

America's Athenian World

By Ferenc Morton Szasz

"A Place Like No Other," a series inspired by the creation of the New Mexico History Museum, is devoted to exploring New Mexico history through new research and recent insights of curators, artists, collections managers, educators, historians, archaeologists, and ethnohistorians—work that will inspire lines of inquiry and exhibitions for years to come.

In this article Professor Ferenc Morton Szasz takes us back to a moment in time—5:29:45 Mountain War Time, July 16, 1945—that changed world . . . forever.

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RIGHT: J. Robert Oppenheimer and General Leslie R. Groves at Trinity Site, near Socorro, New Mexico. Photograph courtesy of the Los Alamos Photo Archives.



ABOVE: The main technical area at Los Alamos as it was in January 1947.
RIGHT: Back row, third from left, Stanislaw Ulam, Polish-born mathematician.
Front row, seated, American physicist Edwin M. McMillan.
Photographs courtesy of Los Alamos Historical Society.



It is probably safe to say that never before in the history of the human race have so many brilliant minds been gathered at one place.

The place was a former private boarding school for boys that sat amidst some of the most scenic fifty square miles in the nation. Originally termed Site Y, the community became Los Alamos, and its mission was to develop the first atomic bomb to end the war then raging in Europe and the Pacific.

The Manhattan Project, which became the cover name for the top secret US atomic bomb program, was originally based in New York City and was named for the borough where the research began. As historian Robert S. Norris has shown in a chapter in *The Manhattan Project*, Manhattan housed at least ten project locations, ranging from seedy warehouses that held imported uranium to the famed Pupin Physics Laboratory at Columbia University.¹

After General Leslie R. Groves assumed command of the project in September 1942, he moved its headquarters to Washington, DC, and began to draw extensively on the nation's universities for scientific and technical expertise: Iowa State; MIT; the University of Chicago; the University of Rochester; Washington University, St. Louis; the University of Minnesota; and the University of California, among others. In addition, Groves oversaw the erection of three gigantic federal laboratories: the Clinton Engineer Works (Oak Ridge), near Knoxville, Tennessee; the Hanford Engineer Works, near Richland, Washington; and Site Y, at what had been the Los Alamos Ranch School on a high mesa near Otowi, New Mexico.² Site Y, as Los Alamos was called during the war, was deemed necessary because the scientists insisted on a venue where they could have free-flowing discussions without violating the need-to-know rule of "compartmentalization" that dominated other project locations and kept one person unaware of what another was working on. By spring 1943 the last of the school's faculty had departed, and

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FRONT SEAT: Hans E. Bethe with Nick King, the son of physicist L. D. P. "Perc" King, ca. 1946. Later a physicist himself, N. S. P. "Nick" King joined Los Alamos in 1977 and is a Laboratory Fellow today. BACK SEAT: Hans Enrico Fermi with Edward Teller's son Paul. Photograph courtesy of the Los Alamos National Laboratory Archives.

the Army, WACs, and scientists began to arrive. From spring 1943 to August 6, 1945, the existence of Los Alamos was probably the most closely guarded secret of the entire war.

In time, however, Los Alamos has emerged as the most widely known of all Manhattan Project sites. Oak Ridge, Hanford, and the MET Lab at the University of Chicago all have their stories, but Los Alamos boasts more than anecdotes: it has legends.³ And the legends emerged, in part, from the larger-than-life scientists who lived on the Hill during those tumultuous times. From 1943 on, Los Alamos formed an unreal world, part mountain resort and part military base. Locally it was often called the Magic Mountain or Shangri-La. Those who arrived after the war frequently wished that they could have worked there earlier. For those who shared in the experience, remarked physicist I. I. Rabi, "It was their great moment." It marked them for life. Not surprisingly, a large number who lived and worked there during the war decided to return to the Santa Fe–Los Alamos region to retire. The men and women at Los Alamos shared a deep sense of purpose; they formed an international community that was engaged in a life-or-death struggle to beat the Germans to the secret of atomic power. This goal gave the town its fierce intensity. In 1975 physicist Hans A. Bethe confessed in a taped interview on file at the Los Alamos Historical Society that never, either before or after, had he worked as hard as he did during his years at Los Alamos. Another scientist was quoted in the June 1970 *Bulletin of the Atomic Scientists* saying, "It was one of the few times in my life when I felt truly alive."⁴

A person walking through the former school's spacious Fuller Lodge at lunchtime might see four to five Nobel Prize winners dining at the same table. In the years to come, seven other scientists who worked on the project would become Nobel laureates as well. A list of those at Los Alamos from 1943 to 1945 reads like pages from *Who's Who* in the world of science. In his memoirs Otto Frisch of the British delegation noted that he always felt that he could knock on any Los Alamos door and soon find himself in a stimulating conversation on poetry, science, music, or art. Never had there been a community like this before; never would there be so again. It was America's Athenian world.

At the center of this scientific galaxy stood J. Robert Oppenheimer, the wartime director of Site Y and perhaps the most enigmatic figure of the entire Manhattan Project. Although five full-length biographies have appeared within the last few years, Oppenheimer still eludes comprehension. (Physicist and author Jeremy Bernstein subtitled his account *Portrait of an Enigma*.)⁵ The interpretations of Oppenheimer vary widely. When he first visited in 1922, the teen-aged wranglers who saddled his horses at the ranch owned by Katherine Chaves Page in Cowles, New Mexico, viewed him an effete Eastern dude. But his youthful New Mexico friends Paul Horgan and Francis Ferguson considered him a part of their "pigmy triumvirate."⁶ One of his female admirers at the University of California described him as magnetic, brilliant, arrogant, and sensitive, a "Jewish Pan." Biographers of Dorothy McKibbin—the famed matron of 109 East Palace Avenue in Santa Fe, the gateway

to Los Alamos—agreed that she, like so many others, had fallen completely under his spell.⁷

Brilliant, arrogant, and enigmatic though he be, Oppenheimer could also administer a sprawling, complex scientific laboratory. In the two years and five months of wartime Los Alamos, nothing escaped his grasp. He knew something about every experiment being conducted, and he proved a genuine statesman at smoothing over endless social and scientific dilemmas. “A lesser man could not have done it,” said James Tuck, one of nineteen scientists with the British Mission, which, for the most part, was responsible for implosion research. Another project veteran observed, “The work certainly would have been completed without Oppenheimer, but it wouldn’t have been done so soon. He was close to being indispensable. You think someone else might have come along—but you never know.”⁸ Even his old antagonist Edward Teller later confessed that the spirit of Los Alamos owed as much to the first director as to any other person.⁹

After the atomic bombs were dropped on Hiroshima and Nagasaki, and the Japanese surrendered in August of 1945, Oppenheimer emerged as *the* voice of the American Atomic Age. In October 1949 *Life* magazine placed his photograph on the cover with this caption: “Number 1 Thinker on Atomic Energy.” His 1954 “trial” before the Atomic Energy Commission (when

Oppenheimer was accused of opposing the national development of the hydrogen bomb; Teller testified against him) whereby he lost his security clearance, sullied his reputation in many circles but seemingly not in New Mexico. When Oppenheimer returned to the Hill in mid-May 1964 for a final speech, Director Norris Bradbury introduced him as “Mr. Los Alamos,” and the thousand-person crowd gave him a standing ovation both before and after his presentation. In his address—which called for openness on scientific research—Oppenheimer also confessed that Manhattan Project scientists were “not free of misgivings. . . . We were troubled about what we were up to.”¹⁰

Atomic weapons and atomic energy were introduced to the world on the same day, and for obvious reasons the former has decidedly overshadowed the latter. But in addition to weapons concerns, wartime Los Alamos also abounded with endless discussions of the probable peaceful uses of the new discoveries: atomic automobiles, atomic ships, atomic trains, and atomic aircraft; such atomic medicine as tracer isotopes and new cancer treatments; and the perpetual dream of endless, inexpensive atomic energy. If only the force could be tapped, countless newspaper articles across America noted from 1938 to 1941, the energy contained in a glass of water could drive the *Queen Mary* across the Atlantic Ocean. Nowhere was this utopian view of the atomic solution to all the world’s ills better expressed than in a comment by physicist Ernest R. Lawrence. In *Brotherhood of the Bomb*, author Gregg Herken wrote that after hearing



ABOVE: Biographer Dorothy McKibbin with the “Jewish Pan,” J. Robert Oppenheimer, and Austrian-American physicist Victor F. Weisskopf, later a co-founder of the Union of Concerned Scientists.

RIGHT: Ernest O. Lawrence (left), Hans Enrico Fermi, and I. I. Rabi.

Photographs courtesy of the Los Alamos Photo Archives.





ABOVE: Los Alamos Scientific Laboratory, Los Alamos, New Mexico, ca. 1950. Neg. No. 592227. RIGHT: New Mexico Governor Thomas J. Mabry (second from right) when Los Alamos County was established. Neg. No. 53108. Photographs from the Palace of the Governors (MNMDCA).



about Hiroshima on the radio, Lawrence turned to his wife, Molly, and said, “Now we will have no more war, and the most backward countries will be able to start catching up.”¹¹

That these dreams have never been realized is surely not the fault of the scientists. They, too, had dreams. Perhaps the uncertainty expressed by Oppenheimer in his final speech reflects the overall ambiguity of the Manhattan Project itself; or perhaps it points to the hoped-for results that never came to fruition.

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The Second World War ended officially on August 14, 1945, but the Manhattan Project continued for another sixteen months, until Groves handed over his authority to the newly created Atomic Energy Commission on January 1, 1947. The interim period proved rife with uncertainty on a number of fronts, but for New Mexicans the question boiled down to this: would Los Alamos, as they had come to know it, remain where it was? None of the original planners had intended for Site Y to be permanent. The wartime buildings had a temporary look, and the community that developed around it lacked paved streets, adequate housing, and a reliable water supply. The characteristics that originally made Los Alamos so attractive—the wide-open spaces, the isolation from large urban centers, the ease of ensuring security—now seemed detriments. Although there was no question that the nation would continue its nuclear weapons and energy research, the issue of where that would happen remained very much up in the air.

Only two days after Hiroshima, Army Air Corps General Carl “Tooley” Spaatz suggested that since the atomic bomb had emerged as an air weapon (read “bomber”) all postwar experimentation should be conducted in the more open-space areas of Palm Springs or Victorville desert areas of California. Soon afterward, General Thomas Ferrell recommended to Groves that the project be relocated to Berkeley, Chicago, or the East Coast, where “first class scientists will not flee in peacetime.” There were some who proposed that Site Y be turned into a national monument. Then there was Oppenheimer, whom Teller quoted as saying, “Let’s give it back to the Indians.”¹²

Kathleen Mark, who arrived at Site Y with her physicist husband, J. Carson Mark, in 1944 recalled that the future of Los Alamos remained uncertain for several years. It took a concerted effort by Groves and Norris Bradbury, Oppenheimer’s successor as the Lab’s director, to ensure that the work started in Los Alamos stayed in Los Alamos. Oppenheimer had personally recommended Bradbury to succeed him, and Groves, who wanted a young scientist who might view the new assignment as an opportunity, agreed. When Bradbury received the formal offer, he reluctantly assumed the position for six months or until the AEC took command, should that occur earlier. Eventually the six months stretched into twenty-five years. Not until 1970 did Bradbury relinquish the reins of Los Alamos to his successor, Harold Agnew. Not only did Bradbury direct the Los Alamos National Laboratory for a quarter of a century, he also continued to live there until he died in 1997. An

unassuming, no-nonsense administrator, he earned a well-deserved reputation for efficiency and fairness. As long-term Los Alamos scientist Louis Rosen remarked, “Robert Oppenheimer was the founder of the Laboratory, but Norris Bradbury was its savior.”

Because Groves had helped to select the original site, he, too, remained partial to Los Alamos. In November 1945 he advised a Senate committee that the nation’s weapons laboratory should stay right where it was. The United States could never reassemble a similar laboratory, he said, except in time of war. Moreover, the nation had already invested about \$75 million in the project. On January 4, 1946, Groves informed Bradbury that even though he might be committing the Atomic Energy Commission to something it would later reject, he was ready to take the bull by the horns. Convinced that “we should not count on atomic bomb development being stopped in the foreseeable future,” Groves informed Bradbury that the Lab should remain where it was. In many ways, Groves viewed the situation from the perspective of a construction engineer. If the new AEC elected to move the Lab elsewhere, it would consume about two years in the process. It would take six months to plan the move, twelve months to build the new location, and another six months for the actual move itself. With his January 4, 1946, letter Groves cut the Gordian knot of indecision. As he phrased it: “The only solution, therefore, is to stay at Los Alamos for at least the next few years, and to improve the existing facilities to such a degree as necessary.”

For better or worse, the decisions that Groves and Bradbury made from late 1945 to 1947—during the era of atomic uncertainty—forever shaped the course of New Mexico’s atomic future.¹³ Together they helped forge a revived purpose for postwar Los Alamos, one that the newly created Atomic Energy Commission could readily agree to. With this, the town that a 1950 observer once termed “the world’s newest and strangest city” became a permanent, populated, and potent part of the New Mexico landscape.

The saga of the Manhattan Project has slowly receded into the history books, but Los Alamos itself remains alive and well. As Edward Teller remarked on the occasion of the Lab’s fiftieth anniversary, Los Alamos differs from all other regional communities, not simply in architecture but “also in spirit.” Because it was the only American city founded by scientists, Teller argued, the community continues to reflect an “ongoing liberalism in the old sense of the word.” Los Alamos certainly has never lacked for problems—health concerns, the terrible wildfire of 2000, and, perhaps most prominent, environmental woes without end—but it has always been home to a mix of neither the overly rich nor the very poor, and it has always welcomed minds that have always expressed a “tolerance of widely different ideas.”¹⁴



Bradbury and Oppenheimer, ca. 1964. Courtesy of the Los Alamos Photo Archives.

Although the question of what the Lab’s mission should be after the end of Cold War and the onset of global terrorism remains unanswered, in 2006 scientist George Cowan suggested that perhaps the Manhattan Project’s most crucial legacy lay in its role as a “model” for future endeavors.¹⁵ Indeed, Cowan called for a new Manhattan Project to continue the breakthroughs of the original—achieving the seemingly impossible through the combined commitment of brilliant leadership, dedicated scientists, and mega-engineering. “The [new Manhattan] Project would have a considerably bigger challenge than the one that we faced sixty or seventy years ago.” Cowan said. “The problems involved in dealing with a combination of depraved societies, rogue governments, dispersed militias, and rampant thuggery have no precedent.”¹⁶ In the likely event that a peacetime United States will never agree on one set of social goals, Cowan also recommended that it might establish a series of “mini Manhattan Projects,” such as the Santa Fe Institute, which he helped to found. Were that to happen, the Manhattan Project, which forever altered the face of the globe by creating a bomb that can level cities in seconds, might once again serve as a model for scientific and technological breakthroughs, providing concepts that will help rescue our troubled world from its multiple and interconnected dilemmas. ■

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For complete references and suggested reading, see elpalacio.org.

America's Athenian World Endnotes

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2. The best biography of Groves is Robert S. Norris, *Racing for the Bomb: General Leslie R. Groves, The Manhattan Project's Indispensable Man* (South Royalton, Vermont: Steerforth Press, 2002).
3. See Ferenc Morton Szasz, *The Day the Sun Rose Twice: The Story of the Trinity Site Nuclear Explosion, July 16, 1945* (Albuquerque: University of New Mexico Press, 1994).
4. Interview with Hans Bethe [1975], tape, Los Alamos Historical Society; unnamed physicist in *Bulletin of the Atomic Scientists* 26 (June 1970):2.
5. Jennet Conant, *109 East Palace: Robert Oppenheimer and the Secret City of Los Alamos* (New York: Simon and Schuster, 2005); David C. Cassidy, *J. Robert Oppenheimer and the American Century* (New York: Pi Press, 2005); Jeremy Bernstein, *Oppenheimer: Portrait of an Enigma* (Chicago: Ivan R. Dee, 2004); Priscilla J. McMillan, *The Ruin of J. Robert Oppenheimer and the Birth of the Modern Arms Race* (New York: Viking, 2005); and Kai Bird and Martin J. Sherwin, *American Prometheus: The Triumph and Tragedy of J. Robert Oppenheimer* (New York: Knopf, 2005).
6. Interview with Ryan Hoselton, whose pastor's grandfather was Oppenheimer's wrangler, May 2008; Ferenc Morton Szasz, *Larger Than Life: New Mexico in the Twentieth Century* (Albuquerque: University of New Mexico Press, 2006), 30.
7. Edith Arnstein Jenkins in *The Manhattan Project*, 123; Nancy Cook Steeper, Dorothy Scaritt McKibbin, *Gatekeeper to Los Alamos* (Los Alamos: Los Alamos Historical Society, 2003); Conant, *109 East Palace*.
8. Szasz, *Larger Than Life*, 125-150.
9. Edward Teller, "The Laboratory of the Atomic Age," *Los Alamos Science* 21 (1993):32.
10. Szasz, *Larger Than Life*, 46-47.
11. Gregg Herken, *Brotherhood of the Bomb: The Tangled Lives and Loyalties of Robert Oppenheimer, Ernest Lawrence, and Edward Teller* (New York: Henry Holt and Company, 2002), quoted 139.
12. Teller, "The Laboratory of the Atomic Age," 32-35.
13. See Virginia Nylander Ebinger, editor, *Norris Bradbury, 1909-1997* (Los Alamos Historical Society, 2006).
14. Teller, "The Laboratory of the Atomic Age," 32-35.
15. See Hans A. Bethe, "What is the Future of Los Alamos?" *Los Alamos Science* 21 (1993):31.
16. George A. Cowan, "Thoughts on a 21st-century Manhattan Project," in *The Manhattan Project*, 456-459.