI) independence from the United States. This compact also applied to the Pacific Sovereign states of Palau and Micronesia. With regards to the Marshall Islands, the United States kept its right to maintain its military base on Kwajelein as well as the privilege of continuing to test weapons in the region.[165] Financially, the United States and the Marshall Islands remain closely connected through trade and financial support: annually, the United States provides the Marshall Islands approximately $70 million through fiscal year 2023 and provides other federal grants. The executive branch of the federal government also provides Marshallese citizens access to many programs and services offered through the various federal departments. The U.S. also allows the Marshall Islands to have an embassy in Washington, D.C. and has mutual ambassadors. This Compact has allowed many Marshallese to live and work within the United States and send money to their families remaining on the islands.[166]

[165] Sections 311, 312, 314 of U.S. Department of State, *Compact of Free Association: Agreement Between the United States of America and Micronesia*, 1986. https://www.state.gov/wp-content/uploads/2019/02/04-625-Micronesia-Compact-Amendment.pdf
[166] "U.S. Relations With Marshall Islands - United States Department of State."

In addition to outlining the future relationship between these Pacific islands and the United States, the compact also addressed the beginning discussions on nuclear reparations for the Marshallese. Section 177 of the compact explains,

> The Government of the United States accepts responsibility for compensation owing to the citizens of the Marshall Islands or the Federated States of Micronesia for loss or damage to property and person of the citizens of the Marshall Islands, the Federated States of Micronesia or resulting from the nuclear testing program which the Government of the United States conducted in the Northern Marshall Islands between June 30, 1946 and August 18, 1958.[167]

Further, Section 177 outlined broadly the continued presence of medical surveillance and treatment for certain members of the Marshallese community, based upon specific guidelines. In addition, the United States promised to continue monitoring radiation levels on Bikini Atoll and other affected islands.

To initiate the process of reparations Congress provided $150 million in assistance, which was considered to be a "down payment" to be supplemented by future funding. Money to manage costs for future problems was supposed to be budgeted on an as-needed basis. The RMI has the right to petition the U.S. Congress if its representatives are able to demonstrate that more funds are needed. In addition, Section 177 established the Nuclear Claims Tribunal, a legal body separate from the U.S. judiciary system. The Nuclear Claims Tribunal handles claims associated with personal injury or property damage related to the nuclear tests and their associated problems.[168] However, while the tribunal has previously awarded substantial amounts of money to the inhabitants of Enewetak Atoll, Bikini Atoll, and the "exposed" population of Rongelap, in 2020 the funds have almost run dry. The "unexposed" population of Rongelap and other atolls further away from the detonation site have received disproportionate medical care and financial

[167] Section 177-A of U.S. Department of State, *Compact of Free Association: Agreement Between the United States of America and Micronesia*.
[168] Barker, "From Analysis to Action: Efforts to Address the Nuclear Legacy in the Marshall Islands," 227.

assistance. The “unexposed” population also includes those who have helped with cleanup efforts but have been also exposed to residual, lingering radiation.[169] Overall, many victims have died before they could see their claims fully compensated. Each surviving generation following the nuclear tests faces new problems related to both health and property. The difficulties are further compounded for inhabitants from atolls not within the U.S. government's realm of responsibility.[170]

Picking Up the Pieces: Rebuilding a Home in the Ruins of Empire

Over the course of American history, Americans have partaken in colonialism on micro and macro levels. Interwoven with this history is the pervasive attitude held by Americans that the country's goals, attitudes, and tactics varied distinctly from the behaviors of European imperialists. Narratives of racial difference which poised white Christian Americans as a pure, paternal, and entitled force have been inherited from generation to generation, whether through imagery, rhetoric, and policy. Indigenous populations across North America, the Caribbean, and the Pacific have dealt with generations of built up imperial debris. This debris can be represented in the 21st century by dependency upon the United States for economic or military security, through environmental injustice and bodily burden, or through the pervasive intrusion of American culture.

For the Republic of the Marshall Islands, the United States no longer tests atmospheric nuclear weapons at Bikini and Enewetok Atolls, but the ruins of the old Cold War empire still remain. The Compact of Free Association was renewed in 2003, to be valid for twenty years.

[169] Johnston and Barker, *Consequential Damages*, 237 and Barker, “From Analysis to Action: Efforts to Address the Nuclear Legacy in the Marshall Islands,” 232-233 and
[170] Barker, “From Analysis to Action: Efforts to Address the Nuclear Legacy in the Marshall Islands,” 228.

The United States still uses the military base on Kwajalein as a security presence in the Pacific to safeguard against potential threats, and is now named the Ronald Reagan Test Site.[171] Weapons tests are still conducted, with unarmed missiles launched from California to the RMI.[172] Many members of the Marshallese community have enlisted in the U.S. military or have taken employment on the base. Dependency upon the U.S. for these kinds of jobs has made protests difficult; many residents have lost their jobs for participating in protests or have refrained from expressing political views out of fear of being fired.[173] However, peaceful protest has been a tactic used by the Marshallese to help their voices be heard, through "sail-ins," sit-ins, and strikes since the 1960s.[174]

Health problems related to radiation exposure and poor dietary intake secondary to dependency on imported foods continue to harm Marshallese communities. One of the most pressing radiation related bodily burdens is thyroid cancer. A 2019 *Los Angeles Times* special report on the Marshall Islands outlined how thyroid cancer has disrupted Marshallese cultural practices, including the passing of history through storytelling and songs.[175] Also, many children born in the aftermath of the nuclear tests are coping with developmental disabilities and thus need special services.[176] These problems are compounded by other socio-economic issues such as rising medical costs, lack of affordable housing, and climate change.

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[171] "Reagan Test Site," MIT Lincoln Laboratory, accessed September 25, 2020, https://www.ll.mit.edu/about/facilities/reagan-test-site.
[172] Associated Press, "Unarmed Ballistic Missile Launched from California on Test Flight to Pacific Ocean," KTLA, August 4, 2020, https://ktla.com/news/california/unarmed-ballistic-missile-launched-from-california-on-test-flight-to-pacific-ocean/.
[173] Dibblin, *Day of Two Suns*, 94.
[174] As an example of a type of sit-in the Marshallese partook in as a form of protest, Dibblin instances of sit-ins on Kwajalein, where protesters would come to the lawns of American residents, typically service members, lived on the island or to country clubs used by naval officers and made themselves and their economic situation visible. Dibblin, *Day of Two Suns*, 87-88.
[175] Ali Raj, "In Marshall Islands, Radiation Threatens Tradition of Handing Down Stories By Song," *The Los Angeles Times*, November 10, 2019.
[176] Johnston and Barker, *Consequential Damages of Nuclear War*, 149.

Climate change especially poses one of the most significant threats to the safety and security of the Marshall Islands. Rising sea levels threaten coastal structures and put the amount of island space in danger across the Pacific. However, this crisis is tenfold for the small, low lying atolls of the Marshall Islands. Within the century, the islands will likely become largely uninhabitable, forcing migrations to higher ground. This will further create diaspora within the Marshallese community.[177] In the short term, rising carbon dioxide levels in the oceans causes damage to the coral reef ecosystems near the Marshall Islands. The Marshallese have been dependent upon local seafood for millennia. Not only is toxic nuclear fallout and stored nuclear waste disrupting the ecosystem, the industrial world's carbon footprint also impacts the Marshallese diet, further creating dependency upon imported foods. Though the United States helped to construct a dome cover over Enewetak Atoll's irradiated lagoon in 1980, rising seawater threatens to cause spillover into the ocean. Bikini Atoll, Enewetak Atoll, and Rongelap, and Ailinginae are still actively hot areas that cannot be inhabited. The nuclear waste held underneath Enewetak's dome surpasses the trapped radiation beneath Chernobyl nuclear power plant's sarcophagus in Ukraine and Fukushima in Japan. Ukraine and Japan actively discourage people from visiting the sites of these nuclear disasters, while the Marshallese, still predominately live in relative proximity to the nuclear weapons test site.[178] This crisis not only impacts the Marshallese but also the rest of the world through the spread of fallout in the atmosphere and through the ocean. The Marshallese have tried to rebuild the symbiotic, sustainable society they once knew prior to America's atomic imperialism. However, the burden should not lie solely upon the shoulders of the individual Marshallese person, let alone the RMI

[177] Susanne Rust, "How the U.S. Betrayed the Marshall Islands, Kindling the Next Nuclear Disaster," *The Los Angeles Times*, November 10, 2019.
[178] Susanne Rust, "Radiation in Parts of the Marshall Islands Is Far Higher than Chernobyl, Study Says," *The Los Angeles Times*, July 15, 2019.

government. The DOE and Congress must work together to allocate funds to continue the clean-up efforts before the matter at Bikini Atoll, in particular, erupts once again into a man-made environmental disaster.

Underlying these very practical, very pressing issues, however, lies the need to have access to information. Knowledge is power, and the Marshallese have been kept in the dark for many decades regarding what was happening to their homeland and their bodies throughout the Cold War. The Advisory Committee on Human Radiation Experiments (ACHRE) was established during President Clinton's administration in the 1990s. Its purpose was to enable the American public and other communities such as Native Americans and the Marshallese people to access information regarding the extent to which U.S. government researchers used human subjects in radiation experiments during the Cold War.[179] As Holly Barker explains in many of her published works cited throughout this study, she and other researchers interested in understanding the atomic age now have access to archival materials previously unavailable. This access has helped American downwinders win lawsuits as well as educate the world on the dangers of nuclear weapons on people and their natural living habitats. Also, this archival access granted firsthand glimpses into the pervasiveness of nuclear secrecy throughout every facet of government, military branch, industry, and civilian spaces such as universities, think tanks, and hospitals. These materials revealed, at the time, the enormous monetary cost of maintaining the nuclear military industrial complex. Further, personal letters, committee minutes, and medical documents expose the callous nature of the Cold War–how atomic planners and researchers truly viewed their test subjects and those on the front lines of dealing with the repercussions of

[179] "Advisory Committee on Human Radiation Experiments Final Report," ACHRE Report, accessed September 25, 2020, https://ehss.energy.gov/ohre/roadmap/achre/report.html.

decisions. All this information has helped empower the victims of the Cold War while confirming the many fears they held over the years.

Digitalization of these materials has served as both a blessing and a curse for future researchers interested in studying the Cold War. While 9/11 caused many previously declassified documents to be reclassified, much of the material pertaining to the Marshall Islands nuclear history remains available by the Department of Energy. Researchers such as Holly Barker and Barbara Rose Johnston made use of the Marshall Islands online collection. Their works meticulously provide a URL for each cited document. However, some time in 2013 (or earlier), the Marshall Islands Document Collection was discovered to have been taken down, taking away access to thousands of digitalized military and civilian materials. Thus, the URLs for those documents cited in many previously published books and websites no longer work. While the Department of Energy does have a digital collection containing some of these documents (the DOE OpenNet), the materials are not organized in the manner previously archived, meaning one must manually search for the documents to see if they were transferred. This is an annoying inconvenience. While many of the documents can be found, some cannot, even with the assistance of the *Wayback Machine* website.

Digitalized materials are becoming more common, but the nature of the internet may not be as democratic as one would like to believe. Items can be removed without explanation, access requires access to a stable internet connection, and server costs can become expensive and inherently generate e-waste. However, digitalization also allows access for individuals who cannot bear the travel costs from the Marshall Islands to the U.S. National Archives. However, a global pandemic can prevent access to these documents, also. The information held within these documents provides vital evidence that can be used in litigation and lobbying efforts.

Denying access, removing archives, and the redaction of documents with sensitive, non-personal details is a demonstration of imperial power in a so-called age of decolonization. In the Western world, the written word is often taken at face value over oral history.[180] Archived documents, however, can be as biased and subjective as oral sources. Authors of letters, articles, and memoirs partake in the same kinds of cognitive omissions (memory lapses, lying, stretching the truth) that oral interviews often exhibit experience, whether intentionally or unintentionally. Thankfully, researchers such as Glenn Alcalay, Holly Barker, and Barbara Rose Johnston, labor to help create oral interviews with members of the Marshallese community to provide their side of the Cold War history. This manner of advocacy has created historical archives that exist outside of the "ruins of empire."

In the three decades since the end of the Cold War, historians and anthropologists have studied the impact American imperial activities have had on indigenous populations including the Marshallese. As a response to the growing number of articles, books, interviews, and documentaries talking about "the consequences" of American Cold War past, some researcher and institutions have attempted to minimize the scope of the impact that fallout and human radiation experiments have had on people around the world. Parsons, a scientific historian, and Zaballa, a radiologist, both downplay the pervasiveness of miscarriages within the Marshallese community following the Bravo shot despite overwhelming oral history evidence.[181] Also, they believe that the Marshallese should no longer ask for more money from the United States government to cover healthcare and cleanup costs because they believe the U.S. has paid enough in reparations. Asking for anything further, in their opinion, is greedy. Brookhaven National Laboratory still exists and functions as a scientific laboratory contractor for the U.S. military, but

[180] Abrams, *Oral History Theory*.
[181] Parsons and Robert A. Zaballa, *Bombing the Marshall Islands*, 78-79.

on the institution's "Our History" webpage, its participation in the Cold War, and more specifically its involvement in annual medical surveys of the Marshallese people, is omitted.[182] In 2009, BNL released a statement acknowledging the laboratory's relationship with the AEC and the existence of Robert Conard, with little in depth discussion about his role in maintaining the AEC's nuclear secrets.[183] In 2013, the United States military published an article discussing myths about the Bravo Test and attempted to debunk these myths.[184] Much of the information detailed in this document contradicts information found in primary source materials produced at the time of the shot that were declassified and later removed with the takedown of the digital Marshall Islands Document Collection.

These instances of revisionism attempt to lessen the responsibility the United States owes to the Marshallese. When the United States is considered a colonial /imperial power throughout its history as a country, historical revisionism attempts become less surprising; beyond the context of the Cold War, previous historians have described the United States as exceptional, as anything but an agent of empire building. This is why it is important to connect America's Cold War history to its past colonial legacy. The choices and decisions made by the leading politicians, military officers, scientists, and doctors of the 1950s were not only shaped by the circumstances and pressures of the Cold War; they were acting within a long legacy of inherited values, attitudes, and beliefs. Thus, in the quest to avoid the mistakes of the past and to continue being sensitive to the needs of those affected by America's nuclear-military-industrial complex, everyday Americans and elected officials must confront the consequences of the past and reject policies steeped in continuing America's imperial legacy.

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[182] "Our History," BNL, accessed September 25, 2020, https://www.bnl.gov/about/history/.
[183] "Brookhaven Statement on Marshall Islands," Brookhaven National Laboratory, August 22, 2009, https://www.bnl.gov/newsroom/news.php?a=111002.
[184] Kunkle and Ristvet, *Castle Bravo*.

Works Cited

"About DTRA." Defense Threat Reduction Agency. Accessed March 18, 2020. https://www.dtra.mil/WhoWeAre/.

Abrams, Lynn. *Oral History Theory*. 2nd ed. New York, NY: Routledge, 2016.

Advisory Committee on Biology and Medicine. *Letter from the Advisory Committee on Biology and Medicine to Lewis L. Strauss, Chairman of the U.S. Atomic Energy Commission*. Letter. November 19, 1956.

"Advisory Committee on Human Radiation Experiments Final Report." ACHRE Report. Accessed November 5, 2020. https://fowlchicago.files.wordpress.com/2014/02/advisorycommitte00unit.pdf.

Alcalay, Glenn, and Andrew Fuchs. Atomic Atolls. Accessed March 18, 2020. https://www.atomicatolls.org/about-us.

"Archives Week, Day 5: The Lost JCAE Hearings." Restricted Data: The Nuclear Secrecy Blog. Accessed September 24, 2020. http://blog.nuclearsecrecy.com/2011/12/23/archives-week-day-5-the-lost-jcae-hearings/.

Atomic Energy Commission. *Advisory Committee on Biology and Medicine*, January 14, 1956. https://www.osti.gov/opennet/detail?osti-id=16383814

"Atomic Energy Commission." United States Nuclear Regulatory Commission - Protecting People and the Environment. Accessed March 21, 2020. https://www.nrc.gov/reading-rm/basic-ref/glossary/atomic-energy-commission.html.

"Australia - Oceania :: Marshall Islands." Central Intelligence Agency. Accessed March 4, 2020. https://www.cia.gov/library/publications/the-world-factbook/geos/rm.html.

Barker, Holly M. *Bravo for the Marshallese: Regaining Control in a Post-Nuclear, Post-Colonial World*. Belmont, CA: Wadsworth/Thomson Learning, 2004.

Barker, Holly M. "From Analysis to Action: Efforts to Address the Nuclear Legacy in the Marshall Islands." In *Half-Lives & Half-Truths: Confronting the Radioactive Legacies of the Cold War*, 1st ed., 213–47. Santa Fe, NM: School for Advanced Research Press, 2017.

Barker, Holly R. "Marshall Islands Stand at a New 'Crossroads'..." *Physicians For Social Responsibility* 3, no. 1 & 2 (1996).

Barker, Holly M. "More Like Us Than Mice: Radiation Experiments with Indigenous Peoples." In *Half-Lives & Half-Truths: Confronting the Radioactive Legacies of the Cold War*, 1st ed., 25-54. Santa Fe, NM: School for Advanced Research Press, 2017.

Boggs, Will, and Md. “Chernobyl Fallout Affected Unborn Babies.” Reuters. Thomson Reuters, April 22, 2009. https://www.reuters.com/article/us-chernobyl-babies/chernobyl-fallout-affected-unborn-babies-idUKTRE53L5Y020090422.

Boissoneault, Lorraine. “A Spoonful of Sugar Helps the Radioactive Oatmeal Go Down.” *Smithsonian Magazine*. The Smithsonian, March 8, 2017. https://www.smithsonianmag.com/history/spoonful-sugar-helps-radioactive-oatmeal-go-down-180962424/.

“Bombings of Hiroshima and Nagasaki - 1945.” Atomic Heritage Foundation, June 5, 2014. https://www.atomicheritage.org/history/bombings-hiroshima-and-nagasaki-1945.

Boyer, Paul. *By the Bomb's Early Light: American Thought and Culture at the Dawn of the Atomic Age*. The University of North Carolina Press, 1994.

“Brief History of the Department of Energy.” Department of Energy. Accessed March 21, 2020. https://www.energy.gov/management/office-management/operational-management/history/brief-history-department-energy.

Brodie, Janet Farrell. “Radiation Secrecy and Censorship after Hiroshima and Nagasaki.” *Journal of Social History* 48, no. 4 (2015): 842–64.

“Brookhaven Statement on Marshall Islands.” Brookhaven National Laboratory, August 22, 2009. https://www.bnl.gov/newsroom/news.php?a=111002.

Brown, Kate. *Plutopia: Nuclear Families, Atomic Cities, and the Great Soviet and American Plutonium Disasters*. Oxford: Oxford University Press, 2015.

Brubaker, Rogers. *Grounds For Difference*. Cambridge, MA: Harvard University Press, 2017.

Camacho, Keith L. *Cultures of Commemoration: The Politics of War, Memory, and History in the Mariana Islands*. Honolulu, HI: University of Hawai'i Press, 2011.

“Castle Bravo.” Atomic Heritage Foundation, March 1, 2017. https://www.atomicheritage.org/history/castle-bravo.

Castle Series 1954: United States Atmospheric Nuclear Weapons Test Nuclear Test Personnel Review. Accessed December 9, 2020. https://www.osti.gov/opennet/servlets/purl/16380885-g1vuWf/16380885.pdf.

Conard, Robert A. *Robert Conard to Charles Dunham*. Letter. June 5, 1958.

Conard, Robert A. *Preliminary Statement of the Medical Surveys of the Rongelap and Utirik People, March 1963, Nine Years After Exposure to Fallout Radiation*. Upton, NY: Brookhaven National Laboratory, 1963.

Cordell, John. *A Sea of Small Boats*. Cultural Survival Report. Cambridge, Mass: Cultural Survival, 1989.

Cronkite, E. Pitcher., Associated Universities, I., U.S. Atomic Energy Commission., Brookhaven National Laboratory. (1955). *Twelve-month postexposure survey on Marshallese exposed to fallout radiation.* Upton, N.Y.: Brookhaven National Laboratory.

Currie, Ruth Douglas. *Kwajalein Atoll, the Marshal Islands and American Policy in the Pacific*. Jefferson, NC: McFarland & Company Inc., 2016.

Dibblin, Jane. *Day of Two Suns: U.S. Nuclear Testing and the Pacific Islanders*. New York, NY: New Amsterdam Books, 1988.

Dunbar-Ortiz, Roxanne. *An Indigenous Peoples' History of the United States*. Boston, MA: Beacon Press, 2014.

"Earth's Atmosphere: A Multi-Layered Cake – Climate Change: Vital Signs of the Planet." NASA. NASA, October 16, 2019. https://climate.nasa.gov/news/2919/earths-atmosphere-a-multi-layered-cake/.

Elbert D. Thomas. *Letter from Elbert D. Thomas, high commissioner of the Trust Territory of the Pacific Islands, to James P. Davis, director of the Office of Territories at the U.S. Department of Interior*. Letter. February 2, 1953.

Freedman, Lawrence D. "Encyclopedia Britannica." In *Encyclopedia Britannica*, July 19, 2019. https://www.britannica.com/event/Nuclear-Test-Ban-Treaty.

Glueck, Katie. "Cruz Pledges Relentless Bombing to Destroy ISIL." POLITICO, December 5, 2015. https://www.politico.com/story/2015/12/cruz-isil-bombing-216454.

Greenberg, Amy S. *Manifest Manhood and the Antebellum American Empire*. New York, NY: Cambridge University Press, 2005.

Hau'ofa, Epeli. "Pasts to Remember." In *We Are the Ocean: Selected Works*, 60–79. Honolulu, HI: University of Hawai'i Press, 2008.

Heslin, Alison. "Climate Migration and Cultural Preservation: The Case of the Marshallese Diaspora." In *Loss and Damage from Climate Change: Concepts, Methods and Policy Options*, 383–91. Springer, 2019.

"History of the Applied Fisheries Laboratory.":::: Donaldson (Lauren R.) Collection of Northern Pacific Ocean Radiological Surveys, 1946-1964 ::: Accessed November 4, 2020. https://content.lib.washington.edu/donaldsonweb/history.html.

"Hydrogen Bomb - 1950." Atomic Heritage Foundation, June 19, 2014. https://www.atomicheritage.org/history/hydrogen-bomb-1950.

Jefferson, Thomas. Thomas Jefferson to James Madison, April 27, 1809. https://www.loc.gov/exhibits/jefferson/149.html

Johnston, Barbara Rose. "Half-Lives, Half-Truths, and Other Radioactive Legacies of the Cold War." In *Half-Lives, Half-Truths, and Other Radioactive Legacies of the Cold War*, 1st ed., 1–23. Santa Fe, NM: School for Advanced Research Press, 2007.

Johnston, Barbara Rose, and Holly M. Barker. *Consequential Damages of Nuclear War: The Rongelap Report*. New York, NY: Routledge, 2017.

Krieger, Herbert W. *Island Peoples of the Western Pacific, Micronesia and Melanesia no. 16*. The Smithsonian Institution, 1943. https://library.si.edu/digital-library/book/islandpeoplesofw16krie

"Knox, Frank." Naval History and Heritage Command. Accessed May 26, 2020. https://www.history.navy.mil/our-collections/photography/us-people/k/knox-frank.html.

Kunkle, Thomas and Ristvet, Byron. *Castle Bravo: Fifty Years of Legend and Lore a Guide to Off-Site Radiation Exposures* (Kirkland, NM: Defense Threat Reduction Agency, 2013).

Kurashige, Lon. *Two Faces of Exclusion: The Untold History of Anti-Asian Racism in the United States*. Chapel Hill, NC: University of North Carolina Press, 2016.

"Kwajalein Atoll • Marshall Islands Guide." Marshall Islands Guide, December 15, 2019. https://www.infomarshallislands.com/atolls-a-l/kwajalein-atoll/.

"Leslie R. Groves." Atomic Heritage Foundation. Accessed September 16, 2020. https://www.atomicheritage.org/profile/leslie-r-groves.

Lipset, Seymour Martin. *American Exceptionalism: A Double-Edged Sword*. New York: W.W. Norton, 1996.

"Marshall Islands." Atomic Heritage Foundation. Accessed September 21, 2020. https://www.atomicheritage.org/location/marshall-islands.

"Marshall Islands." Pacific RISA - Managing Climate Risk in the Pacific, August 1, 2018. https://www.pacificrisa.org/places/republic-of-the-marshall-islands/.

McGee, William L., and Sandra V. McGee. *Operation Crossroads - Lest We Forget: An Eyewitness Account Bikini Atomic Tests 1946*. Tiburon, CA: BMC Publications, 2016.

Miller, Judith. "4 Veterans Suing U.S. Over Exposure in '54 Atom Test." *New York Times*, September 20, 1982.

"National Security Act of 1947." U.S. Department of State. U.S. Department of State. Accessed October 28, 2020. https://2001-2009.state.gov/r/pa/ho/time/cwr/17603.htm.

Nolan, James P. "Sad Tales of the Pacific." *New York Times*, June 18, 2001.

"Nuclear-Free New Zealand." New Zealand History. Accessed September 25, 2020. https://nzhistory.govt.nz/politics/nuclear-free-new-zealand/rainbow-warrior.

Nugent, Walter. *Habits of Empire: A History of American Expansion*. New York, NY: Vintage Books, 2009.

"Our History." BNL. Accessed September 25, 2020. https://www.bnl.gov/about/history/.

"Overview: Trust Territory." Oxford Reference. Oxford University Press, 2020. https://www.oxfordreference.com/view/10.1093/oi/authority.20110803105944449.

Parsons, Keith M., and Robert A. Zaballa. *Bombing the Marshall Islands: A Cold War Tragedy*. Cambridge, United Kingdom: Cambridge University Press, 2017.

Press, Associated. "Unarmed Ballistic Missile Launched from California on Test Flight to Pacific Ocean." KTLA, August 4, 2020. https://ktla.com/news/california/unarmed-ballistic-missile-launched-from-california-on-test-flight-to-pacific-ocean/.

"Radionuclide Basics: Cesium-137." EPA. Environmental Protection Agency, May 4, 2017. https://www.epa.gov/radiation/radionuclide-basics-cesium-137.

"Radionuclide Basics: Strontium-90." EPA. Environmental Protection Agency, August 8, 2017. https://www.epa.gov/radiation/radionuclide-basics-strontium-90.

Raj, Ali. "In Marshall Islands, Radiation Threatens Tradition of Handing Down Stories By Song." *The Los Angeles Times*, November 10, 2019.

Rust, Susanne. "How the U.S. Betrayed the Marshall Islands, Kindling the Next Nuclear Disaster." *The Los Angeles Times*, November 10, 2019.

Rust, Susanne. "Radiation in Parts of the Marshall Islands Is Far Higher than Chernobyl, Study Says." *The Los Angeles Times*, July 15, 2019.

Sanger, David E. “Trump Budget Calls for New Nuclear Warheads and 2 Types of Missiles.” *The New York Times*, February 10, 2020. https://www.nytimes.com/2020/02/10/us/politics/trump-budget-nuclear-missiles.html.

Shermer, Michael, and Alex Grobman. *Denying History: Who Says the Holocaust Never Happened and Why Do They Say It?* Berkeley: University of California Press, 2009.

“Stafford L. Warren.” Atomic Heritage Foundation, June 19, 1896. https://www.atomicheritage.org/profile/stafford-l-warren.

Stoler, Ann Laura. *Duress: Imperial Durabilities in Our Times*. Durham and London: Duke University Press, 2016.

U.S. Department of Energy. *Radiological Survey Plan for the Northern Marshall Islands*. 1978 (released 1982). https://www.osti.gov/opennet/servlets/purl/16380918.pdf

U.S. Department of the State. *Compact of Free Association: Agreement Between the United States of America and Micronesia.* 1986. https://www.state.gov/wp-content/uploads/2019/02/04-625-Micronesia-Compact-Amendment.pdf

“U.S. Relations With Marshall Islands.” U.S. Department of State, January 15, 2018. https://www.state.gov/u-s-relations-with-marshall-islands.

Warren, Stafford. “The Role of Radiology in the Development of the Atomic Bomb.” Essay. In *Radiology in World War II*, 831–921. Washington DC.: Office of the Surgeon General. Department of the Army, 1966.

Weisgall, Johnathan M. *Operation Crossroads: The Atomic Tests at Bikini Atoll*. Annapolis, MD: Naval Institute Press, 1994.

Welsome, Eileen. *The Plutonium Files: America's Secret Medical Experiments in the Cold War*. New York: Delta, 1999.

“‘The White Man's Burden’: Kipling's Hymn to U.S. Imperialism.” HISTORY MATTERS - The U.S. Survey Course on the Web. Accessed May 29, 2020. http://historymatters.gmu.edu/d/5478/.