Twice a year, visitors can travel to the Trinity Site, where the first atomic bomb was detonated. During the visit, ride a shuttle bus to the restored MacDonald ranch house, where the Manhattan Project team assembled the bomb in a "clean room," complete with graffiti left by the scientists.

A top-secret mission during World War II, the Manhattan Project is an indelible part of New Mexico's history. As the Trinity Site opens for its twice-yearly public visiting day, road-trip with writer and photographer CHARLES MANN as he revisits sites connected to the project, from the Trinity Site itself to Los Alamos National Laboratory, and explores the Project's New Mexico legacy.



hen the world's first atomic bomb exploded at the White Sands Proving Ground on July 16, 1945, about 36 miles southeast of Socorro, the fiery reaction punched into the gritty floor of the New Mexico desert a bowl 1,100 feet wide and 10 feet deep, and vaporized the 100-foot-tall

steel tower that had suspended the bomb over the site. The blast also melted the sand, creating one of the rarest manmade minerals in the world—a glassy, green material called Trinitite.

On "the day the sun rose twice," one scientist said, "We knew it was a new world." No other single event of the 20th century has cast so long and lasting a shadow over

society or has added so profoundly to the language of warfare and politics as on that morning when the atomic bomb became a reality. It's a shadow that still lingers today.

### **A MUSHROOM IN THE DESERT**

Today the Trinity Site is a part of White Sands Missile Range, and since December 1965 has been a National Historic Monument; it is open to the public only two days a year. Despite many resolutions, it has taken me 30 years of living in New Mexico to finally visit this place, keen to satisfy my curiosity.

I'm standing at ground zero, the center of the crater, near a memorial obelisk of dark volcanic rock. Beyond the compound's chain-link fence, I can clearly see, 14 miles away, the antenna dishes and buildings of the still-active missile range. Far to the west, the serrated humps of the Magdalena Mountains form part of a long, blue horizon that surrounds the shrubby sea of snakeweed, creosote bush, and vucca that stretches for miles in every direction. It's a spare, sobering monument in a spare, sobering landscape.

I belong to the Duck-and-Cover Genera-

tion. If you can remember the theme music to The Twilight Zone, watched the silent star of Sputnik glide through the night sky, and learned about nuclear fallout in grade school, then so do you. As a Baby Boomer visiting the place where men and women heard and felt that first apocalyptic concussion, it is impossible for me not to reflect on the drama of that moment, and on the weight of history that must have enveloped the people who played a role in the birth of the Atomic Age. I'm standing in the very spot where *they* stood, where *it* happened.

Trinity also stirs in me a sense of menace associated with the atomic bomb, a haunting childhood memory of the dread of sudden destruction that has sat latent all these years in my emotional imagination. It's an ominous mushroom-cloud-shaped feeling, and it's been awakened once more by my coming to this place. My sense of reverence and wonder, inspired by the stark natural beauty of the desert, is now mingled with sinister notes of

foreboding and trepidation.

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From the birthplace of the bomb, I head north toward Los Alamos-the former home of the Manhattan Project, where the game-changing weapon was created. But first, I pass through Albuquerque and Santa Fe, just two of the many places in New Mexico the Project touched. I want to stand in those places, too.

### **M-M-MY GENERATION ...**

On old Route 66 in downtown Albuquerque, I've come looking for the Andaluz Hotel. The exterior of the building is such an anonymous white block of urban architecture that I drive right past its low-key sign. Inside, I discover a marvel of cool, elegant, 1950s retro style. The main lobby is a dimly lit, "Take Five" time warp, with green and blue accent lights in the fountain and shrouded, arty little booths tucked away along the wall. You could shoot an episode of the current TV show Mad Men in here.

In 1945, David Greenglass, brother of convicted spy Ethel Rosenberg, came to the Hilton Hotel, as the Andaluz was then known, to rendezvous with foreign agents and pass nuclear secrets to the Soviet Union. Greenglass was arrested in 1950, when the Rosenberg ring was exposed. Although the Andaluz today is certainly not the Hilton of 1945, the architectural style and much of the atmosphere remain. Even now, prowling around in the beige air of the lounge, it's easy for me to picture such a meeting. It still feels like a perfect place for intrigue.

In her A Guide to Manhattan Project Sites in New Mexico, Cynthia C. Kelly recounts another, more dramatic event at the Hilton. Counterintelligence officer Thomas O. Jones spent the night before the Trinity Test in a makeshift office here, watching the distant horizon from a south-facing window. When the "gadget," as the scientists then called the bomb, exploded more than 100 miles to the south, Jones reported that "the room was as if somebody has put off 150 flashbulbs in one hotel room all at once . . ." In fact, it was a single nuclear flash bulb as big as the sky. The blast's shock wave broke windows as far as 120 miles away, and fallout from the test was detected as far north as Santa Fe.

As with Trinity, there's something intangible but powerful about coming to see just where the history happened.

Be it Hollywood, Dealey Plaza, or Graceland, I'm beginning to realize that certain places are indelibly linked to the special events that deeply affected my generation. It's a cultural memory. Even though we weren't here when it happened, a part of who we are is still somehow from here. I depart the lounge of the Andaluz feeling as if I were leaving a scene from a documentary movie about the psychological journey of the Baby Boomers.

#### **BACK TO THE FUTURE**

A block off the Santa Fe Plaza, 109 East Palace Avenue is one of the most famous addresses in the archives of the Bomb. I'm in an office once occupied by University of California-Berkelev physicist I. Robert Oppenheimer, an academic superstar who was the scientific director



Clockwise from left—A solitary obelisk marks the spot where the "gadget"—as the bomb was then known—exploded in July 1945. Retired public affairs specialist and unofficial White Sands Missile Range historian Jim Eckles volunteers as a docent to help visitors understand the Site's importance. A visitor stands inside the remains of JUMBO, a 214-ton steel cylinder designed to contain the atomic bomb but ultimately used on another small test. An atomic fireball lit up the sky at 5:29 a.m. on July 16, 1945. The explosion melted the desert sand creating Trinitite, a.k.a. Alamogordo glass—one of the rarest manmade materials





Clockwise from top left—Zack Cox stands in what was the office of J. Robert Oppenheimer, the scientific director of the Manhattan Project, at 109 E. Palace Avenue in Santa Fe. N.M. 502 bridges the Río Grande at Otowi crossing where the landscape creates a romantic suggestion of how Edith Warner's café might have appeared in 1944. A small bronze plaque along the portal outside 109 E. Palace Avenue in Santa Fe identifies what was once a secret doorway to the Manhattan Project. (From left) Dorothy McKibben, Oppenheimer's secretary, Oppenheimer, and scientist Victor Weisskopf talk at a 1944 Los Alamos party.

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of the Manhattan Project in New Mexico. To preserve secrecy, everyone who came to work at Los Alamos first had to pass through this tiny courtyard, where, for many, the purpose of their summons to Santa Fe was still a mystery. The post office was directly across the street, and all Manhattan mail was routed to P.O. Box 1663, Santa Fe, then hand-carried up to Los Alamos. Indeed, the project's location was so secret that the birth certificates of all infants born in Los Alamos during this period had "P.O. Box 1663" listed Surrounded by scores of Edward S. Curtis's sepia-tone photos of Native Americans, some beautiful

as their place of birth.

Navajo rugs, and Pueblo pottery, I've spent the last hour in an animated conversation with Zack Cox about the Manhattan Project. Thirtysomething Cox grew up in Pecos. His

family has operated the Rainbow Man gift shop here at 107 E. Palace since 1983 (the original 109 E. Palace address was actually located in a rear courtyard of the building). A mountain biker and firefighter, Cox has heavily tattooed arms, pierced ears, a rugby player's burr haircut, and an infectious youthful enthusiasm.

Sitting here in Oppenheimer's office, Cox strikes me as a tangible symbol of an American future that seemed uncertain

American future that seemed uncertain back in 1944. The scene paints such a vivid contrast between past and present that it causes me to ponder more deeply how different my life, and life in America today, might be had the scientists' efforts at Los Alamos failed. At this moment, I realize that my mixed feelings about the bomb include relief and gratitude.

## **GIANTS IN A CABIN**

North of Santa Fe, I've driven west on N.M. 502, from the Pueblo of Pojoaque to Otowi Bridge, over the Río Grande. I'm walking near the west bank of the river, not far from San Ildefonso Pueblo. I've passed this place hundreds of times on my way to Los Alamos. Crossing the bridge never fails to remind me of a scene recounted in one of my favorite books: Peggy Pond Church's memoir, *The House at Otowi Bridge*.

In 1917, Church's father, Ashley Pond, founded the Los Alamos Ranch School on the Pajarito Mesa, where the town of Los Alamos and Los Alamos National Laboratory stand today. The boys' school operated until the Defense Department took over the property for the Manhattan Project.

Church's narrative tells the story of Edith Warner, a mysterious woman who came to the Land of Enchantment in the 1920s from the East. By 1941, Warner had taken a job at Otowi receiving freight from the Chili Line, a narrow-gauge railroad that once ran from Antonito, Colorado, to Santa Fe. The post had been abandoned by a San Ildefonso Pueblo couple, Julian and Maria Martinez. (Yes, that Maria Martinez, creator of the famous black pottery.) Warner also opened a small café here, and, as Church writes, "Oppenheimer persuaded the authorities to let small groups of men and women come down from 'the Hill' for dinner at that little house by the river." It was the only place the scientists were allowed to go outside the Project compound, except to hike in the mountains.

As I stand near the noisy four-lane highway, contemplating the decrepit buildings and the old trees, the image of those famous

# **FURTHER READING:**

American Prometheus: The Triumph and Tragedy of J. Robert Oppenheimer, by Kai Bird and Martin J. Sherwin (Vintage Books, 2006)

The Day the Sun Rose Twice: The Story of the Trinity Site Nuclear Explosion, July 16, 1945, by Ferenc Morton Szasz (University of New Mexico Press, 1984)

**A Guide to Manhattan Project Sites in New Mexico,** by Cynthia C. Kelly (Atomic Heritage Foundation, 2010)

The House at Otowi Bridge: The Story of Edith Warner and Los Alamos, by Peggy Pond Church (University of New Mexico Press, First Edition, 1960)



The Making of the of the Atomic Bomb, by Richard Rhodes (Simon & Schuster, 1995)

The Manhattan Project: The Birth of the Atomic Bomb in the Words of Its Creators, Eyewitnesses and Historians, edited by Cynthia C. Kelly (Black Dog & Leventhal Publishers, 2007)

Now It Can Be Told: The Story of the Manhattan Project, by General Leslie R. Groves (Da Capo Press, 1983)

109 East Palace: Robert Oppenheimer and the Secret City of Los Alamos, by Jennet Conant (Simon & Schuster, 2006) The Manhattan Project is born. Present Insured administrative URL Major General Latter 5. Group in there, a decir Project 7. He co for the Latestary but wait always be latter, Grove sites projection 2.

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From top—A likeness of General Leslie R. Groves, the head of the nationwide Manhattan Project, stands in Los Alamos National Laboratory's Bradbury Science Museum. LANL's first computer didn't come on line until the 1950s; Manhattan Project scientists did calculations by hand. Visitors to the Bradbury Science Museum encounter a replica of the Fat Man bomb, which was dropped on Nagasaki, Japan. men, gathered at the fireside in Warner's little café, eating *posole* and pie from terracotta plates while discussing the fate of the world, seems too palpable to require any imagination.

I've become fond of the Edith Warner portrayed in Church's account because, in many ways, her story is my story. Like her, I came to New Mexico from somewhere else, and like her, I bonded with this place. As noted in *The House at Otowi Bridge*, Warner also experienced the ominous mushroom feeling. It represented a fear that her cherished world might be endangered by the specter of the

bomb. Ever since my journey to Trinity, I've been trying to put a finger on the essence of my disquiet, and it's right here in the book. The creepy threat of atomic war loomed over her landscape and her psyche in a way that still looms over mine—and ours.

## **UP THE HILL**

All nuclear roads ultimately lead to Los Alamos. I've always thought that the drive up the mesa to the town is one of the most beautiful vistas in the state. Today, however, as

I wind up through the deep slots carved into the pale volcanic ash, I'm not thinking about the landscape. I feel instead as if I'm *descending*, going down into the womb, toward the Genesis, where, in a mere 27 months, Man created the Bomb. Los Alamos National Laboratory, the research institution that grew out of the Manhattan Project, is still mostly off-limits to the public, but the Laboratory's Bradbury Science Museum tells the story of the weapon's evolution.

In the museum, I stare transfixed at the signature of Albert Einstein on a letter. The page's typewritten characters, blotchy and uneven on the yellowed paper, remind me of the level of technology the scientists were working with. The first supercomputers would not appear here for another three decades. Meanwhile, Oppenheimer's former residence still stands on Bathtub Row, a Los Alamos street named for the fact that, in 1944, the quarters there housed the only bathtubs in town.

The scientists who came to create

this new atomic fire included men whose names were already familiar to me from the textbooks I used as a Los Alamos High School chemistry teacher in 1981: Niels Bohr, Enrico Fermi, Sir James Chadwick, Glen T. Seaborg, Edward Teller, John von Neumann. One of them, Oppenheimer, was selected to lead the efforts at Los Alamos by General Leslie R. Groves, commander of the nationwide Manhattan Project. "Oppie" was a slender, urbane, sensitive intellectual, while the Patton-like Groves was stocky, gruff, hardnosed, and autocratic. I remain a while, standing between the life-size statues of the two men that frame a video display about the Bomb's development. Opposites in every way, these theatrical, larger-thanlife characters once again emphasize for me the epic drama that is the true story of the Bomb.

I also linger near the reproductions of Little Boy and Fat Man, as the two bombs dropped on Hiroshima and Nagasaki, respectively, were nicknamed. It is chilling, eerie, and humbling to contemplate these Volkswagen-sized metal thunderbolts hurtling from unseen B-29s down toward the people of Japan. Sixty-five years later, arguments about this moment in the history of the war are as impassioned, intractable, and complex as ever: Is the bomb a necessary evil? Might it vet destroy the very things it saved? Who should control it? Where is the balance between security and preserving a peaceful world? I have not considered these unsettling questions for a long time, and I still have no clear answers.

This museum gets me in my gut, brain, and heart, all at once.

#### **A NEW WORLD**

Back at the Trinity Site, I've stopped to investigate a dirt-covered observation bunker similar to the one in which Oppenheimer, ever the scholar and poet, read these words aloud from the *Bhagavad Gita*, a sacred Hindu scripture, as the seconds ticked down to the bomb's detonation: "Now I am become Death, the destroyer of worlds." As leader of the project, he found himself cloistered in the desert at dawn, poised to become a legendary hero or a monumental failure at the flip of a switch. Six miles away, a ball of plutonium the size of an orange waited to be compressed by a sphere of conventional



Visitors to the Trinity Site can see ground zero from this observation porthole at the West 10,000-yard observation bunker that was used during the July 1945 test.

explosives. Oppenheimer would later become the public face and conscience of the Bomb, and would be vilified for expressing his moral misgivings about its creation and use. The title of a recent popular biography about him captures his fate perfectly: *American Prometheus*.

As I gaze at the windblown remnants of the bunker, another image of the world's preeminent scientists, huddled together in a tiny room, appears in my imagination. The world was about to change. This time, their thoughts were not about pie.

This article benefited from the help of Jim Eckles, retired Pubic Affairs Specialist and unofficial White Sands Missile Range historian; and of Steven Sandoval, Public Relations Specialist for Los Alamos National Laboratory.

See more of Santa Fe writer and photographer **Charles Mann**'s work at www.charlesmannphotography.com.

## IF YOU GO:

Andaluz Hotel 125 Second St. NW Albuquerque, NM 87102 (505) 242-9090 www.hotelandaluz.com

Bradbury Science Museum 1350 Central Ave. Los Alamos, NM 87544 (505) 667-4444 www.lanl.gov/museum

The Rainbow Man

107 E. Palace Ave. Santa Fe, NM 87501 (505) 982-8706 www.therainbowman.com

**Trinity Site** 

Open the first Saturday in April and October The Trinity Site is a part of White Sands Missile Range (575) 678-1256 www.wsmrmwr.com www.white-sands-new-mexico.com/ military.htm