



TRINITY: 50 YEARS LATER

A historic explosion in southern New Mexico's desolate Jornada del Muerto heralded the end of a war and the beginning of a new world.

The Nuclear Age's Blinding Dawn

On July 16, 1945, the United States detonated the first atomic bomb. The test, code-named Trinity, was the conclusion of the Manhattan Project to build the bomb in a frantic race with Adolf Hitler's scientists. The explosion ushered in the nuclear age, gave rise to New Mexico's modern economy, led to Japan's surrender and set off 50 years of debate about the morality of using such awesome force.

■ By LARRY CALLOWAY *Of the Journal* ■

For Joe McKibben, the Nuclear Age came in the back door without knocking. For Jack Aeby, it slipped blindingly through a crack in his welder's goggles. For Berlyn Brixner, it rose in dead silence like an awesome new desert sun.

After 50 years, they are among the few who remain to tell about the test of the first atomic bomb, made in the secret wartime city of Los Alamos and code named Trinity by lab director J. Robert Oppenheimer. The survivors are among the dwindling few on Earth who have seen any nuclear explosion. It's been 32 years since the last U.S. atmospheric test.

On that Monday, July 16, 1945, at 5:10 a.m., the senatorial voice of physicist Sam Allison began what's now called a countdown. "Minus 20 minutes" boomed over the loudspeakers and shortwave radios in the dark Jornada del Muerto in New Mexico's dry Tularosa Basin.

By space-age standards, it was a very short countdown, but it was probably the first in the about-to-be-born world of big science. "Sam seemed to think it was," McKibben says. "He told me, 'I think I'm the first person to count backward.'"

Just as Allison is remembered for the Trinity countdown, McKibben will probably be remembered as the guy who pushed the button. "That kind of annoys me," says McKibben, 82, folding himself down on a couch in his cluttered study in White Rock. "I consider it a minor part of my work."

Exhaustive preparation

It wasn't minor at the time, of course. McKibben, a lanky Missouri farm boy turned Ph.D. physicist, sat at the Trinity control panel. For three months, he had been wiring instruments across 360 square miles of desert around a 100-foot steel tower. The fat implosion bomb, 5 feet round, 5 tons heavy, squatted in a harness of cables on a platform on top. And the desert floor was scattered with instruments.

McKibben, of the University of Wisconsin, had spent the night at the tower on guard duty with two Harvard physicists, Trinity director Kenneth Bainbridge and Russian explosives wizard George Kistiakowsky, a former Cossack.

This was the second night of uneasy thunderstorms with close strikes of lightning in the Jornada.

McKibben fell asleep under some tarps on the clean linoleum floor at the tower base where the final assembly team had done its job carefully, very carefully.

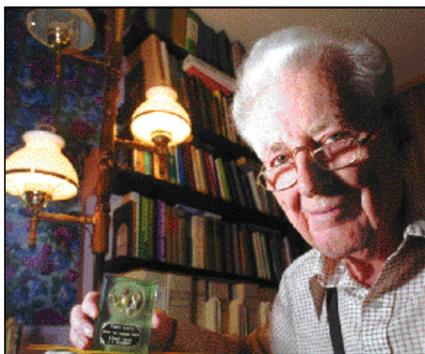
And McKibben had a dream. It was simple, peaceful. "I started dreaming Kistiakowsky had gotten a garden hose and was sprinkling the bomb. Then I woke up and realized there was rain in my face."

Everything in place

Soon the rain paused, and Bainbridge rescheduled the shot for 5:30 a.m. After closing the last open circuits, the three physicists drove south in a jeep as fast as they could on the straight blacktop road.

They were the last men out of the zone of lethal heat, blast and radiation. The nearest humans were in bunkers called North 10,000, West 10,000 and South 10,000 because they were 10,000 meters (6.2 miles) from Ground Zero.

"We got to South 10,000 (the control bunker) at 5:10, and that was the time I needed to throw the first switch," McKibben recalls. Allison took up the



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Joe McKibben pushed the button to detonate the first atomic bomb. He says being remembered for that "kind of annoys" him because he considers that task a minor part of his work.

microphone in the countdown booth. A quick young Harvard physicist named Donald Hornig, who would become President Johnson's science adviser 18 years later, took his place near McKibben at an abort switch. Hornig's job was to stop everything if the detonation circuit faltered, in order to save the first precious production of the Hanford, Wash., plutonium plant.

Kistiakowsky, who would become President Eisenhower's science adviser, was in and out of the crowded room. An 18-year-old soldier named Val Fitch was attending British scientist Ernest Titterton at a set of vacuum tubes that would deliver the detonating voltage across 6 miles of cable. Fitch would win the 1980 Nobel Prize in physics. Also there was Navy Cmdr. Norris Bradbury, who would become director of the Los Alamos lab from 1945-70.

McKibben recalls these men but says, "I didn't see Oppenheimer. I was told that he came in the door and observed me at the controls and went away. Just to see that I was sane." And he laughs.

Hundreds tuned their expectant eyes to the unforgiving New Mexico desert; it was a who's who of the scientific world.

At North 10,000, Berlyn Brixner was in the open on top of the bunker at the controls of a fast movie camera with a blackened viewfinder. "I was one of the few people given permission to look directly at the bomb at zero time," says Brixner, an amiable man of 84 sitting in his minimalist living room in a ponderosa-shaded Los Alamos neighborhood.

Brixner's assignment as chief photographer was this: Shoot movies in 16-millimeter black-and-white, from every angle and distance and at every speed, of an unknown event beginning with the brightest flash ever produced on Earth.

"The theoretical people had calculated a ... 10-sun brightness. So that was easy," Brixner says. "All I had to do was go out and point my camera at the sun and take some pictures. Ten times that was

See **NUCLEAR** on PAGE 8



COURTESY LOS ALAMOS NATIONAL LABORATORY

Jack Aeby's Ansochrome color transparency is apparently the only color photograph of the Trinity explosion. This photo is from a reproduction of the transparency.

Locals Witnessed History in a Flash

"Everything suddenly got brighter than daylight. My dad thought for sure the steam locomotive had blown up."

RICHARD HARKEY

By FRITZ THOMPSON
Journal Staff Writer

Stephen Harkey and his son, Richard, were standing in the gloom before dawn, waiting for a train at Ancho, when the bomb went off.

"Everything suddenly got brighter than daylight," Richard Harkey remembers today. "My dad thought for sure the steam locomotive had blown up."

It was 5:29.45 a.m. on July 16, 1945. Harkey and his father didn't know it then, but they had just witnessed, in that instant 50 years ago, an event that came to change the course of history and thereafter to touch the lives of everyone in the world.

It was mankind's first detonation of an atomic bomb — at Ground Zero on the empty, forebod-

ing sweep of some of the most desolate land in New Mexico: Jornada del Muerto, it is called, the Journey of Death.

Awesome thunderous, the explosion transformed the sand in the desert to green glass, hurled dust and smoke thousands of feet into the sky and startled the bejibbers out of early morning risers in central New Mexico.

The place where the bomb exploded is called Trinity Site, and it was 50 miles and a mountain range away from the Harkeys, standing as they were on the tracks, mouths agape, bathed in the glow from man's most fearsome and terrible weapon. That they could see a manmade light brighter than the sun from their far vantage point attests to the incredible power unleashed that morning.

See **RINGSIDE** on PAGE 4

INSIDE

This is a reprint of stories and photos published in the Albuquerque Journal on July 9-11 as part of the newspaper's coverage of the 50th anniversary of the first atomic bomb explosion at the Trinity Site.

Innocence's end

It seems quaint in retrospect: Top physicists assembled the world's most lethal bombs with the aid of Scotch tape and Kleenex. But soon a deadly shadow fell over the bomb's creators.
Page 2

Desert lab

Theoretically, the atomic bomb was a sure enough bet to be dropped without a test. But some demanded proof; thus Trinity was born. It was the world's largest lab test.
Page 3

Economic force

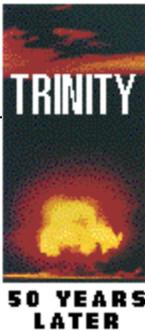
Los Alamos National Laboratory was born in the race for the A-bomb. It has grown into a well-muscle economic force, changing the face of northern New Mexico in the past 50 years.
Page 6

Bomb qualms

Manhattan Project scientists still debate whether the bloodshed wrought at Hiroshima and Nagasaki — and even the existence of nuclear weapons — were necessary.
Page 7

"No one knew what was going on out there. And of course none of us ever heard of Los Alamos or the atomic bomb."

EVELYN FITE TUNE, RANCHER 24 MILES FROM TRINITY



The Manhattan Project (1941-45)

Purpose: To make and test an atomic bomb using the principle of nuclear fission demonstrated in 1939, and to do it in secret ahead of Hitler's Nazi Germany.

Main Locations: Los Alamos scientific laboratory (bomb design and construction); Oak Ridge, Tenn., (Uranium-235 separation); Hanford, Wash. (plutonium production); Trinity Site (test explosion).

Cost: \$2 billion (about \$20 billion in 1990 dollars). Less than 5 percent spent at Los Alamos.

Director: Maj. Gen. Leslie R. Groves (previously oversaw all Army construction in United States, including construction of the Pentagon, died in 1970 at age 73).



J. Robert Oppenheimer

Scientific director: J. Robert Oppenheimer (lost security clearance in 1954 but was awarded the Atomic Energy Commission's Fermi Prize in 1963, died in 1967 at age 62).

Manpower: 120,000 employees, civilian and military. Los Alamos maximum, 6,000.

Nobel Prize for Physics winners at Los Alamos: Enrico Fermi (1938), I.I. Rabi (1944), Niels Bohr (1922), Hans Bethe (1967), Luis Alvarez (1968), Emilio Segrè (1959), Norman Ramsey (1989), Val Fitch (1980), Aage Bohr (1975). Visitors: A. H. Compton (1927), E. O. Lawrence (1939), James Chadwick (1935).

Results: First atomic bomb successfully tested July 16, 1945, at Trinity Site; Second bomb dropped on Hiroshima, Japan, Aug. 6, 1945; Third bomb dropped on Nagasaki, Japan, Aug. 9, 1945. Combined death toll, 115,000. Japan surrendered on Aug. 14.

Ringside Seat to History

Unexpected blast brought stunned N.M. residents into nuclear family

from PAGE 1

Ancho was not even a whistle-stop then. Sparkey, the stationmaster, was out on the tracks, ready to wave a red flag to stop the train so Richard, then 18, could board and ride to his job in Tucumcari.

"It was a blinding flash and it lasted at least a full minute," Richard says. "We didn't know what it was."

Was he curious?

"Yeah. But when you see something like that you're so flabbergasted that you just let it go."

'The sun was coming up'

Ranchers and other residents on both sides of the Oscura Mountains had a ringside seat to the explosion but didn't know it. In one of the best-kept secrets before or since, civilians had no warning.

The lone exception was the late José Miera, proprietor of the Owl Bar in San Antonio, a mere 35 unobstructed miles northwest from Trinity and a popular hangout for the site's scientists and soldiers. Rowena Baca, who runs the family establishment these days, says friendly MPs that night went to her grandfather's house, woke him up, "and told him to stand in the street out front because he was going to see something he had never seen before."

Sure enough.

Baca remembers that the sky suddenly turned red. It illuminated the inside of the house she was in, reflecting red off the walls and the ceiling.

"My grandmother shoved me and my cousin under a bed," Baca remembers, "because she thought it was the end of the world."

At the same moment, a U.S. Navy aviator named John R. Lugo, now of Scottsdale, Ariz., was flying a naval transport plane at 10,000 feet some 30 miles east of Albuquerque, en route to the West Coast.

"I saw this tremendous explosion to the south of me, roughly 55 miles from my position," Lugo recalls. "My first impression was, like, the sun was coming up in the south. What a ball of fire! It was so bright it lit up the cockpit of the plane."

Lugo radioed Albuquerque. He got no explanation for the blast but was told, "don't fly south."

As the sun finally rose, rancher Dolly Onsrud of Oscura woke up, looked out her window and saw a mushroom cloud rising from the other side of the mountains — right about where her cattle-grazing land had been before the U.S. Army took it over three years earlier.

She had been none too happy about giving up her 36 sections, and now it looked as if the government was blowing it up.

Like Onsrud, most ranchers who witnessed some aspect of the blast are the same ones who were moved off what became White Sands Missile Range. They are still bitter — bitter that the Army never returned the land, bitter that they weren't more generously compensated for giving up their ranches for what they believed was a patriotic duty. And, these days, they would much rather talk about their lost lands than about the first atomic bomb.

With the passage of half a century, these same people also find it remarkable that the government never warned them about an



RICHARD PIPES/JOURNAL

"My grandmother thought it was the end of the world," remembers Rowena Baca, who runs the Owl Bar in San Antonio. Baca and her family were among New Mexicans who saw the sky suddenly turn red 50 years ago when scientists set off the Trinity blast.

event that some scientists thought might set off a chain reaction and destroy all humanity.

The fact was, not many workers at Trinity knew for sure what they were working on. Retired teacher Grace Lucero of San Antonio said soldiers who came to the bar her husband operated told him they were building a tower. "They said they didn't know what it was for," Lucero says. The tower, everyone later learned, steadied the bomb before it was detonated.

"No one knew what was going on out there," says Evelyn Fite Tune, who lives on a family ranch 24 miles west of Trinity. "And of course none of us ever heard of Los Alamos or the atomic bomb."

She and her late husband, Dean Fite, were away in Nevada when the blast went off. They couldn't tell from the news accounts of those days exactly where it happened.

"Finally, on the way back we went to a movie house in Denver and watched the newsreel," she says. "When they showed the hills around the blast area, my husband said 'Hell, that's our ranch!'"

Pat Withers lives south of Carrizozo. He is 86 now and has been a rancher all his life. His house is 300 yards from the black and hardened lava flow that's sometimes called the malpais.

"The explosion was loud enough that I jumped out of bed," he says. "I thought the malpais had blown up. It wasn't on fire, so I went back to bed."

Few ranchers had an experience to match that of William Wrye, whose house then and now is 20 miles northeast of Trinity.

Wrye and his wife, Helen, had been returning from a tiring trip to Amarillo the night before the explosion. "We got to Bingham (on U.S. 380) and there were eight or 10 vehicles and all kinds of lights shining up on the clouds. We were stopped by an MP and a flashing red light. After we told them who we were, they let us go on to the ranch. We were so tired we must have slept right through the blast."

"Next morning, we were eating breakfast when we saw a couple of soldiers with a little black box out by the stock tank. I went out there and asked what they were doing, and they said they were looking for radioactivity. Well, we had no idea what radioactivity was back then. I told them we didn't even have the radio on."

"For four or five days after that, a white substance like flour settled on everything. It got on the posts of the corral and you couldn't see it real well in the daylight, but at night it would glow."

Before long, Wrye's whiskers stopped growing. Three or four months later, they came back, but they were white, then later, black.

Cattle in the area sprouted white hair along the side that had been exposed to the blast. Half the coat on Wrye's black cat turned white.

End of innocence

Out at the north end of the Oscura range, 30 miles from Trinity, rancher Bill Gallacher was 15 years old. He remembers the blast,



CAROL COOPERIDER / JOURNAL

that it lighted up the sky and the rooms in his house, much brighter than a bolt of lightning. His father, evidently a man of few words who was just getting out of bed, simply said "Damn."

"It was a sort-of-sudden deal," Gallacher says, "especially before you've had your morning coffee."

Several ranchers say they never believed the Army cover story that an ammunition dump had blown up. But they didn't guess what it was until the devastation of bombs at Hiroshima and Nagasaki weeks later. Even then, they didn't guess the import of what had been wrought in their backyard.

Evelyn Fite Tune and her friends and neighbors visited the site soon after. "We found the hole, we picked up the glass, we climbed the twisted and melted parts of the tower," she says.

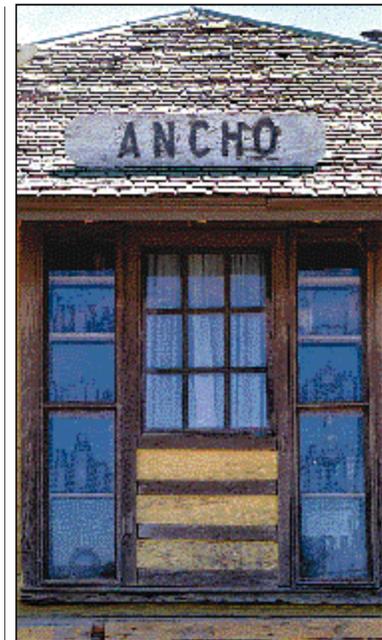
"All those people," she says, "grew up and got married and had kids. Nobody that I know of ever turned up sterile."

Back at the Wrye Ranch, Helen Wrye goes to the front door, gazing at the sweep of prairie and desert, the Oscuras looming to the south, 20 miles from here to Trinity. She speaks of this dawn of the atomic age, and she sounds wistful.

"People weren't afraid of the government then," she says. "It was a time of innocence. People were trusting. We had never heard of an atomic bomb."

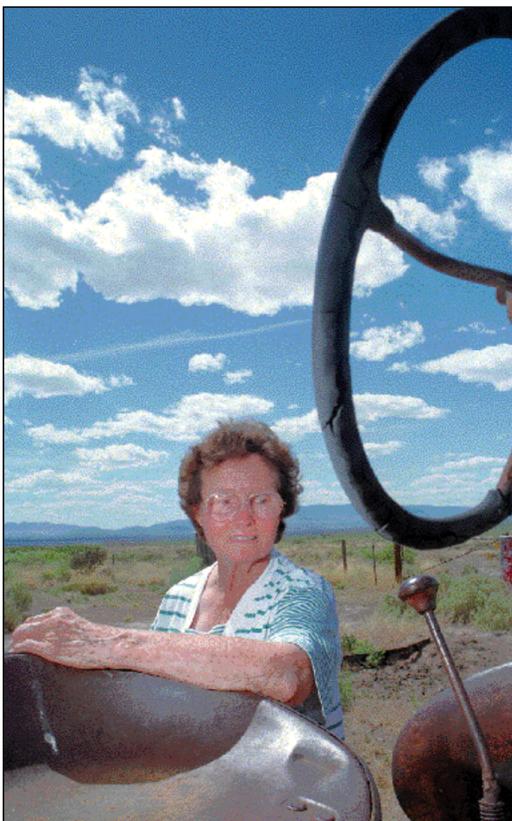
She is silhouetted against the sunlight of a bright spring day.

"It was a happy time to live," she says. "It was a happy time to live."



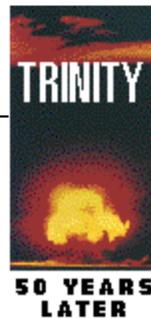
RICHARD PIPES/JOURNAL

Richard Harkey was standing near this railroad depot at Ancho when the bomb went off. His father, Sparkey, thought a steam locomotive had blown up.



RICHARD PIPES/JOURNAL

Dolly Onsrud gave up some of her ranch to the federal government and was surprised sometime later to see a mushroom cloud rising from land her cattle once grazed.



Nuclear Age's Blinding Dawn

from PAGE 1

easy to calculate."

The theoretical people also knew a little about radiation, which fogs film, and Brixner consequently shielded two of his near-tower cameras behind 12-inch-thick leaded glass. Some of his cameras were so fast they shot 100 feet of film in a second. Some were 20 miles away and ran for 10 minutes.

And now he waited on top of the bunker, gripping the panning mechanism of his movie camera, which like all the others would be turned on by signals from McKibben's control panel.

Sneaking a camera in

At Base Camp, the old David McDonald ranch house 10 miles south of the tower, the box-seat audience included Maj. Gen. Leslie Groves, the hard-driving director of the Manhattan Project, and its presidential overseers — Carnegie Institute president Vannevar Bush and Harvard president James Bryant Conant. Among the physicists at Base Camp were I.I. Rabi, a New Yorker who would go on to win a Nobel Prize, and the revered Italian Enrico Fermi, who had led the research on the first nuclear chain reaction. Among the 250 lab workers

and 125 soldiers was a young civilian technician named Jack Aeby who was exempt from the draft because he'd suffered from tuberculosis.

Now 72 and retired from a Los Alamos career in health physics, Aeby sits in his solar home near Española and recalls how his job in the weeks leading to the test was to help the Italian physicist Emilio Segré set radiation detectors near the tower. Some of the instruments were hung on barrage balloons tethered 800 yards from the tower. They'd be vapor-

ized a millisecond after they transmitted their nuclear data.

Aeby carried his personal 35 millimeter still camera, which Segré got through security, and as the countdown started, he was planning to take a new Ansochrome color transparency picture of the bomb. Aeby had carried a chair out into the darkness and was sitting there with the camera propped on the back and pointed north. He put on his government-issue welding goggles, not noticing in the dark that there was a crack in one lens. And he listened to the countdown on the Base Camp loudspeakers.

Preparing for the best

At the VIP viewing area called Compania Hill, 20 miles northwest of the tower and about 10 miles southeast of the village of San Antonio, N.M., two refugee physicists put on sunscreen in the dark. They were Edward Teller of Hungary and Hans Bethe of Germany. Teller would become famous as an advocate of the hydrogen bomb, and Bethe would win the 1967 Nobel Prize in physics.

Teller put on gloves to protect his hands and sunglasses under his welder's goggles, for extra protection. "I expected it to work," Teller, now 87 and bent, said in a June interview.

Not far away was German Communist refugee Klaus Fuchs, who would be uncovered as a Russian spy five years later.

Outside the Jornada, of course, New Mexico had eyes and ears. Teller said that many Los Alamos employees, including his secretary Mary Argo, slipped away to Sandia Crest for a direct 100-mile view of the shot that morning.

And in Potsdam, just outside the rubble of bombed-out Berlin, President Truman waited for coded messages so he could tell Josef Stalin what the Russians already knew.

But the rest of the world didn't have a clue. Not the B-29 pilots who had hit Tokyo, again, with 3,000 conventional bombs that Friday. Not the 750,000 American troops that would be needed in the planned Nov. 1 invasion of Japan.

A countdown. A bellow of "Zero!" Silence. A flash of light brighter than the ising of the sun. Then the shock wave hit, and the blast's roar echoed off the mountains.

At minus 45 seconds, McKibben cut in an automatic timing drum he and Clarence Turner had made to generate the final 20 relay signals, including the big one. The drum turned once a second, and McKibben says he had attached a chime that struck once each revolution. So there were 44 chimes before Allison belatedly: "Zero!"

It was 5:29.45 a.m. Mountain War Time, the same as Mountain Daylight Time.

McKibben's bunker was under dirt on the north, and there was a small open door on the south, facing away from the shot.

"Suddenly, I realized there was a hell of a lot more light coming in the back door," McKibben says. "A very brilliant light. It outdid the light I had on the control panel many times over. I looked out the back door and I could see everything brighter than daylight."

Aeby had put his Perflex 44 camera on "bulb" and in the dark before "Zero" opened up the shutter, figuring that way he'd get a good image of the flash. Suddenly, the light cut a sharp white line across his vision. "I could see that crack for some time afterward," he says. It was daylight, and Aeby flung off the goggles to reset his camera. "I released the shutter, cranked the diaphragm down, changed the shutter speed and fired three times in succession," he says. "I quit at three because I was out of film."

Brixner, at North 10,000, was stunned. "The whole filter seemed to light up as bright as the sun. I was temporarily blinded. I looked to the side. The Oscura Mountains were as bright as day. I saw this tremendous ball of fire, and it was rising. I was just spellbound! I followed it as it rose. Then it dawned on me. I'm the photographer! I've gotta get that ball of fire." He jerked the camera up.

One thing more, he says: "There was no sound! It all took place in absolute silence."

Unique sights, sounds

By the time the blast hit, 30 seconds after the flash, most of Brixner's 55 cameras in the desert were finished. Some had done their work in a second. There would be 100,000 frames to develop in black and white and a few in temperamental Kodachrome.

In the silence, McKibben stepped out the back door of South 10,000 and looked north over the bunker. "It was quite a pretty sight. Colored. Purplish. No doubt from the iron in the tower and a lot of soil off the ground that had been vaporized. I was surprised at the enormity of it and immediately felt it had gone big."

McKibben ducked behind the bunker just as the shock wave hit. "Then an amazing thing: It was followed by echoes from the mountains. There was one echo after another. A real symphony of echoes."

As the shock wave hit Base Camp, Aeby saw Enrico Fermi with a handful of torn paper. "He was dribbling it in the air. When the shock wave came it moved the confetti."

Fermi had just estimated the yield of the first nuclear explosion at the equivalent of 10,000 tons of TNT. Later measures put the yield nearly twice as much, at 18.6 kilotons. And this terrible new energy came from a plutonium ball weighing 13.6 pounds.



RICHARD PIPES/JOURNAL

Jack Aeby shows the color photo he shot of the explosion and a camera like the one he used.

The test's success brought elation yet was tempered for many by the knowledge that the world had suddenly taken a hazardous turn.

Robert Van Gemert of Albuquerque, now 79, who was at Base Camp after the shot, says, "I'm just amazed how those scientists whipped out so many bottles of gin or whatever they could find. And it was rapidly consumed, I can tell you that."

Writer Lansing Lamont in 1965 recorded secondhand some GI exclamations: "Buddy, you just saw the end of the war!" "Now we've got the world by the tail!"

At South 10,000, Frank Oppenheimer recalled, his brother probably said, "It worked!" Kistiakowsky is supposed to have said to Robert Oppenheimer, "You owe me 10 dollars" because of a bet they had. Bainbridge is supposed to have told Oppie, "Now we are all sons of bitches."

At Compania Hill, Teller remembers, "I was impressed."

Hans Bethe, now 89, remembers his first thought was, "We've done it!" and his second was, "What a terrible weapon have we fashioned."

Fleeing the radiation

At North 10,000, Brixner and the others were thinking suddenly only of a kind of hazard the world had never known. "I was looking up, and I noticed there was a red haze up there, and it seemed to be coming down on us," he says.

"Pretty soon the radiation monitors said, 'The radiation is rising! We've got to evacuate!' I said, 'That's fine, but not until I get all the film from

my cameras.'" In the midst of the world's first fallout, somebody helped Brixner throw his last three cameras in an Army car, and they all got out of there fast. Film badges later showed they got low doses — by the standards of the time.

About 160 men were waiting secretly north of the Jornada with enough vehicles to evacuate the small communities in the probable fallout path. Gen. Groves had phoned Gov. John Dempsey before the test to warn him that he might be asked to declare martial law in southwest New Mexico.

But the radiation readings from people secretly stationed all over New Mexico stayed safe — again by the standards of the time.

The test was shrouded in secrecy, but, within weeks, the world would know what science had wrought in a lonely stretch of New Mexico desert.

When Teller returned to his Los Alamos office, he says, Mary Argo ran to him, breaking all the secrecy rules. "Mr. Teller! Mr. Teller! Did you ever see such a thing in your life?" I laughed. And she laughed," he says with joy in his voice. "Does that tell you something?"

At community radio station KRS in Los Alamos, Bob Porton, a GI, was about to rebroadcast the noon news, courtesy of KOB. "Suddenly, about 30 or 40 scientists all came in and stood around," he says. "We knew something was up."

The lead story, Porton says, was this: "The commanding officer of Alamogordo Air Base announced this morning a huge ammunition dump had blown up, but there were no injuries."

"All these scientists jumped up and down and slapped each other on the back," Porton says. "I was familiar with secrecy. I never asked any questions. But I knew it was something big."

It was something big. What they'd heard was the coverup story for the first atomic bomb blast.

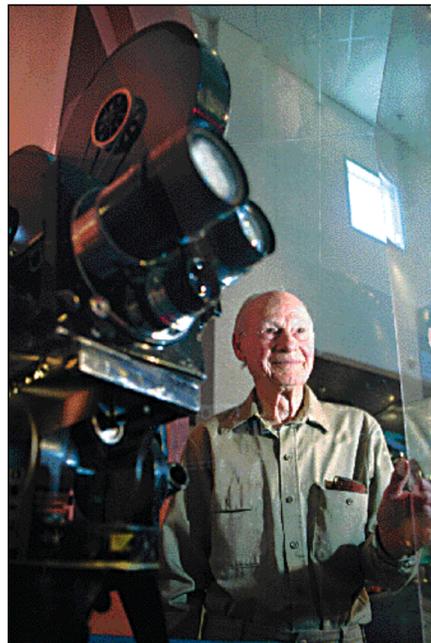
Counting backward again

Brixner was on his way to Hollywood to get his film developed in secrecy at a studio lab. One reel showed his jerk of the camera.

Aeby developed his color film that night in Los Alamos, using the complex system of a half dozen Ansochrome chemicals. The first shot of the bomb was overexposed off the scale, but one of the next three became the only good color picture known of the first atomic explosion.

Weeks later, Ellen Wilder Bradbury of Santa Fe recalls, the Wilder family tuned in the only radio they had, in their car, to hear a wire recording broadcast over KRS. Ellen was about five and hadn't understood about Hiroshima. And now she was hearing a recording made in the cockpit of Bock's Car, the B-29 that dropped "Fat Man," identical in design to the Trinity bomb, on Nagasaki.

Ellen, who would marry Norris Bradbury's son, recalls the now-lost recording clearly: "They said, 'We've got an opening in the clouds. OK. We're going ahead.' And then they counted down to drop it. And they did say, 'Bombs away!' But I had just learned to count, and I was most impressed by the fact that they could count backwards."



RICHARD PIPES/JOURNAL

Berlyn Brixner recalls how he worked the 35mm movie camera to film the Trinity explosion. The camera is on display at the Bradbury Science Museum in Los Alamos.