
The Round Tablette

Founding Editor: James W. Gerber, MD (1951–2009)

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Welcome to the second March meeting of the Dr. Harold C. Deutsch World War II History Round Table.

Tonight's speaker is Jim Eckles, author of *Pocketful of Rockets; History and Stories Behind White Sands Missile Range*. He will discuss the establishment and development of the White Sands Missile Range in the TRINITY test and in the development of the US Army's rocket program, which grew out of the German V-2 rocket program using German rocket scientists. These scientists were brought to the US under OPERATION PAPERCLIP (below). These two weapons programs (TRINITY and rocketry) came together spatially at the Alamogordo Bombing and Gunnery Range in southern New Mexico, now known as the White Sands Missile Range. In years to come, the bomb and the rocket would combine in a weapons system ménage à trois with the electronic computer, itself another World War II development – one with considerable Minnesota roots

Alamogordo Bombing and Gunnery Range:

In 1941, the Army Air Forces needed air fields and bombing and gunnery practice ranges, which work best in unpopulated areas with good weather like the southwestern desert. Land in the Tularosa Basin of New Mexico was selected, and acquisitions officers went to work getting ranchers off their lands. In too many cases, they worked in the worst of bureaucratic manners and alienated landowners beyond all reason.

TRINITY test:

Atomic bombs (and later, artillery shells) mark a “quantum leap” in explosive power compared to TNT and other conventional explosives, and have serious, long-term, environmental and health impacts. Fusion versus fission bombs, hydrogen bombs, and neutron bombs are all within the same generic family for our purposes.

Though uranium was in short supply, confidence in the design of the “Little Boy” was high enough that it was shipped out to be

dropped (on Hiroshima) on 6 August 1945. Because design of the plutonium bomb necessitated more careful engineering and assembly, a test-firing (“proof of concept”) prior to combat use was deemed essential. Additionally, a test firing would provide answers to a lot of questions about nuclear explosions. (Some scientists doubted the bombs would work; others feared it would work too well.) After considerable searching in the US and Australia, the only area meeting most of the criteria specified for the ideal test site was found to be the Alamogordo BGR, particularly the northern-most region near Los Alamos. Within that vast area, the “Trinity” site (called “Jornada del Muerto,” or “Journey of Death”) was chosen as offering the best combination of site features.

Several bunkers and a large test stand were constructed and instrumentation deployed. A test, using 110 tons of TNT, on 7 May revealed a number of shortcomings in the preparations for TRINITY. Construction of a 100 foot tower to hold the bomb (“the gadget”) in air to simulate an air drop, proceeded. On 13 July, the nuclear capsule, assembled in the nearby MacDonald ranch house, was moved into position. The bomb was armed after 2200 on 15 July. Scientists put bets on the outcome, with Robert Oppenheimer wagering \$10 that it would not work at all and Enrico Fermi wagering (facetiously) that it would ignite the atmosphere - offering side bets on whether only New Mexico or the entire globe would be incinerated.

The weather cleared and MG Leslie Groves approved conducting the test even though the two PROJECT ALBERTA B-29s conducting measurements of the explosion had impaired visibility. At 0529:21 on 16 July, the device exploded with a force of about 20 KT of TNT, turning desert sand into glass (trinitite), producing a mushroom cloud that reached over 7 miles into the atmosphere (which cycled from purple to green to white in color), and the shock wave was felt over 100 miles away.

More importantly, the distribution of radioactive fallout debris exceeded expectations. Kodak later noted unexposed film carried markers resulting from a nuclear explosion. Trinity's fallout contaminated river

If you are a veteran, or know a veteran, of one of these campaigns – contact Don Patton at cell 612-867-5144 or coldpatton@yahoo.com

water used by a cardboard mill in Indiana that made the film containers. Kodak kept this secret into 1949.

Rockets and Rocket Scientists:

During the war, tactical rocket systems (the Soviet Katyusha truck-mounted, the German Nebelwerfer towed multiple rocket launcher systems, the Japanese Type 4 (20 mm naval and 40 mm army), and the USMC rocket trucks and their naval equivalents) proliferated. Only the Germans deployed “strategic” (V-2) rocket systems. The V-1 missiles more properly are the ancestors of today's guided missile weapons systems. In the last months of the war, concerted efforts were made by the British, the Americans, and the Russians, to acquire German scientists (both atomic and rocket), heavy water stocks, and rockets, parts, and production equipment.

This program, OPERATION PAPERCLIP (formerly OVERCAST), run by the OSS and successor agencies, worked to find, fix, and “liberate” into holding camps the German scientists whose expertise we either wanted or did not want the British and Soviets to have. Many of the scientists, engineer, and technicians brought to the US through PAPERCLIP were devoted Nazis like Wernher von Braun, and all had to be party members to work. Under President Truman's August executive Order creating PAPERCLIP, Nazis were expressly excluded from both the program and the US. Only nominal Nazis were allowed in at all. The Joint Intelligence Objectives Agency (JIOA) concluded this would unduly limit the haul of experts and, ignoring Truman's order, swept up as many German specialists as they could find. Ultimately, some 1,800 were in American custody, along with their families.

This program violated the Yalta and Potsdam Accords and was designed to deny this pool of expertise to the British, the Soviets (who were also rounding up experts under their own programs - “trophy brigades” and Operation Osoaviakhim), and the nascent German government. Most were kept in rural villages “on ice” for up to three years before we began bringing them to the US for employment. Their Nazi pasts had to be erased from the records, and new employment histories created, then they got security clearances, and became US government employees - all courtesy of JIOA and in violation of US and international law.

Both weapons systems were tested and further developed at the Alamogordo Bombing and Gunnery Range - now White Sands Missile Range. Alamogordo BGR was established at Alamogordo Army Air Field, essentially an

annex to Fort Bliss, to train bombardiers and bomber crews prior to combat deployment.

Further Reading:

Berger, Albert I. (2016) *Life and Times of the Atomic Bomb; Nuclear Weapons and the Transformation of Warfare*. Rutledge.
 Jacobsen, Annie. (2105) *Operation Paperclip: The Secret Intelligence Program that brought Nazi Scientists to America*. (Back Bay Reprint)
 Angelo, Joseph A. (2004). *Nuclear Technology*. Westport, Connecticut: Greenwood Press.
 Szasz, Ferenc Morton (1984). *The Day the Sun Rose Twice: The Story of the Trinity Site Nuclear Explosion, July 16, 1945*. Albuquerque: UNM Press.
 Monk, Ray (2012). *Robert Oppenheimer: A Life Inside the Center*. New York; Toronto: Doubleday.
 Norris, Robert S. (2002). *Racing for the Bomb: General Leslie R. Groves, the Manhattan Project's Indispensable Man*. South Royalton, Vermont: Steerforth Press.
 Dungan, Tracy D. (2005). *V-2: A Combat History of the First Ballistic Missile*. Westholme Publishing.
 Piskiewicz, Dennis (1995). *The Nazi Rocketeers: Dreams of Space and Crimes of War*. Westport, Conn.
 Kennedy, Gregory P. (2009). *The Rockets and Missiles of White Sands Proving Ground: 1945-1958*. Schiffer Publishing.

Announcements:

Fort Snelling Civil War Symposium, 2 Apr. 2016, info@tccwrt.com
 Twin Cities Civil War Round Table - May 17, 2016 – *R. E. Lee the Dilemma* - www.tccwrt.com - info@tccwrt.com
 St Croix Valley Civil War Round Table - Mar. 28, 2016 – *Three Paths to Glory* - 715-386-1268 – rossandhaines@comcast.net
 Minnesota Military Museum, Camp Ripley, 15000 Hwy 115, Little Falls, MN 56345, 320-616-6050, <http://www.mnmilitarymuseum.org/>
 Honor Flight - Jerry Kyser - crazyjerry45@hotmail.com - 651-338-2717
 CAF - Commemorative Air Force - www.cafmn.org 651-455-6942
 8th Air Force Historical Association - 8thmn.org - 952-797-2783
 Minnesota Air Guard Museum - www.mnangmuseum.org 612-713-2523
 Friends of Ft. Snelling, www.fortsnelling.org
 Fagen Fighters WWII Museum, Granite Falls, MN, 320-564-6644, <http://www.fagenfighterswwiimuseum.org>.
 World Without Genocide, 651-695-7621, <http://www.worldwithoutgenocide.org/>
 Airshow - Eden Prairie - 16-17 July 2016 www.wotn.org 952-746-6100
 Fort Snelling World War I Weekend, 20-21 Aug. 2016
 Military History Book Club, Har Mar Barnes & Noble: 27 Apr. Borneman, *American Spring: Lexington, Concord ...* - sdaubenspeck52@gmail.com
We need volunteers to drive our veterans to and from meetings. Please contact Don Patton at cell 612-867-5144 or coldpatton@yahoo.com

Round Table Schedule 2016

24 Mar. Birth of New Age of War
 14 Apr. Operation Dragoon/Anvil
28 Apr. OSS Maritime Units — First SEALS
 12 May Start of Cold War