

Elva Österreich Experiencing the Trinity
Test in New Mexico

*What is a ghost? Is it a continuing spirit through time that refuses to die? If so, that is what my book, *The Manhattan Project Trinity Test: Witnessing the Bomb in New Mexico*, is about—the legacy of the first atomic bomb, set off in the southern New Mexico desert, 5:29:45 a.m. on July 16, 1945. Known as the Trinity Test, this event, happening almost 80 years ago, has been called the dawn of the nuclear age.*

*For the 60th anniversary of that first atomic bomb in 2005, the newspaper I was working for, the *Alamogordo Daily News*, brought the staff together to dig out the stories our paper had printed regarding the event and to write new stories for a special edition. I put together a replica of the front page of that long-ago style of the paper, bringing all those elements together. It was that project which made me realize as the event falls back into history, those people who experienced it and were affected by it are rapidly disappearing. Thus, the idea for the book was born and I started talking with those who remember and who are still alive today as well as their children. I also worked to unearth the words and experiences of those no longer alive—the scientists and journalists, for example, who had left written accounts and other pieces to sort through.*

The resulting book encompasses ideas, thoughts and experiences of some of those who were on the ground in southern New Mexico. The following passages are gleaned from the book itself and the research I did to put the book together. I attempted to paint a picture of the individuals on the ground in Southern New Mexico at the time to illustrate what happened when the Trinity Test occurred and some of the issues they faced.



Figure 1 The only known color photo of the trinity Test, taken by photographer Jack Aeby, public domaine, provided by Jim Eckles.

Were the people of the Tularosa Basin and surrounding areas victims? Most did not think so at the time, although many today believe they were. In his book *You Take the Sundials and Give Me the Sun* Tularosa Basin historian David Townsend makes the point that it is the people who saw the atomic bomb first who are rarely asked if they were victims:

Few of them would consider themselves victims, yet in a broad sense they were. They were located in close proximity to a dangerous experiment; not informed of the danger in which they were being placed, let alone the nature of the experiment; and deceived for a period of weeks about the danger in which they had been placed (Townsend 1984, 144).

In Townsend's account these witnesses "remember the light above all else, above the noise, above the tremors, above everything" (147).

Townsend continues:

One minute it was dark; then it was bright as day. The light faded gradually into what seemed a deeper darkness. Then the sound, not much noisier than distant thunder, and the tremor that rattled windows and

dishes. The first thoughts were religious: the end of the world; the next, practical and reflective of wartime thoughts: they have sabotaged the train, or blown up the base, or Those who went outside to see what had happened were treated—or condemned—to a view never seen before by man. A giant column of smoke with light gradually dying down its stem was visible in the re-gathering darkness. As this false dawn was dying in the west, the true dawn was giving a hint of a purer light from the east. That picture stuck in the minds of the witnesses, indelibly imprinted (147).

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“It was as if the air had died,” one woman, Clara Snow, told Townsend. Then the silence came (Townsend 1984, 147).



Figure 2 Trinity Site in 2018, photograph by Elva K. Österreich.

When I started the book I had to make clear that what I was documenting was not about fact but rather about experience—more so, it was remembered experience. People experience and remember things differently. And to make matters worse, those memories get transmitted in second-

and third-hand ways, sometimes to the point that they don't even make sense.

For example, in a written account found at the Tularosa Basin Historical Museum, John Buckner wrote, "Helen Keller and her companion were traveling across the southern part of the state and when the light went over, she turned to her friend and said, 'What was that?' To anyone, not familiar of her, she was totally blind" (The Manhattan Project Trinity Test Site)

It turned out, Helen Keller was a lot of things—deaf-blind author, political activist, and lecturer. But she was not in a car driving through southern New Mexico at 5:35 a.m. on July 16, 1945. There was, however, an eighteen-year-old woman, Georgia Green, who was in a car with her brother-in-law, Joe Wills, on their way to Albuquerque from Socorro for an 8:00 a.m. music class. Green was blind, although she could perceive a little light and dark distinction, and reportedly saw the bright light at that time. Green's sister Elizabeth Ingram was also in the car and said, "We saw this great big flash of light, and my sister, she said, 'What happened?' It seemed like it lit up the whole prairie all around us"¹ (see Else, 1981).

Respecting these different narratives, I had to write from the point of view of various realities. I asked my readers to take each version on its own merit and suspend an expectation of clear-cut facts in favor of a more subjective reality.

The goals of the top-secret Manhattan Project to build and deploy atomic weapons was to bring about the end of World War II. A letter to President Franklin Roosevelt, sent in 1939 by Albert Einstein (written by Leo Szilárd and signed by Einstein), led to the development of the Manhattan Project. Einstein's letter convinced the president of the need to develop nuclear weapons before the Germans could do so. Other countries had already begun research on an atomic bomb. The atom had been split for the first time in 1938 in a Berlin laboratory, and nuclear fission was understood by the world's scientists.

In the city of Los Alamos, in northern New Mexico, a secret scientific laboratory was established under the direction of J. Robert Oppenheimer. The purpose of this facility was to design and assemble the actual uranium- and plutonium-based atomic weapons. The site was selected in late 1942 by Oppenheimer and Los Alamos became a top-secret city. The first contingent of scientists arrived in March 1943. By June, 250 scientific personnel worked on the physical, chemical, and metallurgical aspects of the bomb's development.

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¹ I could confirm this twist in the story by multiple sources, including a brief, informal conversation I had with Green's own aunt.

The site for such a test had to be isolated, have good weather conditions, relatively level terrain, and be within a day's drive of Los Alamos. After looking at eight potential sites, officials chose an eighteen-by-twenty-four-mile section of the northwest corner of the Second Air Force's Alamogordo Bombing Range (now part of the White Sands Missile Range). The site, located in what is known as the Jornada del Muerto (Journey of Death), is flat, desolate and semiarid.

Oppenheimer gave the area the code name "Trinity," reportedly inspired by a poem by John Donne called "Holy Sonnet XIV: Batter My Heart, Three-Personed God," which begins:

*Batter my heart, three-personed God; for you
As yet but knock, breathe, shine, and seek to mend;
That I may rise and stand, o'erthrow me, and bend
Your force to break, blow, burn, and make me new.*

At Ground Zero, a 102-foot tower was erected, about 25 feet square at the bottom and 15 feet square at the top platform. Completed in mid-June 1945, dry-run tests began in early July. On the evening of July 13, the bomb's high explosive assembly arrived from Los Alamos at noon. The bomb, nicknamed the Gadget, was assembled. At 4:45 a.m. on July 16, an arming party closed the arming switches at the base of the tower. This was the last visit to Ground Zero before the test. Some even thought that the Trinity Test might "ignite" the earth's atmosphere, eliminating all life on the planet. Less wild estimates thought that New Mexico might be incinerated. At 5:29:45 a.m., the world's first atomic bomb was detonated with the force of approximately twenty-one kilotons of TNT above the desert of southern New Mexico.

We were twenty miles away, others were closer, six miles away, they gave out dark glasses. I thought, "I ain't going to see a damn thing through dark glasses." The only thing that can really hurt your eyes is the ultraviolet light. So, I got behind a truck windshield so the ultraviolet can't go through glass and that would be safe and so I could see the damn thing.

The time comes, and there was this tremendous flash out there. It was so bright. And I see this purple splotch on the floor of the truck, and I said, "That ain't it, that's an after image," and I look up. I see this white light, changing into yellow then to orange. The clouds form, and then they disappear again. The compression and the expansion forms

and makes clouds disappear. Finally, a big ball of orange at the center so bright it became a wall of orange started to rise and billow a little bit and get black around the edges, and then you see it's a big ball of smoke with flashes inside with fire going.

And I saw all that took about one minute—a series from bright to dark, and I had seen it. I'm about the only guy in the world who actually looked at the damn thing. Everybody else had dark glasses. The people at six miles couldn't see it because they are all told to lie [on] the floor ... I'm the only guy who saw it with the human eye.

Finally, after about a minute and a half, suddenly there is a tremendous noise, bang and then rumbles like thunder, and that's what convinced me. Nobody had said a word during this whole minute, we all were just watching quietly, but this sound released everybody, released me in particular. Because the solidity of the sound at that distance meant that it really worked. The man who was standing next to me asked, "What's that?" when the sound went off. I said, 'That was the bomb.'

—Richard Feynman theoretical physicist on the Manhattan Project, 1975
University of California, Santa Barbara lecture.

*And just at that instant there rose
from the bowels of the earth
a light not of this world,
the light of many suns in one.*

—William L. Laurence (on-site as the only journalist allowed at the explosion and later wrote several accounts of it. He was also present for the bombing of Nagasaki, ultimately earned two Pulitzer Prizes and is credited for coining the term the “atomic age.”)

The Trinity Test was heard across southern New Mexico, rattling windows as far away as the mining town of Bayard (about 150 miles from the site) where a hospital official was confused by the rattle.

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Figure 3 A replica of the casing that housed the atomic bomb set off at the Trinity Site July 16, 1945, shown at The National Museum of Nuclear Science & History in Albuquerque, New Mexico, photograph by Elva K. Österreich.

Outside of the immediate communities of New Mexico's Otero, Socorro and Lincoln Counties, other people experienced the Trinity Site explosion in their own areas. Across mountains and deserts, people felt, heard, or saw effects. The flash of light was reportedly seen in the cities of Albuquerque, Santa Fe, Silver City, Gallup, and El Paso, Texas.

I looked over to the west—it's bright over there, it kept getting brighter. It was getting real bright. I went back in the house and called Mother. I said, "Mother, Mother!"

"What?"

I said, "The sun is coming up in the west."

She didn't believe me and said, "Do your chores, you've got to go catch that bus, go take your physical." She'd signed the papers at 17 for me to get in.

I said, "Mother, it's coming up in the west!" I went back out there and I said, "Come look and see."

And I'll never forget that. She walked out at the east and she looked back in the west and said, "Oh my God!" went back in the house and never said another word.

—Altus Boulden, born 1928, was out feeding the chickens at his home near Hope, New Mexico, almost two hundred miles east of Trinity Site, when he saw light in the west.

Because of the top-secret nature of the project what happened at the Trinity Site was not released to the public as anything but "a munitions dump explosion" in a press release.

"A remotely located ammunition magazine containing a considerable amount of high explosives and pyrotechnics exploded. There was no loss of life or injury to anyone, and the property damage outside of the explosives magazine itself was negligible. Weather conditions affecting the content of gas shells exploded by the blast may make it desirable for the Army to evacuate temporarily a few civilians from their homes," was the statement released on July 16 by the commanding officer at the Alamogordo Army Air Base, now Holloman Air Force Base. The statement was reflected in newspapers around New Mexico and recounted in an Oct. 5, 2018 Alamogordo Daily News story, "The Atomic Age: Three men and a bomb" written by Arlan Ponder, a public information officer at the base.

It was not until the bomb was dropped on Hiroshima, Japan, on Aug. 6, 1945 that many of those who experienced something in New Mexico understood what had happened.

Following the test, amidst the confusion, one of the strange phenomena reported at multiple locations from farmers, ranchers, and even town community members was a color change in the coats of various animals in the region and also some people.

...we had quite a few cattle that were lying down and asleep at that time, and the side facing the blast—these were Hereford cattle, they were red in color—the side facing the Trinity Site turned white, and several of the shepherders that were closer, who had black beards—

they were all young people—their beards turned white. We had one black cat, in particular, that I know of, that turned white.

—Rancher's son Holm Bursom III

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Such stories came from the ranchers of the Tularosa Basin, the Jornada del Muerto, and the mountain ranges (San Andres and Oscura) that separate those areas. In the late 1800s, many of these ranchers came to New Mexico from Texas looking for land to call their own and vast grasslands to raise their cattle.

The McDonalds—great-grandparents of the McDonald clan who owned three area ranches, including the Schmidt/McDonald house where the bomb was assembled, two miles from Ground Zero, and the base camp ranch house, nine miles from Ground Zero—traveled from south Texas on a wagon train between 1881 and 1882.

Homesteads grew across the basin and the hills, where people put their homes and were able to lease the right to use federal and state lands for grazing. In 1942, the government sent those ranching families packing to claim vast swatches of land for military purposes in the face of World War II. People were offered compensation for the loss of land but often did not receive the full amount they were promised. Regardless, they lost their homes and lives on the range that they had worked so hard to grow.



Figure 4 The McDonald Ranch House where the bomb was assembled, as pictured in 2018, photograph by Elva K. Österreich.

And then there are those in the Tularosa and Socorro areas who today still feel they were guinea pigs in the aftermath of the Trinity explosion. This is a reference heard and seen in various accounts from those who feel there should be some recompense, or at least recognition, for the health hardships that seem to be a result of radiation and fallout in the areas involved.

In July 2014, Tularosa Basin Downwinders Consortium cofounder Tina Cordova told Alamogordo Daily News reporter John Bear that those living near the Trinity Site in 1945 “were guinea pigs in the world’s biggest science experiment. That part of the history of Trinity has never been told” (Bear 2014).

This consortium has been active since 2005 seeking recognition and compensation for the damage done to the families due to the Trinity Test. They claim increased incidence in cancers and infant mortality following the test. While other nuclear test site downwinder residents have received acknowledgment and families have received funds for their troubles, including loss of family resources in the form of poorly compensated land as well as medical ailments, the top of which is cancer of various types, those in the vicinity of this first atomic bomb have not been validated by the government in any way. They continue to lobby and hold events in recognition of the loss in their families and legacies. On July 27, 2023, the United States Senate passed the Radiation Exposure Compensation Act amendments as part of the National Defense Authorization Act that would add the Downwinders of New Mexico to the fund for the first time ever.

There are many people still today who believe the test and subsequent bombings were the right thing to do. These people say the lingering results, cancers and damaged families, are part and parcel of the cost of war and they will not participate in the actions of the downwinder group. The feeling, and the position of President Harry Truman, who ordered the bombs dropped on Japan, is that the bomb ended the war and saved the lives of thousands of American soldiers.

It was a terrible decision for me to make, but I made it. And I made it to save 250,000 boys for the United States, and I'd make it again under similar circumstances.

—President Harry Truman commenting on the decision to drop the Hiroshima bomb in a 1948 letter to his sister Mary.

But not only is the act of dropping the bombs on Japan by many considered to have constituted a war crime and the addition of Nagasaki without purpose, but it is also generally known today that the Japanese were ready to surrender before it happened, possibly already had done so.

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The use of [the atomic bombs] at Hiroshima and Nagasaki was of no material assistance in our war against Japan. The Japanese were already defeated and ready to surrender because of the effective sea blockade and the successful bombing with conventional weapons...The lethal possibilities of atomic warfare in the future are frightening. My own feeling was that in being the first to use it, we had adopted an ethical standard common to the barbarians of the Dark Ages. I was not taught to make war in that fashion, and wars cannot be won by destroying women and children.

—Fleet Admiral William D. Leahy, Chief of Staff to President Truman, 1950, as quoted from his book “I was there”.



Figure 5 Numerous interviews, stories and remembrances are recorded every year during the two open house days at White Sands Missile Range when people can visit the site of the Trinity explosion, photograph by Elva K Österreich.

Elva K. Österreich has been a journalist, photographer, and editor in Southern New Mexico for 20 years. She has written numerous articles about the state's history, people, and environment for newspapers and magazines. Falling in love with the people and the history of the area, she especially loves the stories she hears from the old-timers and is fascinated by the way folks used to live and their experiences. Combining her interest in the people of the area and the immense power and effect of the Trinity atomic bomb explosion is a natural progression into exploration for Österreich.

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