

## AT THE EDGE OF THE KNOWABLE

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Americans have never known what to do with the rugged, arid landscapes between the Rockies and the Sierra Nevada, an area that is a vast wasteland both in terms of geography and within the national imagination. David Maisel's new pictures ask questions about whether one of our answers—militarization—converts land stewardship into a promise of national security, and whether that's a good deal. His *Proving Ground* series is the latest installment of what may be America's best tradition: artists examining our land, especially in the West, and by so doing continuing the conversation about how it might be used.

That investigation started in the 1830s and 1840s, just about the time the daguerreotype came to America and before the easterners who governed the United States knew what was out there. America's first plan for this then-unknown, partially Mexican landscape was to move through it on the way to somewhere else: Influential Missouri Senator Thomas Hart Benton imagined an American empire that stretched to the Pacific and that traded with Asia, and Washington went along. As expansionism took root in Washington and as the Mexican government weakened, the government realized that learning about the intermountain West was in the national interest and sent explorers to come back with information.

The most important and influential of America's western explorers was John C. Frémont. When his achievements are combined with his wife Jessie Benton Frémont's—as they should be, given her impact on his writing, publishing, and political career, and her own role in rousing California to remain in the Union in 1860–61—the Frémonts made up the most influential couple in nineteenth-century America. John C. Frémont's western expeditions first established traveling to and settling in the mountain West as America's manifest destiny, and established the most important paths by which it would be done. First, he disproved the widely held notion that the intermountain West and the Great Basin in particular was joined to the Pacific Ocean by a great river.<sup>(1)</sup> American thus understood the region to be a vast desert, and compared to the eastern lands and the future metropolises of the West Coast, it would remain almost entirely unsettled. In time, the emptiness of the Great Basin would allow the federal government to dominate the region, and eventually for the military-industrial complex to control immense landscapes for its own purposes.

Frémont was the first American to realize the importance of giving Americans, who were wholly unprepared for how different the mountain West was from the East Coast, some idea of what these new lands looked like, of their opportunities and challenges. In 1842, before his first foray into the Rockies, Frémont purchased daguerreotype equipment.<sup>(2)</sup> His plan was for his first expedition to be photo-documented. Alas, any plates and the camera were lost when Frémont's team hit an unexpectedly severe

stretch of rapids on the Platte River and lost much of their scientific gear.(3) No matter, Frémont bought another camera for his second expedition. Alas again: Frémont failed to learn how to use it, and it lay unused. For his third expedition, Frémont finally got it right; he hired a trained daguerreotypist named Solomon Nunes Carvalho. Carvalho's images survived the dangers of travel and were printed and exhibited in Mathew Brady's Washington studio and gallery, where they were received with fascination.(4) (While the plates were made into engravings—common practice in the day, as photographic reproduction for use in books and magazines was not yet possible—they were ultimately destroyed in a warehouse fire.) From Carvalho forward, photography would become American art's most significant way of engaging with the West.

Just as important, artists would become central to America's meditation on the West, a tradition Maisel continues at Dugway. In the early 1860s, and with an assist from the Frémonts, whose Las Mariposas gold-mining property was nearby, an artist's work would be the key motivator behind the establishment of the first public land, the federal government's setting aside of Yosemite Valley and the Mariposa Big Tree Grove for public use. That artist, Carleton Watkins, didn't make his Yosemite pictures with any such result in mind, but he almost certainly did have a specific regional and national engagement in mind: His 1861 Yosemite pictures were motivated by Unionism at a time of intense and uncertain sectionalism. Watkins's pictures were first exhibited in New York at the end of 1862, the same week that the Union was suffering its worst defeat of the war, in Fredericksburg, Virginia, and a few doors away from Brady's New York gallery, which was simultaneously exhibiting Alexander Gardner's pictures of corpses at Antietam.(5) Within eighteen months a California movement to set aside Yosemite for the public would gain traction in the east. Come June 1864, President Abraham Lincoln signed a bill granting Yosemite to the young state of California, which was charged with figuring out how exactly a landscape would be made into public land.

California charged Frederick Law Olmsted, who had already begun to co-design Central Park, with figuring out exactly how that would happen. Olmsted's report repeatedly credits Watkins (and, secondarily, painter Albert Bierstadt) for making Yosemite a landmark, and Olmsted would later ensure that a mountain above the valley was named for Watkins as thanks.(6) Today immense tracts of western land—more than 50 percent in many states—are public land.

For decades hence, through George Fiske and Ansel Adams in California, Paul Strand, Georgia O'Keeffe, and Victor Higgins in New Mexico, and plenty more, artists created the ways in which Americans thought of the West. For the purposes of our story, we'll skip ahead to the post-World War II era, when artists have led the examination of the often shocking impacts that industry and the federal government have had on the land.

The event that catalyzed the environmental movement and the Land Art movement, and that indirectly led many artists to examine man's impact on the landscape (an examination that Maisel's work extends), was an oil leak off the coast of Santa Barbara, California. On January 28, 1969, as workers pulled a drill bit out of an off-shore well, oil and natural gas rushed up out of the ocean floor and into the water. The workers'

response to the gusher exacerbated the problem, and within minutes oil and gas were pushing up through- out the surrounding sea floor. A man-made disaster was on. Within twenty-four hours the spill covered seventy-five square miles, and before long it would cover an area only a little bit smaller than Connecticut. The spill continued for weeks; seepages continued for months. Beaches along the southern California coast were coated with as much as six inches of oil.(7)

To this day, the Santa Barbara oil spill is one of America's worst environmental disasters. Unlike other recent environmental calamities—a 1966 inversion suffocated New York City with smog for four days, killing 169 people(8)—this time there was a massive public response, especially in the West. The spill directly motivated Democratic Senator Gaylord Nelson and Republican Congressman Pete McCloskey to create the first Earth Day.(9) (The first Earth Day was on Maisel's ninth birthday. Perhaps as a result, he remembers it well.) Almost immediately artists began making work in the landscape, about the landscape, and in ways that addressed both geologic time—oil!—and the way Americans were using the land. In the wake of the spill Robert Smithson created Spiral Jetty (and located it near a natural oil seep), and Robert Barry inaugurated his Inert Gas Series. For each performance of the work, Barry took carefully measured volumes of five of the six noble gases—skipping radon, which has radioactive properties—to sites throughout California and released them into the atmosphere. (The pieces are best known today through photo-documentation.)

Another artistic engagement with the new American environmentalism was the emergence of the unaffiliated photographers who were typically grouped together as the New Topographics: Robert Adams, Judy Fiskin, Joe Deal, Lewis Baltz, and Henry Wessel, to name just a few. Each of them focused their work on how Americans had used the land—by building on it, usually crudely and rapaciously and often without considering land, water, or energy as finite resources. Indirectly, they all considered the role government played in how the land was being used.

As artists increasingly examined the environment, they focused on the West and inevitably ended up looking at the federal government and the military-industrial complex's use of enormous swaths of western land. In 1984, Robert Adams published *Our Lives and Our Children: Photographs Taken Near the Rocky Flats Nuclear Weapons Plant*, a response to a suburban Denver facility at which a series of government contractors processed material such as plutonium and uranium. By 1983, when Adams finished the series, the many environmental disasters that plagued Rocky Flats were well known: A plutonium fire contaminated a building and released plutonium into the atmosphere in 1957; leaking barrels of radioactive waste were found in a field in 1959 (and hushed up until 1970, when wind-borne particles were discovered in Denver); more leaking barrels of plutonium- contaminated lubricants and solvents were discovered in 1967, followed by another major fire in 1969, and the discovery of elevated plutonium levels in the soil on the site.<sup>10</sup> Still, as Denver's suburbs expanded, they grew closer and closer to the problematic facility. Adams's pictures, of parents and children near Rocky Flats, effectively asked the question, "Is this right?" while also wincing at the invisibility of the plutonium hazard: No one near Rocky Flats could see

elevated levels of toxins around them. They went about their daily lives, with their children, underinformed by a government focused on a nuclear arms race and property development that would continue nearly right to the edge of the Rocky Flats facility. Adams's pictures were thoughtful, even gentle, but in a fear-driven Cold War climate Adams had trouble getting the project published. Eventually Aperture published sixteen of the pictures in Aperture Magazine #88 along with a text by Adams in 1982 and later a book, but the production quality was lower than Adams wanted and the book sold poorly.(11)

Richard Misrach and Emmet Gowin took more direct approaches to America's nuclear landscape. In 1986, Gowin first visited the Hanford Nuclear Reservation, the first full-scale plutonium production reactor, the manufacturer of the plutonium used in the 1945 Trinity Test explosion as well as the atomic bomb detonated over Nagasaki. During the Cold War, Hanford expanded to include nine nuclear reactors and five plutonium-processing complexes. Hanford was decommissioned in 1971 (though one reactor continued to produce nuclear material and electrical power until 1987), at which point the government destroyed most of the buildings on the site. Gowin's photographs, made from the air, showed the ghostly imprint the facility left on land adjacent to the Columbia River, water from which cooled Hanford's reactors. (Radioactive material found its way into the river and was later found 200 miles downstream.) Mark Ruwedel also made work at Hanford; it was published in 1993. Gowin extended his aerial examination of the federal nuclear weapons project in the west to the Nevada Test Site,(12) where the US conducted nearly 1,000 atomic and nuclear experiments—often detonations, many of them above ground. (The most famous still images of American atomic and nuclear testing were made here.) Gowin's pictures don't exactly rely on decades of famous government photography, but when looking at these pictures of an impossibly, deeply pock-marked landscape, one can't help but think about black-and-white mushroom clouds over Nevada.

Misrach's 1992 book *Violent Legacies: Three Cantos* featured two series of work, what Misrach calls "cantos," specifically about America's use of the West for the development, delivery, and testing of atomic and nuclear weapons. His *Project W-47 (The Secret)* looked at the landscapes around Wendover Airfield, where the pilots who dropped atomic bombs over Hiroshima and Nagasaki trained for their missions. Misrach's pictures show bombing targets and storage buildings at the site, many of them preserved in and by the dry high-desert climate. The condition of the buildings is a reminder that the impact the atomic and nuclear era had on the intermountain West will continue to imprint the land for centuries. (Kathleen Shafer's *Enola Gay Hangar* [2006] of the Wendover Airfield outbuilding in which the plane that dropped the atomic bomb over Hiroshima was housed shows the building strikingly intact. Tire tracks run from it, a reminder that our seventy-year-old atomic-delivery infrastructure remains in some kind of use.) The *Pit* series showed dead animals, often in pits, near the Nevada Test Site. Misrach's pictures leave it unclear what has killed them. Sometimes the animals are surrounded by industrial detritus, such as barrels that once contained unknown fluids or chemicals, which merely leave a viewer wondering what those

materials are doing in what was then a bomb-test site.

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Each of these works remind us that while America's nuclear back-end was designed to make bombs, the byproducts of those weapons are invisible and deadly. Enter Maisel, whose pictures of the Dugway Proving Ground extend the artistic examination of America's impact on western land into a terrorist age. As William L. Fox's essay describes, Dugway Proving Ground tests how US defense systems respond to biological and chemical weapons, a function which necessitates the release of invisible toxins into the landscape. The paradox of how to see something invisible, how to measure something microscopic within a landscape nearly the size of New York's Long Island determines both the US Army's project and Maisel's. While pictures of and related to our nuclear weapons program show a much-changed landscape, pictures of our chemical and biological defenses program don't. Maisel's pictures measure Dugway's imprint on a beautiful, delicate desert landscape against the Army's goal, to protect Americans from biological and chemical weapons. His pictures ask whether what we are doing there is worth the uncertainty of protection against a threat that may or may not be real, or against which we might not be able to be defended.

They raise questions about how we define impact, and about whether yet another western landscape, affected in yet another way by man, can or will recover. Maisel's pictures reveal the Army's marking of the desert, especially via immense curvilinear and rectilinear grids that it has incised on the desert hardpan, the structures the military has built there, and finally with interiors of a facility in which scientists and technicians handle biological and chemical weapons.

The grids reveal Maisel's biggest challenge at Dugway—and the military's too: how to determine the power of an invisible weapon. Maisel's Tower Grid 02 and West Vertical Grid 04 are aerial views of straight lines and circles the Army has landscape in the landscape in an effort to give analysts a way of measuring the reach of chemical and biological releases and the response of weapons defenses. The series South Ballistics Grid 04, Target S Grid 11, and Horizontal Grid 01 feature the straight lines the Army has cut through the desert, each laid over natural marks left by erosion and the passage of water, confrontations between man and nature.

That confrontation is at its most dramatic in Maisel's Tower Grid 02, which shows a series of concentric circles over a vast landscape, surely hundreds if not thousands of acres. The incisions man has made in the desert look like a bombardier's sight. At the bottom-center of the grid is a structure that the eye can't quite make out from the air. Maisel goes to ground level to provide a look: It's an enormous circular structure built out of poles and joiners with a light-standard at one end and a kind of platform at the other. A viewer can imagine that toxins are released from the tower and the cravings on the earth measure its spread. We can't see what the toxins do; instead we see the grids and are left to imagine. The toxins won't leave a lasting physical mark here (they may damage the region's ecology), but the grids the Army has etched into the desert will be here for generations. In the middle and upper-left of the grid is an enormous mark on

the landscape likely left by water flowing through the land. In Maisel's nine-picture grid, it reminds us of an invisible, possibly dangerous emanation.

The grid pictures differentiate Maisel's examination from his predecessors. In Misrach and Gowin's work, the impact of bombs on the land in the Nevada Test Site or of Hanford along the Columbia River are evident, horror made plain. Adams's presentation is more subtle—he asks about the effects of nuclear weapons production on humans, pictures that wonder if the production of bombs is doing more harm than the bombs themselves would ever do. (A: So far, yes.) At Dugway, there is no such damage done by weapons for Maisel to show. Instead, he relies on the same apparatus as the military: the carving of the desert hardpan.

Then there is the Air Force Targeting Grid Building, one of a relatively small number of constructed structures across Dugway's nearly 800,000 acres. It seems to be a folly, a pale gray concrete masonry building that rises in four steps, with each step seeming to have its own roof. (The interior of the building is a hollow void; it is unused.) Maisel offers six pictures of it here. Each of these pictures, taken alone, can be read as a New Topographics-style examination of questions: How does the building exist in the landscape? Was it necessary to build it this way? Here the form follows function in a way we rarely see in New Topographics pictures:

The Air Force Targeting Grid Building was designed to be seen from the air, for targeting, and for measuring. That is why it is stepped. Maisel's Visual Guidance Pattern reveals the utility of the form: The bright white of the concrete contrasts deeply with the shadow the building leaves on the landscape.

Maisel presents the building both as a solitary monolith laid against a vast desert, and as an architectural oddity backstopped by an abrupt, steep, craggy mountain range. His pictures that play the building's peaked roofs off of the not-so-distant mountains recall the way so many New Topographics photographers play the roofs of new homes and old mountains off of each other. In all those New Topographics pictures, the new tract houses offer affordable housing, safety from the desert sun—a life. In Maisel, the masonry folly with four roofs is more sinister, a structure that suggests that in an era in which terrorism is most Americans' biggest fear, safety cannot be assured.

Even with a different macro-narrative, there are plenty of references to the New Topographics pictures in Maisel. Adams repeatedly smirks at the folly of building little white houses in the harsh Colorado desert, and at the way these seemingly disposable houses block views of the spectacular landscapes beyond. Joe Deal sometimes places the straight angles of roofs off of the sloping California hills.<sup>(13)</sup> Maisel's approach here is more in line with Baltz's. In a 1969 picture from his Prototypes series, Baltz offered up a series of arced roofs of what appears to be a warehouse against the rolling Marin County hills, the built environment echoing the mountains and the view they deny.<sup>(14)</sup>

I've saved the most obvious importance of Maisel's pictures for last. It's a point that takes us back to those very first pictures of the West 170 years ago. Because Dugway is a US Army installation, it's not something "ordinary" Americans would have the

opportunity to see, were it not for the access Maisel secured or the pictures he made there. Just as Carvalho and Watkins made pictures that showed nineteenth-century America and gave a nation the opportunity to consider the land as a place to move, in which to invest, a place through which to travel on the way to the Pacific or as a place to reject, Maisel's pictures provide us with the opportunity to engage with one of the ways America is choosing to address the threat of chemical and biological weapons. As with all of the best art of the West, Maisel's pictures enable a conversation simply by giving us knowledge of the previously unknowable.

#### ENDNOTES

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3. *Ibid.*, 131.
4. *Ibid.*, 424–30.
5. *New York Times*, December 12, 1862; *New York Times*, October 20, 1862.
6. Frederick Law Olmsted, "Yosemite and the Mariposa Grove: A Preliminary Report, 1865." (Yosemite, California: Yosemite Association, 1995). Frederick Law Olmsted, letter to Calvert Vaux, September 19, 1865, in the Calvert Vaux papers, Manuscripts and Archives Division, The New York Public Library. For Watkins, Olmsted and the Yosemite Idea, see Tyler Green, *Carleton Watkins: Making the West American*. Oakland: University of California Press, 2018.
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9. Alina Bradford, "Earth Day: Facts & History," Live Science, April 21, 2015.

10. Kristen Iversen, *Full Body Burden: Growing Up in the Nuclear Shadow of Rocky Flats* (New York: Broadway, 2013).

11. Robert Adams, *Robert Adams: The Place We Live*, vol. 3 (New Haven: Yale University Art Gallery, 2010–11), 102.

12. In 2010 the federal government's National Nuclear Security Administration renamed the facility the Nevada National Security Site.

13. See for example Joe Deal, *Backyard*. Yorba Linda, California, 1984.

14. Lewis Baltz, *2000 Bridgeway*. Sausalito, 1969.