At that instant–5:29:45 a.m. Mountain War Time on July 16, 1945—came an incredible burst of light, bathing the surrounding mountains in an unearthly brilliance. Then came the shock wave that knocked over two men at S 10,000, then the thunderous roar. A vast multi-colored cloud surged and billowed upward. The steel tower that held the bomb vanished, the tower that held Jumbo, 800 feet away, lay crumpled and broken on the ground.

Wrote Enrico Fermi shortly after the test:

"My first impression of the explosion was the very intense flash of light, and a sensation of heat on the parts of my body that were exposed. Although I did not look directly towards the object, I had the impression that suddenly the countryside became brighter than in full daylight. I subsequently looked in the direction of the explosion through the dark glass and could see something that looked like a conglomeration of flames that promptly started rising. After a few seconds the rising flames lost their brightness and appeared as a huge pillar of smoke with an expanded head like a gigantic mushroom that rose rapidly beyond the clouds, probably to a height of the order of 30,000 feet. After reaching full height, the smoke stayed stationary for a while before the wind started dispersing it."

Fermi then went on to explain the simple experiment he took time to conduct that helped considerably in making the first early estimates of the bomb's success.

"About 40 seconds after the explosion the air blast reached me. I tried to estimate its strength by dropping from about six feet small pieces of paper before, during and after the passage of the blast wave. Since, at the time, there was no wind, I could observe very distinctly and actually measure the displacement of the pieces of paper that were in the process of falling while the blast was passing. The shift was about two and a half meters, which at the time, I estimated to correspond to the blast that would be produced by ten thousand tons of TNT."

Hans Bethe wrote that "it looked like a giant magnesium flare which kept on for what seemed a whole minute but was actually one or two seconds. The white ball grew and after a few seconds became clouded with dust whipped up by the explosion from the ground and rose and left behind a black trail of dust particles. The rise, though it seemed slow, took place at a velocity of 120 meters per second. After more than half a minute the flame died down and the ball, which had been a brilliant white became a dull purple. It continued to rise and spread at the same time, and finally broke through and rose above the clouds which were 15,000 feet above the ground. It could be distinguished from the clouds by its color and could be followed to a height of 40,000 feet above the ground."

Joe McKibben recalls that "we had a lot of flood lights on for taking movies of the control panel. When the bomb went off, the lights were drowned out by the big light coming in through the open door in the back."

"After I threw my last switch I ran out to take a look and realized the shock wave hadn't arrived yet. I ducked behind an earth mound. Even then I had the impression that this thing had gone really big. It was just terrific."

"The shot was truly awe-inspiring," Bradbury has said. "Most experiences in life can be comprehended by prior experiences but the atom bomb did not fit into any preconception possessed by anybody. The most startling feature was the intense light."

Bainbridge has said that the light was the one place where theoretical calculations had been off by a big factor. "Much more light was produced than had been anticipated."

A military man is reported to have exclaimed, "The long-hairs have let it get away from them!"

While scientists were able to describe the technical aspects of the explosion, for others it was more difficult.

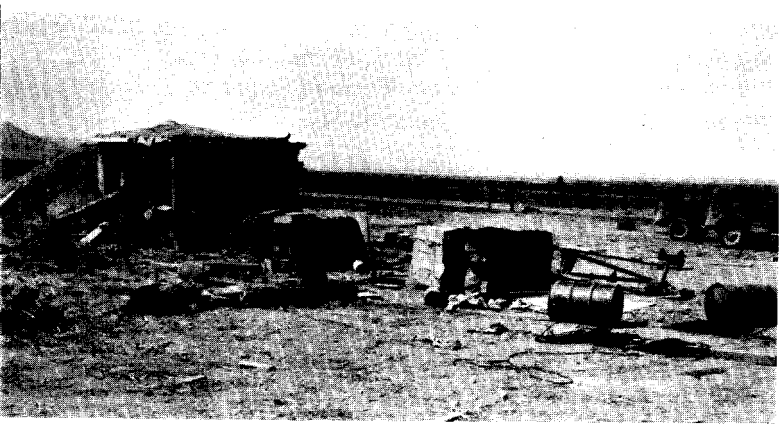
"Words are inadequate tools for acquainting those not present with the physical, mental and psychological effects. It had to be witnessed to be realized," wrote General Farrell two days later. Nonetheless, many tried to describe the historic moment.

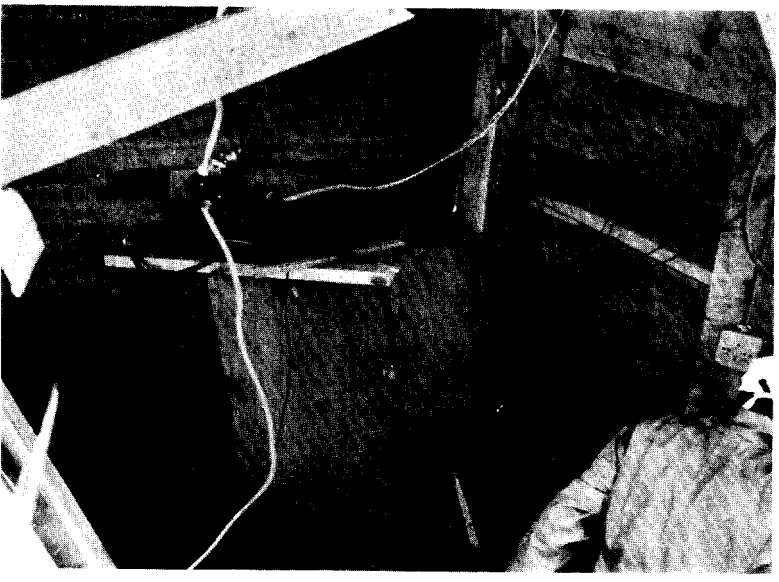
Farrell himself wrote:

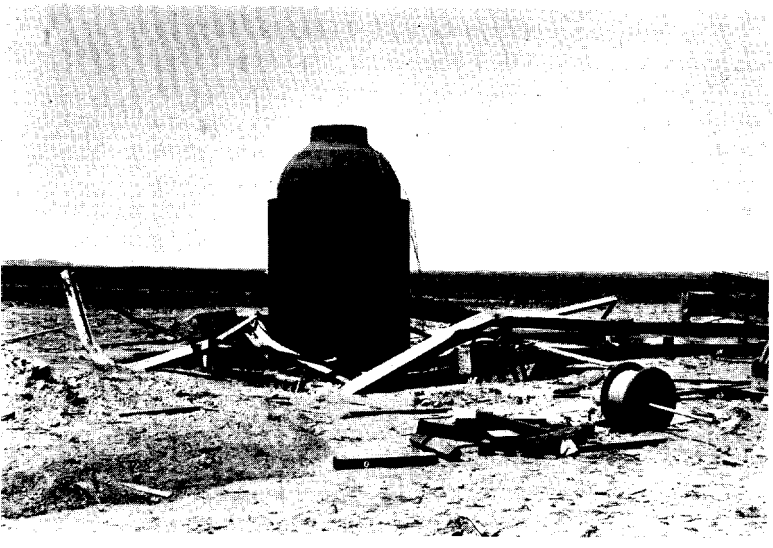
"The effects could well be called unprecedented, magnificent, beautiful, stupendous, and terrifying. No man-made phenomenon of such tremendous power had ever occurred before. The lighting effects beggared description. The whole country was lighted by a searing light with the intensity many times that of the midday sun. It was golden, purple, violet, gray and blue. It lighted every peak, crevasse and ridge of the nearby mountain range with a clarity and beauty that cannot be described but must be seen to be imagined. Seconds after the explosion came," first, the air blast pressing hard against the people, to be followed almost immediately by the strong, sustained awesome roar which warned of doomsday and made us feel we puny things were blasphemous to dare tamper with the forces heretofore reserved for the Almighty."

William L. Laurence, whose sole job was to write down the moment for history, wrote:

"It was like the grand finale of a mighty symphony of the elements, fascinating and terrifying, uplifting







Damage to the instrument shelter at North 1000 is shown in the two top photos. At the bottom, Jumbo stands unscathed, its tower crumpled around it.

and crushing, ominous, devastating, full of great promise and great foreboding."

Another time he said, "On that moment hung eternity. Time stood still. Space contracted to a pinpoint. It was as though the earth had opened and the skies split. One felt as though he had been privileged to witness the Birth of the World-to be present at the moment of Creation when the Lord said: Let there be light."

Oppenheimer, on the other hand, has said he was reminded of the ancient Hindu quotation:

"I am become Death, the destroyer of worlds."

At the time, however, probably few actually thought of the consequences of their work, beyond ending the war. Bradbury said recently, "For that first 15 seconds the sight was so incredible that the spectators could only gape at it in dumb amazement. I don't believe at that moment anyone said to himself, 'What have we done to civilization? Feelings of conscience may have come later."

Bainbridge reports that his reactions were mixed. "When the bomb first went off I had the same feelings that anyone else would have who had worked for months to prepare this test, a feeling of exhilaration that the thing had actually worked. This was followed by another quick reaction, a sort of feeling of relief that I would not have to go to the bomb and find out why the thing didn't work."

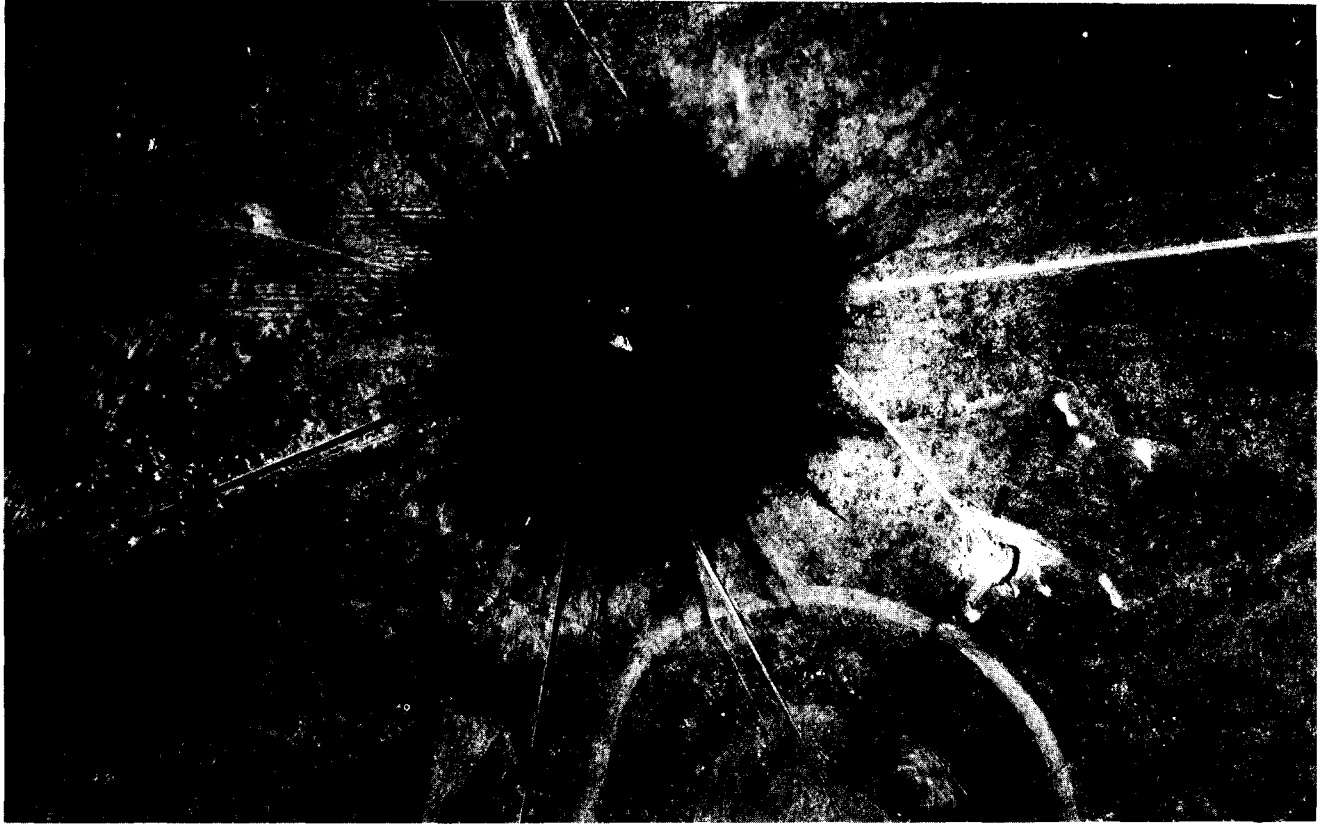
But later he told Oppenheimer, "Now we're all sons of bitches."

Ernest O. Lawrence is quoted as saying that from his vantage point on Compagna Hill, "the grand, indeed almost cataclysmic proportion of the explosion produced a kind of solemnity in everyone's behavior immediately afterwards. There was a restrained applause, but more a hushed murmuring bordering on reverence as the event was commented upon. "

At the control point, Farrell wrote, "The tension in the room let up and all started congratulating each other. All the pent-up emotions were released in those few minutes and all seemed to sense immediately that the explosion had far exceeded the most optimistic expectations and wildest hopes of the scientists. "

Kistiakowsky, who had bet a month's salary against $10 that the gadget would work, put his arms around the director's shoulder and said, "Oppie, you owe me $10."

Elsewhere the momentous event had not gone unnoticed. The flash of light was seen in Albuquerque, Santa Fe, Silver City, Gallup and El Paso. Windows rattled in Silver City and Gallup. So intense was the light that a blind girl riding in an automobile near Albuquerque asked, "What was that?"



Crater and heat effects scar the desert at Ground Zero.

A rancher between Alamogordo and the test site was awakened suddenly. "I thought a plane had crashed in the yard. It was like somebody turned on a light bulb right in my face. "

Another man, 30 miles away in Carrizozo, recalls, "It sure rocked the ground. You'd have thought it went off right in your back yard. "

A sleepless patient in the Los Alamos hospital reported seeing a strange light. The wife, waiting on Sawyer's Hill behind Los Alamos, saw it too, and wrote later:

'"Then it came. The blinding light like no other light one had ever seen. The trees, illuminated, leaping out. The mountains flashing into life. Later, the long slow rumble. Something had happened, all right, for good or ill."

At the test site, as the spectators watched the huge cloud billow into the sky, the medical officers took over leadership of the three observation points, watching their counters and maintaining contact with Paul Aebersold's crew of monitors patrolling the roads within the test site. An Entry Permission Group, consisting of Bainbridge, Dr. Hemplemann and Aebersold kept track of the reports and made decisions on movement of personnel around the site.

At first there was no sign of danger. Then suddenly, the instruments at N 10,000 began clicking rapidly showing that radioactivity was on the rise. Dr. Henry Barnett, in charge of the shelter, gave the order to evacuate and soon the trucks and cars were roaring past W 10,000 and on to Base Camp. It later proved to be a false alarm. Film badges worn by the personnel at the observation point indicated that no radioactivity had reached the shelter.

Before long those without further duties were permitted to return to Base Camp and those with instruments in the forward areas moved in to pick them up.

As the sun came up, air currents were created which swept radioactivity trapped in the inversion layer into the valley. Geiger counters at S 10,000 began to go wild. The few men remaining there put on masks and watched anxiously as the radioactive air quickly moved away before the danger level was reached. Around 9:30 a.m. Bainbridge radioed the men in the slit trench at Mockingbird Gap to return to Base Camp.

Shortly afterward a lead-lined tank, driven by Sgt. Bill Smith and carrying Herbert Anderson and Enrico Fermi, moved in to Ground Zero to recover equipment and to study debris in hope of getting information on long range detection of atomic explosions. The tank was equipped with a trap door through which earth samples could be safely picked up in the crater.

Fermi later reported to his wife that he found "a depressed area 400 yards in radius glazed with green, glass-like substance where the sand had melted and solidified again. "

Meanwhile, General Groves, who had planned to wait at Base Camp until all danger of fallout was passed, hoped to make good use of the hours by discussing with Los Alamos people a number of problems connected with the next job on the agenda, the bombing of Japan.

"These plans were utterly impracticable," he wrote later, "for no one who had witnessed the test was in a frame of mind to discuss anything. The success was simply too great. It was not only that we had achieved success with the bomb; but that everyone—scientists, military officers and engineers—realized we had been personal participants and eye-witnesses to a major milestone in the world's history."

But Groves had other problems to keep him busy anyway.

The explosion had generated considerable excitement around the state and as far away as El Paso. At Associated Press in Albuquerque, the queries coming in were becoming more difficult to handle. Intelligence Officer Lt. Phil Belcher, now the Laboratory's Documents Division leader, was stationed at Albuquerque to keep any alarming dispatches about the explosion from going out. About 11 a.m. the AP man told Belcher he could no longer hold back the story. If nothing is put out now by the Army, he told him, AP's own stories would have to go on the wire.

The Army was prepared for this kind of determination. Weeks before a special press release had been prepared and sent to the Alamogordo Bombing Range with Lt. W. A. Parish from Groves' office. With it, Parish also carried a letter to the commanding officer, Col. William Eareckson, instructing him to follow Lt. Parish's instructions, no questions asked.

About 11 Parish was instructed to make his release:

Alamogordo, July 16–The Commanding Officer of the Alamogordo Army Air Base made the following statement today:

"Several inquiries have been received concerning a heavy explosion which occurred on the Alamogordo Air Base reservation this morning.

"A remotely located ammunition magazine containing a considerable amount of high explosives and pyrotechnics exploded.

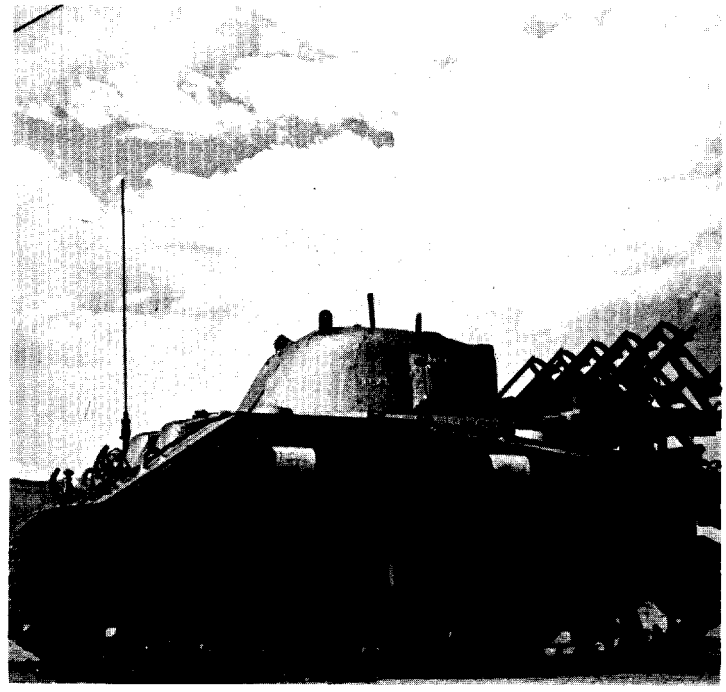
"There was no loss of life or injury to anyone, and the property damage outside of the explosives magazine itself was negligible.

"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."

The news ran in New Mexico papers and spread up and down the West Coast by radio. It didn't fool everyone. Some days later, Groves reports, he was dismayed when a scientist from the Hanford project said to him: "By the way, General, everybody at DuPont sends their congratulations. "

"What for?' the general asked innocently.

"This is the first time we've ever heard of the



This special lead-lined tank was used by Enrico Fermi and Herbert Anderson for obtaining soil samples from the crater shortly after the test.

Recovery team and radiation monitors assemble for action a few hours after the test.

Army's storing high explosives, pyrotechnics and chemicals in one magazine," he replied.

Colonel Eareckson has since been nominated by sympathetic historians as one of the unsung heroes of World War II. Not only was he forced to take the blame for this gross mishandling of explosives, but he had to take his orders that day from a mere lieutenant.

By late afternoon it was clear there would be no difficulty with fallout. Bainbridge finally left the control center about 3 p.m. to return to the Base Camp for food and rest. General Groves, Conant and Bush left for Albuquerque to begin the trip back to Washington.

Groves' secretary, Mrs. Nora O'Leary, who had been standing by in Washington since early morning for word of the test, received a coded message from her boss and at 7:30 p.m. sent the following message to Secretary of War Stimson at Potsdam:

"Operated on this morning. Diagnosis not yet complete but results seem satisfactory and already exceed expectations. Local press release necessary as interest extends a great distance. Dr. Groves pleased. He returns tomorrow. I will keep you posted."

Although it would be weeks before the measurement could be correlated and interpreted it was immediately apparent that the implosion weapon was a technical success. The fire bail, Fermi's calculations with bits of paper and other data available immediately indicated the yield had been greater than the most optimistic predictions. It was therefore possible for Groves to follow up his first message to Potsdam with another optimistic one the next day:

"Doctor has just returned most enthusiastic and confident that the little boy is as husky as his big brother. The light in his eyes discernible from here to Highhold and I could hear his screams from here to my farm."

The message was clear. The power to crush Japan had taken on a new dimension. The device had worked beyond expectations, its flash seen for 250 miles, its thunder heard for 50, and Groves was sure the plutonium bomb was as potent as the uranium gun.

Through the day of JuIy 16, cars of weary, excited men headed back toward Los Alamos. There was still a great deal of work to be done and for those who were going overseas, the test had simply been a rehearsal.

A new Fat Man was scheduled to be delivered August 6.

When they stopped for meals in Belen the men talked of inconsequential things and listened to mystified citizens discussing the strange sort of thunder they had heard that morning and the way "the sun came up and went right back down again." Occupants of one car did not recognize the occupants of the other. Security was as tight as ever. It was not until they reached the guarded gates of Los Alamos that the flood of talk burst loose.

Mrs. Fermi recalls the men returning late that evening. "They looked dried out, shrunken. They had baked in the roasting heat of the southern desert and they were dead tired. Enrico was so sleepy he went right to bed without a word. On the following morning all he had to say to the family was that for the first time in his life on coming back from Trinity he had felt it was not safe for him to drive. I heard no more about Trinity."

But during the day, rumors of the brilliant light so many had watched for and seen spread through the town. Although few people knew officially what had happened, most were able to sense or guess that the project to which each had contributed his part had been accomplished.

When he returned to the Hill that night, Fred Reines found the town jumping. One of the janitors Reines knew spotted the returning scientist, grinned proudly and said, "We did it, didn't we?"

"We sure did," Reines told him.

At Potsdam, where President Truman and Prime Minister Churchill were waiting to meet with Stalin to discuss a demand for unconditional surrender from the Japanese, the news of the successful test of the Fat Man that morning bad a profound effect. Confidence in the test results and the reassurance that the first bomb could be ready for delivery on July 31 froze the previously tentative decision that the time had come to issue the surrender ultimatum. The atomic bomb had made invasion unnecessary and could provide the Japanese with an honorable excuse to surrender. The war could end quickly. There was no longer any need for help from Russia. Churchill and Truman approached the talks in extreme confidence.

There never had been much doubt that the gun-type uranium weapon would work. By July 14, two days before the implosion weapon was tested, the major portion of the U-235 component began its journey overseas from Los Alamos. A few hours before dawn on July 16, just as observers in the Jornada del Muerto were witnessing the incredible birth of the atomic age, the uranium bomb was hoisted aboard the cruiser Indianapolis at San Francisco.

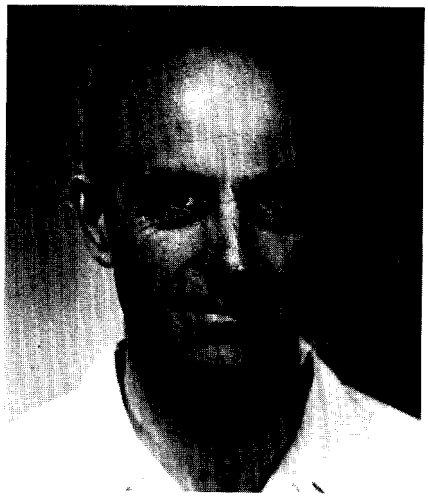
On July 26, the Indianapolis arrived at Tinian and two nights later transport planes arrived with the last necessary bit of U-235 and the uranium device was ready.

"The world's second man-made nuclear explosion occurred over Hiroshima, Japan, on August 6, three weeks after the Trinity test. On August 9, the third such explosion devastated the city of Nagasaki. Japan gave up the struggle five days later, and surrender ceremonies were held September 2.

they built the bomb

These men directed the atomic bomb project at Los Alamos. Most were division leaders, some played other key roles. None of them was alone. There were dozens more brilliant young scientists who made significant contributions. There were countless technicians, administrative people, soldiers and WACs without whom the work could not have been done. Not the least were the wives to whom, John Williams once said, should go much of the credit. "They lived in uncertainty and sometimes fear during those trying years. They never knew what their husbands were doing and they never asked. "

Kenneth Bainbridge
Test Director



Enrico Fermi
Theory

Hans Bethe
Theory

John Williams
Deputy Test Director

George Kistiakowsky
Explosives

Robert Bacher
Weapons Physics

Maj. Gen. Leslie R. Groves
Director
Manhattan Engineer District

J. Robert Oppenheimer
Director

Victor Weisskopf
Theory

John von Neumann
Theory

Robert Wilson
Physics Research

Cyril Smith
Metallurgy

Eric Jette
Plutonium Metallurgy

William Parsons
Ordnance

SANTA FE NEW MEXICAN

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Vol. 86, No. 213 | MEMBER AUDIT BUREAU OF CIRCULATIONS | SANTA FE, NEW MEXICO, MONDAY, AUGUST 6, 1945 | ASSOCIATED PRESS UNITED PRESS | Price 5c

Los Alamos Secret Disclosed by Truman

ATOMIC BOMBS DROP ON JAPAN

Around the CAPITOL

By WILL HARRISON

Last week's "Big I" handout from the Governor's office was today still reverberating in educational and legislative circles.

Governor Dempsey was quoted in the news handout as saying:

"During the 1943 Legislature I sponsored a bill which transferred all of the mineral leasing act funds, except that portion used for free textbooks and the Bureau of Mines, to the school equalization fund."

The act, in two years, has produced $1,165,173 for the school equalization fund.

Comes today a letter from Sen. J. H. Mullis of Roswell:

"Before the 1943 Legislature I conferred with J. D. Shields, superintendent of the Roswell schools, Col. E. L. Lusk of the New Mexico Military Institute, and Clarence E. Hinkle, president of the Roswell board of education, regarding legislation which would increase the teachers' salaries. We decided on three bills:

"1.—To transfer to the school fund, to be used to increase the teachers' salaries, the balance of the Mineral Leasing Act fund, mentioned by Governor Dempsey;

"2.—Reducing from 5 per cent to 3 per cent the amount allowed the Bureau of Revenue for collecting the sales tax;

"3.—Limiting the Commissioner of Public Lands to $150,000 per year.

"I had these bills prepared before the Legislature convened and Governor Dempsey had nothing to do with the preparation of these bills. It is my recollection that Governor Dempsey was opposed to the mineral funds bill because it took that amount from the general fund.

"I introduced the bills with the help of the New Mexico Educational Association secured the passage of the first but the Governor turned the other two killed."

As noted in this column Saturday, the teachers act which the Governor said "I sponsored" was permitted to pass only after the school lobby consented to support a Dempsey measure permitting the transfer of certain surplus administrative funds to the state general fund.

And after the "I sponsored bill" became law the administration even then tried to grab part of the mineral leasing money for other than school support. Nov. 20, 1943, state records show, Governor Dempsey's State Board of Finance ordered $85,812.16 of mineral leasing money transferred to the general fund. Educational groups put up a fight and on Nov. 29, 1943, the amount was returned on the authority of an Attorney General's opinion.

Although the schools received during the past two years $1,165,173 as a result of the "I sponsored bill" a complete and truthful statement would show that funds almost equalling that amount were taken from the schools by Dempsey sponsored bills in the same Legislature that enacted the mineral leasing funds law.

The transfer law, for which Dempsey traded with the school lobby, in the past two years has taken $357,593.64 for the give gone to schools which would else have gone to schools, $163,106.71 from surplus in emergency school tax administrative fund in 1945, and $86,70 in 1944; $69,486.93 from surplus in income tax administration fund in 1945, and $30,000 in 1944.)

A total of $514,000 from the Casual Indebtedness fund was transferred to the general fund when no deficit existed. This money, under administrations prior to Dempsey, would have been transferred to the schools as witnessed June 30, 1942, when Gov. John Miles transferred to the schools $149,761.24 of casual deficit funds which were not needed to meet actual deficits.

The transfers under Dempsey of casual deficit money to the state general fund were $262,000 in 1944 and $252,000 in 1945.

Net Gain $283,389

The sum of these losses to school funds is $871,593.64, leaving a net gain through the mineral leasing funds law of $283,580.

And that gain may be credited to Sen. J. H. Mullis of Roswell and the New Mexico Educational Association who first fought the administration and then traded out with the Governor for the increased revenue.

$700 STOLEN

Mrs. Ida M. Glynn, living in one of La Posada's cabins, reported to city police that $700 was stolen from a purse which she had hidden under a pillow in one of her rooms. The money included a $500 bill, police said.

Deadliest Weapons in World's History, Made In Santa Fe Vicinity

Santa Fe learned officially today of a city of 6,000 in its own front yard.

The reverberating announcement of the Los Alamos bomb, with 2,000 times the power of the great Grand-Slammers dropped on Germany, also lifted the secret of the community on the Pajarito Plateau, whose presence Santa Fe has ignored, except in whispers, for more than two years.

Decision to locate the Atomic Bomb Project Laboratory on mesa an hour's drive from Santa Fe, meant that it was necessary for the Army Engineers to construct an entirely new town to house the workers and their families. Primary reason for selection of the isolated site was security.

Ranch School Site

When the Army took over the property early in 1943 there were a few buildings which had been occupied by the Los Alamos Ranch School. New buildings began going up at once. Today there are 37 in the main technical area and about 200 others on the property used for the project itself. Three hundred buildings containing 600 family units, also were constructed, as well as military barracks, hospital buildings and structures for administrative offices.

Dr. J. R. Oppenheimer, one of the foremost physicists in the roun-

REVOLUTIONARY

News of the development at Los Alamos of an atomic bomb immediately raised conjecture regarding the potential industrial uses of the energy.

A "town council" of eight elected members serves in an advisory capacity to the director and the commanding officer. There is a school board, appointed by Colonel Tyler and Doctor Oppenheimer, which oversees operation of an accredited elementary school and high school. There

(Continued on Back Page)

are in mess halls, or in a large cafeteria, which was housing. Various types were constructed, to meet different needs. There are three-room prefabricated, individual houses; three-room apartments, eight to a building, and four-and five-room apartments, four in a two-story unit. There are some hutments, Quonset-type huts and government and personally-owned trailers.

Bachelor Dorms

Dormitories have been constructed for single workers, and those who do not have their families with them. Rents, for family groups, are based on earnings. Apartments are furnished and family groups ordinarily bring their furniture with them, although some items of government furniture have been available.

Housewives shop for food for daily meals at an army commissary where ration points are as important as here. A "trading post" offers items needed in everyday life and there are the usual post exchange stores.

Personnel living in dormitories eat there. There is also a dining room with waitress service.

City Dads, Too

A "town council" of eight elected members serves in an advisory capacity to the director and the commanding officer. There is a school board, appointed by Colonel Tyler and Doctor Oppenheimer, which oversees operation of an accredited elementary school and high school. There

(Continued on Back Page)

Hi Johnson Dies at 79

WASHINGTON, Aug. 6 (AP)—Sen. Hiram W. Johnson of California, militant opponent of the League of Nations and the San Francisco Charter for a United Nations organization, died today.

The veteran Republican senator succumbed at Naval Hospital, where he had been confined for 2½ weeks. His physician, Capt. Robert E. Duncan, USN, said he died from a thrombosis of a cerebral artery.

The 79-year-old Californian died at 6:45 a. m., after having been in ill health for some time.

His political activities extended over a third of a century covering some of the most stirring events in the nations history.

The striking figure in the Senate since first elected to Congress in 1916, he played a leading part in defeating President Wilson's League of Nations Covenant and later opposing United States' adherence to the World Court.

His wife, whom he referred to as "the boss," was with him at the time of his death.

Senator McKellar (D.-Tenn.), president of the Senate, today will appoint a committee to attend the funeral of the silver-haired veteran.

TERRITORIAL CHANGES OF WORLD WAR II—Black areas on map are those parts of Germany which the Big Three proposes will come under Polish rule. Shaded area is territory which Russia has taken control over since the start of hostilities on the continent. Northern East Prussia, proposed as Russian by the Big Three, is the newest addition to Soviet territory. There still remains some question as to final disposition of the port of Stettin. Note the large section of Baltic coastline of the proposed new Poland.

4 More Nippon Cities Now Smoldering Ruins

By The Associated Press

American airmen said they turned four more forewarned Japanese cities to ashes today as 750 Superforts and Mustang fighters reportedly swept the enemy's sacred islands with fire bombs, rockets and parachuted mines.

B-29 crewmen returning to their Marianas Island bases told of setting fires visible for 150 miles at sea. Some ran into intense antiaircraft fire and strong interception including rocket planes as they raided cities Tokyo described as "defenseless".

Waves of B-29s from the Marianas Islands and Mustang fighters from Iwo Jima struck as American commanders announced 70 Nipponese ships and small craft and 61 locomotives were destroyed or damaged in previous aerial blows, reaching over 4,500 miles from Paramushiro to Singapore.

Terror-ridden China carried the brunt of ground actions. Elsewhere land armies hunted for Japanese generals in the northern Philippines, drove toward trapping the largest Japanese force remaining in New Guinea and counted 13,000 Nipponese dead in recent fighting in monsoon-swept south Burma.

Superforts warned 12 more cities Sunday morning they were on their fire list. A formation of 580 followed up today by lighting towering fires in four of the 31 forewarned cities.

Those targets included Hachioji, noted in prewar days for producing Japan's best silk, favorite alcoholic beverage of Nippon. The other industrial targets were Maebashi, 60 miles from Tokyo, saga on northern Honshu Island, and Imbari, on the southern island of Honshu. One B-29 unit hammered the Utsonomiya oil liquefaction plant with high explosives.

Japanese also reported Mustangs from two raked the capital with rockets, bombs and machinegun bullets in daylight for the third time in four days.

War correspondent Japanese propagandists reported: Americans "lead a starvation life." Nipponese raiders caught U. S. planes lined up wing to wing on two Okinawa air fields; a U. S. submarine was sunk off the coast of Japan; Nipponese subs sank two Allied vessels in the central Pacific.

Chinese reports told of new terror in China. Once-beautiful Kweilin, former southeast China air base city, was left thoroughly sacked. Fifty-thousand Chinese were killed or missing from Kanhsien in east central China. A thousand civilians were reported killed by forced poisonous injections at Ichang, enemy-held central China river port.

Americans and Filipines eliminated an ambushing Japanese company and beat back two desperate counterattacks on northern Luzon island, running last week's toll in the Philippines to 4,740 Japanese killed and 644 taken prisoner. U. S. losses for the week were 27 killed, 61 wounded.

Maj. Gen. William Gill offered a 45-day furlough to any member of the 93d Division who captures an enemy general alive. Chief prize is Gen. Tomoyuki Yamashita, onetime "Tiger of Malaya" variously reported captured, killed or flown from northern Luzon mountains.

'Utter Destruction,' Promised in Potsdam Ultimatum, Unleashed; Power Equals 2,000 Superforts

WASHINGTON, Aug. 6 (AP)—The U. S. Army Air Force has released on the Japanese an atomic bomb containing more power than 20,000 tons of TNT.

It produces more than 2,000 times the blast of the largest bomb ever used before.

The announcement of the development was made in a statement by President Truman released by the White House today.

The bomb was dropped 16 hours ago on Hiroshima, an important Japanese army base.

The President said that the bomb has "added a new and revolutionary increase in destruction" on the Japanese.

Mr. Truman added:

"It is an atomic bomb. It is a harnessing of the basic power of the universe. The force from which the sun draws its power has been loosed against those who brought war to the Far East."

The base that was hit is a major ordnance, machine tool and aircraft plants.

The raid on Hiroshima, located on Honshu Island on the shores of the Inland sea, had not been disclosed

MADE IN SANTA FE

WASHINGTON, Aug. 6 (AP)—The atomic bomb disclosed by President Truman today was developed at factories in Tennessee, Washington and New Mexico.

Mr. Truman said that from 65,000 to 125,000 workers were employed on the project at Oak Ridge near Knoxville, Tenn., at Richland near Pasco, Wash., and at an unnamed installation near Santa Fe, New Mexico.

He said the work was so secret that most of the employes did not

previously although the 20th Air Force on Guam announced that 580 Superforts raided four Japanese cities at about the same time.

The city of 318,000 also contains a principal port.

2 Billion Gamble

The President disclosed that the Germans "worked feverishly" in search of a way to use atomic energy

Tomato Juice Off Rationing

WASHINGTON, Aug. 6 (AP)—Grocers scratched point values today from canned tomato juice, mixed vegetable juices and grapefruit-orange juice blends.

OPA's action in making those products ration-free yesterday followed a recommendation from Secretary of Agriculture Anderson based on lowered military demands.

Anderson also announced that civilian store shelves will get 10,000,000 more cases of canned vegetables from this year's pack than had been expected.

Despite the 10 per cent increase, however, the Agriculture Department said total still will be less than last year's.

SENTENCED

Pat Chavez, 333 Utiosta Street, faced a 100-day jail sentence and $100 fine today on conviction before Peace Justice A. E. P. Robinson of assault and battery on a woman taxi driver. The court reported the case Saturday as involving a Pat Lopez and called attention today to the correct name of the defendant.

Now They Can Be Told Aloud, Those Stoories of 'the Hill'

By WILLIAM McNULTY

The secret of Los Alamos is out and "The New Mexican staff and other newspapermen through New Mexico can heave a sigh—although nothing; it's more of a groan—of relief.

President Truman's revelation today that it was an atomic bomb THEY were working on on Flat Hill ended what was probably the strictest censorship ever imposed upon the press of this state. There was practically no limit to the lengths that the guards went to and the situation at times became fantastically involved including the famed "Battle of the MPs."

Notwithstanding the censorship, the news of Los Alamos had scarcely race about the Plaza this morning when the membership of the "I-Know-It-All-Along" club began growing by leaps and bounds. As a matter of record, the most recent rumor, No. 6,862—straight from the horse's mouth last week—was that Alamos was working ticket-split night and day, in the production of windshield wipers for submarines.

The taboo on the mention of Los Alamos was final, complete and until today, irrevocable and not susceptible to any exceptions whatsoever.

A whole social world existed in nowhere in which people were married and babies were born nowhere. People died in a vacuum, autos and trucks crashed in a vacuum and the MPs baseball team materialized out of a vacuum, trained in a vacuum, and after their games at Fort Marcy Park, returned to the vacuum. Even the graduates of Los Alamos Ranch School, the institution which preceded Uncle Sam's Atomic Bomb Project Laboratory, ceased to be graduates of Los Alamos; they became direct from Public School No. 7 clear into the classrooms of Harvard and Yale.

And on days when the Alamos experimenters threw their atomic bombs about a little too vigorously and the windows of Santa Fe rattled ominously, this paper's phones would be jammed by the whole staff could just "no speak English".

The chain of secrecy about the Hill was maintained from the big cities in East where workers were recruited clear through to the delivery of these same workers on The Hill. The Alamos Bus stop was at Sena Plaza and people laden with luggage and youngsters clinging to their arms, frequently barged into offices of that Plaza and inquired, "Where do we go to work?" One of the earliest bits of Alamos lore was that of the dude Wac who had never been farther west than Albany, N. Y.; she chose the moment when The Hill bus was turning the highest point on the Jemez mountains to peek out—and fainted dead away.

Under these conditions of secrecy rumors multiplied like maggots in one of Mel Hagman's garbage cans. Gas warfare, rockets, jet propulsion, death rays and — atomic bombs — were among the guesses most frequently voiced. During the last Presidential campaign, Alamos [illegible] a Republican stronghold in imminent camp.

In the early days of the project, even the "outside employes" who knew no more of what was going on than the Japs in the foothills of Quedalmont, were sworn never to reveal what they didn't know anyway, for the rest of their lifetime. Our own B. B. Dunne got tangled up with a wringer for music as mentioning that "there were a lot of scientists in town".

Then there was the time when the New York Daily was whipping up a Sunday feature on Nobel prize-winners in the U. S. It queried The New Mexican for a brief summary of what Prof X was doing now. The staff recognized the Alamos postoffice box number—that famous postal box where babies were born and to which whole crateloads of furniture assigned—but it was decided to give the professor a whirl anyway on the old "You can't shoot me for trying" principle. A letter went out to Professor X in which no mention was made.

The next morning at 8:09—their watches must have been slow—two guards jumped the cityroom. After a heap of protestations and avowals of innocence, it was agreed that the following telegram could be sent the News:

[illegible] whiskers on extremely hush-hush project. No soap."

The telegram was delivered in New York by a Western Union boy flanked by a covey of guards. Then and then began spilling all over the News cityroom like oranges out of a busted crate.

Now, they wanted to know, did the News staff explain such Dick Tracy huggermugger stuff?

The News' difficulty was that the girl who had sent the telegram had gone on vacation and couldn't be reached. The News explained it after two clouded weeks in which, report, you couldn't toss a cigaret in a wastepaper basket without setting fire to a guard.

The tantalizing little that Santa Fe-ans knew about The Hill, only heightened their interest. There were the lights to be seen from miles away; there were the days when fires raged and smoked billowed in the mountains and always the mysterious explosions — (Last) Holmes moved to Tesuque and had moments when she thought she was back in bomb-shattered London).

The payoff, however, came in the "Battle of the MPs". More than a year ago a boxing card was arranged in which the Santa Fe High athletes took on the Alamos MPs. The sluggers from The Hill must have been [illegible] or the Demons were packing an atomic punch because the MPs were knocked cold, two of them [illegible] in one round and one punch practically.

Unfortunately for Mel Rhine and his Santa Fe wars—as distinct from the Alamos MPs—soldiers read the sports pages and the next night, there was an epidemic of free-swinging in the bars and restaurants.

Frantically Rhine demanded that The New Mexican print an explanation that the one-round sluggers were decidedly NOT his MPs but he was smack into the Alamos secrecy ban.

For hours Rhine sweated over a document which, by the time it complied with censorship requirements, rambled for no less than 700 words or so—and meant exactly nothing to anybody. It was a masterpiece of obfuscation. Of course, the boys were still swinging at the so-called "one-round MPs" for weeks before they discovered their mistake

May Be Tool To End Wars; New Era Seen

Mankind's successful transition to a new age, the Atomic Age, was ushered in July 16, 1945, before the eyes of a tense group of renowned scientists and military men gathered in the desertlands of New Mexico to witness the first hand results of their $2,000,000,000 effort. Here in a remote section of the Alamogordo Air Base 190 miles southeast of Albuquerque the first man-made atomic explosion, the outstanding achievement of a world at war, was achieved at 5:30 a. m. of that day.

Mounted on a steel tower, a revolutionary weapon destined to change war as it has been known, or which may ever be the instrumentality to end all wars, was set off with an impact which signalled man's entrance into a new physical world. Success was greater than the most ambitious estimates. A small amount of matter, the product of a chain of huge specially constructed industrial plants, was made to release the energy of the universe locked up within the atom from the beginning of time.

Credit U. R. Oppenheimer

This phase of the Atomic bomb project which is revealed today, [illegible] is credited by Maj. Gen. Leslie R. Groves, under the direction of Dr. J. R. Oppenheimer, theoretical physicist of the University of California. He is to be credited with achieving the implementation of atomic energy for military purposes.

Tension before the actual detonation was at a tremendous pitch. Failure was an ever-present possibility. Too great a success, envisioned by some of those present, might have meant an uncontrollable, unusable weapon.

Final assembly of the atomic bomb began on the night of July 12 in an old ranch house. As various components assembled arrived from distant points, tension among the scientists rose to an increasing pitch. Coolest of all was the man charged with the actual assembly of the weird device, Dr. K. F. Bacher, normal times a professor at Cornell University.

Lightning Threatens

On Saturday, July 14, the unit which was to determine the success or failure of the entire project was elevated to the top of the steel tower.

The ominous weather which had dogged the assembly of the bomb had a very sobering effect on the assembled scientists. Not work was accomplished amid lightning flashes and peals of thunder.

Nearest detonation point was set up 10,000 yards south of the tower where in a point [illegible] the control [illegible] was located. At a point 17,000 yards from the tower at a point which would give the best observation the key figures in the atomic bomb project took their posts. These included Dr. Vannevar Bush, director of the Office of Scientific Research and Development, and Dr. James B. Conant, president of Harvard University.

Lie Face Down

Actual detonation was in charge of Dr. K. T. Bainbridge of Massachusetts Institute of Technology. He and Lieutenant Bush, in charge of the Military Police Detachment, were the last men to inspect the tower with its cosmic bomb.

At the base camp, all present were ordered to lie on the ground, *face downward, heads away from the blast direction.*

Tension reached a tremendous pitch in the control room as the deadline approached. The several observation points in the area were tied in to the control room as the time and with 20 minutes to go, Dr. S. K. Allison of Chicago University took

(Continued on Back Page)

The Weather

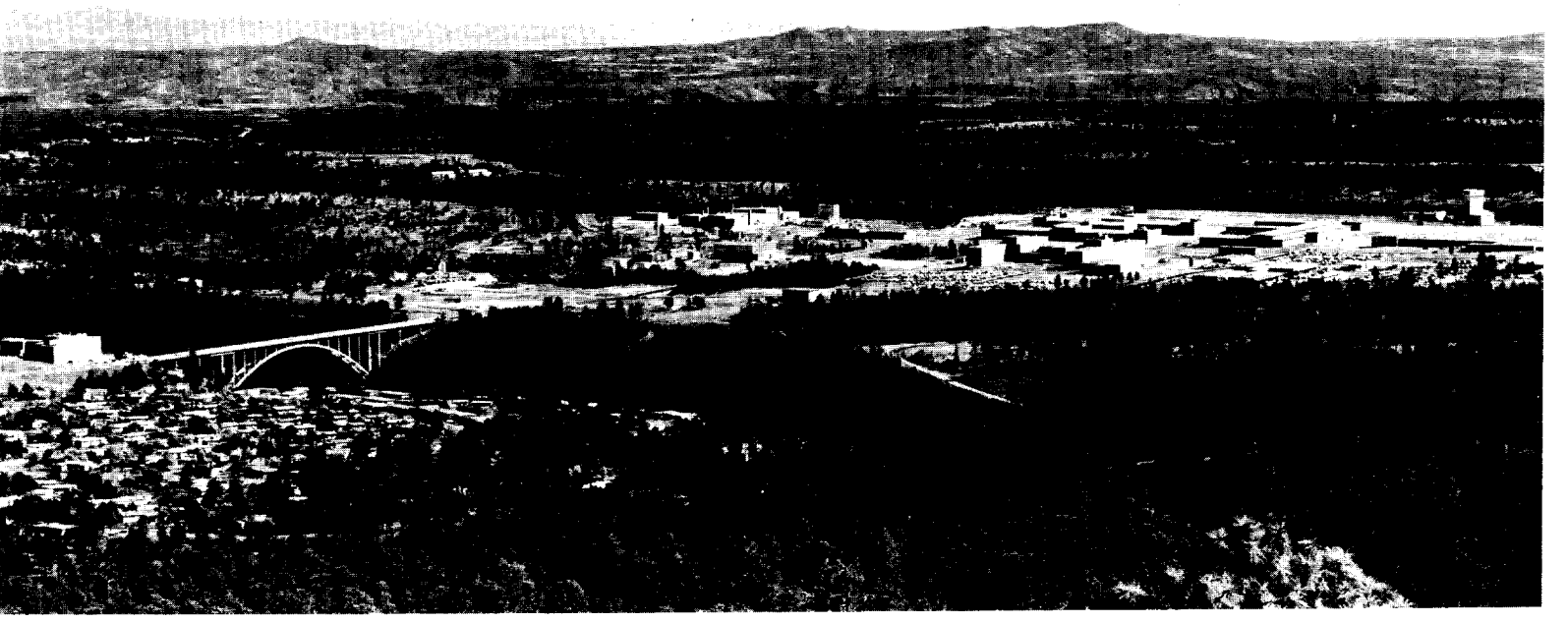
New Mexico: Partly cloudy with widely scattered thunderstorms mostly over mountains during afternoon and evening; otherwise fair tonight and tomorrow; no important change in temperature.

City

High 90, low 56.

Airport

High 82, low 62



Today a modern laboratory complex sprawls over South Mesa replacing the wartime buildings.

after trinity

A crashing let-down followed the long months of intense technical effort and the climax of victory; the Laboratory faltered and very nearly perished. Much of the credit for holding it together goes to Norris Bradbury, the Laboratory's second and present director and the handful of men who shared his confidence in the facility's future.

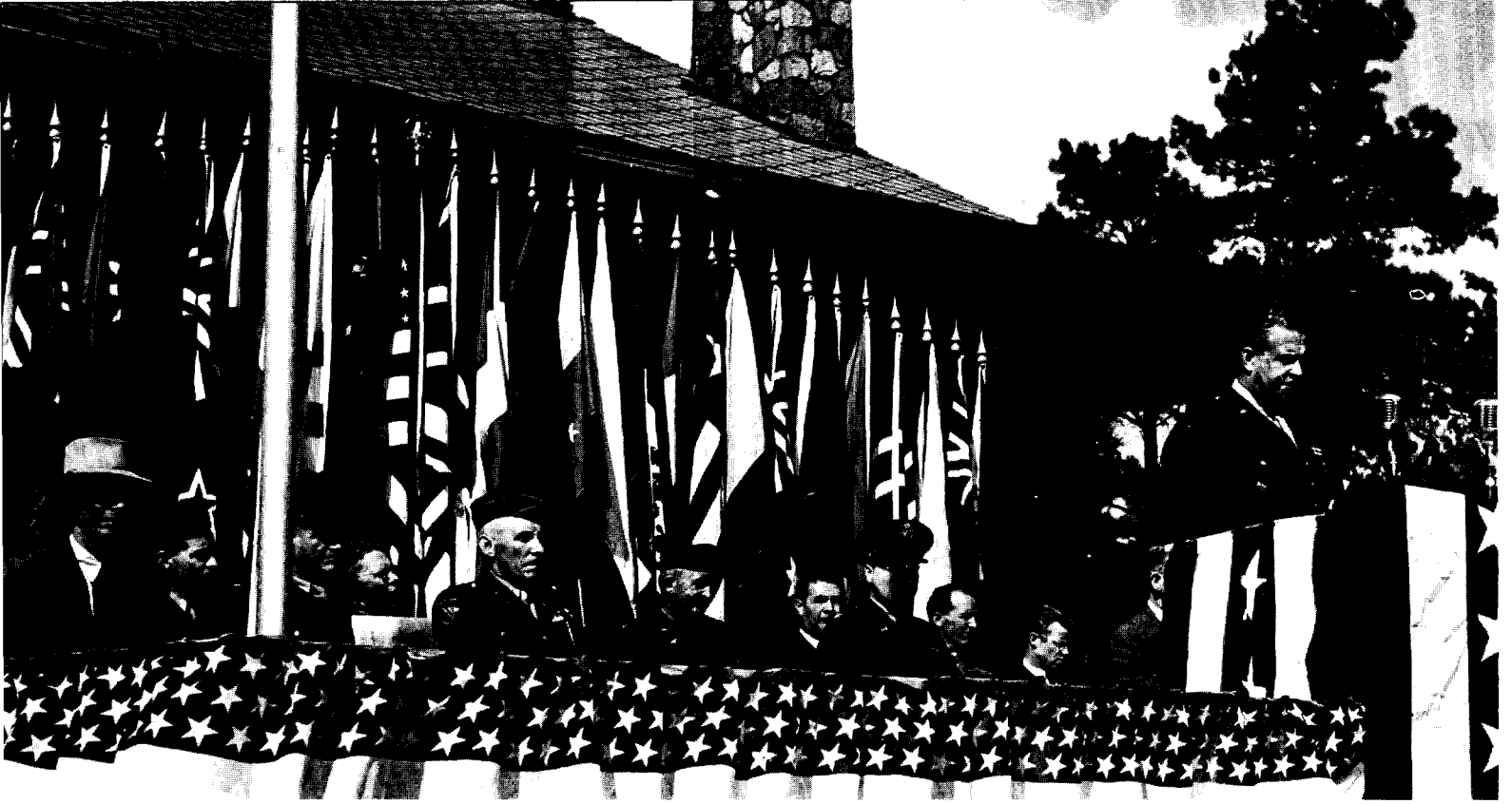
Before the summer of 1945 had ended, a mass exodus from the Hill had begun. Many scientists, technicians and graduate students rushed to return to universities and industries from which they had been begged, borrowed or stolen for the wartime project. Many were lured away, and still others seriously tempted, by large salaries offered by universities attempting to rebuild their depleted technical staffs. In general, the Laboratory was staffed at the end of the war with people who were far from sure they wished to remain in Los Alamos.

For everyone there were some very large uncertainties. Neither the government nor the University of California had set down a plan for future operation of the Laboratory. The University had accepted the Los Alamos contract only as a patriotic gesture and there was no guarantee that the contract would continue. In the absence of national legislation on future use and control of atomic energy, there was little basis upon which to establish an appropriate policy for a laboratory whose initial mission was complete. Many thought the Laboratory would be abandoned. Others, suffering intense pangs of conscience, thought it ought to be —or that it should at least be turned over to basic and peaceful research.

All this was complicated by the question of whether or not a location on an isolated mesa top in New Mexico was adequate or satisfactory as a peacetime location for a laboratory of any kind.

Furthermore, life on the Hill had never been easy and now, with the job finished, there was little incentive to endure it. The combination of an absentee contractor and Army administration of community and auxiliary services had aroused a state of antagonism and irritation that, for many people, could only be solved by leaving Los Alamos. By October, the Laboratory staff, which numbered 3,000 at its wartime peak, was nearing its all time low of only 1,000.

Then, adding to the confusion, Oppenheimer announced plans to return to his peacetime duties, and appointed Bradbury to take over as temporary director.



After the war, the Army-Navy E was presented to the Laboratory in special ceremonies at the Lodge. Gen. L. R. Groves made the presentation. Project Director J. Robert Oppenheimer is seated at far left.

An expert on conductivity of gases, properties of ions and atmospheric electricity, Bradbury had come to Los Alamos as an officer in the Naval Reserve after an outstanding academic career at Pomona, the University of California, Massachusetts Institute of Technology and Stanford, where he was a professor of physics. He was convinced that the nation would continue to need a laboratory for research into military applications of nuclear energy and that Los Alamos, now one of the world's best-equipped research laboratories, was the logical place for it. He gambled that the government would eventually agree with him.

Meeting with key staff members in October 1945, Bradbury laid his cards on the table. While awaiting legislation, he said, "we should set up the most nearly ideal project to study the use of nuclear energy." However, he continued, "we have an obligation to the nation never to permit it to be in a position of saying it has something that it has not. The project cannot neglect the stockpiling and development of atomic weapons during this period." The re-construction of a peacetime laboratory had begun.

In the spring of 1946, the Laboratory took over technical direction of Operation Crossroads at Bikini in the Marshall Islands. The historic test series supplied highly significant technical data on the effects of atomic weapons on naval vessels and gave the staff additional experience in the conduct of weapons tests. It also gave the Laboratory a concrete objective when it was most needed and proved the Laboratory ability to conduct a major operation despite the loss of much of its experienced staff.

But still the situation in Los Alamos was uncertain. The final demoralizing blow had come in February 01 1946 when the community water lines froze solid for weeks. Water was brought up from the Rio Grande in a procession of tank trucks and doled out in buckets and pans to grim-faced housewives. The disaster climaxed the bitter resentment of the system of Los Alamos community operation and hastened the exodus of still more unhappy people.

In May, Bradbury played his ace: he announced that, effective in September, the Laboratory would cease to pay the way home for terminating employees. Those who had been unable to make up their minds, quickly decided, and the staff stabilized, leaving only those who shared Bradbury's faith in Los Alamos.

The faith was confirmed often throughout the balance of 1946. In the spring, General Groves approved plans for construction of the Hill's first permanent housing, and prefabricated units were added as quick relief for the critical housing shortage.

The biggest boost came in August, when Congress passed the McMahon Act, establishing the Atomic Energy Commission and putting atomic energy

under civilian control. As 1947 began, the Commission took over and the University of California agreed to continue operating the Laboratory. With the Commission establishing as its first priority "the stabilization and revitalization of the Los Alamos Scientific Laboratory," it became clear that Los Alamos would continue to play a key role in the nation's atomic energy program.

Although the Laboratory continued development of advanced fission weapons, it shortly embarked upon its second major mission—development of the hydrogen bomb.

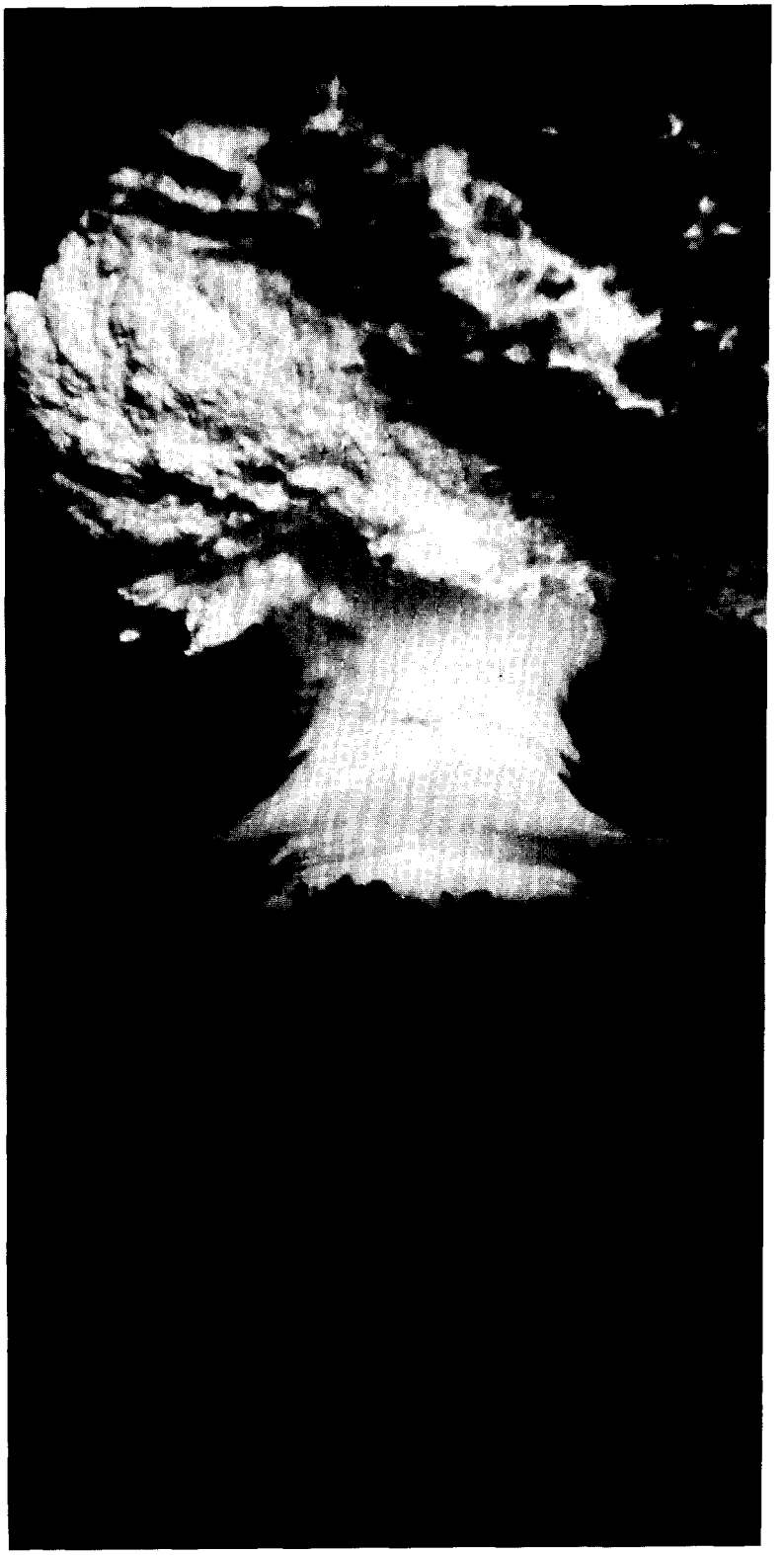
Theoretical possibilities for a thermonuclear weapon, an idea born during a lunchtime discussion in early 1942, had been under study since the earliest days at Los Alamos by a special group headed by Edward Teller. Theoretically, the scientists knew, a fusion reaction was possible, but it required temperatures far higher than any previously created by man. With the success of the fission bomb, these high temperatures had been achieved. The thermonuclear bomb was now in the realm of practical possibility.

But major barriers were still unsurmounted. Once the cooperative efforts of Teller and Stanislaw Ulam made the necessary conceptual breakthrough, the Laboratory was able to launch an elaborate theoretical and experimental research program. The famous electronic brain, MANIAC, was built to handle the complex calculations of thermonuclear process, and the Laboratory went on a six-day week to get the job done. In November 1952, two months before the Laboratory's tenth anniversary, the world's first full-scale thermonuclear explosion shook the Pacific atoll of Eniwetok with the detonation of the Los Alamos device, "Mike."

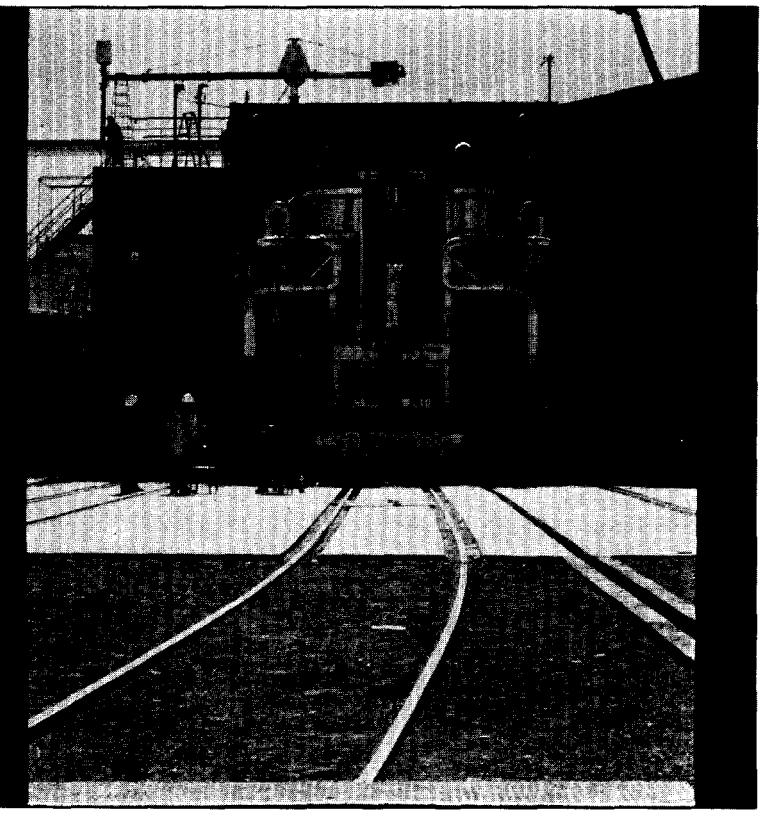
Since that time, several dozen LASL fission and fusion devices have been tested in eight series of tests in the Pacific and in eight series, comprising 100 shots, conducted at the Nevada Test Site. With nuclear detonations in the atmosphere banned by the Limited Test Ban Treaty of 1963, Los Alamos now conducts a vigorous underground testing program in Nevada.

During the first decade, as it is today, the Laboratory's primary responsibility was development and improvement of nuclear weapons. However, in view of Bradbury's emphasis on "programs of fundamental research and development related to the problems of nuclear energy," it is not surprising only about half of the total Laboratory effort is now devoted to weaponry. Other programs cover a broad spectrum of investigation and development looking toward peaceful uses of atomic energy.

Beneficial exploitation of the atom at Los Alamos actually began as soon as the Laboratory was founded. Though the whole first purpose of the installation was to develop nuclear weapons, the nature of that purpose entailed a great deal of



World's first full-scale thermonuclear detonation took place November 1, 1952 in the Pacific. "Mike" shot used a LASL thermonuclear device and was conducted by LASL personnel.



LASL's Phoebus 1B reactor, one of a series of nuclear rocket propulsion reactors, sits on the test cell pad ready for the "girdle"—a radiation shield—to surround it. This photograph was taken through a door of the shed which protects the reactor from the elements.

purely scientific research. It required people and equipment fitted for much more than the creation of bombs.

In addition to the enriched-uranium reactor development before Trinity, Los Alamos reactors using entirely different fuel systems have been created. One of them-the world's first plutonium-fueled reactor and the first to rely on a fast-neutron fission chain—went into operation in 1946. In more recent years the Laboratory has developed a reactor using uranium phosphate fuel and another using molten plutonium. One present goal of the Los Alamos reactor program is to find good ways in which to design "breeder" reactors–reactors using neutron capture reactions to produce more fuel than they consume.

Los Alamos has also created the first nuclear rocket propulsion reactors (not intended to be flyable engines themselves, but designed to show the way toward the creation of propulsion systems far superior to those now in use).

Another peaceful program is Project Sherwood in which ways are being sought to harness the H-bomb fusion reaction and make it do useful work.

Scheduled for completion in 1971 is an 800 MeV proton accelerator which will produce pi mesons for the study of the atomic nucleus in ways not now possible. In addition, the meson facility may provide a valuable tool for cancer research.

The Laboratory's Health Research program has expanded from radiation effects studies to explorations in the field of molecular biology.

Over the years, while the Laboratory was making notable scientific advances, the community of Los Alamos itself was coming of age.

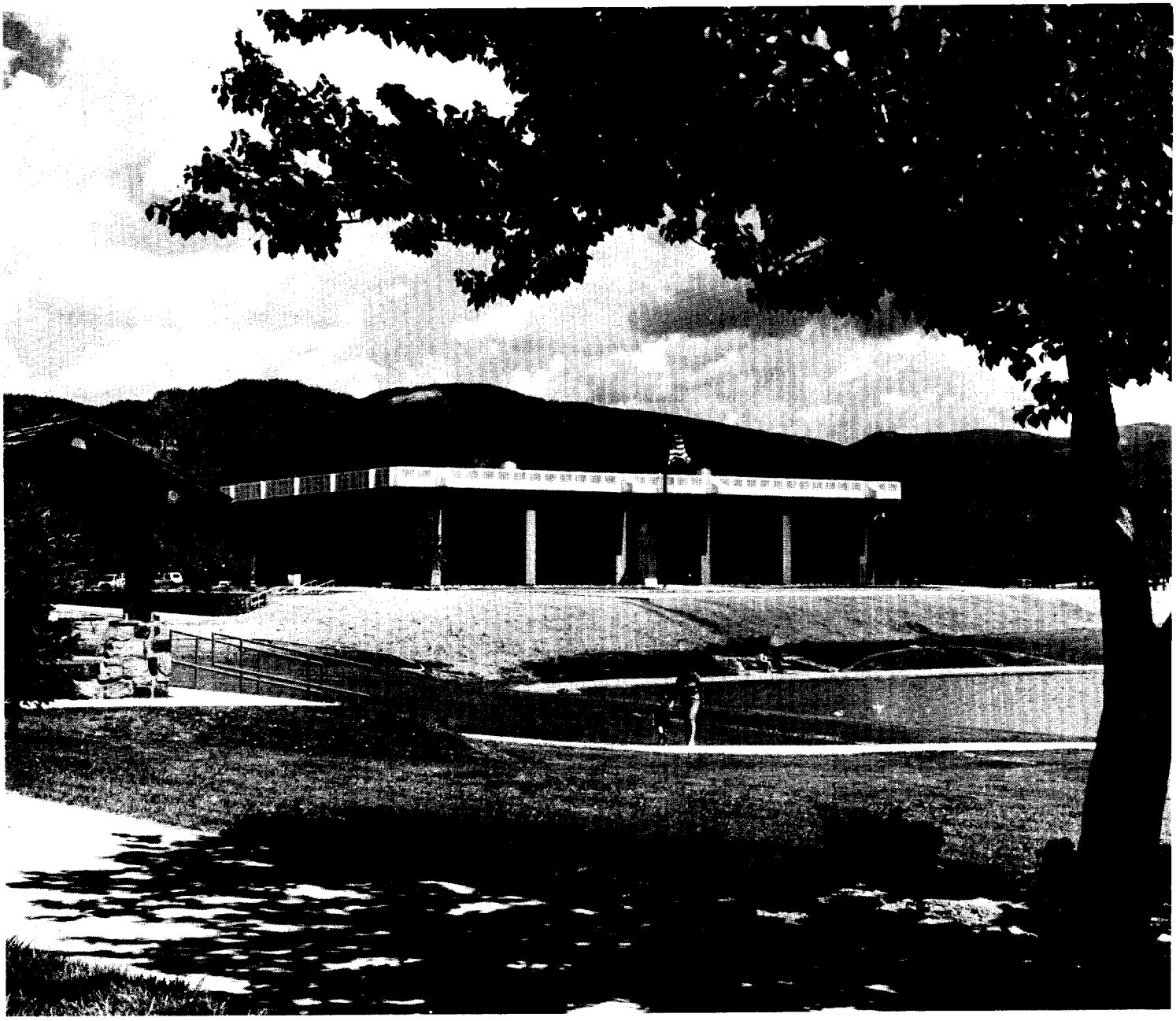
The AEC brought to Los Alamos–in the late 1940's–an ambitious $121 million plan for community expansion and laboratory relocation which put new, modern technical facilities on neighboring mesas, removing the unsightly old wooden structures and their high fences from the town's main street. A spacious, attractively landscaped shopping and community center was added. Schools and housing were built in a frantic effort to keep up with the need. A post office, library and medical center were added. In 1957, the gates came down and anybody who wanted to could come and go in the town.

Today, except for its rugged mountain setting, the community of bright green lawns and brilliant gardens looks just about like any suburban town. Its more than 16,000 residents enjoy an outstanding school system, a fast-growing shopping facility, plenty of recreation and three burgeoning residential subdivisions.

If Los Alamos is still not quite a "normal" community, it soon will be. In 1962, federal legislation was enacted to transfer commercial and residential property on the Hill from federal to private ownership and management. Nearly all property is now privately owned and final transfer of municipal operations and utilities to Los Alamos county was made in 1967.

Many changes have taken place on Pajarito Plateau during the past decades. Changes which have affected not only the community itself, but changes which have altered mankind's whole outlook on the world in which he lives. But one thing will not change: the Laboratory's adventurous spirit and the unmatched natural beauty of the setting which provides much of the inspiration for that spirit.

With an impressive record of accomplishments behind it, and its home town becoming what the AEC hoped in 1947 would be "a community satisfactory to scientists," the Laboratory can look to a promising future.



Where old Tech Area 1 changed the course of world history in the mid-forties, now the new Los Alamos County Municipal Building occupies a prominent spot next to Ashley Pond. Dedication ceremonies for the new building in 1967 included the official transfer of more than 17 million dollars worth of public use lands, roads, buildings and utility system from federal to county ownership—one of the final steps toward making Los Alamos a "normal" community. Historical landmark at left marks the site of the old Ice House where parts of the first atomic bombs were assembled.

THE LOS ALAMOS SCIENTIFIC LABORATORY IS OPERATED BY THE UNIVERSITY OF CALIFORNIA
FOR THE UNITED STATES ATOMIC ENERGY COMMISSION AT LOS ALAMOS, NEW MEXICO