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## Invisible Spaces, Violent Places: Cold War Nuclear and Militarized Landscapes

Valerie Kuletz

The greatest irony of our atmospheric nuclear testing program is that the only victims of United States arms since WWII have been our own people.

U.S. congressional investigators of the Atomic Energy Commission<sup>1</sup>

The radiation has caused Shoshone, Ute, Navajo, Hopi, Paiute, Havasupai, Hualapai and other downwind communities to suffer from cancer, thyroid diseases and birth defects. We are now the most bombed nation in the world.

Chief Raymond Yowell, Western Shoshone<sup>2</sup>

In 1998, at a time when the Western world imagined that it was approaching a sustainable comprehensive ban on the testing of nuclear weapons, it was confronted with the bold and unapologetic governments of India and Pakistan asserting their nuclear capabilities with multiple displays of violence in the form of nuclear bomb tests. As the first world responded with anger and incredulity, only the alternative press reported that Indian villagers showed signs of radiation sickness such as vomiting, nose bleeds, irritation to skin and eyes, as well as other symptoms of contamination (Reuters, 1998).<sup>3</sup> Most international press reports did not re-

1. A statement made by congressional investigators, under the Carter administration, of the Atomic Energy Commission's operational records, 1978 (Schneider, foreword to Gallagher 1993). While this is a revealing statement about the U.S. nuclear testing program, it is important to remember that the United States used the Marshall Islands in the South Pacific until the 1950s when it moved its nuclear testing program to the on-continent site of Nevada. Those who were indigenous to the Marshall Islands (and who were removed from their homelands) constitute some of the first post-World War II victims of nuclear weapons.

2. Cited in Taliman 1994.

3. This information was reported by Reuters, May 17, 1998, for New Delhi (although not generally picked up by other media sources). The information was disseminated by nuclear watch activists throughout the world via e-mail. These particular reports were obtained



veal that some Indian villages in the western state of Rajasthan (such as Khetolai) were less than 5 kilometers from the blast sites. These places and their inhabitants were invisible to the world beyond their local boundaries.<sup>4</sup>

The effects, the costs, and the consequences of “nuclearism” are not easily seen if viewed only from the core powers, from the urban centers of power.<sup>5</sup> In the United States, Southern Paiutes and Western Shoshone settlements encircle the Nevada Nuclear Test Site, and Pueblo and Navajo Indians (among others) live in U.S. uranium mining regions. Like the Rajasthan villagers, these are marginalized peoples whose bodies bear witness to “nuclearism.”<sup>6</sup> In the shadow of powerful defense and energy programs, which are themselves often violent concerns, exist local, rural, often indigenous people who experience (because they are simply in the way) the very real violence of the state.<sup>7</sup> These are the incidental victims of the power wars between nuclear states. How do we talk about violence when it is neither seen nor acknowledged?

The state-sanctioned violence to the environment and people in the vicinity of nuclear and militarized landscapes is seriously underreported in literature that purports to address environmental and social degradation and crises. This chapter attempts to direct attention to nuclear and non-instrumental military violence, especially in the forms of nuclear testing and the contamination problems inherent in the transport and burial of nu-

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from Kate Dewes, New Zealand representative for “Women for a Nuclear Free and Independent Pacific, Australia International Peace Bureau, Oceania.”

4. Khetolai is in the Pokharan district, 550 kilometers southwest of New Delhi. Residents were ordered to evacuate their homes less than 3 hours before the explosions, which were conducted on May 14, 1998. Villagers and people in the settlements were not told that atomic weapons were being detonated, only that they needed to evacuate because the army was conducting artillery practice. Other villages in the vicinity (15 to 30 kilometers from the test site) included Dholiya, Loharki, Latmi, and Bhadriyo. All together, at least seven villages are in India’s “Alpha Firing Range” in the Pokhran district. This desert region is characterized by its strong prevailing winds, which blow surface sands throughout the area. The nuclear explosions forced a large mound of earth to rise into the air, causing a thick blanket of dust that enveloped nearby villages.

5. “Nuclearism” in this chapter refers to various aspects of nuclear activity, particularly production and testing of nuclear weapons, production of nuclear power, and the storage of nuclear waste from both production projects (the making of energy and bombs). “Nuclearism” here does not necessarily refer to the use of radionuclides in medicine because this constitutes only approximately 1 percent of the nuclear waste stream.

6. This chapter emphasizes the U.S. environment, but marginalized peoples who are subject to “nuclearism” are found in many areas of the world: Tahiti, the Marshall Islands, Kazakhstan, Taiwan, Tibet, Africa, Canada, and Australia as well as elsewhere.

7. I make special reference to “indigenous” peoples because they experience “nuclearism” (in the form of production, processing, uranium mining, testing, and waste storage) more than other groups. However, nonindigenous people also are subjected to radioactive contamination of various kinds, as the white residents of Nevada, Utah, and other rural “downwind” states can attest.

clear waste. Because such activities are legitimated as government or state-sanctioned corporate enterprises and because they are utilitarian and rationalized forms of violence, the burial of nuclear waste and the testing of nuclear and “conventional” weapons often go unrecognized as violent acts. However, fallout from nuclear tests, the incineration of chemical weapons materials, radiation released in the environment from nuclear waste, and heavily militarized regions pose profoundly important and sometimes intractable problems. This type of environmental violence, therefore, must assume greater prominence in the literature on sustainability.

This chapter provides a brief discussion of nuclear colonialism, with particular emphasis on the United States, because it is the historical and contemporary context for understanding this form of violence. I then focus on one particular U.S. region in which “nuclearism” is concentrated. This is the case study of “the Bull’s Eye”—a Department of Defense proposal to integrate the U.S. Southwest’s weapons test and training ranges into one massive testing theater. At the center of the Bull’s Eye lie the Nevada Test Site (NTS), Yucca Mountain, Nellis Air Force Base, and China Lake Weapons Center.<sup>8</sup> In my discussion of the Bull’s Eye region, I investigate the invisibility of such large-scale environmental violence and the mechanisms by which the violence of sacrificial landscapes continues to affect disempowered populations. In the process I examine those populations and their relationships with the landscapes in question. Finally, I consider the issue of “nuclearism” as a form of development against the backdrop of nuclear colonialism. Here I identify the enterprises that wish to “develop” nuclear waste dumps on land already viewed as contaminated by nuclear testing, processing, or production, by uranium mining, or by nonnuclear military activities.

### **Nuclear Colonialism**

During the second half of the twentieth century throughout the world, Cold War nuclear weapons testing programs, with their requisite plutonium production facilities, brought into being a variety of landscapes sacrificed to “national security.” In the United States this occurred, for example, at the Hanford plutonium production plant in rural Washington and the nuclear weapons laboratories across the country. The most prominent U.S. landscape of sacrifice, however, is the NTS where—from 1952 to

8. The Nevada Test Site is the testing range for U.S. nuclear weapons. Nellis Air Force base is a military training and testing range; China Lake is a research, development, and testing center for nonnuclear weapons; and Yucca Mountain is the proposed repository site for 70,000 tons of both temporary and permanent high-level nuclear waste.

1992—the U.S. government has officially detonated 928 nuclear bombs (and numerous “secret” nuclear blasts outside its borders).<sup>9</sup> In the Soviet Union (as noted by Garb, this volume) Kazakhstan, Chelyabinsk, and the cities of Tomsk and Krasnoyarsk in Siberia (among other places) served similar purposes. Until 1963 England used western Australian aboriginal land,<sup>10</sup> and until as recently as 1996 France used Moruroa and Fangataufa atolls in the Tuamotu Archipelago (French Polynesia) for their nuclear weapons testing programs.

All the places used for nuclear testing (and some used for plutonium production and manufacture) were originally inhabited or used by indigenous peoples (or, as Garb notes in this book, in the case of the Soviet Union, by minority ethnic groups). Hence, Fourth World peoples recognized nuclear colonialism early on. This new form of colonialism linked indigenous peoples to the brave new world of the *transuranic elements*,<sup>11</sup> which invade not only traditional landscapes but also the bodies of their local inhabitants.

Adding the term “nuclear” to “colonialism” is a way of seeing how colonialism has maintained itself or transmogrified in the late twentieth/early twenty-first centuries—a period supposedly marked by decolonization. For colonized indigenous peoples, whether they be internally or externally colonized,<sup>12</sup> adding the term “nuclear” is a way of signifying late twentieth-century genocide (Kuletz 1998).<sup>13</sup> Radioisotopes can destroy the reproductive capacity of humans who come in contact with them and consequently are seen as a form of intergenerational violence (and thus genocide). As Grace Thorpe, tribal judge and health commissioner for the Sauk and Fox Nation of Oklahoma, put it: “It [radioactive waste] is a form of genocide because of the harm it can do to the genes and the reproduction of our people. It’s a very very important issue to us.”<sup>14</sup>

9. Today some areas of the test site are contaminated by tritium 3,000 times in excess of safe drinking water standards.

10. The British also conducted tests of hydrogen bombs at Christmas and Malden Islands in 1957 and 1958.

11. The transuranic elements are all human-made elements, such as plutonium, that appear on the periodic table of elements after uranium.

12. It is important to recognize that colonization can happen both internally and externally to the colonizing power. Because people often think of colonization in terms of a colonizing state asserting power in faraway places, those who have been internally colonized, such as American Indians, often get ignored in the literature of colonialism.

13. The accusation of genocide by radiation contamination was a persistent theme in many—if not most—of my interviews with Native Americans in the southwest United States. This view also is held by indigenous peoples in other colonized regions used for nuclear testing in other parts of the world such as in Polynesia, Micronesia, Australia, and Kazakhstan.

14. This statement by Grace Thorpe appears in “Wasteland,” a video produced by the Nuclear Free Indian Lands Project / National Environmental Coalition of Native Americans.

Nuclear waste dumps and nuclear testing are usually placed in large, sparsely populated open spaces. Scientific and military collaborations for the creation of both weapons and waste in landscapes of vastness, such as oceans and deserts, are an important aspect of a late twentieth-century colonialism that has threads reaching back into earlier periods of colonial empire-building. In the United States, for instance, Native American communities mostly inhabit the uranium mining regions. The lands that surround the NTS, Los Alamos National Laboratory, and Sandia National Laboratory<sup>15</sup> lie within “Indian Country” (parts of the U.S. Southwest), where more land-based Native Americans are concentrated than any other region in North America.<sup>16</sup> Indian Country also encompasses the five great North American deserts: the Great Basin, Mojave, Sonoran, Navajoan, and Chihuahuan deserts. Desert regions, and the people who inhabit them, are often viewed by those who do not live in them (particularly industrial and governmental representatives) as peripheral zones to larger urban centers. These regions (and the people who live in them) also are often perceived as economically unproductive. Consequently, over the past fifty years in the United States, these particular desert regions have been transformed into one of the largest militarized landscapes in the world. The combination of military occupation and nuclear activities superimposed on traditional<sup>17</sup> and contemporary native land renders these regions (unofficial) internal colonial territories.<sup>18</sup>

Of the many forms of environmental violence in the world today, the violence of nuclear and militarized landscapes is one of the most extreme. Yet it is strangely invisible to most people. The hidden centers (the Depart-

15. The NTS, Los Alamos, and Sandia National Laboratories are all part of the U.S. nuclear weapons complex.

16. The term “land-based Native Americans” refers to nonurban native occupation on reservation land but also land owned by native people in the forms of settlements, colonies, allotment areas, *rancherias*, and villages.

17. Traditional native land here refers to lands that are claimed by particular Indian groups to be aboriginal territories in which they lived, hunted, migrated, and so forth prior to those lands being appropriated by Euro-Americans. For the Western Shoshone this is a good portion of the state of Nevada and parts of eastern California. The important point about traditional land for a nomadic group like the Western Shoshone is that this larger territory allows self-sufficient survival. This landscape includes mountain ranges and desert valleys, both of which were essential for survival in an environment like the Great Basin. (They needed the high mountains in the hot summers and then the low deserts in the cold winters.) Much of this particular land has been taken for military war game and weapons testing purposes. The indigenous settlements thus surround the military regions because the Indians used that land prior to appropriation by the United States.

18. The historical construction of the United States as a nation state out of land previously and simultaneously inhabited by native groups obviously produced countless struggles over both Indian territory and identity. Native history and pre-history in the region of the Bull’s Eye, for instance, includes relocated tribes as well as tribes that have lived in the area for more than 12,000 years.



ment of Defense and the Department of Energy) that create and sustain these landscapes of violence ensure their power by maintaining a low public profile and a high insider's (government) profile. The operations of power located in the desert are not centralized but form a dispersed web of power. Those caught within this web of power see and experience the violence done to these landscapes. But they are themselves invisible—for different reasons. They are invisible because they lack power. However, when the nuclear landscape is superimposed on such formally or informally enclosed native spaces, the collective native memory of colonization and genocide reemerges with force and conviction, as the statement by Grace Thorpe attests.

Mechanisms of denial used by the nuclear industry and by government scientists and bureaucrats to obscure twentieth-century nuclear colonialism include (1) denying the harm done to the land and its people by downplaying the extent and consequences of lethal pollutions, (2) legitimating the use of particular regions for weapons testing, waste disposal, and war practice by representing the region as unproductive, useless, and a wasteland, (3) both ignoring and denying the existence of indigenous occupation and use of the land, (4) discrediting knowledge of pollution by local inhabitants, and (5) masking as a form of development use of the land for unrehabilitative practices, such as the "containment" of radionuclides in the form of nuclear waste. While such mechanisms of denial are not new, the toxic materials they seek to obscure are themselves so new to this earth as to defy familiar characterization.

The transuranic elements contain unique properties that lead to complex and problematic containment strategies. Transuranic elements are so unlike anything else that they are in a category of matter all their own. First, they do not exist "naturally" of this earth but are produced by the human splitting of the atom. In this sense (and not an essentialist sense), they are wholly "unnatural."<sup>19</sup> Second, this resource/waste (for it is both)<sup>20</sup> is a commodity/problem with the ability to alter the biological genetic structure of all living things, to mutate cells and cellular growth, to pro-

19. An essentialist sense of "the natural" posits a fundamental order to nature such that anything outside this order is "unnatural." A nonessentialist view of nature understands that what we see as "natural" is often socially constructed, which does not make it an abomination to the "natural" order of things. Much of nature is influenced and constructed by humans and can still be characterized as natural. The unnaturalness of the transuranic elements only refers to the fact that they—as elements—could never exist without human intervention.

20. The transuranic elements can be a "resource" because they are necessary for the production of nuclear energy (within a nuclear power plant). Because the transuranic elements (such as plutonium) are not completely "used up" in the production process, they also become waste. In fact they are made more toxic during the production process and therefore end up as an especially problematic waste.

duce energy in ways that it can power or obliterate whole cities. As such the transuranic elements' power is monumental. Their presence has forever changed our relationship with this planet, including our relationship with other humans and species living here. It is modern, or even postmodern, nature at its most spectacular and dangerous, and it is inextricably woven into the shroud of global governance as "security." The transuranic elements constitute the remnants of Cold War state power that, as waste, remain forever hot.

In sum, nuclear colonialism in the United States constitutes a peculiar sort of environmental violence deriving from its manifestation in vast desert areas, its association with the military, its execution in areas primarily occupied and used by indigenous groups and some marginalized non-indigines, and its deployment of transuranic materials, which have complex and unique characteristics.

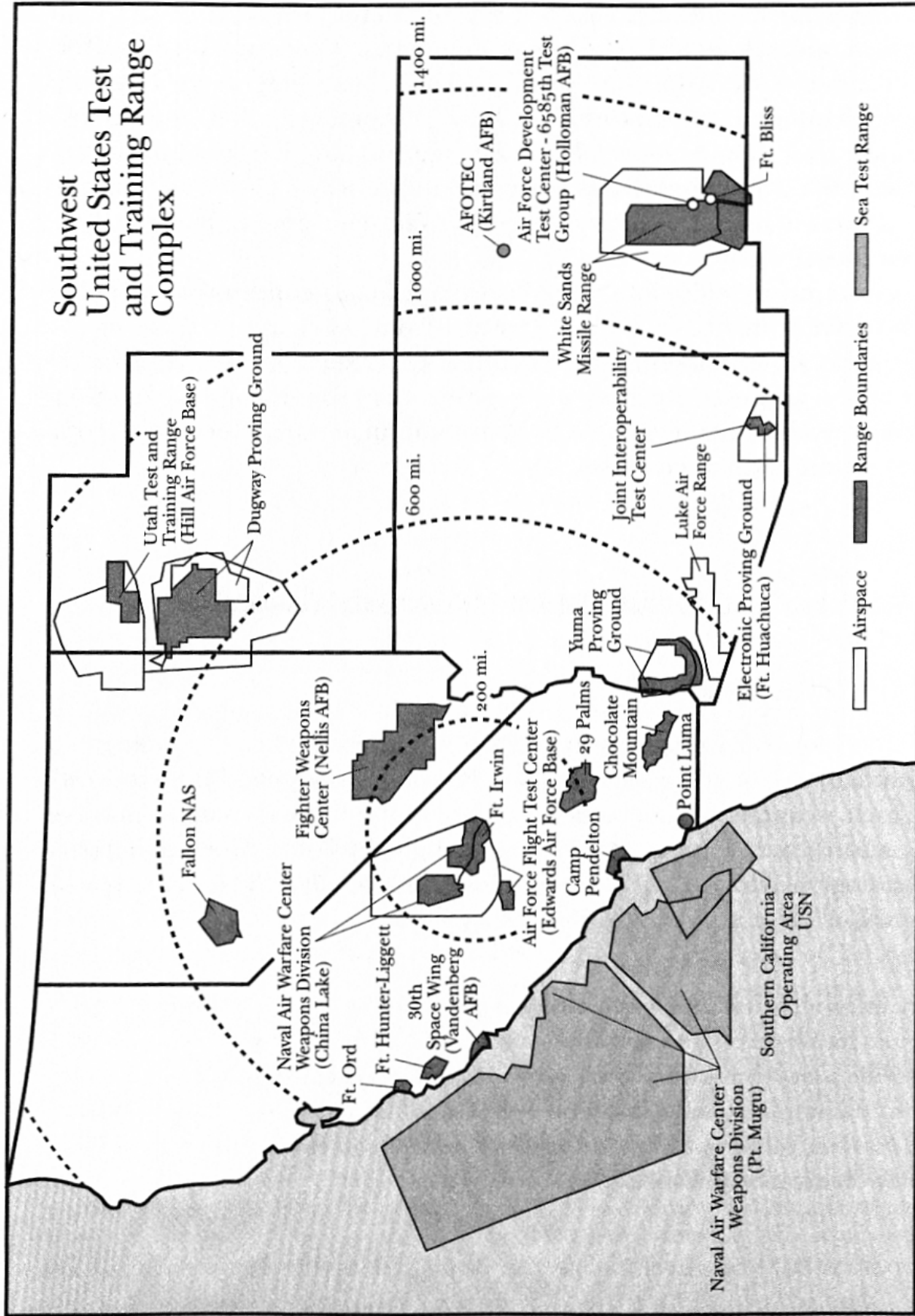
### **The "Bull's Eye": A U.S. Case Study of Environmental Violence and Invisibility**

#### The Scale of Operations

The Bull's Eye is an organizational plan first presented to the military establishment in 1993 by General Colin Powell to integrate the Southwest's high-tech weapons testing and evaluation centers into a single, massive, war-game theater for the twenty-first century (Aviation Week and Space Technology [AWST] 1994). General Powell succinctly describes the reason for the Bull's Eye in the following passage:

An integrated test and evaluation range structure linking existing ranges across six Western states and supersonic areas off the California coast would provide a land, airspace and sea area to accommodate a large portion of our joint training, test and evaluation needs well into the next century. (*Report on the Roles, Missions, and the Armed Forces of the United States*, Chairman of the Joint Chiefs of Staff, February 1993)

Separate but not unrelated to the Bull's Eye is the Department of Energy's plan to reconfigure the U.S. nuclear weapons complex into a new and improved assembly of weapons research. Initially named "Complex 21" (for the twenty-first century), and later—for public relations purposes—renamed "Stockpile Stewardship," the nuclear weapons complex also appears to be reassembling in the U.S. Southwest. Placing these complexes together makes the Southwestern United States one of the



**Figure 10.1** The Bull's Eye. Southwest United States Test and Training Range Complex. Courtesy of the Department of Defense.

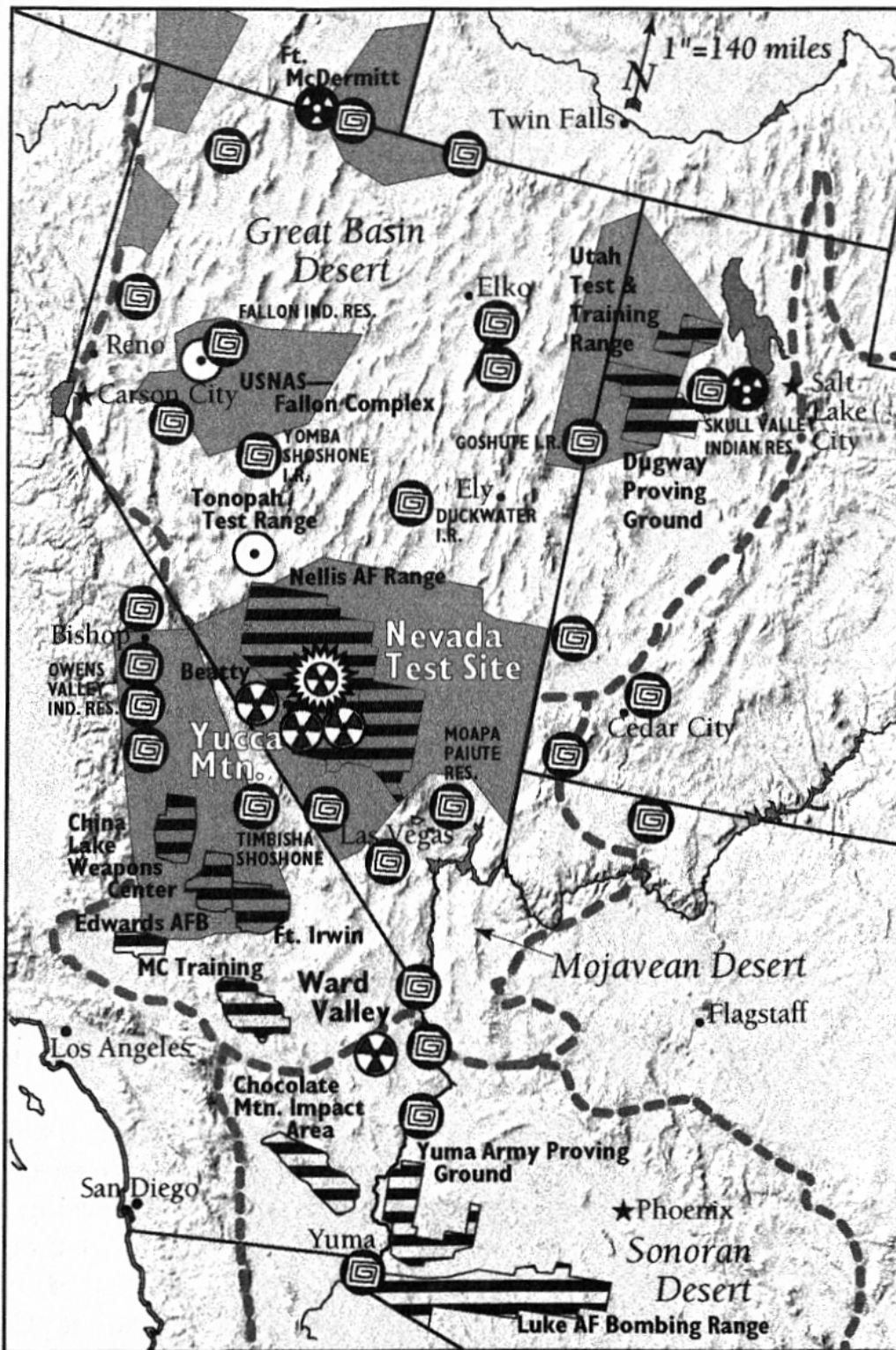
most militarized and violent landscapes on the earth. This web of power is a stunning show of strength and potential violence. It also is a spectacular reconfiguration of western space. Yet hardly anyone in the general public has taken notice of this momentous transformation except small groups of government watchdogs<sup>21</sup> and the local inhabitants of the West's desert regions, including the many indigenous peoples concentrated in this part of the nation. The invisibility of the landscape to non-locals and the invisible dangers of the radioactive contaminants in the region are magnified by the profound secrecy surrounding these massive militarized zones.

The *scale* of these secret operations in the desert can only be appreciated by adding up the acreage of ground and air space devoted to weapons and war game activities. Adjacent to the NTS, Nellis Air Force Test and Training Center occupies three million acres; China Lake occupies one million acres; NTS covers one million acres. Airspace above these military reservations and testing ranges is as much as twice the size of their land space. Together, the installations and training and testing arenas constitute a monumental consortium of military and nuclear power in the desert. (See Figure 10.2) This power can be deployed to summon enough force to control and threaten on a global scale. Its power stands in marked contrast to that of the small Indian tribes and relatively powerless communities within its sphere of control. Inextricably intertwined with science and technology, the weapons complex has turned the landscape into a vast weapons laboratory, a "technoscape" of violence. The cloak of scientific legitimacy makes the many violent practices within this landscape invisible, because high-tech science—even deployed for the development of weapons—is represented as objective.

The center of the Bull's Eye comprises three zones of immense violence and power. On its west is China Lake—the site of Gulf War weapons mastery and almost half a century of weapons research and development. This place was the site of the creation of over 75 percent of the "free world's" airborne weapons up to the late 1960s and 40 percent of the entire world's conventional weapons (China Lake Naval Weapons Center 1968). To the south of Death Valley are Edwards Air Force Test Center, Fort Irwin army base, and Twenty-Nine Palms Marine war game theater, as well as Ward Valley, a contested site for multiple state radioactive waste

21. In addition to indigenous groups, such as Citizen Alert Native American Project, a variety of persistent watchdog organizations monitor military activity in the desert. Interesting reports have been produced by Citizen Alert, the Rural Alliance for Military Accountability (RAMA) (based in Nevada), and the Progressive Alliance for Community Empowerment, Concerned Citizens for Nuclear Safety (based in New Mexico), among many others.





**Figure 10.2** Detail of the Bull's Eye. Shaded areas here designate military air space and military operations areas. Such areas extend the zone of military occupation far beyond land holdings. Striped areas are Department of Defense and/or Department of Energy installations. Radiation signs indicate nuclear explosions, radioactive waste dumps, or nuclear research operations. The spirals indicate Native American reservations and colonies within the militarized zone. (Kuletz 1998. Map information compiled by Valerie Kuletz; cartography by Jared Dawson.)

dumping.<sup>22</sup> To the east is the most violently constructed/destroyed landscape in the United States and perhaps the world—Nellis Air Force base’s “Fighter Weapons Center,” the NTS, as well as Yucca Mountain. The NTS has been used for nearly 1,000 nuclear bomb blasts and numerous radiation dump sites. Yucca Mountain is the proposed home to 70,000 tons of high-level nuclear waste and a national monitored retrievable storage site for high-level nuclear waste.<sup>23</sup> These sites constitute only the center of the Bull’s Eye. Concentric circles of violence dilate outward to include more nuclear research centers, weapons testing ranges, toxic waste dumping grounds, uranium mines, war theaters, and electronic and biological weapons warfare stations (Kuletz 1998).

### Geography of Invisibility and Its People

The weapons research center called China Lake, near the center of the Bull’s Eye, is situated within a vast desert space punctuated by high mountain ranges and low valleys. In the upper Mojave desert at the border of the Great Basin desert, China Lake lies next to the Panamint Valley, the Panamint Mountains, and a place that is not identified on the Bull’s Eye but is at its very center, Death Valley National Park. Boundaries here (national, state, county, and institutional) are politically and socially constructed. An invisible line marks off the national sacrifice zone of China Lake from the national treasure of Death Valley. This line is arbitrary, but it works to construct the way most Euro-Americans see these places—one is perceived as desolate and the other as mystically beautiful. Although China Lake’s Argus and Coso mountain ranges contain some of the most spectacular “natural wonders” of the Great Basin/Mojave deserts as well as

22. The Ward Valley area is home to three Indian tribes: the Chemehuevi, the Colorado Indian tribes, and the Fort Mojave Indian tribe. After years of struggle to keep their lands from being used as an interstate radioactive waste dump, Indian tribes and their supporters have achieved a hard-won battle to keep the Ward Valley region (at least for the time being) free of radioactive waste.

23. Because many commercial power plants have run out of room to store their high-level nuclear waste (and because they refuse to stop production, which creates high-level nuclear waste), they desperately need interim storage space to contain the wastes until a “permanent” deep geologic repository is built at Yucca Mountain, Nevada. The U.S. government has planned a series of what it calls Monitored Retrievable Storage Sites for this purpose.

Because scientists know that contamination of Yucca Mountain by radiation will occur once the waste is entombed, the Nuclear Regulatory Commission’s new proposed (in June 1999) “Repository Licensing Rule” is meant to weaken radiation protection standards for the public and the environment by usurping the Environmental Protection Agency’s legally mandated jurisdiction (under the Energy Policy Act of 1992) to set standards for the proposed Yucca Mountain repository. Nevadans in this region have been exposed to radioactivity from two other nearby sources: the NTS and the Beatty “low-level” radioactive waste dump.

important cultural sites for local Indians of the area,<sup>24</sup> to most Californians and out-of-state tourists, China Lake—not to mention its vast testing fields—is a blank spot on the map, a hidden and forbidden zone in the landscape. Neighboring Death Valley is relentlessly displayed as a place to explore and celebrate. The camera's "eye" provides a telling technology here. Having been granted access to the NTS area, the Yucca Mountain Project, and the China Lake testing ranges, I found that government clearance did not mean I could photograph any of it. The camera was forbidden—darkness or visual obscurity prevails. In Death Valley, on the other hand, everyone photographs the desert as they are meant to.

Although it is abundantly displayed, Death Valley also retains hidden worlds. At its center lies a group of invisible people indigenous to the area who call themselves the Timbisha band of the Western Shoshone Indians. Their presence contradicts and disrupts the signifying practices of the Department of Defense and the National Park Service in much the same way that Indian presence in general contradicts and challenges American ideologies of democracy, revealing the hypocrisy of its origin stories.<sup>25</sup>

Other people native to this region (along with local nonnatives) that question the presence of the Department of Defense and the Department of Energy here are the Western Shoshone and the Southern Paiute. Both of these Indian ethnic groups have a unique collective experience and memory of this environment that those for whom it is not a multigenerational homeland of long duration do not have. The Shoshone and Paiutes in particular have been associated with this landscape for at least 12,000 years (as opposed to 150 years for Euro-Americans). While not for all, for many Shoshone and Paiute this desert space and place is part of a complex web of economic, cultural, and spiritual survival as a distinct and identifiable people. Concerning their claim to this land, however, they remain invisible to the military and government forces that have colonized this area. In retaliation, the Western Shoshone actively protest the use of their lands for nuclear and military activities and refuse to assist the Department of

24. I am referring to places such as Coso Hot Springs, an important spiritual site for the Shoshone and Paiute Indians of the region. Also in the Coso range is the largest concentration of petroglyphs (Indian rock art) in the United States. Both Coso Hot Springs and the petroglyph canyons are now situated below the flight paths of test missiles (and missiles can indeed be seen embedded in the rock). The hot springs area is "harnessed" by the Navy for geothermal power production, which has transformed the landscape into an elaborate assembly of pipes and pumping machines.

25. As a Euro-American "origin story," the Manifest Destiny narrative—that God ordained the Euro-American settlers to expand and control the continent of North America from east to west—obfuscates the actual theft of indigenous lands that occurred in the origins of the United States of America. This theft is better explained as an act of what Marx called "original accumulation"—that which provides the means for capitalist investment to come into being as part of a new mode of production (i.e., capitalism).



Defense and the Department of Energy in federally mandated cultural resource studies.

Violent reconstruction of this expansive space into a sacrificial landscape (or an outdoor weapons laboratory, which amounts to the same thing) requires annihilation of the places within it. The little-known history of the NTS/Yucca Mountain region reveals an underlying Indian landscape composed of a web of specific meaningful *places* with paths intersecting and connecting water sites, hunting and gathering grounds, and ceremonial areas, living areas, and other places of Indian activity.<sup>26</sup> Because this history is not well known, the region is seen more as abstract space than as a web of meaningful places. Places are where people live; they are inhabited, nourishing, and they are sometimes sacred. Space, on the other hand, is abstract or “empty” and therefore more easily objectified. Expansive “open” spaces that are sparsely occupied, like deserts and oceans, are used both to hide in and to buffer possible contamination of the world outside the violent forbidden zones. Ironically, the atom—one of the smallest of spaces—requires expansive regions for “containment” when it is split. Unfortunately, there really is no containment. Because of inherent danger and harmfulness, weapons and lethal wastes need empty space. The NTS/Yucca Mountain region was never in recent history some empty space whose “purity” has been violated by the radionuclides in weapons. It was an inhabited landscape.<sup>27</sup>

For the Shoshone and Paiutes in the Bull’s Eye, careful resource use patterns within the spaces they inhabited were essential for long-term, sustainable economies of survival. Nomadic desert Indians had to negotiate with, or accommodate themselves to, the land in order to survive. This contrasts to Euro-Americans’ practices of forcing the landscape’s resources to come to the people who claim them. Water and its large-scale relocation in this region, such as the colossal aqueduct channeling water from the now desiccated Owens Valley to the desert city of Los Angeles, provides a key example of the differences between the two systems of survival.<sup>28</sup> This is not to say that there aren’t native peoples engaged in contemporary unsustainable practices. Rather, the existence of alternative knowledge and ecologi-

26. For an in-depth description of indigenous land use in this region, see Kuletz 1998.

27. My interest in seeing the social history of this “nature”/landscape is similar to Boal’s accounts of the peat mines that have been mistaken for “pure” nature to the exclusion of the actual human constructions that have been part of that environment. (See Boal in this volume.) In the case of the NTS and native occupation of the region, it must be noted that I am not interested in equating natives with some kind of pure organic nature. The violence here is not one done to “pure” nature but to the integrated human/nature domain.

28. The *scale* of water development is what is at issue here. Some Shoshone and Paiutes also irrigated their crops (for example, the Owen’s Valley Paiute-Shoshone group), but the scale of their development did not result in massive regional resource diversion and thus environmental devastation.

cal practices make possible a different relationship between humans and the desert environment, a relationship which many Western Shoshone people have demonstrated over successive generations through a seminomadic existence until the military occupied their lands.

Before the reorganization of desert space under colonial imperatives, in the Great Basin/Mojave desert region, native people historically moved around a great deal to harvest seasonally sown wild plant resources, to hunt game, or to escape oppressive weather patterns (leaving the valleys for the mountains in summer and returning to the warmth of the valleys in winter). Historically, a Western Shoshone man or woman, or a Southern Paiute man or woman, could not survive in the desert without moving about in it. The logic of desert space requires movement. Like many rural societies in other parts of the world, indigenous people in the Great Basin negotiated space with the seasons. Space was thus constructed in time—by the seasons. The large wide-open spaces of the desert were inhabited in cyclical fashion. Cyclical knowledge and experience about the environment helped inform locals of the ebbs and flows of resources that, perhaps, underlie inherently sustainable practices.

When these vast spaces are fenced off, as they have been in the Bull's Eye region, and when the native peoples are therefore fenced in (or fenced out)—when movement is curtailed—it destroys this logic, making another logic necessary for survival. That other logic is to force the desert to “bloom” with massive water schemes to produce food and provide inhabitable, static living spaces. In the Southwest these monumental irrigation projects are doomed, eventually, to failure.<sup>29</sup> Another possibility, another logic is simply to use that space for the radioactive waste of the nuclear era’s “metropoli,” or to use it as a vast “outdoor laboratory,” as testing ranges for the weapons of war. To do this, it is necessary to legitimate its use for these purposes in some way. The U.S. government has legitimated the bombing of this landscape by simply claiming that the land was *already* a wasteland. As one Department of Defense representative put it: “The land was cheap because it really wasn’t much good for anything but gunnery practice—you could bomb it into oblivion and never notice the difference” (Skinner 1994: 52). Bolstering this assumption is the environmental science classification of the desert as low on the “productivity” register of ecosystems. When many of the inhabitants also are seen to be part of the “low-use segment of the population,” as was noted in one government document in reference to those living downwind from nuclear test-

29. Ground water, one of the most important water sources in the arid West, is not an endless resource. Due to overpopulation, most of the Southwest’s large regional aquifers are quickly becoming depleted. The redirecting and damming of the West’s great rivers will also prove inadequate with the continued growth of western mega-cities such as Phoenix and Las Vegas.

ing, making the landscape into a sacrifice zone isn't hard to do at all. Such perceptions of the desert and its people are in marked contrast to those of the Shoshone and Paiute.

The U.S. Government began using the desert as a bombing field in the lower Great Basin desert in the 1950s, when, for greater control over its weapons program, the Department of Energy and the Department of Defense code named the NTS region "Nutmeg" and moved its nuclear weapons testing program (until then located in the South Pacific) in to the U.S.'s internal colony known as Nevada.<sup>30</sup> To do this, they had to remove all Western Shoshone and Southern Paiute Indians from the area, an area that is traditional native land and, today, legally Western Shoshone land.<sup>31</sup> As the Nevadans say, the U.S. government simply replaced one peripheral colony (external: the Marshall Islands) in the South Pacific arena with another (internal: Nevada) in its own backyard. As the Western Shoshone say, this is when they became the most bombed nation on the earth.

### Invisible Radionuclides

Radiation violence is sometimes visible and immediate, sometimes dramatic and terrifying. Most often it is invisible. The victim of radiation contamination doesn't initially feel it or see it until it is too late. Its violence to the bodies of both humans and non-humans is profound. It invades cells, producing abnormal cellular growth (cancer). It interferes with genetic structure, producing mutations and extreme deformities, and it causes a variety of reproductive failures including miscarriages and sterility. It is relatively easy for institutions responsible for the release of radioactive contaminants to hide it because it often takes time for the effects to reveal themselves. This time gap has been used by the United States and other governments to deny causal links between cancer (occurring ten to twenty years hence) or deformities (which occur in subsequent generations) and radioactive contamination.

Today, however, some accountability has begun to emerge. For example, the 1997 National Cancer Institute statistical report on cancers among "downwinders" (those living downwind from atmospheric nuclear testing on the NTS) has shown that causal links exist (National Cancer Institute [NCI] 1997). The study reveals the mostly (though not exclusively) rural

30. Because nearly 90 percent of Nevada is owned by the federal government and because much of that acreage has been used for destructive purposes (weapons testing and waste dumping), many Nevadans see their state as an internal colony to the United States. The period that saw the establishment of the Nevada Test Site also saw the creation of the science city, China Lake, in eastern California, as well other installations of the area.

31. For a description of Shoshone ownership of the Yucca Mountain/NTS area, see the discussion of the Treaty of Ruby Valley in Kuletz 1998: 148-49.

counties where people were contaminated by fallout from the period of aboveground nuclear testing (totaling 120 atmospheric bombs) conducted at the NTS between 1951 and 1963. Underground testing continued until 1992, and 120 secret detonations also occurred in various parts of the Western United States. The NCI study shows that thyroid cancer has been particularly high in the northern Great Plains region (Colorado, Idaho, Montana, South Dakota, and Utah) where wind patterns spread airborne radioactive contaminants to far-flung victims. These people were never told of the danger, although the danger was known. Such secrecy constitutes another violent act. Although the NCI study was completed in 1994, it was kept secret by the government for fear that the public would respond with mass hysteria and because of the report's political and legal implications (in the form of potentially expensive lawsuits). Contamination was highest for people, especially children, who consumed milk from animals with elevated concentrations of radionuclides in their bodies. The animals had consumed contaminated grasses.<sup>32</sup>

Absent from this latest NCI research program were studies of food consumption patterns and living conditions that differed from those of Euro-Americans, such as those found among Native Americans. Contemporary Indian people often have a more direct association with water supplies and consume a greater diversity of wild game. They eat more of the animal and waste less of it than Euro-Americans and thus are more susceptible to higher concentrations of radioactive contaminants. One might think of this as a problem of invisibility within invisibility. Radionuclides are hard to detect because they are already invisible entities and even harder to detect when associated with people whose bodies and habits are invisible to Euro-American policy-makers and scientists. In the case of the Bull's Eye, where Indian colonies are included in the nuclear fallout zone, there have been no adequate epidemiological studies done on native communities, except those attempted by Native people themselves.

## **Developing Violence: Militarized Economies of the State and Nuclear Waste as a Development Option**

### **Sacrificial Landscapes as Development Options**

Today, both indigenous and nonindigenous peoples in these deterritorialized lands (lands that have been used for nuclear and conventional weapons testing, uranium mining, or nuclear weapons production) are

32. This concentration down the food chain is known as "magnification."



faced with the possibility of what I call “second-order nuclearism.” This is “nuclearism” linked to development options for nuclear or toxic waste containment.<sup>33</sup> Seven regional examples illustrate my claim: (1) U.S. native lands have been targeted for temporary monitored retrievable storage sites (MRS for high-level nuclear waste. Some tribes that are already surrounded by toxic waste and biological weapons stations as well as chemical weapons storage and incineration, are seriously considering the option of storing high-level nuclear waste.<sup>34</sup> (2) The French Polynesian, or Tahitian Island region is now being considered (by some French Parliamentarians) for a nuclear waste dump (specifically the atolls of Moruroa and Fangataufa, which were previously used for nuclear weapons testing). Because the French nuclear testing program significantly bolstered the regional economy, as it pulls out it leaves economic decline in its wake.<sup>35</sup> Taking in nuclear waste thus becomes a tempting development option for a severely depressed economy. Unfortunately, more revenue can be gained from nuclear waste than from traditional development options, such as growing vanilla bean or producing scented oils from Tahitian flowers.<sup>36</sup> (3) The Marshall Islands in Micronesia (specifically Bikini but also other previously irradiated islands used for nuclear testing) have been targeted repeatedly to harbor nuclear and toxic wastes, as well as the incineration of chemical weapons, by nuclear waste industries from the United States and other

33. For purposes of clarity I use the term “second-order nuclearism.” However, many of these rural and suburbanized areas support what could be thought of as third- and fourth-order devastation because they also are used as the dumping grounds for chemical weapons, hazardous wastes, as well as for municipal wastes trucked in from afar. (For details on the many abuses to which these regions are made to submit see Kuletz 1998.)

34. Examples of native reservations that are or have been targeted for Monitored Retrievable Storage Site facilities are those of the Mescalero Apache in New Mexico, the Fort McDermitt Paiute-Shoshone tribe at the border of Nevada and Oregon, and the Skull Valley Goshute tribe in Utah. The Skull Valley Goshutes are the tribe surrounded by chemical weapons incineration and other forms of toxic waste. Similarly, the Mescalero Apache reservation is near the Waste Isolation Pilot Plant (WIPP), which is the U.S. military’s deep geologic repository for transuranic (plutonium-contaminated) wastes.

35. For instance, in 1995 France was responsible for injecting \$1.25 million into the economy. This is more than a third of the entire gross national product. For more on the impact of nuclear testing regimes in the Pacific, see Firth 1997.

“The French tested at Moruroa and Fangataufa from 1966 to 1992, in the atmosphere until 1975, and then underground. Amid intense regional and global opposition, the French conducted a final series of nuclear explosions in 1995 and 1996.” (*The Cambridge History of the Pacific Islanders*, p. 324.)

36. There is strong opposition to such possible nuclear dumping future scenarios. Hiti Tau is a Tahitian nongovernmental organization (NGO) that opposes the nuclear tests conducted in the Tahitian region and supporting Maohi (the indigenous name for Tahitians) community development, such as vanilla bean production. The organization has—with the assistance of the Christian World Service—disseminated information about their efforts through a video titled “Hiti Tau: Building a New Nation.”



countries. Such proposals have been proffered even as islanders attempt to repopulate the areas from which people had been removed for nuclear testing.<sup>37</sup> In their search for development options, Bikinians (with the help of the U.S. National Park Service) also have initiated plans for a nuclear theme park. (4) The Grants Uranium Belt in the Four Corners area of the American West—home to Pueblo and Navajo Indians—is witnessing a new generation of uranium mining. Native American economies in these areas during the Cold War were altered from pastoral to industrial-extractive to provide uranium for weapons development and commercial nuclear fuel. These native lands are thus scarred by massive uranium mines and tailings. Such toxic extractive industries make it difficult for local communities to attract other forms of development.<sup>38</sup> (5) Similarly, a new wave of uranium development is starting in western Australian Aborigine territory (a region previously used for both uranium mining and nuclear testing).<sup>39</sup> (6) In 1998 the U.S. government asked Australia if it could use the old Australian nuclear testing region (aboriginal territory in which the United States and Great Britain tested their nuclear weapons) as an international dumping ground for nuclear waste. (7) The NTS—homeland of Southern Paiutes and Western Shoshone—is scheduled to store high-level nuclear waste (from commercial and military sources) at the Yucca Mountain deep geologic repository (which will harbor 70,000 tons of high-level nuclear waste). Additionally, temporary facilities will be developed in the region for short-term aboveground storage of nuclear waste.

These cases illustrate “development options” (some of which are moving

37. To live on Bikini (where the United States tested twenty-three nuclear weapons) the Bikinians will have to go to great lengths to avoid becoming contaminated by radioactive elements. As a response to living in exile from their homeland, in the 1970s Bikinians attempted to move back to the atoll, but some became contaminated by caesium in the soil (ingestion of high levels of radioactivity occurred from eating and drinking local coconuts), forcing the entire community to evacuate the island. To avoid this in the late 1990s, they have to scrape away all topsoil from around homes and crop regions and replace it with crushed coral to try to filter out radioactive contaminants. They also need to rely on canned and imported foods. Their determination to return to their “homeland” attests to the power of place and its deep connections to identity and cultural survival felt by the Bikinians.

For the time being, the Bikinians have rejected offers to use nuclear waste as a form of development. However, my fieldwork in Micronesia has shown that this position could easily change in the future.

38. During the Cold War period, there were also uranium mining-related accidents that, although not publicized in the national press, were extremely serious. For example, in 1979 the United Nuclear Corporation’s tailings dam burst at Church Rock, New Mexico, spilling 100 million gallons of radioactive water into the Rio Puerco on the Navajo reservation. This was only one of many such accidents to contaminate local water supplies.

39. The specific site for this is the mine at Jabiluka (operated by Energy Resources of Australia). Renewed mining is being hotly contested by indigenous people living in the area.

forward, some of which are under consideration) for land that has previously suffered the violence of nuclear and warfare activities of various kinds. These “options” are offered by military weapons programs, international power companies, and radioactive waste containment programs controlled by federal, state government, and independent industries—all of which are significant defense and energy production players in the global arena. What are the options for survival—ask the local, rural, and often indigenous people—once the land has been contaminated? One answer seems to be yet another layer of sacrifice, of violence, now masked as development.

In most of these scenarios, there are those within the affected communities who support such development schemes. Not all indigenous people or local rural groups are against “second-order nuclearism.” However, there are just as many, if not more, who do not accept this option. The result is often tremendous conflict within tribal and non-tribal rural communities. Whether these options are supported or opposed is not the point. What must be seen is that a second wave of violence is legitimated upon the first. If the land is contaminated, promoters say, why not make money off it? The problem is that human lives continue to be at stake.

### Political Economy of Military Transuranic Violence: Back to the Bull’s Eye

The violent construction of a place like the Bull’s Eye in the American West (which contains both “conventional” and nuclear testing zones) is certainly part of both the U.S. national and a global political economy. As critical Cold War analysts have shown, weapons research, production, and testing is a self-perpetuating economy. The cost of the nuclear weapons complex alone is so large that it not only constitutes a massive outlay of expenditures for the United States but also acts as a creator of jobs and a market for goods that maintains its own economic force. It is akin to a mountain creating its own weather patterns. For example, as noted in a recent Brookings Institute report: “Since 1940, the United States has spent \$5.8 trillion on nuclear weapons programs, more than on any single program except Social Security” (Pincus 1998: A02). As such, nuclear weapons are part of our economic system, our political system, and—because it requires a high level of scientific expertise—our knowledge system as well. In short, they are part of American culture.

Our military and scientific agendas were fused in the symbiotic coupling between post-World War II capitalism and the culture of fear and violence created as a part of the Cold War. Now that the Cold War is “over,” we cannot so easily untangle science from militarism and fear. The nuclear power industry and the military establishment are intertwined in various ways, for

instance, in the realm of international non-proliferation policy. To maintain control over materials that have the potential to assist in nuclear weapons production, the U.S. government agrees to take back large quantities of the high-level nuclear waste produced by countries that have initiated their nuclear energy programs with U.S. financial and technical support.<sup>40</sup> The toxic waste ends up, at least in part, within the center of the Bull's Eye—in Western Shoshone/Southern Paiute territory at Yucca Mountain.

Contributing to our paralysis within the nuclear web is the disintegration of the comprehensive nuclear test ban treaty, which appears to be dissolving at the same time as it's being formed. It has been destroyed less by India and Pakistan's recent dangerous game of tit-for-tat than by the refusal of the big nuclear powers (particularly the United States) to lay down their arms.<sup>41</sup> In addition, the problem of long-term (read 240,000 years) future storage for this past half-century's nuclear waste stream must be added to the cost of "nuclearism." All together, with links between weapons production, power generation, waste containment, and international policy, the Bull's Eye region is at the heart of a militarized economy at odds with any notion of sustainable economic development that might be proposed by Indians or other people living within its center.

Far from the Western Shoshone vision of a sustainable desert economy within the Bull's Eye is the enterprise known as the Yucca Mountain Project. When the Yucca Mountain Project opens in the next decade,<sup>42</sup> the Department of Energy will be transporting 70,000 tons of high-level nuclear waste from around the country into the Bull's Eye, the center of which is Yucca Mountain. High-level radioactive waste from the nation's nuclear power plants (and some military radioactive waste) will be moved across prairies, through cities, and over mountains to its temporary destination—a holding station on the NTS—to be stored aboveground until the deep geologic repository is ready to accept the waste. Radioactive waste from countries outside the United States will also be sent to Yucca Mountain in accordance with international policies on non-proliferation of nuclear

40. Analyses of the relationship between U.S. commercial policies regarding nuclear technology and power and U.S. nonproliferation policy have been developed by the Western States Legal Foundation, Oakland, California.

41. Although nuclear arsenals have been reduced, it is partly because the major nuclear powers have not accepted total abolition that other previously non-nuclear nations such as Pakistan have rejected treaty requests that they not develop their own nuclear weapons programs.

42. Yucca Mountain is set to open in 2010. There is little doubt that anything will stop this from happening. The U.S. government has been working on the site (studying it and, more recently, constructing it) for the past thirteen years. Billions of dollars have been invested, and no other site is being considered.

weapons. So the Bull's Eye that is Yucca Mountain, which at first glance appears to be a backcountry location far out on the periphery, is in fact a mecca for nuclear waste—pulling the global into the local.

Surrounding the mountain, on the periphery of power, Native Americans watch the activities of the nuclear waste project from their colonies and reservations.<sup>43</sup> Because they have not forgotten what radionuclides can do to human bodies, they hold ceremonial gatherings of protest on the northwestern flank of Yucca Mountain as Yucca Mountain Project engineers scurry about the monumental waste hole they are digging in the mountain's southeastern flank. The global arena of nuclear waste and local Nevada outback collapse into one here at the Bull's Eye of Yucca Mountain—the target of massive amounts of virtually unending violence produced by the transuranic elements. It is important to remember that Yucca Mountain is situated partially within the NTS Site, which makes it a domain of “second-order nuclearism.”

### Containing the Uncontainable

Waste containment poses as a development solution for the spaces for which we cannot find profitable use. Environmental degradation of the most severe kind, such as that associated with nuclear waste, is a development scheme in this desert domain. The “solutions” that a place like Yucca Mountain promises for the problem of nuclear waste are fantasies of the most dangerous kind.

The question here concerns development or the very idea of development. How do we understand this strange kind of development—one that's about as far from “sustainable” as one can get and masked by vast space, by military secrecy, by scientific cloaks of “objectivity”?<sup>44</sup> How can we understand development as total destruction of the local environment—destruction that is virtually forever in human terms (240,000 years)—with no possibility of rehabilitation (since the dumping grounds can never be decontaminated), and where the development scheme remains flawed from the very beginning? We have no reliable means of keeping radionuclides contained within the earth (Kuletz 1998). The U.S. government persists in a fantasy of control within a context of crisis. It is a crisis because

43. Although not yet open, the Yucca Mountain Project is a massive undertaking of long standing, so there is much to watch and to protest. As noted earlier, Western Shoshone and Southern Paiute tribes live surrounding the affected area.

44. The Yucca Mountain Project is represented by the Department of Energy as a premier science project. It certainly is a scientific endeavor but its “objectivity” is seriously compromised by the urgency of the nuclear waste crisis and the project's location on the Nevada Nuclear Test Site, which is guarded by armed personnel.



there is no more room at existing temporary sites and because the holding casks for nuclear wastes and cooling ponds for hot nuclear rods are leaking. Yet production of the waste continues.

In spite of the reality that nuclear waste cannot be contained, the illusion or simulation of containment remains a form of development because some people will reap economic benefits. It is arguably worse than any other form of harmful development because it is forever. The land used can never be rehabilitated. Like many development schemes, it relies on shortsightedness, which is how some locals get pulled into the state's or the large corporation's agenda to construct a repository. It's a get-rich-quick scheme for some locals and even some tribes, the harms of which promise to affect many future generations. The reasons for this kind of local acceptance go beyond individual greed, although there is that. Many of these tribes are already surrounded by toxic waste, which keeps any other developers from considering their lands for nontoxic development. Other tribes are extremely poor and are promised schools, hospitals, roads, educational programs, and so forth for accepting radioactive waste. Despite this, I have found from my own field experience that most targeted tribes and their individual members are against the use of their reservations for toxic waste. Interestingly, the popular press (along with many academics) finds it more interesting to pay attention to those who accept the waste than to those actively working against it, even though those against it are far greater in number.

The Cold War/post-Cold War military and nuclear power economy produces opportunities for government contractors. Large territories are needed to do business in this economic sector—massive testing ranges for scientists to test and develop new weapons technologies (a form of research that produces its own large-scale waste stream) and large territories for toxic waste enterprises. “Undesirable” land, used previously to support relocated Indian tribes or deemed so unusable that Indians were allowed to inhabit it, has become particularly desirable to toxic waste business concerns. What is desired for the development of waste storage enterprises is sacrificial land, although such land is a commodity that has its limits. If we keep using nuclear power, we will run out of room to store the wastes. As noted by nuclear physicist Arjun Makhijani, “Every four or five years we're making about as much plutonium in the civil sector as we did during the whole Cold War” (Makhijani and Salesks 1992). Although exact numbers vary, the amount of plutonium generated to date is roughly 270 metric tons of military weapons-grade plutonium. Plutonium from the commercial stockpile from nuclear reactors has now reached 930 metric tons. By 2005 it will have increased to 2,130 tons. It takes only 10 micrograms of plutonium to induce cancer in humans, and only sev-

eral grams of plutonium can kill thousands of people (Schrader-Frashette 1993).<sup>45</sup>

### State-Sanctioned Violence Masked as Development

The end result of nuclear waste containment as negative development is the creation of sacrificial land and sacrifice of human and nonhuman lives and well-being because “safe” storage is currently impossible. The environmental violence committed in the name of environmental safety is invisible, like the landscapes in which radioactive waste is interred. Also invisible are the links between weapons, waste, and power generation, which continue because all three aspects are forms of development. By showing their linkages and who is harmed in the process, their inherent contradictions—their violent and dangerous unsustainability—are revealed.

The Cold War may be over, but its economy isn't. The United States may have reduced the size of its armed forces and closed a few military bases, but the military-industrial-scientific complex remains a foundational pillar of its economy. It cannot unravel the knot without, it fears, unraveling its base of survival—not just political survival but economic. All nations—not just the United States or other “northern” powers—continue to expend inordinate portions of their wealth on the development, maintenance, and expansion of their military forces. Certainly those who suffer most are the poor (often women and children) in Third World nations with failing economies—economies that cut social welfare first when succumbing to austerity measures imposed on them by international monetary agents of capitalism, such as the World Bank and the International Monetary Fund. Their military expenditures do not get cut because they feel compelled to secure some place, however small, in the global militarized struggles for power. This, of course, is related to the continuing polarization of the world since the 1960s; differentials between the poorest and the richest countries have increased more than 20 percent. Statistics such as these, as Watts and others have pointed out, undercut a term like “globalization,” which implies some kind of unifying order, some kind of equanimity (Johnston, Taylor, and Watts 1995).

But the United States has its own periphery (its own Third World) at its center too—a contradiction at the very heart of its self-construction as a powerful “democratic nation,” its first and never-resolved contradiction. The periphery at its center, the contradiction of its own doing that negates

45. The example of how only several grams of plutonium can kill thousands of people comes from Schrader-Frashette's (1991) hypothetical example, which considers the consequences of dispersing plutonium through a ventilation system.

all that it sees itself standing for is the persistence of Indian bodies with Indian identities (however complex those identities might be). Nuclear colonialism is inconceivable (invisible) because if we see it—actually see it—the power relations within American democracy are exposed. Native people, in all their diversity, have never gone away. Those from many different tribes and nations see themselves as internal colonies and, in the American West in particular, as occupied people surrounded by military installations. The Western Shoshone and Southern Paiutes in particular see themselves as now struggling against nuclear colonialism marked by radioactive waste. Like nineteenth-century pioneering and mid-twentieth-century nuclear testing regimes, violence is once again played out on Indian bodies, as well as on any other bodies who also happen to inhabit Indian country.

Two crucial issues concern nuclear waste storage as development. First, this is a state-sanctioned act of violence on the local community immediately and the general population in the long term. Second, this violence results not from some Malthusian necessity but from the self-perpetuating logic of a militarized economy, by those individuals and companies who benefit (in the short term) from it, companies such as General Electric, Du Pont, Westinghouse, and others. To a lesser extent, short-term proponents also include some of those in the local communities whose interests are motivated by profit at the expense of future generations.

Other energy resources could and should be developed. The violence of the nuclear waste dump is not some natural outcome resulting from limited power resources—which is what some might infer as the industrial world recognizes that its oil reserves are limited. Countries like the United States historically chose nuclear power because it was tied to a military economy. This particularly violent turn, however, was of its own making. It could have been avoided had the militarized economy been kept separate from the commercial civilian sector.<sup>46</sup> Those who are paying the price for nuclear power—those now subject to the violence of radionuclides—are the ones Americans need to see if they are to make this immense violence visible to themselves because radiation knows no political or class or ethnic boundaries. In the end, the Bull's Eye becomes the ironic representation of the self-destruction of the centers of Cold War power and violence.

46. Because of the nature of nuclear waste, however, this separation between commercial nuclear power and military nuclear weapons can never occur. Although there are easier ways to produce nuclear bomb materials, commercial nuclear power produces some of the key ingredients for nuclear bombs.