

Where Bombs Were Born

by Jane C. Loeffler

Atomic Spaces: Living on the Manhattan Project

by Peter Bacon Hales
University of Illinois Press, 1997
447 pp., \$26.95

Disarming the Prairie

by Terry Evans
introductory essay by Tony Hiss
Johns Hopkins University Press, 1998

28 HOURS
VERTICAL

NORTH

100 METERS

Jane C. Loeffler, Ph.D., is an architectural historian and urban planner in Washington, D.C., and adjunct professor of art history at George Mason University. She is the author of *The Architecture of Diplomacy: Building America's Embassies* (New York: Princeton Architectural Press, 1998) and numerous other articles on design and public policy. She also wrote the introductory essay to *The United Nations* (New York: Princeton Architectural Press, 1999), which features the collected photographs of Ezra Stoller.

Barely fifty years after World War II, the Energy Department is considering designating the Manhattan Project's former nuclear bomb factories as national historic landmarks. This unlikely turn of events is due, at least in part, to the work of historian Peter Bacon Hales, who chronicles those factories and related sites in *Atomic Spaces: Living on the Manhattan Project*. A key reason that energy officials and preservationists are even thinking of cleaning up and opening once top-secret sites (many still contaminated by radioactivity) to the public as museums is that scholars such as Hales have drawn attention to the historical and cultural significance of Cold War relics—including the makeshift communities and hastily constructed labs and production facilities where scientists and engineers labored to produce the atomic weapons that brought the war to its end in 1945 and launched us into the nuclear age.

As Hales makes clear, "atomic spaces" are not only those within the nuclei of atoms but also those surrounding the sometimes sprawling facilities where that energy is captured and converted. Those facilities are the focus of his investigation. Other scholars have documented the scientific challenge of atomic research and bomb production, but Hales explores the actual geography of the entity known as the Manhattan Engineering District (MED) and the strange culture that it produced—what Hales calls its "metaphysical geography."

Because of the haste with which the MED sites were surveyed and constructed, waste played a conspicuous role in their history. The waste that Hales identifies is more than the radioactivity that permeated the land and water, killing and injuring people and animals. The "poisonous legacy" of the Manhattan Project also describes for Hales the loss of trust between citizens and their democratic government. Thus, as Hales ironically notes, in the Cold War era's attempt to protect the nation's values, the Manhattan Project helped erode the nation's faith in the government and its ability to protect its citizens.

Late in 1939, President Franklin D. Roosevelt made the decision to support research that could produce atomic weapons. The National Defense Research Committee began the effort by attracting academic scientists to the research and by establishing ties with other government agencies and private industries. Soon the Office of Scientific Research and Development took over as the military assumed control of production. It was not long before the army won complete control of the project and General Leslie R. Groves took command of the entire undertaking.

According to Hales, the “shadowy” Groves was then “possibly the most powerful man in the [Army] Corps of Engineers,” the man also responsible for construction of the Pentagon, the epitome of what Hales calls “bureaucracy as fortress.” Groves was the man who assiduously applied a military model to a program that employed 125,000 workers at its peak in 1944, a labor force that was largely nonmilitary. And he was the one who approved the three MED sites and applied the name “Manhattan” to them all to divert attention from the actual locations of research and production facilities at Oak Ridge, Tennessee; Hanford, Washington; and Los Alamos, New Mexico. The three MED sites were all part of one project. At Oak Ridge, scientists converted uranium to enriched uranium. Some of the enriched uranium traveled to the desert at Los Alamos, where it was used in production and testing of the uranium bomb, and some went to Hanford, where the cold waters of the Columbia River helped cool an atomic reactor pile that produced radioactive products, including plutonium. The plutonium then traveled to Los Alamos to be used in production and testing of a plutonium bomb.

As he has so superbly done before in earlier pathbreaking work on landscape and photography, Hales examines sites as narratives, using photographs, plans, memoirs, and a huge array of artifacts and additional historical records to assess and interpret the atomic landscape and its history.* It is a grim tale, but one of unsurpassed importance, and to have it laid out in such stark terms is good. At times, however, it is difficult to keep track of the chronology of the complex series of events Hales outlines. The author may have intentionally chosen to ignore the element of time, because within the MED itself, ordinary time had lost its meaning. All that mattered was the ultimate goal. Still, it is important to realize that nearly all of the action examined in this 447-page book occurred between 1942 and 1945. During that brief period, thousands of family farms and houses were condemned; people were displaced; millions of acres were taken by eminent domain; and factories, research facilities, and houses were built, along with the few additional facilities intended to support a modicum of community life.

With security the top priority and no widespread support by the government for regional planning or other utopian components, the three MED sites became nothing more than minimally utilitarian wastelands, virtual slums, Hales says, constructed with no heed to personal comfort or social good. It may be profoundly dismaying, but it is no surprise that the initial impetus to create well-designed and well-built villages, such as Skidmore, Owings & Merrill’s early schemes for Oak Ridge, fell by the wayside as nearly all “amenities” were sacrificed to the war effort.



What readers may wonder is whether or not certain government programs (public housing, for example) carry with them an imperative for deprivation. Certainly, that is what we see here.

Using language (particularly the future conditional tense) that conveys an ominous and fatalistic tone, Hales paints a devastating picture of lost opportunity and common misery, a picture of ruined land and failed hopes. He illustrates this scene with sixty black-and-white photographs, some old and some recent. It is likely that the publisher limited the number to reduce cost. After all, Hales is an art historian and he writes from a visual perspective. Surely he begged for more images, including maps. Any book about geography, even the metaphysical sort, calls for good maps to help readers grasp size, shape, and distance—especially when regions are remote and so little known.

opposite

Aerial photograph of the crater left by the first atomic explosion in Alamogordo, New Mexico, in 1945.

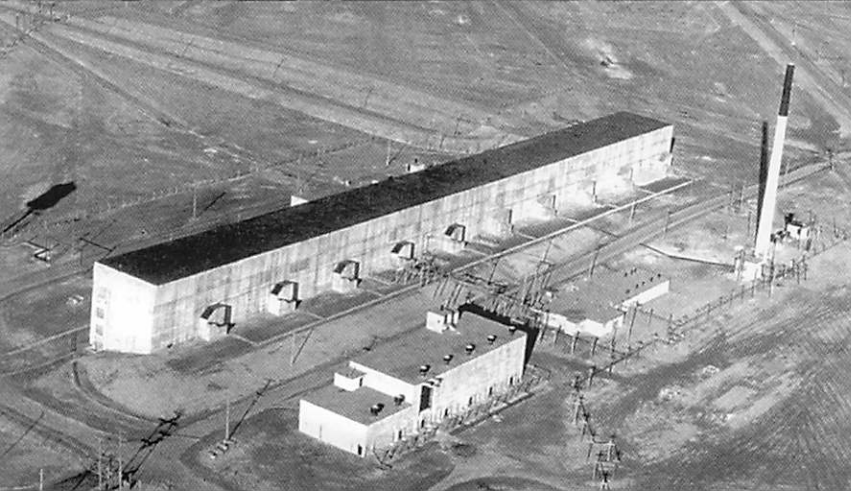
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A prefabricated house for workers at the Hanford, Washington, nuclear facility.

(images from *Atomic Spaces*)

Describing how officials flew over land in and around Hanford, Richland, and White Bluffs, Washington, in search of a suitable MED site, Hales explains how aerial photography shaped perception (or misperception). Surveying farmland in the bleak days of winter and studying terrain via aerial photographs, they saw only “a wasteland”—no crops, no animals, and no people; just a site perfect for plutonium production. Hales suggests that their use of aerial photographs limited their awareness of the human landscape and contributed to the perception of emptiness. This raises the interesting question of whether such images distort the reality that exists below, or whether they add a new and revealing dimension to our understanding of it, as J. B. Jackson argued in the earliest issues of *Landscape* magazine, a publication he launched in 1951 to stimulate interest in the very subject of aerial photography. Trained in aerial surveillance during the war, Jackson knew how to read the land below and was convinced that the birds-eye view helped define the interrelationships between man and nature. Hales’s comments underscore the fact that people see what they want to see from whatever distance.

top
Housing development for workers at the uranium production facility, Oak Ridge, Tennessee.
 bottom
A chemical separation building at the Hanford, Washington, site. The facility at Hanford was used for the large-scale production of plutonium.
 (images from *Atomic Spaces*)



Terry Evans is a photographer who used aerial photographs to document a landscape only slightly less devastated than those that Hales looks at. Her subject is the Joliet Army Arsenal, once the world’s largest TNT factory, forty miles southwest of Chicago. In *Disarming the Prairie*, she presents a compilation of fifty photographs (all of them square in format) depicting a place that once produced the firepower that fueled most of America’s nonnuclear bombs. To understand such a space, 25,000 acres in all, Evans writes that she “needed to see it from above.” She flew over the site at seven hundred feet and then explored it by foot, photographing it in all seasons between 1995 and 1997. Her images range from close-ups of a red-winged blackbird’s nest to aerial views showing roads, pipelines, railroad tracks, and acres dotted with magazines (the sort in which munitions were stored).

In *Disarming the Prairie*, Evans’s photographs themselves provide the narrative, but author Tony Hiss also provides a fine introductory essay that succinctly explains the site and how it is being restored as the nation’s first natural prairie park—a nineteen-thousand-acre area that will adjoin 62.5 square miles of additional parkland. Like Hales’s much longer story, this one is a portrait of sadness, but unlike *Atomic Spaces*, it is also a portrait of hope, because the arsenal site will assume a healthy and humane identity when it reopens as the Midewin National Tallgrass Prairie Park. Part of the hope is conveyed by color photographs showing new green growth and suggesting that tall grass may someday conceal the remaining man-made ruins.

The photographs are elegant and evocative. It is hard to assess such images as art when they are so purposely intended as documentation, but there is little point in separating the two when propaganda is such a matter of perception. There is nothing beautiful about a bomb factory, nothing that I can find beautiful, but man’s impact on landscape is not always negative. Photographs of stone walls, old signs, and even abandoned office furniture are informative—and, in Evans’s book, handsome as well.

In his essay, Hiss touches upon key issues: President Dwight D. Eisenhower’s prescient fear of the postwar military-industrial complex and the largely unexamined problem of “military sprawl.” And Hiss reiterates a theme that Hales also addresses: how the search for protection from outside enemies led Americans to invade themselves. This is, in fact, the most troubling theme of all, because there are so many ways in which today’s fears translate into future toxic waste—the sort that is toxic aesthetically, culturally, and also radioactively.

It is impossible to reconcile these two books' portraits of ruin with the evident "success" of America's wartime weapons production program. The Manhattan Project and other munitions production, of course, had enormous strategic value to the United States government. There is, and always will be, debate as to whether or not it was necessary to build bombs and drop them on Japan to end the war. Moreover, there is the separate matter of whether or not it was or ever will be right to use such weapons for any purpose. Suffice it to say, Hales's book is not about the rightness of the bomb, but about how making a bomb undermined culture here at home. Hales forces us to reexamine the very notion that the arms project was successful. His most damning data document the lack of commitment to public health, both human and environmental, and the geography of fear that sustained the effort. He rightly laments the outcome of the Manhattan Project in language that reflects his own disgust—leaving readers to ponder why it had to be that way and why we continue to pollute our own backyard with waste that will never leave us.

Moreover, this carefully researched history is a cautionary tale for those who think that the military model is the only right response to security needs today—and for those who advocate a "fortress philosophy" for embassies overseas, for example, and for federal buildings here at home. Faced with an increased security risk from terrorists, embassy compounds are distancing themselves more and more from their surroundings, becoming more isolated as they become more fortified. Architects are quickly learning how to design such structures to be maximally blast-proof and practically permanent. Federal courthouses and other major federal facilities are following closely, taking a cue from the White House, which now fronts onto a Pennsylvania Avenue that is closed to traffic and cordoned off by steel-reinforced bollards. Hales's work helps us to read these developments as the political and cultural statements that they are. It is some turn of events when our new public buildings come to resemble yesterday's bomb factories. ■

below
Aerial view of the Joliet Army Arsenal, once the world's largest TNT factory. The arsenal is located forty miles southwest of Chicago.
(from *Disarming the Prairie*)

Note

- * Hales's books include *Silver Cities: The Photography of American Urbanization, 1839–1915* (Philadelphia: Temple University Press, 1984) and *William Henry Jackson and the Transformation of the American Landscape* (Philadelphia: Temple University Press, 1988).

