

Part 7

Jornada del Muerto

The Journey of The Dead Man

Trinity

The McDonald family had been raising cattle and horses in the Jornada del Muerto¹ basin for decades. They built adobe houses and dug wells, erected windmills and constructed stock ponds; they painted the doors and trim of their ranch houses turquoise. In 1942, the Army Corps of Engineers and a Federal Judge ordered David and George McDonald to give up their ranch and leave their homes. An aerial gun range took the place of their grazing lands.

George's ranch house had stood vacant for three years when on July 11, 1945 a dusty Plymouth staff car pulled up to the front door and a foot-square box containing the plutonium hemispheres was carefully lifted from the back seat and carried into the house. Brigadier General Thomas Farrell signed a receipt for the bomb parts whose value was given as one billion dollars. Now the army owned the bomb.

Los Alamos scientists turned the master bedroom into a workshop and started to assemble the world's first nuclear weapon. They covered the windows with plastic and taped the cracks in the walls to create a "clean room." A hand-lettered message on the outside door read, "Please wipe feet", "Keep this room clean." The pit was placed on one of the recently-built work benches and the assembly began.

That same day, the army truck arrived at the base of a surplus Forest Service fire tower two miles from the ranch house. The gadget was uncrated and immediately surrounded by a canvas shroud. The next day the core was taken to the tent and inserted into the explosives package and the bomb raised to the top of the tower. Explosives and electrical technicians wired the detonators.

Ten thousand yards from the tower, in a solid concrete bunker with a blast door, Robert Oppenheimer paced. Five miles further on, at David McDonald's house, a line of bodies lay stretched out on the ground, several Nobel laureates among them. Their feet faced the bomb and their hands covered their eyes as they awaited the detonation. Edward Teller wore two pair of dark glasses and gloves and had covered his face with lotion.

At one minute before five-thirty on the morning of July 16, 1945, thirty-two detonators ignited their shaped charges and the pit was compressed to half its volume. The beryllium and polonium initiator was crushed, mixing the two elements and releasing a deluge of neutrons into the now super-critical mass. Within less

than a millionth of a second, the heat rose to two-hundred times that at the center of the sun. In sixteen one-thousandths of a second, what had been a three-inch-diameter plutonium pit was now a ball of plasma six-hundred-feet wide.

The tower was vaporized and the expanding fireball struck the earth creating a boiling skirt of radioactive debris. The earth was ablated to a depth of five feet leaving the stubs of the concrete and steel tower sticking above the surface. The sandy soil was fused to glass.

At David McDonald's ranch, ten miles from ground zero, the heat was like an oven. The eastern mountains were illuminated with an instantaneous white flash brighter than the noonday sun. The radioactive purple light, still intense, faded through yellow, red and green, and once again to white. The fireball was beautifully luminous and speckled. A column of swirling red flame burned a hole in the clouds and climbed majestically into the morning sky. As cool desert air was sucked into the rising white pillar, a mushroom cap formed, growing to a height of 15,000 feet. A thunder-like sound reverberated back and forth from the mountains. The air had the electric smell of a close-by lightning strike and tasted of metal.

At the instant of detonation, there was joy that the gadget had worked, but this feeling quickly faded. Kenneth Bainbridge, director of the Trinity test, said of the scene "A foul and awesome display...Now we are all sons of bitches." Scientists prayed.

Hiroshima and Nagasaki

Before the air base on Tinian in the Marianas Islands could be built, the occupants had to be evicted but, unlike the farmers in the Clinch River Valley or the residents of Hanford and White Bluffs or the Los Alamos Ranch School or the McDonald brothers, the Japanese 29th Division put up a fight. Exactly one year before Trinity, the U. S. Navy started bombarding the north end of the island and Marines from the 4th Division landed on White Beach One and White Beach Two. Within a week, the defenders were beaten and work began on what would become the busiest airbase of the War.

The Little Boy bomb was crated, and trucked west. At Hunter's Point, San Francisco, the cruiser, *USS Indianapolis* loaded it on board for delivery to Tinian and eventually to Japan. The captain had some of the uranium doughnuts stored in his cabin and, for safety, the remainder was flown to the island. Three modified B-29 "Silverplate" bombers delivered the components for the Fat Man plutonium bomb to Tinian.

On Independence Day, 1945, with the agreement of Britain², President Truman decided that atomic bombs would be dropped on four Japanese cities, with the

expectation that the government would surrender and an invasion would not be necessary. The first of those bombs fell a month later.

Little Boy was assembled at the airfield and loaded from a concrete pit into the modified bomb bay of a B-29. Colonel Paul Tibbets, the pilot who would drop the first atomic bomb, had named the plane after his mother only the night before. The *Enola Gay* and two other bombers took off from Tinian in the early morning hours of August 6, 1945 and headed north. The mission of the crew was the "prompt and utter destruction" of a Japanese city.

After six hours in the air, Colonel Tibbets gave control to his bombardier who flew the plane to the aiming point, the T-shaped Aioi Bridge, in the center of Hiroshima, where he released the bomb. Less than a minute later, and eleven miles away, the shock wave from the blast rocked the *Enola Gay*. The bomb missed its target, but exploded with a force of 16,000 tons of TNT, two thousand feet above the Shima Surgical Clinic.

Under the explosion, the intense flash instantaneously charred the flesh of those caught outside to a dark brown. The blast flattened the clinic and radiation killed all inside. Thousands of people died instantly a mile from the center and fires were started that consumed the heart of the city³. Sixty thousand buildings were destroyed and one hundred thousand people were crushed, burned to death, or died of radiation; many died from all three. Three days later the horrific scene was repeated at Nagasaki, this time with the plutonium bomb. The heat baked potatoes in the ground and pumpkins on the vine; it burned cloth patterns onto the skin and etched shadows of people onto concrete walls.

When the war ended in September of 1945, the U. S. still had two atomic bombs ready to be dropped. Work was ongoing to produce more and to improve their efficiency.

¹ A one-hundred-mile stretch of desert trail between Las Cruces and Socorro, New Mexico. The route is without water, grazing or firewood and many died crossing its wasteland.

² At the August 1943 Quebec Conference, the U. S. and Great Britain agreed that neither would use a nuclear weapon against a third country without the consent of the other.

³ In 1945, Hiroshima was about the size of Pittsburgh or Honolulu.