Colonel Leslie Richard Groves had a spring in his step as he marched through the halls of Congress on September 17, 1942.[1] As the colonel agilely maneuvered his six foot, 220 pound frame down Capitol hallway, he was optimistic for the future. His boss, General W.D. Styer, had recently placed him at the top of a list of officers who were being considered for important assignments.[2] On that day, Groves thought he would be offered a combat post, possibly an overseas commission, after his three years of West Point preparation and twenty-four years of peacetime service in the Army Corps of Engineers. He cheerfully called out to General Brehon Somervell, the commander of the Army's Services of Supply, across the hall. "I've got some good news. I'm going overseas," Groves exclaimed as Somervell shook his head.[3] "Sorry, colonel," Somervell replied to a shocked Groves, "You can't leave Washington. The secretary of war has picked you for a very important assignment."[4]

Dread overcame Groves as he realized what this "very important assignment" must be. His office in the Construction Branch had recently advised the Syracuse District of the Army Corps of Engineers regarding a new project taken over by the army.[5] This project to design what could become the world's most deadly weapon, the atomic bomb, was shrouded in uncertainty; not only were the scientists performing pioneering research, but they also disagreed about how and where to do it. Groves' past experience with scientists had taught him that they were often unrealistic and prone to academic digressions, quite unlike himself.[6] Distress pervaded his

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[1] William Lawren, *The General and the Bomb* (New York: Dodd, Mean & Company, 1988), p.7.

[2] Ibid.

[3] Ibid.

[4] Ibid.

[5] Ibid., p. 8

[6] Ibid., p. 25.

usually stern countenance as he anticipated leading a doomed venture. “If you do it right,” Somervell offered, “it could win the war.”[7]

Though Groves was made Commander of the Manhattan Engineer District (MED) a month after its creation, the origin of the MED’s historic Manhattan Project precedes World War II. In August 1939, Albert Einstein, a Jewish refugee from Germany who relocated to the United States in 1940, sent a warning letter to President Franklin Roosevelt.[8] Fearful European scientists had informed Einstein of advancements in physics that hinted at the possibility of an atomic bomb. They felt that Germany would attempt to develop one and knew that German success would have devastating consequences. Einstein’s letter reached Roosevelt in October, and Roosevelt responded by creating the Advisory Committee on Uranium, the National Defense Research Committee, and the Office of Scientific Research and Development over the next two years.[9] However, after the MAUD report, in which the British concluded that an atomic bomb was achievable, and the United States’ entrance into the war, Roosevelt officially approved American production of an atomic bomb.[10]

On August 13, 1942, a general order issued by the Chief of Engineers established the MED. The official headquarters was first located on the 67th floor of the Empire State Building and eventually moved to a new war building in Washington D. C.[11] Scientific research took place at over thirty labs and major universities across the nation. Soon after his appointment, Groves

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[7] Lawren, *The General and the Bomb,* p.8.

[8] Michael Kort, *The Columbia Guide to Hiroshima and the Bomb* (New York: Columbia University Press, 1944), p.16.

[9] Ibid., p. 17.

[10] Ibid., p. 18.

[11] Ferenc Szasz, “J. Robert Oppenheimer and the State of New Mexico: A Reciprocal Relationship,” in *Oppenheimer and the Manhattan Project* ed. Cythia Kelly (Singapore: World Scientific Publishing Co., 2006), p. 49.

began construction on plants in Oak Ridge, Tennessee, and Hanford, Washington, that would create enriched uranium and plutonium for two types of bombs. These bombs would be developed in Los Alamos, New Mexico, where Groves established a research laboratory in November 25, 1942.[12] He chose J. Robert Oppenheimer, later celebrated as "the father of the atomic bomb," to be the lab director. All that this brilliant professor and the demanding general had in common was their extraordinary ambition. Nevertheless, their desires to achieve a common goal united them, and the means by which they led the project set a precedent for similar undertakings. Their efforts were largely responsible for the successful atomic bomb testing at Trinity on July 16, 1945, which allowed the United States to bomb Hiroshima on August 6 and hasten the end of the war.[13] Though Groves and Oppenheimer differed as individuals and leaders, their contrasting skills and unpredictable partnership proved essential to the Manhattan Project's completion.

Groves developed the administrative skills necessary to lead the MED from years of previous experience. His two years at the Massachusetts Institute of Technology before his entry into the U.S. Military Academy taught him the basics of engineering. Over the next fifteen years, his work on engineering projects across the country and overseas garnered him renown, awards, and promotions.[14] However, to Groves, these jobs seemed trivial in comparison to his temporary appointment as lieutenant colonel in July 1940. He was assigned to the War Department as chief of the Operations Branch, Corps of Engineers, and put in charge of all domestic Army construction during WWII mobilization. Managing a million men and spending $8 billion,

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[12] Szasz, "J. Robert Oppenheimer," p. 50.

[13] Kort, *The Columbia Guide,* p.24-25, 47.

[14] John C. Fredriksen, "Groves, Leslie Richard, Jr.," *American National Biography Online*, last modified February 2000, http://www.anb.org/articles/07/07-00115.html.

Groves oversaw the building of nationwide camps, depots, air bases, munitions plants, hospitals, and the Pentagon.[15]

Most of Groves' colleagues did not remember him for his specific achievements though, but instead for his hardheaded character. "First, General Groves is the biggest S.O.B. I have ever worked for," wrote Colonel Kenneth D. Nichols, a District Engineer of the MED.[16] He described Groves as "demanding," "critical," and "abrasive," as did William Wipple, a member of the Army Corps of Engineers. "When you looked at Colonel Groves, a little alarm bell rang 'Caution' in your brain," Wipple said of meeting Groves.[17] However, both men also admitted Groves' intelligence, diligence, and efficacy. "He knows he is right and so sticks by his decision. He abounds with energy and expects everyone to work as hard as he does," Nichols attested.[18] The general agreed. "If I can't do the job, no one man can," Groves declared in an interview in the October 1945 issue of Collier's magazine.[19]

Groves' aggressive assumption of his duties brought the bomb's development out of theory and into reality. His past experience advising the project's construction allowed him to quickly cut through the red tape that slowed the project.[20] Just the morning after Groves took command, he met a colonel in Tennessee to discuss prospective sites for a raw materials plant. A week later, Groves was authorized to forcibly procure the desired 54,000 acres of land in Tennessee, with

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[15] Ibid.

[16] Kenneth D. Nichols, *The Road to Trinity* (New York: William Morrow, 1987), p.108.

[17] Quoted in Robert S. Norris, *Racing for the Bomb: General Leslie R. Groves, the Manhattan Project's Indispensible Man* (South Royalton, Vermont: Steerforth Press 2002), 135.

[18] Nichols, *The Road to Trinity*, p.108.

[19] Robert DeVore, "The Man Who Made Manhattan," *Collier's Magazine* (October 13, 1945) p. 13, 67.

[20] Lawren, *The General and the Bomb*, p.7.

access to plenty of electricity supplied by the Tennessee Valley Authority, that would become Oak Ridge.[21] Groves also recognized the project's need for a higher government priority rating to acquire in-demand resources quickly. By threatening to involve President Roosevelt if his request was denied, Groves convinced the head of the War Production Board to assign a higher rating to the project.[22] Upon making this initial progress, Groves wrote that, "While I still had little liking for my new assignment, it was mine to carry."[23] Notwithstanding his original doubt, Groves' early action demonstrated his resolve to succeed.

Groves soon realized that research on the design of the bomb should be emphasized if one was to ever be built. Overly optimistic scientists attempted to comfort Groves by claiming that twenty competent scientists could produce a functional bomb in three months.[24] However, the skeptical general consulted a group of leading physicists who rejected these claims; one of them, Arthur Compton, had previously been assigned total responsibility for the physics of the bomb development.[25] In June 1942, Compton, a professor at the University of Chicago, had appointed Dr. J. Robert Oppenheimer to take over his work on the bomb at UC Berkeley. While on a tour of project laboratories, Groves met Oppenheimer at Berkley on October 8, 1942. After discussing Oppenheimer's scientific procedures and results, Groves invited him to visit in Washington. [26]

Before the establishment of the MED, Oppenheimer significantly contributed to what would become the Manhattan Project. As an undergraduate whom a classmate claimed "intellectually

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[21] Leslie Groves, *Now It Can Be Told* (New York: Harper, 1962), p. 27-29.

[22] Groves, *Now It Can Be Told*, p. 27-29.

[23] Ibid., p. 23.

[24] Ibid., p. 60

[25] Ibid., p. 60.

[26] Ibid., p. 60-61.

looted" Harvard in the 1920's, Oppenheimer's first love was chemistry.[27] However, when he realized that what he favored in chemistry was similar to physics, he began researching with many prominent physicists.[28] Oppenheimer quickly discovered his passion for theoretical physics and was hired to teach at Caltech and UC Berkley.[29] He befriended Ernest Lawrence in the Rad Lab at Berkley, who introduced him to Compton and the other leaders of the atomic bomb effort. Hoping to become as well-known as his peers, Oppenheimer agreed to make theoretical bomb calculations and conduct fast neutron research for Compton.[30]

The collaboration of Groves and Oppenheimer after they met was unexpected. The two men had drastically different backgrounds; Oppenheimer was born to a wealthy Jewish family in New York, while Groves travelled around the country with his army chaplain father as a child.[31] Oppenheimer was also the physical opposite of the general. In contrast to Groves' burly and intimidating frame, his tall, thin, and handsome appearance "made people fall in love with him," according to graduate school colleague.[32] Moreover, Oppenheimer's first doctoral student called him the "idea man," and such visionary qualities opposed Groves' notorious practicality.[33] However, Oppenheimer's "magnetic, really electric personality" and "charismatic presence," as

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[27] Quoted in Richard Rhodes, *The Making of the Atomic Bomb* (New York: Simon & Schuster, 1986), p. 121.

[28] J. Robert Oppenheimer, interview by Thomas S. Kuhn, in *Robert Oppenheimer Letters and Reflections,* ed. Alice Kimball Smith and Charles Weiner (Cambridge: Harvard University Press, 1980), p. 25.

[29] Mark C. Carnes, "Oppenheimer, J. Robert," *American National Biography Online*, last modified February 2000, http://www.anb.org/articles/13/13-01238.html.

[30] Lawren, *The General and the Bomb*, p.97.

[31] Carnes, "Oppenheimer, J. Robert," *American National Biography Online*. Fredriksen, "Groves, Leslie Richard, Jr.," *American National Biography Online*.

[32] Harold F. Cherniss, interview by Martin J. Sherwin, quoted in Kai Bird and Martin J. Sherwin, *American Prometheus* (New York: Random House, 2005), p. 89. May 23, 1979.

[33] Melba Phillips, interview by Martin J. Sherwin, quoted in Bird and J. Sherwin, *American Prometheus*, p. 186. January 9, 1982.

noted by chemist Glenn Seaborg, charmed and motivated the gruff Groves.[34] Groves was also inspired by Oppenheimer's brilliance, claiming that he was "a real genius" who "kn[ew] about everything."[35] The resulting ease with which the men communicated allowed decisions regarding Groves' newest idea, Project Y, to be made.

Before Groves met Oppenheimer, he had talked with Compton about the need for a separate laboratory to design and assemble the bomb. However, because testing explosions near the uranium-separation facilities at Oak Ridge would be hazardous, he reasoned that such a lab should be built in a remote area.[36] Oppenheimer agreed when Groves mentioned this during their first meeting. At Oppenheimer's suggestion, Los Alamos, New Mexico, was selected for what was codenamed Project Y; its mountains limited access to the site, and the surrounding canyons were ideal for testing explosives.[37] Now all that Groves needed was a lab director. As Groves continued to talk with Oppenheimer after their meeting in Berkley, he admitted to "sizing [him] up" for the bomb lab job.[38]

Groves' choice of a suitable leader for the Los Alamos laboratory was essential and had to be made carefully. In retrospect, Groves wrote that Oppenheimer should have been the obvious choice; he "knew everything that was then known about" the making of an atomic bomb from his work for Compton, and other theorists generally respected him.[39] However, when Groves spoke

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[34] Glenn T. Seaborg, "Public Service and Human Contributions," in *Oppenheimer* (New York: Charles Scribner's Sons, 1969), p. 56.

[35] Quoted in Bird and J. Sherwin, *American Prometheus*, p. 186.

[36] Bird and Sherwin, *American Prometheus*, p. 96.

[37] Szasz, "J. Robert Oppenheimer," p. 51.

[38] Lawren, *The General and the Bomb*, p.98.

[39] Groves, *Now It Can Be Told*, p. 62.

to his colleagues, not one of them was enthusiastic about Oppenheimer becoming the lab director. For one thing, other candidates for the job included three Nobel Prize winners: Arthur Compton, Ernest Lawrence, and Harold Urey. However, Lawrence and Compton were busy with important work on which Groves believed "they could not be spared," and Urey, primarily a chemist, lacked technical qualifications.[40] Many worried that Oppenheimer would not be respected by other scientists without a Noble Prize. Others noted his lack of both experimental and administrative experience and doubted his ability to manage large groups.[41]

That was not all– Oppenheimer's political past alone was enough to deny him the appointment. "His background included much that was not to our liking," Groves wrote.[42] Oppenheimer's wife, brother, former girlfriend, and sister-in-law had all been members of the Communist Party, and Oppenheimer, though never a member, made donations and other contributions to the Party.[43] As Oppenheimer became involved in the bomb project, he realized that this affiliation was detrimental. "I'm cutting off every communist connection," he confided to Compton a few months before the Manhattan Project's formation, "for if I don't, the government will find it difficult to use me. I don't want to let anything interfere with my usefulness to the nation."[44] Nevertheless, in August 1942, the War Department refused to clear Oppenheimer, and the FBI continued watching him.[45] The members of the Military Policy Committee unsurprisingly rejected Oppenheimer's nomination for a position so involved with

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[40] Ibid.

[41] Ibid.

[42] Groves, *Now It Can Be Told*, p. 63.

[43] Lawren, *The General and the Bomb*, p.7.

[44] Quoted in Bird and Sherwin, *American Prometheus,* p. 184-185.

[45] Bird and Sherwin, *American Prometheus*, p. 184-185

the government. However, after Groves gave them a few weeks to ponder other nominations, they could not agree on a candidate better than Oppenheimer.[46]

In spite of considerable opposition, Groves' confidence in his own opinion led to Oppenheimer's appointment. Though many advised him otherwise, Groves listened to his gut, one which had brought him success in the past, and fought for the selection of Oppenheimer. Oppenheimer later claimed that Groves' instinct was "a fatal weakness for good men."[47] Without Groves' determination that Oppenheimer was the only man for the job, Oppenheimer would not have been considered. "Oppenheimer was brilliant, but he was not a strong character. If he couldn't persuade you he'd cave in. Groves, on the other hand, could provide him with strong backbone in the form of consistent policy," Isodor Rabi, a close friend of Oppenheimer's, commented.[48] According to Rabi, Oppenheimer's appointment "was a real stroke of genius on the part of General Groves, who was not generally considered to be a genius."[49] The astute general's willingness to take a chance on a questionable candidate would prove vital to the Manhattan Project's outcome.

In the interest of speeding up the project, Groves quickly made Oppenheimer's appointment official. On February 25, 1943, Groves and James Conant, his scientific adviser, wrote a letter to Oppenheimer. Addressing him for the first time as "the Scientific Director of the special laboratory in New Mexico," Groves reminded Oppenheimer of the laboratory's main purpose, the "final manufacture of an instrument of war," and importance as "part of a larger project

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[46] Groves, *Now It Can Be Told*, p. 62-63.

[47] Quoted in Robert S. Norris, "General Groves' Indispensable Scientist," in *Oppenheimer and the Manhattan Project* ed. Cythia Kelly (Singapore: World Scientific Publishing Co., 2006), p. 106.

[48] Quoted in William Lawren, *The General and the Bomb*, p.101.

[49] Quoted in Bird and Sherwin, *American Prometheus,* p. 187.

which has been … assigned the highest priority by the President of the United States."[50] Groves stressed that Oppenheimer must "be responsible for the maintenance of secrecy" and "keep General Groves informed to such an extent as is necessary to carry on the work which falls in [his] respective sphere."[51] Additionally, Groves wrote to the District Engineer on July 20, 1943, to clear Oppenheimer for hire, "irrespective of the information which [he had] concerning Mr. Oppenheimer."[52] "He is absolutely essential to the project," Groves cited as reason to overlook Oppenheimer's past as a communist sympathizer.[53] Groves knew the weight his voice carried and frequently exercised this knowledge.

Groves understood the difficulty of Oppenheimer's first task, recruiting lead scientists for the laboratory in Los Alamos, and felt obligated to assist him. This may have been the main purpose of the letter he sent to Oppenheimer informing him of his duties at Los Alamos. Groves knew that Oppenheimer could use Groves' and Conant's signatures to assure scientists of Project Y's validity. [54] Convincing scientists to move to an isolated, unconstructed community also required Oppenheimer's patient answering of prospective scientists' queries. Sometimes he even responded with lengthy letters and detailed lists of likely utilities at Los Alamos.[55] Unfortunately,

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[50] Groves and Conant to Oppenheimer, 25 February 1943, in *The Manhattan Project: The Birth of the Atomic Bomb in the Words of Its Creators, Eyewitnesses, and Historians,* ed. Cythia Kelly (New York: Workman Publishing Company, 2007), p. 114-116.

[51] Ibid.

[52] Groves, *Now It Can Be Told*, p. 63.

[53] Ibid.

[54] Groves, *Now It Can Be Told*, p. 150-151.

[55] Oppenheimer to Hans and Rose Bethe, 28 December 1942, in *Robert Oppenheimer Letters and Reflections,* ed. Smith and Weiner, p. 242-246.

Oppenheimer's optimistic predictions did not prove true when he and the first group of scientists arrived on March 15, 1943, months before necessary construction was completed.

Groves did not have the facility to comfort the upset workers and scientists who travelled early to Los Alamos. "Trouble arose as soon as the first scientists arrived on the site. They naturally wanted everything ready immediately," he complained.[56] Groves, deliberately ignoring the scientists' plight, insisted they could not temporarily stay in Santa Fe for security reasons. For the next few months, large families crowded houses, old cars dangerously transported scientists on poor roads, and eating and medical facilities were inadequate.[57] Groves had a troubled history of interacting with those he commanded on any level; once, he handed his Army jacket to a colonel and instructed he have it dry cleaned.[58] The scientific heads who appointed Groves as commander of the project rightfully feared that he lacked the diplomacy to deal with those he would manage. Many of the young scientists at Los Alamos already felt suspicious of military presence in their research, and Groves' unsympathetic attitude only aggravated this animosity.[59]

Oppenheimer boosted the morale of workers and scientists in the way that Groves could not. As Project Y grew, the rough living conditions of Los Alamos became unexpectedly overcrowded.[60] Oppenheimer, in hopes of facilitating communication, appointed a town council to advise his actions as the head of Los Alamos.[61] Recognizing the importance of keeping spirits

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[56] Groves, *Now It Can Be Told*, p. 63

[57] Ibid.

[58] Bird and Sherwin, *American Prometheus*, p. 185.

[59] Lawren, *The General and the Bomb*, p.74.

[60] Groves, *Now It Can Be Told*, p. 149-150.

[61] Bird and Sherwin, *American Prometheus*, p. 256-259.

high, he became an active part of the Los Alamos community. He started a radio station with his collection of classical records and cooked exotic food for large dinner parties.[62] When the young wife of a group leader died of a supposed polio contagion, Oppenheimer was her husband's first visitor.[63] He participated in local theater performances, led hikes through the mountains, and encouraged the utilization of free time. "On Saturdays, we raised whoopee," wrote Bernice Brode, the wife of a scientist, "On Sundays we took trips, and the rest of the week we worked."[64] Oppenheimer tried to make the scientists feel as comfortable as possible in a stressful environment. Only then, he realized, would they put forth their best efforts.

Oppenheimer's negotiations with Groves sustained the scientific operations at Los Alamos. At the start of the project, Groves feared that if any information from Los Alamos escaped to the Axis powers, all wartime scientific advantage would be lost. Groves therefore enacted a policy of strict compartmentalization at Los Alamos; if each person knew only his or her specific task, very few people would know enough to be considered liabilities.[65] As a result, the wives of many scientists who lived in Los Alamos, even that of Groves, were unsure of their husbands' job details. Many scientists disagreed with this severity and threatened not to move to Los Alamos, claiming that compartmentalization contradicted the interconnected nature of scientific work. However, Groves hardly lessened his policies until Oppenheimer appealed to him.[66] Recognizing the need for information control, Oppenheimer suggested that Groves instead

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[62] Ibid.

[63] Bernice Brode, *Tales of Los Alamos* (Los Alamos: Los Alamos Historical Society, 1997), p. 23, 72.

[64] Ibid.

[65] Szasz, "J. Robert Oppenheimer," p. 50.

[66] Szasz, "J. Robert Oppenheimer," p. 50.

inform the American public of a rocket development program at Los Alamos.[67] As a researcher, Oppenheimer knew that scientists needed freedom to think and collaborate, a kind of freedom which came with distance from politics.[68] He wrote to Conant on February 1, 1943, to specify "indispensable conditions" for the Manhattan Project's success. Oppenheimer listed demilitarization, scientific autonomy, and the power of the Los Alamos community to determine necessary security measures.[69] Though Groves knew his security plans upset many Project Y scientists, he loosened them only at Oppenheimer's desire. "I was always willing to make such additional exceptions to policy as might in Oppenheimer's opinion be required," Groves wrote after he stopped the censorship of Los Alamos mail at Oppenheimer's request in December 1943.[70] Regarding the maintenance of a productive scientific environment, Groves only trusted the opinion of his lead scientist. To the delight of the Los Alamos community, he permanently relaxed many of his security measures in the fall of 1944.[71]

Though his ability to manage others was universally doubted, Oppenheimer proved to be an effective leader of Los Alamos. As a professor at UC Berkeley, Oppenheimer was seen by his students as the chain-smoking, sarcastic professor who "did not have the gift of putting himself in a student's place and recognizing what was evident to him might not be evident to the

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[67] Oppenheimer to Groves, 29 July 1943, in *Robert Oppenheimer Letters and Reflections,* ed. Smith and Weiner, p. 262-263.

[68] Don K. Price, "J. Robert Oppenheimer," *Science*, 3 March 1967, p. 1061.

[69] Oppenheimer to Isidor Rabi, 28 December 1942, in *Robert Oppenheimer Letters and Reflections,* ed. Smith and Weiner, p. 250-251.

[70] Groves, *Now It Can Be Told*, p. 168.

[71] Ibid., p. 168.

student."[72] At Los Alamos, Oppenheimer's personality and ways of dealing with people transformed. "Once he gets into something, he gets into it with both feet. He becomes a leader," Rabi observed.[73] Francis Fergusson, a friend of Oppenheimer's who knew him through his battle with depression, claimed that Oppenheimer had an unusual ability "to bring himself up, to figure out what the trouble was, and to deal with it."[74] Many members of the Los Alamos community praised the ways Oppenheimer handled both communal and scientific problems. Instead of confining himself to an office, he met with scientists, checked on the laboratory's progress, and provided expertise and insight.[75] Nor did Oppenheimer retreat to his home after work for the day ended. When Oppenheimer noticed that scientists were clashing with the nonprofessional members of the armed services, he tried to unify them by arranging social functions after hours.[76] One scientist later told *Life* magazine, "The work certainly would have been completed without Oppenheimer, but it wouldn't have been done so soon. He was very close to being indispensable. You think someone else might have come along – but you never know."[77] The people of Los Alamos understood the integral role of Oppenheimer in their short and long-term achievements.

Through their excellent working relationship, Oppenheimer and Groves became the main links between the scientists in Los Alamos and the governmental heads of the project. In an array of correspondence letters, Oppenheimer kept Groves thoroughly informed of the operations at

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[72] Edward Gerjuoy, "Oppenheimer as a teacher of Physics and Ph. D Advisor," in *Oppenheimer and the Manhattan Project,* p. 119-136.

[73] Quoted in Jeremy Bernstein, *Oppenheimer: Portrait of an Enigma* (Chicago: Ivan R. Dee 2004), p. 62.

[74] Francis Fergusson, interview by Alice Kimball Smith, quoted in *Robert Oppenheimer Letters and Reflections,* ed. Smith and Weiner), p. 94.

[75] Szasz, "J. Robert Oppenheimer," p. 55.

[76] Groves, *Now It Can Be Told*, p. 164.

[77] Lincoln Barnett, "J. Robert Oppenheimer," *Life*, 10 October 1949, p. 133.

Los Alamos. Oppenheimer wrote to notify Groves of logistical needs, seek his opinion on lab policy, thank him for his actions, or discuss scientific procedures.[78] As such, no one at Los Alamos remembered an argument between the two men.[79] Both Groves and Oppenheimer had motivation to appease the other. Cutting his long, curly hair to look more professional, Oppenheimer satisfied Groves to ensure his involvement in a career-making opportunity.[80] Providing FBI agents to accompany Oppenheimer and his wife on horseback rides around the desert, Groves satisfied Oppenheimer to guarantee scientific success on his project.[81] Groves' fear of losing Oppenheimer was visible in a letter in which he demanded Oppenheimer abstain from dangerous situations, including flying in airplanes or driving cars for any distance above a few miles.[82]

As Groves expertly predicted, Oppenheimer led the Los Alamos lab to the desired result, a possible atomic bomb. During the past two years of research and development, Oppenheimer had usually acted as a quiet leader of the Los Alamos effort. However, when the scientists realized that plutonium couldn't be used in the planned uranium-235 gun-type bomb in the spring of 1944, Oppenheimer aggressively refocused the entire lab on a new implosion design.[83] Oppenheimer's risky change of plans was rewarded in July 1945 when he and his staff finished

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[78] Oppenheimer to Groves, 14 February 1944, in *Robert Oppenheimer Letters and Reflections,* ed. Smith and Weiner, p. 271-272. Oppenheimer to Groves, 30 August 1944, in *Robert Oppenheimer Letters and Reflections,* ed. Smith and Weiner, p. 281. Oppenheimer to Groves, 31 August 1944, in *Robert Oppenheimer Letters and Reflections,* ed. Smith and Weiner, p. 282.

[79] Lawren, *The General and the Bomb*, p.167.

[80] Bird and Sherwin, *American Prometheus*, p. 225.

[81] Szasz, "J. Robert Oppenheimer," p. 55.

[82] Groves to Oppenheimer, 29 July 1943, in *Robert Oppenheimer Letters and Reflections,* ed. Smith and Weiner, p. 262-263

[83] Bird and Sherwin, *American Prometheus*, p. 279.

construction of a bomb. Oppenheimer then made the most consequential decision of his life, approving the test of the world's first atomic bomb at the Trinity site.[84]

Groves, Conant, and other heads of the Manhattan Project arrived in Los Alamos the day before the scheduled bomb test.[85] Groves first noticed Oppenheimer in the middle of a large group of frantic scientists, many of whom were urging him to cancel the test in fear of rain. Groves recalled that he was "reminded of a high-school football team, with everybody trying to talk at one time and nobody really knowing what they were doing."[86] Later, the two project leaders privately discussed postponing the test, but decided such was impractical. Oppenheimer argued that the morale of the scientists at Trinity could not be recovered, while Groves pointed to the upcoming conference of President Roosevelt, British Prime Minister Winston Churchill, and Soviet leader Joseph Stalin as a cause for speed.[87]

That night, Groves comforted the panicked Oppenheimer, who in his anxiety had returned to smoking.[88] At 5:00 A.M., loudspeakers throughout the Trinity site blared "The Star-Spangled Banner," and the final countdown began. In a dramatic scene by all accounts, an emotional Oppenheimer held on to a post to steady himself while Groves calmly laid down in a Base Camp observation trench. "As we lay on the ground, the quiet grew more intense. I thought only of what I would do if the countdown got to zero and nothing happened," Groves recalled. [89] As the announcer neared the end of the countdown, he realized that if there was an explosion, it could

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[84] Szasz, "J. Robert Oppenheimer," p. 55.

[85] Lawren, *The General and the Bomb*, p. 211.

[86] Ibid.

[87] Ibid., p. 212.

[88] Ibid.

[89] Ibid., p. 214.

set up an electrical discharge out of the microphone. “Zero!” he shouted as he hurled the microphone away. Groves found the resulting blast of light so powerful that it came “right through my hands, right through my closed eyelids.” [90] Following the explosion, Oppenheimer recited a phrase from the Hindu Bhagavad Gita, “Now I am become death, the destroyer of worlds.”[91] While Oppenheimer reflected and many of the others celebrated, Groves breathed a quick sigh of relief and rushed to call Washington. Though Oppenheimer’s scientific breakthrough would launch an Atomic Age, to Groves, it simply meant the end of the war.[92]

After the success at Trinity, Groves advocated a nuclear strike against Japan to finish the war and save American lives, regardless of Germany’s surrender. He persuaded President Truman to drop a 400-pound device nicknamed "Little Boy" on Hiroshima, a major military command center, killing 70,000 people on August 6, 1945.[93] The Soviet Union dropped a second weapon, "Fat Man," on Nagasaki four days later and killed 45,000 people. Japan unconditionally surrendered on August 14.[94] After the war, Groves was made chief of the Armed Forces Special Weapons Project and given a Distinguished Service Medal for his work.[95]

Oppenheimer also welcomed the end of the war, but the deaths he indirectly orchestrated haunted him. When Groves phoned Oppenheimer to alert him of the Hiroshima bombing, Oppenheimer first congratulated Groves and his staff. However, to Groves’ subsequent confession that “one of the wisest things I ever did was when I selected the leader of Los

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[90] Ibid., p. 215.

[91] Lawren, *The General and the Bomb*, p. 215.

[92] Ibid., p. 217.

[93] Kort, *The Columbia Guide,* p. 46.

[94] Ibid., p.47.

[95] Fredriksen, “Groves, Leslie Richard, Jr.,” *American National Biography Online*.

Alamos," Oppenheimer responded, "Well I have my doubts."[96] Even as the always confidant general fired back with, "Well, you know I've never concurred with those doubts at any time," Oppenheimer's apprehension toward his accomplishment's fatal consequences was apparent.[97] Oppenheimer attempted to justify the development of the bomb by telling the Association of Los Alamos Scientists that atomic energy was "too revolutionary to consider in the framework of old ideas."[98] Nevertheless, Oppenheimer himself remained unconvinced and later told President Truman that he had blood on his hands. Truman responded to this confession by giving Oppenheimer a handkerchief.[99] In October 1945, Oppenheimer resigned from Los Alamos but remained involved in atomic policy by serving on a committee that advised how to avoid an arms race with the Soviet Union.[100]

Despite his role in ending the war and his current productivity, Oppenheimer's communist affiliation perpetuated, and he was accused of disloyalty on December 21, 1953, by Lewis Strauss, a leader of the Atomic Energy Commission.[101] Oppenheimer refused to resign, demanded a hearing, and hired a lawyer. Many scientists and public officials attested to Oppenheimer's loyalty and previous service to the nation.[102] "As to his loyalty, I have repeatedly stated in recent years—in print, on TV, on radio, and before the Personnel Security Board,

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[96] Groves, L. R. Lt. Gen., transcript of telephone conversations with Dr. Oppenheimer, Santa Fe, 2:00 pm, 1945. U. S. National Archives, Record Group 77, Records of the Office of the Chief of Engineers, Manhattan Engineer District, 201.

[97] Ibid.

[98] J. Robert Oppenheimer, "Oppenheimer's Speech to Los Alamos Scientists," in *The Manhattan Project: The Birth of the Atomic Bomb in the Words of Its Creators, Eyewitnesses, and Historians,* p. 366-373.

[99] Bird and Sherwin, *American Prometheus*, p. 332.

[100] Carnes, "Oppenheimer, J. Robert," *American National Biography Online*.

[101] Ibid.

[102] Ibid.

headed by Dr. Gordon Gray – that I would be greatly surprised if Oppenheimer had ever consciously committed a disloyal act against the United States," Groves wrote in defense of his past partner.[103] However, possibly because of Oppenheimer's opposition to the hydrogen bomb, the security board confirmed Oppenheimer's loyalty but denied him security clearance on May 27.[104] Though rattled, Oppenheimer continued to direct the Institute for Advanced Study and to write on the relation of Western culture to science. In 1963, he received the Enrico Fermi award for his lifetime of scientific achievement.[105]

The individual talents and complimentary relationship of two opposite men, General Leslie Groves and Dr. J Robert Oppenheimer, propelled America's development of the atomic bomb. Because each knew the other was necessary for the Manhattan Project's success, their partnership was one of compromise and trust. Though Oppenheimer was caustic to his students, he never was to Groves; likewise, Groves treated Oppenheimer more carefully than he treated his other colleagues. Each man knew the project could bring him historical immortality and worked fervently to achieve this.[106] In retrospect, Groves unsurprisingly commended his own decision to work with Oppenheimer. "I have never felt that it was a mistake to have selected and cleared Oppenheimer for his wartime post. He accomplished his assigned mission and he did it well. We will never know whether anyone else could have done it better or even as well. I do not think so," he wrote.[107] Regardless of whether another general and scientist could have completed the Manhattan Project, Groves and Oppenheimer will be remembered as the unlikely team

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[103] Groves, *Now It Can Be Told*, p. 63.

[104] Carnes, "Oppenheimer, J. Robert," *American National Biography Online*.

[105] Ibid.

[106] Norris, *Racing for the Bomb: General Leslie R. Groves,* p. 242-243.

[107] Ibid, p. 63.

responsible for the most powerful scientific development of the twentieth century.

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