

***On the Intrinsic Value of the Land: Terry Tempest Williams'
Refuge: An Unnatural History of Family and Place***

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Özet

Amerikan doğa yazınında, doğa ve yaban hayat Henry David Thoreau'dan günümüze özsel değere sahiptir. Ancak politik söylemde doğaya insanmerkezci ve faydacı bir bakış hala süregelmektedir. Amerika'nın önde gelen kaynak korumacılarından ve doğa yazarlarından Terry Tempest Williams'ın *Sığınak: Aile ve Çevrenin Doğal Olmayan Tarihi* (1991) adlı eseri bu çelişkiye dikkat çeker. Williams, bu eserinde, Amerika Birleşik Devletleri'nin 1951-1962 yılları arasında Nevada çölündeki nükleer deneme alanında yaptığı 100'ün üzerinde nükleer testin ve 1963'ten sonra aynı bölgede devam eden yeraltı nükleer testlerinin insana ve özsel değere sahip doğaya getirdiği yıkımı anlatırken toprak etiği olmayan bir kültüre başkaldırır. Zira, eserin bütününde, insanın biyotik topluluk içindeki rolünü "toprağın fatihi" olmak yerine "toprağın sade bir üyesi" olarak gören Leopold'cu genişletilmiş toplum anlayışı vardır.

Anahtar Kelimeler: Terry Tempest Williams, doğa yazını, nükleer testler, toprak etiği, ekoeleştirici.

Abstract

Since the times of Henry David Thoreau, American nature writing has emphasized the intrinsic value of nature and of wildlife. And yet, the political discourse still retains an anthropocentric stance and confers utilitarian value to the land and to nonhuman life on earth. Leading American conservationist and nature writer, Terry Tempest Williams' *Refuge: An Unnatural History of Family and Place* (1991), draws attention to this paradox in the conception of the land. Williams, in *Refuge*, chronicling the devastation inflicted on human life and on the intrinsically valuable land by the atmospheric nuclear testing between the years 1951-1962, and the underground nuclear testing after 1963 in the Nevada Test Site, revolts against her culture that lacks a "land ethic." The argument derives from the fact that the work upholds a Leopoldian expanded community concept that changes the role of man in the biota "from conqueror of the land-community to plain member and citizen of it."

Key Words: Terry Tempest Williams, nature writing, nuclear testing, land ethic, ecocriticism.

"Give me the ocean, the desert, or the wilderness!"
Henry David Thoreau "Walking"

Thomas Cole, the father of American landscape painting, in the tradition of all Hudson River School painters in the early decades of the nineteenth century, calls attention to the holy qualities of the land. Among his landscape paintings that promote feelings of sublimity, one particular painting, *The Oxbow-View from Mount Holyoke*,

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Northampton, Massachusetts, after a Thunderstorm (figure1), emerges as having a distinct place in the social history of American art owing to its symbolic overtones. Once interpreted as a “spectacular bend in the Connecticut River” (Stokstad 975), the painting, now, assumes new significance with the advent of mounting interest in the environment: Indeed, *The Oxbow* is, and has always been, a bitter critique of man’s attitude toward nature and of his presumption that he is the rightful owner of the land.



Figure 1. Thomas Cole *The Oxbow* 1836 The Metropolitan Museum of Art, New York

Nevertheless, Thomas Cole had given his spectators the clues for a truthful interpretation of the painting: a river, in the shape of a question mark, stretching over the inhabited landscape next to the yet untouched wilderness areas, pointed at the wrong of perceiving land as resource waiting to be exploited for human benefit. An “oxbow” also stood for “a yoke, a symbol of control over raw nature” (Hughes 146). What is more, the word “Shaddai” [the Almighty] inscribed on the slopes of the hill in the background, cried out the sacred nature of the land. Cole was, indeed, anticipating environmental degradation by western business that would transmute holy land into territory to be conquered. As Robert Hughes reveals, “Cole saw that the rhetoric of American nationhood was fatally entangled with greed” (146), a conception Hughes defends with reference to the following verses by Cole,

Each hill and every valley is become
An altar unto Mammon, and the gods
Of man’s idolatry - its victims we. (qtd. in Hughes 146)

Today, in view of the magnitude of the destruction of the land around the globe, and of the ongoing rhetoric that downplays it, an “ecological necessity”¹ arises to expand the boundaries of ethical considerability to the land, and to realize that the “victims” of environmental degradation are no longer solely human communities. Indeed, the “victims” are both human communities and the land-soils, waters, plants, and animals—and their victimization best surfaces in Terry Tempest Williams’ unequaled nature writing, *Refuge: An Unnatural History of Family and Place* (1991), a work that protests the land-denying atmospheric and underground nuclear testing of the American government in the Nevada Test Site, for decades, and calls for a Leopoldian “land ethic,” an expanded community concept that includes the land.

In *Refuge: An Unnatural History of Family and Place*, Terry Tempest Williams conceives of the land as intrinsically valuable space. The unprecedented victimization of the human and nonhuman communities in *Refuge*, on the other hand, arises from the ongoing practice of regarding the land as territory to be conquered. A glimpse at Cole’s *The Oxbow*, therefore, reveals that Williams’ plea, in *Refuge*, for an ethical relation to the land is the culmination of a long tradition in America that cries out the sacred nature of the land. Indeed, her plea for a land ethic has its roots in early American nature writing. The two polar opposites in the conception of the land—land as resource for the use of man and land as sacred space—surfaces in the nature writing of Thoreau, and his warning, at this early date, for the potential victimization of the holy land if man are not heedful of it, is taken up more forcefully by the next generation of nature writers.

Thoreau is, indeed, one of the first nature writers to articulate an ethical relation to the land, for he had “the brilliance to recognize, before Darwin published his theory of evolution, an organic connection between Homo Sapiens and nature” (Oelschlaeger 133). Living for two years and two months on the shore of Walden Pond, making the acutest observations on the land and its species, Thoreau comes to the conclusion that the most meaningful life is one in which man leaves aside material encumbrances and lives in harmony with sacred nature which nourishes both human and nonhuman life. In *Walden or, Life in the Woods* (1854), in the section, “The Bean-field,” Thoreau complains,

By avarice and selfishness, and a grovelling habit, from which none of us is free, of regarding the soil as property, or the means of acquiring property chiefly, the landscape is deformed, husbandry is degraded with us, and the farmer leads the meanest of lives. He knows Nature but as a robber. (114)

In the section “Solitude,” to heal the division between man and land, Thoreau redefines the concept of “society” and acknowledges kinship with nonhuman species:

As I walk along the stony shore of the pond [...] all the elements are unusually congenial to me. [...] I experienced sometimes that the most sweet and tender, the most innocent, and encouraging society may be found in any natural object [...] In the midst of a gentle

¹ In *A Sand County Almanac*, Aldo Leopold regards “[t]he extension of ethics” to the land as “an evolutionary possibility and an ecological necessity” (239).

rain [...] I was suddenly sensible of such sweet and beneficent society in Nature [...] in every sound and sight around my house, an infinite and unaccountable friendliness all at once like an atmosphere sustaining me, as made the fancied advantages of human neighborhood insignificant, and have never thought of them since. (90-92)

Thoreau's long essay, "Walking" (1862), regarded as "one of the gospels of the conservation movement" (Finch & Elder 170), is the account of a symbolic walking away from anthropocentrism to ecocentrism. In this essay, Thoreau declares that all the land is "Holy," and that he is the true "discoverer" of the land, with an awareness of all its sentient beings that have a right to continued existence. In this respect, Thoreau states, "neither Americus Vesputius nor Columbus, nor the rest were the discoverers of it" (2161). Thoreau's awareness that he is "a part and parcel of Nature, rather than a member of society" (2157) leads to his famous dictum that "in Wildness is the preservation of the world" (2167). After all, it is a moral wrong and also a sacrilege to harm wilderness in view of this expanded community concept, an understanding which naturally necessitates "the preservation of the world."

The idea of intrinsic value in the land, so forcefully declared in the early decades of the 19th century, is reiterated by the next generation of American nature writers, by the disciples of Thoreau. The preservationist and nature writer, John Muir, furthers the biocentric view of the world and is the first to articulate "species rights." A frequent crusader to the wilderness, to Yosemite, which he refers to as "holy" land (Muir 16), and tirelessly involved in nature study for his botanical interests, Muir comes to the conclusion that the land is to be respected regardless of human interests. In *A Thousand-Mile Walk to the Gulf* (1916), an epic account of his journeying, on foot, from Indiana to the Gulf of Mexico in 1867, Muir takes a Thoreauvian stance and celebrates an expanded concept of society that includes the land and its species:

The world, we are told, was made especiall for man - a presumption not supported by all the facts. A numerous class of men are painfully astonished whenever they find anything, living or dead, in all God's universe, which they cannot eat or render in some way what they call useful to themselves. [...] Now, it never seems to occur to these far-seeing teachers that Nature's object in making animals and plants might possibly be first of all the happiness of each one of them, not the creation of all for the happiness of one. Why should man value himself as more than a small part of the one great unit of creation? (qtd. in Scheese 63)

A generation after Muir's plea for species rights, philosopher, scientist and nature writer, Aldo Leopold, openly declares the need for a "Land Ethic" in his now classic *Sand County Almanac* (1949). In this work, Leopold takes a decisive stance against human preeminence and proposes instead "a land ethic [that] changes the role of Homo sapiens from conqueror of the land-community to plain member and citizen of it" (240). The land ethic that Leopold formulates is, at base, an expanded community concept that "include[s] soils, waters, plants, and animals, or collectively: the land" (239). Journeying

into the wilderness in the tradition of earlier nature writers-to the Wisconsin countryside - for long years, making close observations on “the land community” and realizing intrinsic value in the “biota,” Leopold declares that “[a] thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise” (262). In a well-known essay in *A Sand County Almanac*, in “On a Monument to the Pigeon,” Leopold understands humanity as sharing “the odyssey of evolution” with other species, an understanding which has affinities with a new field of study, today, dedicated to animal minds, emotions and cognition.² Leopold states,

It is a century now since Darwin gave us the first glimpse of the origin of species. We know now what was unknown to all the preceding caravan of generations: that men are only fellow-voyagers with other creatures in the odyssey of evolution. This new knowledge should have given us, by this time, a sense of kinship with fellow-creatures; a wish to live and let live; a sense of wonder over the magnitude and duration of the biotic enterprise. Above all we should, in the century since Darwin, have come to know that man, while now captain of the adventuring ship, is hardly the sole object of its quest, and that his prior assumptions to this effect arose from the simple necessity of whistling in the dark. (116-7)

In short, the sacred nature of the land and the rights of species to “continued existence” are forcefully expressed in the ecologically informed works of prominent American nature writers over the years, and reaches a culmination in the formulation of “the land ethic” by Aldo Leopold who lays bare “the complexity of the land organism,” an “outstanding scientific discovery of the twentieth century” (Leopold 190) that necessitates the preservation of every part in the web of life. In the words of Stewart, “[s]oil, mountains, rivers, atmosphere, plants, and animals all needed one another to exist, and the elimination of the smallest part had unpredictable consequences throughout the interrelated system (147).

However, it was during the formulation of the land ethic by Aldo Leopold that the very conception of the land as sacred space was forgotten. Land became property, raw material, territory-more than ever-exclusively for human use. These were the Cold War years and the idea of expanding the boundaries of community to include the land was no man’s concern. When “national security” was the most pressing issue, countries looked for “uninhabited” lands to test lethal weapons. As revealed by Clive Ponting in his *A Green History of the World: The Environment and the Collapse of Great Civilizations* (1993), the land was shaken by 458 atmospheric nuclear explosions in the world between the years 1945-1985. But the greatest sacrilege took place in southwestern United States when Tonopah Gunnery Range near Las Vegas was chosen as the site for exploding atomic bombs-a land denying activity of the military that would go on for decades-with both underground and aboveground testing. Over a hundred atmospheric nuclear tests were detonated in the Nevada Test Site, from January 1951 through July 1962, only 65 miles away to Las Vegas. After a Test Ban Treaty was signed in 1963, more than one

² The reference is to “cognitive ethology” a field of study that has its roots in the theories of Charles Darwin. In Mark Bekoff’s words, cognitive ethology is “the comparative, evolutionary, and ecological study of animal minds and mental experiences.” See Mark Bekoff (2002). *Minding Animals: Awareness, Emotions, and Heart*. New York: Oxford University Press, 86.

thousand nuclear tests were conducted underground, in the same area.³ The landscape chosen as the "Test Site" was reduced to utilitarianism and the "Holy Land" faced the biggest assault in the history of the world.

In the totally anthropocentric official rhetoric of the Atomic Energy Commission—the United States government agency that owned the test site at that time—the country north of the test site was "virtually uninhabited desert terrain" (Williams 287). An official from the AEC described the desert between St. George, Utah, and Las Vegas, Nevada as "a damn good place to dump used razor blades." As for the people living downwind of the Nevada Test Site, they were described by the AEC as "a low-use segment of the population" (Gallagher xxiii). And yet, the desert, so irreverently described as "uninhabited" space, is thriving with life in Edward Abbey's *Desert Solitaire: A Season in the Wilderness* (1968). A much-celebrated nature writing that emerged out of Abbey's experience as a park ranger in Arches National Monument in Utah, in "a sanctuary for wildlife" (20), it seems that *Desert Solitaire* was specifically written to overturn the official rhetoric of the Atomic Energy Commission that declared the desert as "virtually uninhabited terrain."⁴

An even more significant attempt, on the part of American nature writing, to overturn the land-denying official rhetoric of the American government is Terry Tempest Williams' *Refuge*. Written at a time when underground nuclear testing was still going on in the Nevada Test Site, *Refuge* chronicles the magnitude of the environmental degradation that went far beyond the limits of 1,350-square-mile Nevada Test Site. Williams protests her government's testing of nuclear weapons in the "virtually uninhabited desert terrain" by exposing the devastation inflicted on human life and on the holy land—on the Bear River Migratory Bird Refuge in Great Salt Lake—by the testing that went on for decades. In *Refuge*, in "The Clan of One-breasted Women"—the last part of the book that exposes the causes of the devastations—Williams declares, "[w]hen the Atomic Energy Commission described the country north of the Nevada Test Site as 'virtually uninhabited desert terrain,' my family and the birds at Great Salt Lake were some of the 'virtual uninhabitants'" (287).

Terry Tempest Williams, recognized by the Utne Reader as a "visionary," one of the Utne 100 "who could change your life," is from Salt Lake City, Utah. This is an area where fallout often drifted into, causing many radiation induced cancers during, and after, the years of atmospheric nuclear testing.⁵ The people living in these areas in the

³ Studies reveal that more than 2000 nuclear tests have been conducted in various parts of the world, by a number of countries, since 16 July 1945 when the US exploded the first nuclear bomb, 'Trinity.'

⁴ In "Cliffrose and Bayonets," Abbey makes an inventory of the flora of "the slickrock desert," and concludes saying, "[s]o much for the inventory. After such a lengthy listing of plant life the reader may now be visualizing Arches National Monument as more a jungle than a desert. Be reassured, it is not so" (35).

⁵ Ortmeyer and Makhijani, in an article in the 1997 issue of *The Bulletin of the Atomic Scientists*, state, "[o]n August 1, the National Cancer Institute (NCI) revealed that as a result of U.S. nuclear tests conducted at the Nevada Test Site (NTS), American children were actually exposed to 15 to 70 times as much radiation as had been previously reported to Congress ... The National Cancer Institute estimates that around 160 million people—virtually everyone living in the U.S. at that time—received some iodine dose from fallout. But those most at risk, according to a peer-reviewed 1995 study, are people who were exposed while under 15 years of age who received a radiation dose of 10 rad or more. The risk is greatest for those exposed before the age of five" ("Let Them Drink Milk").

west-in Utah, Nevada, and Arizona-, under the trajectories of blast clouds, were referred to as “downwinders.” As a nature writer with a Leopoldian expanded community concept, Williams not only laments for the tragedies of the “downwinders” in her immediate family in Salt Lake City, Utah. The devastation of the Bear River Migratory Bird Refuge at Great Salt Lake, caused by the unusual amount of precipitation and snowmelt and the resultant rise of water level to record heights, due to underground nuclear testing at the Nevada Test Site as implied by Williams, is equally tragic for Williams, and she laments for the losses at the Bird Refuge, the sacred space that hosted millions of birds in a season.⁶

Williams, as a writer whose holistic concern embraces ecosystems as well as species, starts *Refuge* with an account of the sacred nature of the Bear River Migratory Bird Refuge, and refers to it as a “sanctuary” (15). Her journeying into this sacred space as a birdwatcher, ever since a child of nine, taught her intrinsic value of the land, and of each member of the 208 species of birds who use the *Refuge*. It is the sacred space where Williams came to a realization of the rights of species to “continued existence”⁷ and acquired a Leopoldian expanded community concept. In *Refuge*, in the essay, “Whimbrels,” Williams narrates with profound ecological literacy her connectedness to this land and its intrinsically valuable species of birds.

The birds and I share a natural history. It is a matter of rootedness, of living inside a place for so long that the mind and imagination fuse. [...] Of the 208 species of birds who use the Refuge, sixty-two are known to nest here. Such nesting species include eared, western, and pied-billed grebes, great blue herons, snowyegrets, white-faced ibises, American avocets, black-necked stilts, and Wilson’s phalaropes. Also nesting at Bear River are Canada geese, mallards, gadwalls, pintails, greenwinged, blue-winged, and cinnamon teals, redheads, and ruddy ducks. It is a fertile community where the hope of each day rides on the backs of migrating birds. These wetlands, emeralds around Great Salt Lake, provide critical habitat for North American waterfowl and shorebirds, supporting hundreds of thousands, even millions of individuals during spring and autumn migrations. The long-legged birds with their eyes focused down transform a seemingly sterile world into a fecund one. It is here in the marshes with the birds that I seal my relationship to Great Salt Lake. (21-22)

Williams, in the thirty-six essays that touch upon the natural history of the major bird species that had inhabited the Bird Refuge, celebrates the intrinsic value of the members of the biotic community. To reflect her conviction in the analogous lives of human and nonhuman communities, and in the equally sentient lives of bird communities, Williams, in the essay, “Killdeer,” very much like a cognitive ethologist, refers to a “kildeer [that] feigns a broken wing, dragging it around the sand in a circle”

⁶ For a connection between underground nuclear testing and unusual weather patterns, see the article by Jay Mayer, titled, “Is There a Connection Between Nuke Testing and Weather?” at <<http://www.coastalpost.com/98/11/12.htm>>

⁷ In “The Land Ethic,” Leopold affirms the “right” of the land to “continued existence in a natural state” (240).

(119). Williams explains the killdeer's behavior as "a protective device," for they [Williams and her company] may be close to its nest. The killdeer, explains Williams, is "trying to distract" the intruders in its habitat to protect her young.⁸ Thus, the essay, "Killdeer," and many others in *Refuge*, respond to Leopold's call to extend ethics to the natural world. Williams, in the manner of Leopold, implies "[a] thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise" (Leopold 262). Thus, she rejects a "conqueror role" in the Nevada test site, for exclusively human benefit, as it backfires. As a nature writer taking up Leopold's key ideas, Williams wishes to change the role of man "from conqueror of the land-community to plain member and citizen of it" (Leopold 240), and, in her resultant narration, she gives equal weight to the tragedies lived in both human and nonhuman environments, caused by nuclear testing.

Terry Tempest Williams' holistic outlook in *Refuge*, that embraces human communities, ecosystems and species, contrasts decidedly with the "conqueror role"⁹ of the Atomic Energy Commission during the decades of nuclear testing. In the totally anthropocentric official rhetoric of the AEC, there were frequent assurances, preceding the nuclear tests, that it was all very safe, and that no danger was posed to the local peoples.¹⁰ Besides, there were frequent cover-ups regarding damage to nonhuman populations.¹¹ And yet, in the following decades, after the secrets-the suppressed information related to nuclear testing-were made public in Federal Courts, Congress, and the press, the people came to the realization that "the conqueror role is eventually self-defeating."

During the years of nuclear testing, in an AEC booklet, one statement was, "[y]our best action is not to be worried about fallout" (Williams 284). However, virtually the entire continental United States was exposed to radiation of fallout. As revealed by Richard L. Miller in his *Under the Cloud: The Decades of Nuclear Testing* (1986), a most comprehensive study of the atmospheric nuclear testing in Nevada,

⁸ A similar account exists in the cognitive ethologist, Mark Bekoff's *Minding Animals: Awareness, Emotions, and Heart*. Bekoff reveals, "[d]eception is observed in adult birds who are protecting their young. Carolyn Ristau discovered that female piping plovers feign a broken wing and hobble away from nests to distract a predator's attention. After the predator has been lured away, the mothers rush back to their chicks" (91).

⁹ The phrase, "conqueror role," belongs to Aldo Leopold who states, "[i]n human history, we have learned (I hope) that the conqueror role is eventually self-defeating" (240).

¹⁰ The assurances were so convincing that back in Las Vegas-which became a tourist attraction to watch the flashes from each nuclear test-people would watch the mushroom clouds from the roof of their hotels, and celebrate the blasts with parties in the streets. Thousand of troops would be sent to trenches only a short distance from "ground zero." Shortly after the atomic blasts, they were ordered to walk under the radioactive clouds to ground zero. Decades later, they died tragically from fallout related illnesses. In fact, in the 1950s, The AEC was aware of the hazards of fallout but went on conducting the tests thinking they were necessary to US security.

¹¹ A startling example of such cover-up is provided by Keith Schneider in his "foreword" to Gallagher's *American Ground Zero*. Schneider reveals, "[o]f 14,000 sheep on the range east of the Nevada Test Site, roughly 4,500 died in May and June of 1953." Schneider gives a detailed account of the ranchers efforts for the compensation of their losses and refers to the decision of Judge A. Sherman Christensen, in 1982, for a new trial, stating, "[i]n granting the ranchers a new trial, Christensen said the government scientists and lawyers had deliberately concealed documents, given false testimony, and withheld information" (Gallagher xvii-xviii).

“every person alive during the 1950s and early 1960s lived under the atomic cloud” (9). As Miller explains, detonations produced mushroom clouds that extended 30.000-40.000 feet into the air, and the clouds of highly radioactive debris from each detonation “passed not only over Utah, Nevada, and Arizona, but over the entire continent” (Miller 8). The nuclear clouds travelled for thousands of miles and sprinkled the whole country with radioactive rain (figure 2).¹²

As documented by Miller, with reference to 82 maps of fallout trajectories, the radioactive clouds from each blast travelled east as far away as the Atlantic coasts, and even went beyond the borders of the United States. Sometimes, the clouds “circled the globe” and re-entered the United States, adding to the radioactivity of new blasts from the Nevada Test Site.¹³ Countless people, exposed to nuclear fallout, contracted cancer, leukemia,

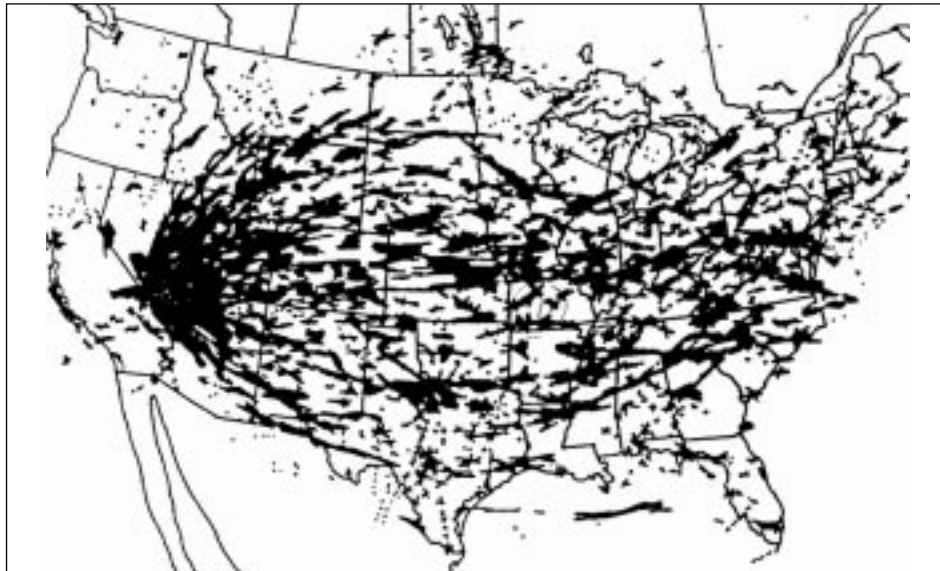


Figure 2. Richard L. Miller. Areas of the Continental United States Crossed by More Than One Nuclear Cloud from Aboveground Detonations (444). Permission received through personal communication with Richard L. Miller on March 14, 2005.

¹² Miller compiled his map, “Areas of the Continental United States Crossed by More Than One Nuclear Cloud from Aboveground Detonations,” with the maps of fallout trajectories for the United States. Miller explains that he “produce[d] a locus of points where at least THREE nuclear clouds had passed overhead. So, what you see are actually lines associated with three or more trajectories” (information received through personal communication with Richard L. Miller).

¹³ Miller’s reference is to an occurrence in the “Tumbler-Snapper series. Miller reveals, “[o]n May 5, [1952], Dog’s [the fourth shot in the series] 18,000-foot trajectory crossed Philadelphia at 10:00 A.M. local time. On the same day, while much of the rest of the nuclear cloud was hovering north of Lake Superior, the western states again began to record increased fallout. But Dog was not the culprit. The radioactivity was from shot Charlie, which had circled the globe and now returned to drizzle activity onto the West Coast” (150).

and thyroid illnesses.¹⁴ As indicated in an article in the *The Bulletin of the Atomic Scientists*, the tests were a serious health risk even to those people who were living far away from the test site as fallout travels to distant places:

Although areas near the Nevada Test Site were most often contaminated, the newly released data show that virtually the entire continental U.S. was affected, and “hot spots” occurred in unpredictable places far from the site. These hot spots occurred because rainstorms sometimes caused locally heavy deposits of fallout. As a result, some children in large portions of the Midwest, parts of New England, and areas east and northeast of the test site (Idaho, Montana, and the Dakotas), received doses of iodine 131 as high as 112 rad. (Ortmeyer and Makhijani “Let Them Drink Milk”)

As for the devastation wrought to the sacred land, it was totally dismissed by the AEC.¹⁵ The harm to soils, waters, plants, and animals was downplayed or ignored, and cover-ups such as “malnutrition” (Gallagher xxiv) for the dead and deformed sheep that grazed on fallout-contaminated pastures were frequent. During the fourth series of Nevada tests in 1953, one “Army expert on atomic energy,” addressing the troops, “cheerily” referred to the test site as “the valley where the tall mushrooms grow” (Miller 160). Earlier in the detonations of 1952, AEC chairman Gordon Dean, addressing the newsmen who were permitted to the test site for media coverage, stated,

What you will see tomorrow will be a bomb. It will be a bomb dropped from an airplane. The energy release of that bomb will be considerable. For example, it is planned to give a slightly larger energy release than the bombs exploded at Hiroshima, Nagasaki or Bikini. But it will not be the largest bomb that we have exploded. If it were, we would not be exploding it here within the continental limits of the United States. We would, instead, be exploding at Eniwetok. (qtd. in Miller 145)

After each blast, the once sublime landscape lost its integrity. As Samuel W. Matthews, a reporter with *National Geographic* magazine, after having seen one of the detonations,¹⁶ revealed,

Here the landscape had a strange look. I realized suddenly that all vegetation had vanished—greasewood and creosote bush, cactus and yucca. Only bare sand remained. Ahead, where the tower had been, a disc of black scarred the earth. (qtd. in Miller 162)

¹⁴ For comprehensive information on the association between fallout levels and cancer rates in the U.S., see Richard L. Miller’s *The U.S. Atlas of Nuclear Fallout: Total Fallout, 1951-1962*. Two Sixty Press, 2002.

¹⁵ Keith Schneider states, “[a]ccording to tests conducted in secret by the Public Health Service and the Atomic Energy Commission, the government’s atomic assault in Nevada poisoned milk in New England, wheat in South Dakota, soil in Virginia, and fish in the Great Lakes.” (Gallagher xv).

¹⁶ For the first detonation of the Upshot-Knothole series in 1953, reporters were allowed on site to view the event from News Nob, which was about 7 miles away from the tower (Miller 159).

Detonations, poisoning human and non-human life, went on until 1962, and a Test Ban Treaty was, finally, signed in 1963. Finally, “downwinders,” unaware of the deadly illnesses of the near future, were relieved of atomic debris carried by the winds. However, the sacred land-soils, waters, plants, and animals-continued facing assault with the underground nuclear testing that started in 1963, in the same area, and went on until 1992. Noone could predict the magnitude of the victimization of the non-human communities in the coming decades by the desecration of the “virtually uninhabited desert terrain” through underground nuclear testing.

In *Refuge*, Terry Tempest Williams’ emphasis on her government’s atmospheric and underground testing of nuclear weapons can be taken as a reflection of her disillusionment over the lack of a land ethic-a community concept that extends to the natural world. The driving force behind *Refuge* is Williams’ confrontation with a mushroom cloud, herself, when she was only a child. Her father, in the last part of *Refuge*, “The Clan of One-breasted Women,” narrates,

We were driving home from Riverside, California. You were sitting on Diane’s [Williams’ mother] lap [...] September 7, 1957 [...] We were driving north, past Las Vegas. It was an hour or so before dawn, when this explosion went off. We not only heard it, but felt it. I thought the oil tanker in front of us had blown up. We pulled over and suddenly, rising from the desert floor, we saw it, clearly, this golden-stemmed cloud, the mushroom. The sky seemed to vibrate with an eerie pink glow. Within a few minutes, a light ash was raining on the car. (Williams 283)

As Williams explains, “the flash of light” she remembers was “part of Operation Plumbbob, one of the most intensive series of bomb tests to be initiated” (286) in 1957 in the Nevada test site. Williams and her family, “downwinders” of Salt Lake City, Utah, were some of tens of thousands of people exposed to intense radiation during nuclear testing in the 1950s and early 1960s.¹⁷ The cancers in Williams’ immediate family, therefore, require no explanation. As revealed in *Refuge*, Williams “belongs to a Clan of One-Breasted Women. [Her] mother, [her] grandmothers, and six aunts have all had mastectomies. Seven are dead. The two who survive have just completed rounds of chemotherapy and radiation” (281). Terry Tempest Williams, thus, attributes cancer in her family to unhealthy human/land relations. “I realized the deceit I had been living under,” says Williams referring to ionizing radiation that entered their bodies from 1951 to 1962, “Children growing up in American Southwest, drinking contaminated milk from contaminated cows¹⁸, even from the contaminated breasts of their mothers, my mother-members, years later, of the Clan of One-Breasted Women” (Williams 283).

In *Refuge*, Williams couples the tragedy of human communities, caused by environmental degradation, with the tragedy of the bird communities in the Great Salt

¹⁷ Studies, in early 1980s, by radiation physicists, revealed that the residents of Salt Lake City “received greater exposures than most Utah residents who lived far closer to the Nevada Test Site” (Miller 382).

¹⁸ According to Ortmeyer and Makhijani, “[a]s cows and goats grazed in fallout-contaminated pastures, iodine 131 contaminated their milk. Children received higher thyroid doses because they drank much more milk than adults, and because their thyroids were smaller and still growing” (“Let Them Drink Milk”).

Lake area. Deeply attached to a Leopoldian expanded community concept, Williams also laments for the losses at the Bear River Migratory Bird Refuge caused by its flooding. Williams' detailed account of the "cyclic" nature of the Great Salt Lake, earlier in *Refuge*, and its disruption, in the later essays, hints at the far-reaching effects of underground nuclear testing. In the first essay, "Burrowing Owls," Williams explains,

Great Salt Lake is cyclic. At winter's end, the lake level rises with mountain runoff. By late spring, it begins to decline when the weather becomes hot enough that loss of water by evaporation from the surface is greater than the combined inflow from streams, ground water, and precipitation. The lake begins to rise again in the autumn, when the temperature decreases, and the loss of water by evaporation is exceeded by the inflow. (6-7)

During the years 1982-1987, however, the cyclic nature of the lake is disrupted, and the water level of Great Salt Lake-the sacred space that "hosts millions of birds in a season"-continuously rises, flooding the Bird Refuge. In "Whimbrels," in the essay that marks the rise of Great Salt Lake, Williams narrates the unusual weather patterns. "It is raining. And it seems as though it has always been raining," says Williams, and goes on explaining, "[e]very day another quilted sky rools in and covers us with water. Rain. Rain. More rain. The Great Basin is being filled. It isn't just the cloud's doing. The depth of snowpack in the Wasatch Mountains is the highest on record. It began to melt, and streams you could jump over become raging rivers with no place to go. Local Canyons are splitting at their seams as saturated hillsides slide. Great Salt Lake is rising" (29-30).

In the essay, "Redheads," during the time when the lake level goes on rising, causing the destruction of the wetlands of Great Salt Lake, Williams provides striking information on the sharp decrease of bird species visiting the Bear River Bay:

Before the rise of Great Salt Lake, thousands of whistling swans [...] descended on Bear River Bay each autumn. As many as sixty thousand swans have been counted at the Bear River Migratory Bird Refuge during mid-October and mid-November, making it the single largest concentration of migrating swans in North America. In November, 1984, only two hundred fifty-nine whistling swans were counted at the Refuge. One year later: three. (112)

The extent of devastation to wildlife leads to a renewed understanding of man's place in the biota. Man is no longer a "conqueror of the land-community," but a "plain member and citizen of it." Thus, Williams affirms intrinsic value of each member of the biotic community. In the essay, "Whistling Swan," on her return from a "funeral" [of a possible downwinder], Williams narrates the funeral she had for a dead swan, "a late migrant from the north slapped silly by a ravenous Great Salt Lake." Williams' caring "preparation of the swan," echoes a Leopoldian expanded community concept:

I knelt beside the bird, took off my deerskin gloves, and began smoothing feathers. [...] I lifted both wings out from under its belly and spread them on the sand. [...] The small dark eyes had sunk behind the yellow lores. [...] I looked for two black stones, found them, and placed them over the eyes like coins. They held. And, using my own saliva as my mother and grandmother had done to

wash my face, I washed the swan's black bill and feet until they shone like patent leather. I have no idea of the amount of time that passed in the preparation of the swan. (121)

In the last part of *Refuge*, the previous references to the unnatural amount of precipitation and snowmelt, and the eventual flooding of the Bird Refuge, gain new meaning with Williams' reference to the ongoing underground nuclear testing in Nevada—the testing that made the “rocks...hot from the inside out:”

A few miles downwind from the fire circle, bombs were being tested. Rabbits felt the tremors. [...] Rocks were hot from the inside out and dust devils hummed unnaturally. And each time there was another nuclear test, ravens watched the desert heave. Stretch marks appeared. The land was losing its muscle. (287-8)

Williams, in an effort to show how a Leopoldian expanded community concept might guide people today, weaves the tragedies of the two landscapes, and narrates the “rise” of water in Great Salt Lake and the eventual flooding of the Bird Refuge in relation to the “rise” of tumor “on the left side of [Williams'] mother's abdomen” (23). With the advent of years, the Migratory Bird Refuge ceases to be a refuge for the many species of birds, and Williams' mother undergoes chemotherapy and surgeries for her ovarian cancer which follows the cancer of the breast. Thus, the slow death of the mother due to ovarian cancer becomes synonymous to the cancer of Great Salt Lake which “consumes slowly and secretly”¹⁹ the abundance of life in the Bird Refuge. In Leopold's words, “the integrity, stability, and beauty of the biotic community” slowly vanishes in the Bird Refuge, and Williams suffers for the losses there just as she suffers for the losses in her immediate family.

At the end of *Refuge*, Williams narrates an act of “civil disobedience” in the Nevada Test Site, in the “uninhabited desert,” committed by Williams, herself, and nine other Utah women to protest the ongoing nuclear tests and “to reclaim the desert.” As she explains, they were arrested “for trespassing on military lands” (289). At the time, the American government was still conducting underground nuclear tests. During an interview, published in the February 2005 issue of *The Progressive*, Williams was asked to comment on a previous remark that she had made, that “our language has been taken hostage.” In this interview, Williams explains what she had earlier meant. She states, “[n]ot only has our language been taken hostage, but individual words like ‘patriot,’ ‘patriotism,’ ‘democracy,’ and ‘liberty’ have been bound and gagged, forced to perform indecent acts through the abuse of slogans like ‘Liberty and freedom will prevail.’ As a writer, I cannot in good conscience use the word ‘prevail’ anymore because I keep hearing the cliches circling around it” (Williams “Interview”). With the present concern of the United States government to resume nuclear testing in Southern Nevada, it seems that the language will be taken hostage again, and in the official rhetoric, the sacred lands will be reduced to “virtually uninhabited desert terrain.”

Nuclear testing is a terrifying chapter in the history of the United States, and yet, there are preparations for the potential resumption of nuclear testing in the Nevada Test Site. An expanded community concept is still missing in the rhetoric of political power. American nature writing, instead, contrasts decidedly with such rhetoric of conquest.

¹⁹ Significantly, Williams reveals the meaning of cancer with reference to the Oxford dictionary. Cancer is “anything that frets, corrodes, corrupts, or consumes slowly and secretly” (Williams 43).

Ever since American Nature writers' journeying into the wilderness, to the "sanctuaries" of their home towns and their inspiring writing on the "holy" land, man has had a chance to renounce the "conqueror role" and realize profound nonhuman life on every corner of the earth. Thoreau's long walks in the woods in Walden Pond near Concord, Massachusetts, Muir's travellings to the Yosemite, in California, Leopold's journeying into the Wisconsin countryside, Abbey's tours in the Arches National Monument, in southeast Utah, and Williams' pilgrimage to The Bear River Migratory Bird Refuge near Salt Lake City have taught us what we had forgotten. The question is whether their passionate accounts of the land and of its intrinsically valuable species can still give hope to a planet in peril.

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