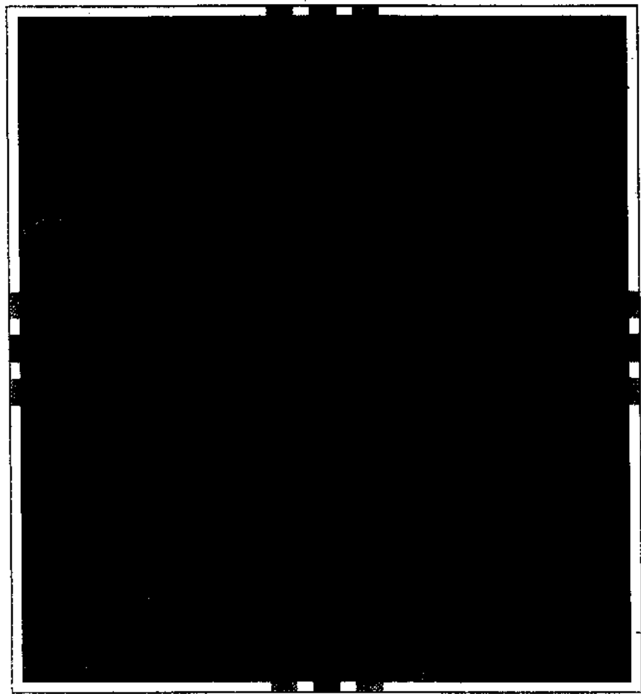
TERRA PACIFICA

PEOPLE AND PLACE IN THE NORTHWEST STATES AND WESTERN CANADA



EDITED BY PAUL W. HIRT

III
The Significance of Hanford in American History*

Patricia Nelson Limerick
(University of Colorado)

ANYONE WHO SETS OUT to find a reference to the Hanford Nuclear Reservation in the standard American history textbooks has embarked on a journey with no point of arrival. Look at the index where "Hanford" ought to be, and the closest entry you have is "Mark Hanna." The "H" section in textbooks thus reveals a curious measure of significance. Helping to elect William McKinley president gets one a permanent and prominent place in history, and being the site of the country's largest nuclear complex, and also the site of its worst contamination and waste problem, gets no attention at all.

Perhaps these priorities indicate a preference for the "up-beat," for accentuating the positive. After the election, Mark Hanna wired McKinley, "God's in his heaven, and all's right with the world." This is not a sentiment that has been heard much in connection with affairs at Hanford lately. But, beyond a preference for cheerfulness, the prominence of Hanna also represents a long-term problem with the center of gravity of American history. Hanna was eastern and Hanford is western, and thus, in the semi-conscious thinking of most American historians, one is significant and the other is not.

In conventional textbook organization, the West usually makes two brief appearances, like a second-rank guest on the talk-show circuit. The West is there for a quick round on pre-Civil War expansion, and back for another brief interlude on post-Civil War development. Then the frontier ends on schedule in 1890; the Indians are removed; the buffalo killed; the minerals, discovered; the churches and schools, built; and there is no more West, outside a short paragraph or two on Gifford Pinchot, Hollywood, Indians, or Mexican-Americans in the twentieth century.

Who would expect anything more from the eastern intellectual establishment? What is more disheartening, however, is that western scholars have done no better, and may even have done worse.

Trying to find Hanford in a textbook on the history of the American West is just as futile as attempting to locate it in a general American history text. The accent in western surveys is so thoroughly on the nineteenth century and on the "frontier"—indeed these books usually end in the 1890s—that the entire twentieth century is lucky if it gets an epilogue. Traditional western history has, in other words, confirmed and encouraged the writers of mainstream textbooks in their worst habits of ignoring and discounting the significance of the West.

What possessed western historians? Why did they, for so long, deny the twentieth century, and refuse to pay attention to some of the most consequential factors in the region's history? The answer is, in part, loyalty to Frederick Jackson Turner, the enormously influential historian whose 1893 speech, "The Significance of the Frontier in American History," set the basic terms and propositions for Western American studies for decades to come. It is surely not Turner's weakness that he failed to anticipate the discovery and development of nuclear energy. But it was the shortcoming of his proteges and followers that they became priests to the prophet, enshrining Turner's thought in its 1893 form, and refusing opportunity after opportunity to give the continuing story of Western American its full dimension and power.

This, then, is the central paradox of Western American historiography: a forceful and courageous man gave a speech in 1893, when he was only 32 years old, and offered his best assessment of the meaning of western expansion, and then, for decades after, his followers preserved Turner's words and refused to imitate his example of courageous and forceful thought. This pattern is not, of course, unparalleled in human behavior. When my husband and I visited Frank Lloyd Wright's home in Wisconsin, we were struck by the remarkable deference of the Taliesin Fellowship to the memory of Wright. Inspired, we composed this piece of doggerel verse, a poem that applies as well to the followers of the Wisconsinite Turner as it does to the followers of the Wisconsinite Wright:

> The master informed us, "Find a new way,
> The styles of the past are dated and gray.
> Do not with tradition continue to stay,"
> And that is, of course, why we do things *his* way.

Hanford and Los Alamos and the Nevada Test Site and the Lawrence Livermore National Laboratory and Rocky Flats and hundreds of other significant places in Western America could not fit the Turner Thesis, and the Turner Thesis could not fit Hanford. Curiously enough, western historians have responded to this problem by retaining the Turner Thesis and paying little or no attention to Hanford.

Apart from the dated and inflexible terms of the 1893 thesis, there is another Turnerian legacy. In his essays, often with titles following the pattern "The Significance of X or Y in American History," Turner made many forceful statements, written in accessible prose rather than academic jargon. It is this Turnerian tradition that we can and should do our best to revive. It is time to put that formula to work on "The Significance of Hanford in American History."

Despite fine efforts from a number of journalists,[1] Hanford has not done much better at national public recognition than it has done at inclusion in American history textbooks. In 1989, just before I was scheduled to make a lecture trip to Whitman College in Walla Walla, I had an awful cold and my voice turned unworkable. I went to the doctor and told him how urgent it was that I get well. I simply could not miss the trip, because I had been promised a full day's tour of the Hanford Reservation after my speaking engagements.

The doctor said, "What's Hanford?"

This surprised me, but it is an experience I could have every day if I wanted to keep provoking it. "What's Hanford?" is a question many well educated people ask without apparent embarrassment. They would probably do a better job, one begins to suspect, at recognizing and identifying Mark Hanna.

In the last two or three years, I have campaigned for a model of Western American history with its roots in the reality of life in the Trans-Mississippi West, and not in the thinking of Frederick Jackson Turner in Wisconsin. In a round of recent press coverage, this model has picked up the name "The New Western History." Whatever the flaws or limits of the name, this fresh approach has plenty of room for Hanford.[2]

The tenets of the New Western History are simple:

1) There is no watershed between the nineteenth and twentieth centuries; in other words, neither the year 1890 nor any other year represents the "end of the frontier." Western expansion is a continuous and running story. Any number of classic events in western development—a great deal

of homesteading and countless booms in irrigation, timber, oil, coal, uranium, and the defense industries—occurred *after* 1890. Even the events of the nineteenth century that seemed to come to a halt—for instance, the Indian wars—produced long-term consequences and legacies that we live with today. Anyone who stands at the site of the Little Big Horn battle, and who thinks that the conflicts represented there were settled, ought to look at the record of Indian-initiated litigation in the last twenty years. Issues fought on battlefields are now fought in courtrooms. Those conflicts, and many others, make no sense unless we pay attention to the full, continuous account connecting the nineteenth and twentieth centuries.

2) The New Western History holds that we are best served by thinking of the American West as one of the great meeting grounds of the planet, the place where representatives from Indian America, Hispanic America, Anglo-America, Afro-America, and Asia all converged and jockeyed for position and power. This concept is quite a world apart from the old Turnerian "white wave" model, in which the dominant theme was one of white settlers rolling steadily westward into virgin and free land. The New Western History's model of convergence has a number of advantages over the earlier approach. Among its most appealing attributes is the ability to set historians free from the burdensome task of "choosing sides," of having to make white people the main characters and Indians the supporting actors, or of having to make Indians the main characters and whites the supporting actors. Resting on the acknowledgment and investigation of many points of view, the model of convergence virtually becomes aerobics of the mind; it requires the historian to move around, with vigor, in order to see the American West from various angles and judgements.

3) The New Western History drops the word "frontier," a term that has always been difficult to define clearly, and one encrusted with ethnocentric associations at that. Once we drop "frontier" and take up words like colonization or conquest, more accurate definitions come into focus. At the same time, with clear and down-to-earth terms, it becomes possible to compare the course of events in the American West to the process of colonization and conquest in other parts of the planet, from New Zealand to Argentina, from the Philippines to South Africa.

Under the New Western History, Hanford's historical fortunes have taken a turn for the better. Hanford has moved from the dismissible periphery under the Old Western History, to the center of the action in the fresh approach. Hanford's twentieth century status no longer disqualifies it from western history; it fits clearly in the whole attempt to master nature;

and it is an ideal place to exercise one's capacity to weigh conflicting testimony and to evaluate contradictory points of view.

At the end of the twentieth century, an understanding of the pride, and even affection, that some people have felt for the Hanford operations requires either concerted mental effort, or an encounter with the right person. In 1989, when I toured the reservation, our group met just the right person—a grandmotherly lady who was going to retire that very day. She had begun working at Hanford in 1951, the year I was born, the year that the Atomic Energy Commission began the construction of the Rocky Flats plant outside Denver. In 1951, when the AEC announced the building of Rocky Flats, the *Denver Post* ran the headline, "There's Good News Today," and the *Rocky Mountain News* reported that the Denver Chamber of Commerce was "elated." In one on-the-street interview, a clerk said: "I think it's wonderful . . . . These people who get frightened over such things give me a pain in the neck." A shoe repairman also gave his endorsement: "Son, a town as dull as this one could stand a few split atoms. I'm all for the new plant."[3]

Our grandmotherly acquaintance at Hanford had preserved this cheerful attitude into and throughout the 1980s, and she had loved her work from beginning to end. In the early years especially, she said, she hated missing a day; vacations were a trial and an annoyance. Having different attitudes toward vacations ourselves, we asked, "Why?" "Because we were pioneers," she said. "We were pushing back the frontiers of knowledge."[4]

Our group had not yet revealed that we were Western American historians; she chose her language out of her own convictions, and not to cater to our professional specialization. Even if western historians have not paid attention to Hanford, Hanford people have paid some attention to western history. Like the space program, the armaments and nuclear energy industries have adopted wholeheartedly the analogy of the frontier and of pioneers. "I never thought of Hanford in terms of being a factory," physicist John Wheeler said. "There was a sense of adventure about it. I associate it with pioneering."[5]

But when they compared their undertakings to western expansion, these nuclear innovators were, to their peril, dependent on the old model of western history. This concept appears in the introduction to the fifth edition of Ray Allen Billington and Martin Ridge's textbook, *Westward Expansion*: "The history of the American West is, almost by definition, a triumphal narrative for it traces a virtually unbroken chain of successes in national expansion."[6] If that was the product traditional western historians

had available, no wonder the planners and workers of Hanford bought it wholesale.

But at least for an instant in 1876, George Armstrong Custer at the Little Big Horn had a different vision of western history. Leaving the media star Custer aside, western history is full of failures: abandoned towns, mines, and railroads; many, many people who invested their capital in enterprises that simply did not pay; and many, many others who rushed to the sites of boom economies, and got there in time for the bust.

Even some apparent successes turned out to be something other than pure. White Americans may have won the Indian wars, but they are still troubled by the problems of Indian unemployment, demoralization, and alcoholism on reservations. Public-spirited promoters built giant dams and reservoirs for hydroelectricity and water control, but they are still troubled by problems of silt filling up those reservoirs, and of different users competing for over-allocated rivers.

If the woman we met at Hanford had been better served by western historians, that phrase—"We were pioneers; we were pushing back the frontiers of knowledge"—might have carried an instructive set of lessons. It might have been a chance to reflect on success and failure, on impulsiveness and caution, on the many ways in which pioneers, literal or metaphorical, have a habit of acting in haste and repenting at leisure.

Our acquaintance at Hanford told us about her early laboratory jobs, standing behind a small wall of bricks, working on something radioactive, and guiding her actions by what she could see in a mirror placed behind and above the bricks. Even with these precautions, she could only be in the room for a few minutes at a time. Once, she said, she spilled a radioactive liquid on herself, but was redeemed by the peculiar customs of the 1950s: the fluid hit her hip, and she had the good fortune to be wearing one of those classic 1950s, industrial-strength latex girdles, a girdle that simply gave no ground to radioactivity, or any other dark force of the universe.[7] Even here, thoughts of the so-called Old West must come to mind. We have gone, it seems, from bullets miraculously intercepted by the vest pocket Bible, to radioactive particles miraculously intercepted by the latex girdle. This rather particular patter of continuity and change aside, plutonium is something new under the sun. The explosion of the first bomb near Alamogordo—with Hanford plutonium—did, in truth, inaugurate a whole new era in human history. And yet, in other ways, the story of Hanford makes a firm and close match with the basic configurations of western expansion.

First, Hanford fits in the pattern of cyclical displacements, by which one group's benefit meant another group's injury or removal. The anthropologist Edward Spicer used the phrase "Cycles of Conquest" to describe this concept, and it certainly applies here. The story of this particular spot along the Columbia River begins with Indian occupation, continues with the arrival of white settlers and the displacement of Indians, and then, in turn, takes up the removal of white settlers from their orchards by the forces of General Leslie Groves and his Manhattan Project. As elsewhere in western history, none of these displaced elements simply faded gracefully from the scene. Indian people still have their claim on the Hanford site, and there are still a number of white survivors available to mourn the disappearance of their homes in White Bluffs and Hanford.

One World War II veteran told of his feelings on returning to the area: unlike other ex-servicemen, he said, he had no home to go back to.[8] Another man told of his father's early struggle to develop a homestead by the Columbia, planting orchards and building a house and farm buildings. His parents' forced departure, the son remembered, broke their hearts.[9] "From the time I first remember," a Hanford resident recalled, "I loved those apple orchards."[10] When a nuclear reactor displaces an apple orchard, the symbolism becomes so heavy-handed that it seems like the invention of a clumsy novelist—except that it happens to be true.

It also happens to be true that irrigated agriculture (or horticulture), while it certainly looks more "natural" and adapted to its place than the construction of a nuclear reactor, is itself an exercise in the conquest and rearrangement of nature. We would, in other words, fall into sentimental error if we created the image of a pastoral Eden, a land of thriving and simple Jeffersonian farmers, driven out by Army Corps of Engineers bulldozers. But, innocent virtue on the part of former inhabitants or not, the development of Hanford certainly follows the general story of western history, a pattern summed up, a bit gracelessly but still accurately, by one of my students in a final exam: "The Indians felt impacted on,"—and, in this case, so did those who followed them.

Second, Hanford's history fits smoothly into the general Western American pattern of the dismissibility of deserts. When I was already at a fairly advance age, my brother-in-law told me that parts of eastern Washington and Oregon were really deserts. "Who would have guessed that!" I exclaimed like a bunch of other greenhorns before and since. "Washington and Oregon seem so green from everything I've seen and heard!" Despite my brother-in-law's pointed lesson, I joined up with a long-running

tradition of Western American historians and left the desert part of the interior Northwest entirely out of my first book, and, by implication, out of western history, even though the study dealt with the attitude of Anglo-Americans toward arid places.[11] But Hanford would have made a fine fit in the book. To Manhattan Project planners, Hanford was a perfect site for their purposes. Beyond a few irrigated fields, it was desert; in their eyes, this land was already a waste and therefore would be improved by any use at all, an area already so unappealing that there was little to injure but sagebrush and jackrabbits.[12]

Since arid land was already, in the common phrase of the nineteenth century, a wasteland, what could be more appropriate than to put it to use as a place for containing real waste, a place simply to dig a trench, dump in contaminated water, and feel comforted in the belief that there was nothing much to injure anyway in land so tough and uncompliant? In other words, the Manhattan Project decision-makers had not awakened to the notion that the desert has its own delicately balanced and—on its own terms—abundant ecosystem. The selection of Hanford is thus a fine demonstration that the pattern of treating deserts as dismissible terrain continued in force into the twentieth century. The creation of the Nevada Test Site, as well as the Idaho Nuclear Engineering Laboratories, makes the same point: when it came to atomic enterprises, the American West's aridity gave it a considerable "advantage" in siting choices. Even Rocky Flats near Denver fell into that same capacious category of useless, arid land: it had supported some livestock grazing, the *Rocky Mountain News* reported, "otherwise, the area is barren."[13]

Third, Hanford fits into the pattern of the western boom/bust cycle. In mining, oil, timber, farming, and in cattle-raising, the story of western business has been that of a roller coaster. Hanford's economic history has also followed that rise-and-fall-and-rise-and-fall model. Hanford in wartime was like any number of other western locations; it experienced a wage bonanza, with rumors and recruiting ads pulling people in by the thousands. And, once they arrived, Hanford had all the classic problems of a western boom town; too many people, not enough comfortable housing, and too many temptations to drinking, gambling, prostitution, and fighting, with arrests for drunkenness and intoxication seeming to dominate the Hanford/DuPont plant protection staff's time.[14]

Like a number of other western booms, the Hanford development created a company town, Richland, with the federal government playing the role elsewhere filled by Kennecott Copper or Colorado Fuel and Iron.

And, in that central fact of dependence on the federal government, the growth of the Hanford Project fell squarely within the broader patterns of a western history, where federal money played a great role in Indian removal, land distribution, transportation development, and dam-building.

Fourth, just like other places that have ridden the boom/bust roller-coaster, Hanford is now full of ruins and relics of lost times. The reservation is a warehouse of signs and symbols of the rapid pace of change and of the uncertainty of human fortunes: artifacts of Indian settlements; the street layout and old high school in the displaced town of Hanford; the relics of the Hanford construction camp, built instantly, occupied for two years, and then abandoned; and now eight looming decommissioned nuclear reactors and a variety of dumpsites. And, true to the patterns of the western roller-coaster, these relics and ruins have been created in an astonishingly brief time, with reactors built at enormous expense and labor, dead in less than two decades, a pacing not unlike that of gold rushes and cattle booms.

Western American history proceeded at a gait we can only call fast-forward. As one of my students put it in a final exam, "After 1848, everything became frantic," and the only thing wrong with that statement is that it ignores a few occasions when things became frantic before 1848. The observation certainly holds true when it comes to characterizing the pace, the rapidity of the rise and fall, at Hanford. One by-product of the rapid change was a bumper crop of nostalgia, and this, too, is true to the patterns of western history. With events moving so fast, it was both natural and easy for participants to look back at the golden years, to see them as a period of giant achievements and full, free exercise of human powers, and to see the present, by contrast, as a time when everything bogged down, when life turned tedious and dull and regulated.

Fifth, Hanford history and general western history share common qualities in the disparity between what people said and what people did. Marcus and Narcissa Whitman came as missionaries to the Walla Walla area in the 1830s with a declared intention to help the Indians. Then the Whitmans introduced intrusive and disorienting religious and farming practices, and also diseases that devastated the Indians. Were the Whitmans hypocrites? Not at all. But how do we appraise the disparity between their high-minded intentions, and the outcome, in 1847, of the Cayuse Indians rising in quite understandable anger against their attempted helpers?

That same problem comes back over and over in western history because a powerful ideology, called Manifest Destiny or a variety of other

names, powered the actions of Anglo-Americans. In the case of Hanford, as in other instances of western expansion, we do have a few clear examples of hypocrisy, or of direct cover-ups, of people doing one thing and saying another. But there are plenty of cases of people feeling that they were doing the right thing, believing that they were working in a good cause with their safety guarded and supervised by employers they could trust. Perhaps most important, to a large group of people, life at Hanford became so utterly routine that the need or urge to ask questions became vestigial. "We must improve our credibility," wrote Michael J. Lawrence, manager of the Department of Energy's Richland office, in the fall of 1985. "We will aggressively and professionally build confidence . . . in Hanford activities by opening our doors to the public."[15] In the 1987 annual report Lawrence said: "Hanford's future can be bright. As we seek this future, you have my personal commitment that Hanford remains unalterably committed to 'safety first.'"[16]

In between those two statements, in February of 1986, "the U.S. Department of Energy released 19,000 pages of environmental monitoring reports, letters, office memoranda, construction reports, and other documents which had been generated at Hanford from the earliest days of its selection as the United States' largest defense weapons production complex in 1943."[17] The revelations in that material made Manager Michael Lawrence's chosen task of improving credibility a lot tougher. "The most startling revelation," as Karen Dorn Steele has written, "was of a December 1949 experiment that deliberately contaminated eastern Washington." In the so-called "Green Run," without any public health warning, the plutonium processing facilities released "some 5,500 curies of iodine 131 and a still classified inventory of other fission products." The point of the experiment was evidently to "test how far, and in what concentrations, airborne fission products could be detected," in order to be able to monitor future Soviet tests and nuclear manufacturing plants.[18]

"Safety is virtually a religion at Hanford," the 1987 Hanford annual report announced. Religions sometimes do have a way of operating in the Hanford fashion, with principles chanted as justifications for actions which contradict those same principles, with piety reserved for public pronouncements and then dropped for expedient reasons.[19] In the case of the Green Run, as well as the returning of radiated cooling water to the Columbia River and the direct dumping of wastes into the soil (under the theory that a process of percolation would keep them out of the river), the Hanford

record forces us to make some fundamental observations. In fact, these considerations lead western historians to pursue the most basic activity of their craft—the critical appraisal of assertions of the actors, keeping an eye on what they said and what they did, and recognizing that sometimes the relation is outright hypocrisy, sometimes self-deception, and sometimes the perfectly understandable breakdown of the human effort to live with consistency and principle.

The most valuable part of the whole exercise, in the study of Hanford and the American West, is that we can no longer take *anything* for granted; we must keep ourselves in a constant state of alertness. A few years ago, reporter Chris Bowman interviewed Bob Sheahan, whose family's mine was the closest occupied spot to the Nevada Test Site. The Sheahans had, for years, accepted the federal government's assurances that they were at no risk. After years of compliance, Bob Sheahan decided he had been misled and misguided, and he then changed courses. "I'm a good American," he said, "but what they've done to me and my family is bad"[20]

Western history has a full complement of people like Bob Sheahan, people who felt misled, tricked, betrayed, lulled into complacency by false promises, rendered vulnerable by their own hopes and expectations, and then caught in the gap between what spoken and written words promised them, and what reality actually delivered to them. Hanford has become, then, another western case study in the tensions and frictions along the hinge that connects expectations to outcomes, promises to deliveries.

Sixth and finally, it is in the waste, in the literal, non-negotiable, there-to-be-reckoned-with-for-the-ages waste, that Hanford's deepest connection to western history comes through. From the disruption of the landscape by hydraulic mining to the leaching of chemicals from abandoned deep-rock mines into the streams of the Rockies, from the erosion of the plowed-up plains to the distribution of pesticides in rivers and aquifers, we have all around us literal, concrete signs of the legacy of the conquest. History, this evidence announces, refuses to let us declare our independence from the past. The radioactive waste at Hanford hammers the point in; we simply must recognize and deal with the legacy of conquest that surrounds us.

I would like Western American historians to reappraise the significance of Hanford in American history along these lines. I would like the western public to move beyond the standard refrain, "What's Hanford?" and look at these issues. I would also like the writers of American history textbooks to rethink their standards of what is peripheral and what is cen-

tral. In short, I want these authors to wrestle with the question: which is more peripheral to the main currents of American history, Mark Hanna or the Hanford Nuclear Reservation?

Once the textbook writers have figured out the answer to that question, I hope they will include in their books the obvious proposition that the American West has been the geographical center of gravity in nuclear affairs. Hanford, Los Alamos, Alamogordo, the Lawrence Livermore Laboratory, the plants at Rocky Flats and Pantex, the NORAD command facility, the unnumbered missile silos, the leading contestants for the national nuclear waste dump—put the whole complex together, and for all the significance of Savannah River and Fernald and Oak Ridge, the mass of American nuclear activities tilts westward. This array shows clearly that the American West is at the forefront of the most important national and international issues, and not a backwater of quaint frontier topics limited to the nineteenth century.

Finding national significance for Hanford and its western relatives is, then, no difficult matter. Take two of the more obvious implications. When World War II shifted into the Cold War at Hanford and at other nuclear sites, the culture of secrecy stayed in the saddle, with workers prohibited from discussing their work with their spouses, with penalties imposed on employees who asked questions. In daily life at Hanford, the historian can find the paradox of the Cold War embodied. The federal government undertook to suspend democracy and freedom *in practice*, in order to defend democracy and freedom in theory.

Or take the way in which Hanford and its waste tanks spotlight the central meaning of the West in the nation. The West was supposed to be the region where one could escape history, escape failure, escape the problems of Europe and the eastern United States. Instead, over time, the West proved to be the place where history accumulates most dramatically, where radioactive waste in leaking tanks reminds us that the past cannot simply be ignored, where the bills for previous successes abruptly come due.

In the most serious sense, the meaning of Hanford is a literary problem. The twentieth century has been rough on the West, but it has been a lot rougher on the English language, bombarding it with every kind of attack, and warping it into a variety of mutant forms we call jargon, or the language of expertise. It is hard to say which makes for drearier reading—the language of western water policy and history, or the language of western atomic policy and history. When we undertake to read or talk about these most crucial regional issues, with their acre-feet of water or curies of

radiation, it is sometimes rather difficult to stay awake. This is only one of many ways in which the technologizing of language has worn away at democracy, sometimes even shut it down, as lay people are excluded from the discussion of complex, but crucial, issues.

Just as important, we are missing a chance to explore—and perhaps, in an odd way, celebrate—the power and depth of this whole study. When the unsettled and unsettling consequences of human action break into geological time, then this should be the occasion of great literature, as resonant with universal human meaning as the works of John Milton or of Emily Dickinson. Edward Gibbon contemplated the ruins of Rome, and felt driven to write *The Rise and Fall of the Roman Empire*. Hanford is still in search of its Gibbon.

While it is an extraordinary place to see and think about, Hanford is not easy to capture in writing. A view of the inactive reactors along the Columbia River is genuinely haunting; they are giant, windowless, blocky hulks, surrounded by empty parking lots, bulwarks of radioactivity far into geological time, dead after a lifespan of two decades or less, machines with no function left to fulfill, simply awaiting someone's discovery of the proper mode of burial. It is difficult to look at this landscape, or to reflect on it, without confronting one's failures as a writer.[21]

During and after my tour of the site, the only words that made even a start at capturing the place came from William Blake, who was, of course, writing of nineteenth-century English textile mills:

And did the Countenance Divine
Shine forth upon our clouded hills?
And was Jerusalem builded here
Among the dark Satanic Mills?[22]

The reference to Jerusalem addresses the yearning for better lives, the hope for a better world, that drove many Hanford people who took genuine pride in their contribution to a key national enterprise. Calling the reactors and separation plants "dark Satanic Mills" is not the same as calling the workforce that built them Satanic.

When we toured Hanford, we had an extremely likable guide, who was not only helpful, but crusty and charming. After the tour, I sent him a copy of my book, *The Legacy of Conquest*, in which I had briefly discussed the ways in which nuclear enterprise fits into a general pattern of western history, in which optimism and impulse are followed by a complicated mess. Our Hanford guide wrote back, thanked me for the book, and then said that he had had a memorable time reading the nuclear section, after his anti-emetic

took effect. Now if the mild-mannered pages in *Legacy of Conquest* sent this man in search of his anti-emetic, just imagine what high-powered nausea-suppressor he would be driven to by anyone calling decommissioned reactors "dark Satanic Mills." The problems posed by millions of gallons of radioactive waste, of leaks and releases over the years since 1943, of eight dead reactors, and of many retired processing facilities are perfectly dreadful. And yet I very much liked our guide at Hanford, as I did the woman, of the latex girdle story, who had so enjoyed her nuclear work.

This personal dilemma of emotions in conflict is the main difficulty that confronts us in the whole business of appraising the significance of Hanford, and of all of Western American history. In the welter of confusion and disputed evidence, there are two salient facts about Hanford. First, the World War II exercise of beginning from scratch, with no models or precedents to draw from, with no guarantees of success or failure, and, in two years, completing a plutonium production reactor and a bunch of other facilities, is nothing short of astonishing, as human achievements go. If the people who had a part in the initial building of Hanford took great pride in their work, then surely, in the aerobic exercise for the mind that is the New Western History, we can share their point of view long enough to understand why they felt such satisfaction.

But then there is the second indisputable fact. This achievement rested on the taking of any number of shortcuts, placing high-level wastes in tanks that were supposed to be temporary, dumping other wastes directly into cribs and trenches in the soil. In spite of those shortcuts, the people in charge of Hanford continued to make pious declarations of their devotion to safety, and their constant carefulness in working with the dangerous force of radioactivity. "Safety is virtually a religion at Hanford," the Hanford annual report told us in 1987. "All design was governed by three rules," General Leslie Groves, head of the Manhattan Project wrote in his memoirs, and the first of those rules was "safety first against both known and unknown hazards." And yet the documents released, beginning in February 1986, tell another story entirely. It is everyone's challenge today, given equally to reporters, historians, and general citizens, to figure out the relationship between declared good intentions and troubling practices, to put together a picture of western history in which we see, simultaneously and fairly, the bad news and the good news, the occasions for admiration and for regret.[23]

As a child, I showed an early aversion to conventional myths and legends of Western America by becoming distressed during cowboy movies.

What troubled me about the cowboy sagas was this: inevitably, the boys made a mess, shooting up the saloon, smashing bottles, breaking windows, shattering the mirror over the bar; and then, at the peak of the chaos, they mounted their horses and rode away. Normal moviegoers could imaginatively ride away with them, but I stayed back in town, back at the saloon, looking at the clutter, and wondering, "Who on earth is going to get stuck cleaning this up?" In no western films of my acquaintance do the cowboys go a certain distance out of town, come to a sudden halt, and say to each other: "Good heavens, boys, do you realize what a mess we've left behind? We really ought to go back there and pick up all that broken glass."

And that is why the 1990s seem to me potentially the greatest, and most heroic, decade in the American West. Now the moment that never came in western movies is occurring all over the region. We are, in various ways and places, recognizing that we have both inherited and made problems that we can no longer ride away from; we are realizing that we must address ourselves to cleaning those messes up. The widespread acceptance of that conclusion is what makes me, in fact, an optimist, in spite of the fact that the media has labeled the New Western History glum.

Not only am I encouraged by the honest recognition of messes, I am loyal enough to certain western myths and symbols to be a great fan of the Sons of the Pioneers. When they sang, "Whoopee ti yi yo, Get along little dogies, It's your misfortune, And none of my own," they put the spotlight on the central political, economic, social, and moral problem of Western American history. "It's your misfortune, and none of my own" has been a guiding principle in western expansion, from the displacing of the Indians, to the habits of hydraulic miners freely washing silt and rocks into the fields of farmers downstream.[24] True to the patterns of continuity in Western American history, we have applied the "your misfortune, and none of my own" philosophy to the issues raised by nuclear enterprise, letting Hanford's neighbors, including small children and infants, carry the burdens of atomic risk. But the scale of the radioactive waste problem has finally broken down this attempt to quarantine misfortune. The costs involved in cleaning up—estimated as high as $200 billion—alone tie us together; nothing short of secession can release any individual or section of this nation from our collective burden.

The failure to reckon with nuclear waste is a national shortcoming, even an international one. Nuclear waste is everyone's misfortune, and while that is a burden and a trial, it is also our common ground. Writing his Manhattan Project memoirs, General Groves took an odd turn in the

chapters on Hanford, dropped the subjects of engineering and science, and devoted several pages to the experience of women in the war years at the plutonium plant. Life at Hanford meant "isolation, security restrictions, spartan living conditions, monotony," Groves said, which was certainly true. And then he took an unexpected jump to a standing cliché of western history: "It was perhaps hardest, in many ways, on the women."[25] It is odd, but not altogether surprising, to see this tired old notion at work again in the reconstruction of a latter-day frontier. It was a standing stereotype of traditional frontier studies, the idea that western experience demonstrated, over and over again, the physical and mental frailty of women.

General Groves then dwelt on the hardships of women: for instance, their disillusionment on arriving at an isolated, dusty town, and then facing a long bus ride to the distant camp barracks. Curiously enough, the hardships and disappointments that Groves handed over to the women seem to have afflicted men equally. True, there were a few gender-specific problems, such as an absence of women's clothing stores and the existence of only one inadequate beauty parlor. The degree to which Leslie Groves chose to assign the tribulations posed by Hanford to a group of inconvenienced women is, nonetheless, striking. What one wants to say now to Grove's gender-assignment of hardship is this: the nuclear record encapsulated in Hanford's history has been hard on everyone, on men, on women, on patriots, on social critics, on workers far down on the employment hierarchy, and even hard on General Groves and others of his rank. "It's your misfortune, and none of my own" simply no longer applies.

Our fortunes, as well as our misfortunes, are intertwined; the western past and the western present are tied together; the nation at large must learn to take the history of the American West as seriously as it has taken the history of the Northeast and the South. Tracing the significance of Hanford in the American past is one route to the writing of what western American historian Donald Worster has called "a deeper history than any of us has yet imagined."[26] This version of western history will make a compelling case for the region's central significance in our times, and, in the textbooks, Mark Hanna will quietly yield ground to Hanford.

Notes

*This essay previously appeared under the same title in the Pettyjohn book *Washington Comes of Age: The State in the National Experience* (WSU Press, 1992).

1. Karen Dorn Steele, "Hanford: America's Nuclear Graveyard," *Bulletin of the Atomic Scientists* 45 (October 1989):15-23, and "Making Warheads: Hanford's Bitter Legacy," *ibid.*, 44 (January/February 1988):17-23; S.L. Sanger with Robert W. Mull, *Hanford and the Bomb: An Oral History of World War II* (Seattle: Living History Press, 1989); Paul Loeb, *Nuclear Culture: Living and Working in the World's Largest Atomic Complex* (New York: Coward, McCann, and Geoghegan, 1982). The Hanford Education and Action League, in Spokane, Washington, has been active in the study of Hanford; I am grateful, especially to Jim Thomas, for his suggestions.

2. On the New Western History, see Patricia Nelson Limerick, Michael P. Malone, Gerald Thompson, and Elliot West, "Western History: Why the Past May Be Changing," *Montana: The Magazine of Western History* 3 (Summer 1990):60-76. Among historians, the most active investigator of Hanford has been Michele Stenehjem. See, for example, her "Pathways of Radioactive Contamination: Examining the History of the Hanford Nuclear Reservation," *Environmental Review* 13 (Fall 1989):95-112, and "Historical Access to the Hanford Record: Problems in Investigating the Past," *Columbia: The Magazine of Northwest History* 3 (Winter 1989/1990):29-35. Also see, Wanda Briggs, "Historian's Search Details Hanford's First Chapters," *Tri-City Herald*, June 12, 1989, and "Thyroid Studies to Start in Spring," *ibid.*, October 3, 1989.

3. "There's Good News Today: U.S. to Build $45 Million A-Plant Near Denver," *Denver Post*, March 23, 1951; "Denver Gets 45-Million-Dollar Atomic Plant," *Rocky Mountain News*, March 24, 1951; "Atomic Plant Fine for Denver, Most Agree: 'Town as Dull as This Could Stand a Few Split Atoms,'" *ibid.*

4. Tour, February 27, 1989, Hanford Nuclear Reservation.

5. John Wheeler, in Sanger, *Hanford and the Bomb*, xiv.

6. Ray Allen Billington and Martin Ridge, *Westward Expansion: A History of the American Frontier*, 5th ed. (New York: MacMillan, 1982), viii.

7. Tour, February 27, 1989, Hanford Nuclear Reservation.

8. Interview in *Something to Win the War: A Videotape on Hanford's History*.

9. *Ibid.*

10. Annette Heriford, in Sanger, *Hanford and the Bomb*, 7.

11. Patricia Nelson Limerick, *Desert Passages: Encounters with the American Deserts* (Albuquerque: University of New Mexico Press, 1985).

12. One can see this attitude at work in Leslie Groves, *Now It Can Be Told: The Story of the Manhattan Project* (New York: Harper, 1962); and Arthur Compton, *Atomic Quest: A Personal Narrative* (New York: Oxford University Press, 1986).

13. "Denver Gets 45-Million-Dollar Atomic Plant," *Rocky Mountain News*, March 24, 1951.

14. Robert E. Bubenzer, in Sanger, *Hanford and the Bomb*, 69-73.

15. Michael J. Lawrence, in U.S. Department of Energy, Richland Operations Office, *Hanford Quarterly* 1, no. 1 (October-December 1985).

16. *Hanford Annual Report*, 1987.

17. Stenehjem, "Historical Access to the Hanford Record," 29.

18. Steele, "Hanford's Bitter Legacy," 19; Stenehjem, "Pathways to Radioactive Contamination," 102-03. No official statement of purpose for the Green Run has been made to date.

19. *Hanford Annual Report*, 1987.

20. Bob Sheahan, quoted in Chris Bowman, "Lifetime Spent under a Cloud: Nuke-Test Neighbors Blame US," *Sacramento Bee*, May 31, 1987.

21. Fortunately, landscape photographer Peter Goin's book, *Nuclear Landscapes* (Baltimore: Johns Hopkins University Press, 1991), has pictures of Hanford powerful enough to communicate much of this landscape.

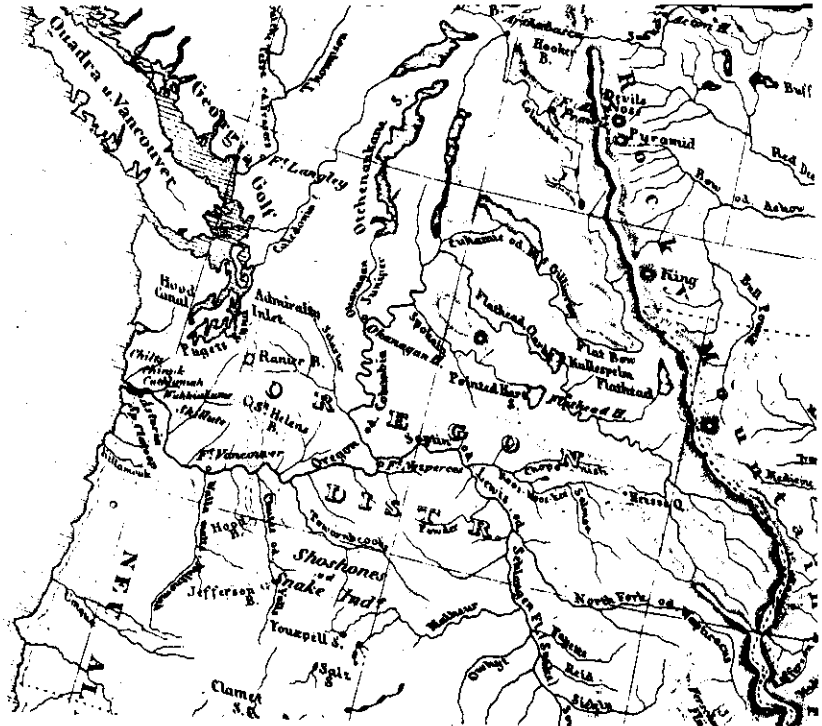
22. Preface to *Milton*, in Geoffrey Keynes, ed., *Blake: Complete Writings* (London: Oxford University Press, 1972), 481.

23. *Hanford Annual Report*, 1987; Groves, *Now It Can Be Told*, 83.

24. Richard White's textbook on Western American history pays tribute to the theme with the title *"It's Your Misfortune and None of My Own": A History of the American West* (Norman: University of Oklahoma Press, 1991).

25. Groves, *Now It Can Be Told*, 90.

26. Donald Worster, "Summing Up: Grounds for Identity," plenary address at the symposium, "Centennial West: Celebrations of the Northern Tier States's Heritage," Billings, Montana, June 24, 1989.



TERRA PACIFICA

Ten widely-recognized historians from United States and Canada present th provoking insights about society, cu and change in the great, resource-la Northwest. Essays examine early Spanish explo tion of the Northern coast; the long-term relatio ship of a fragile Canadian union with its powerf southern neighbor; regional novelists and literat important aspects of black and white immigrati the iconography of nuclear energy; and the con tinuing interaction of the region's many Indian re vations with the dominant society's economic, conservation, and legal institutions. Includes co butions by Susan H. Armitage, Kenneth S. Coate Richard W. Etulain, Gerald Friesen, Julie Roy Jeff Patricia Nelson Limerick, Quintard Taylor, David Weber, Donald Worster, and John R. Wunder.

Paul W. Hirt, of the Washington State University histor department, is a specialist on the American West, Pacific Northwest, and environment.

Sherman and Mabel Smith Pettyjohn
Distinguished Lecture Series

Washington State University Press
Pullman, Washington

Cover design by David C. Hoyt

ISBN 0-87422-162-5