

## Dreamland Fantasies

*By Robert S. Norris & Jeffrey T. Richelson*

*Area 51: An Uncensored History of America's Top Secret Military Base*

By Annie Jacobsen

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Annie Jacobsen has written a book that purports to explain what has transpired at Area 51, 575-square miles of Nevada also referred to as “Dreamland,” where top secret experimental aircraft, including the U-2, OXCART, and the F-117 stealth fighter, were first flight-tested. Jacobsen also claims to reveal the actual events behind the 1947 Roswell incident—and comes up with an explanation that is even more bizarre than the standard conspiracy theories involving UFOs and dead aliens.

Hers is a deeply flawed book—and not only because she has added new, outlandish tales to the story of a top-secret military facility. All too often, Jacobsen’s history of the activities that did occur at the facility is filled with errors of commission and omission. One has to wonder what role her editors played in overseeing this book, and why so many mistakes and preposterous claims survived editorial review.

### Nuclear Fantasies

Jacobsen’s command of nuclear history and science is almost non-existent. There are so many mistakes that it is hard to know where to begin.

For Jacobsen, Vannevar Bush is the grey eminence behind all sorts of secret projects. She depicts Bush as the head of the Manhattan Project on three occasions. While Bush was instrumental in helping launch the atomic bomb program, it was General Leslie R. Groves who was the actual head of the Manhattan Project—which is why histories of the project without exception name Groves and Robert Oppenheimer as its central figures. Bush was science adviser to President Franklin Roosevelt, and as such was chairman of a

three-member oversight committee, known as the Military Policy Committee, that usually rubber-stamped decisions that Groves had already made.[\[1\]](#)

She writes, “President Truman authorized [General Curtis] LeMay to lead the 509th Operations Group, based on Tinian Island, to drop the Hiroshima and Nagasaki atomic bombs.” The actual head of the 509th Composite Group was Colonel Paul W. Tibbets. She claims LeMay was at the 1946 Crossroads tests in the Pacific. He was not. She says, with reference to the Bay of Pigs operation [April 1961] that Richard Bissell, the CIA deputy director for plans, “lamented that if LeMay had provided adequate air cover as he had promised, the mission would most likely have been a success.” This creates the inference that LeMay was derelict. Yet anyone with rudimentary knowledge of the Bay of Pigs episode knows that it was President John F. Kennedy who made the crucial decision to withhold direct US air support—a decision that has often been debated but whose origin has never been disputed.[\[2\]](#)

In the 1950s, according to Jacobsen, “nuclear warheads continued to roll off the production lines at Sandia.” By then the final assembly plants were in Burlington, Iowa, and outside of Amarillo, Texas at the Pantex Plant. Her Soviet nuclear history is no better. She writes about “a secret facility called Kyshtym, which produced nuclear material and also assembled weapons.” While plutonium was produced at Kyshtym the warheads were assembled elsewhere.[\[3\]](#)

Jacobsen is fascinated by the nuclear test series Operation PLUMBBOB, and writes as though she is the first one to discover what went on. Her critique of the Atomic Energy Commission’s handling of Project 57 also reveals deficits in her understanding of nuclear weapons history. Conducted prior to the PLUMBBOB series, Project 57 was a test to determine the dangers of plutonium contamination from the accidental detonation of the high explosive charge. The test was conducted just outside the Nevada Test Site in Area 13 on 24 April 1957. The high explosive destroyed a W-25 warhead, and a radiological survey team wearing protective suits subsequently detected alpha radiation, but no beta or the more dangerous gamma radiation. The contaminated area was fenced off and signs posted that it was a hazardous area. There was no clean up at the time.[\[4\]](#)

In January 1966 there was a serious nuclear weapon accident in Palomares, Spain and another in January 1968 in Thule, Greenland. In both cases the high explosive (HE) did go off and plutonium was dispersed. Prior to Palomares there had been nine nuclear weapon accidents in which the HE exploded (with localized contamination) but these were notable in that they happened in foreign countries.

Jacobsen faults the cleanup efforts in the aftermath of these two accidents, claiming that more lessons could have been applied from Project 57. That seems dubious, given that there was no contemporaneous effort to clean up the Project 57 site. She is not satisfied that at Palomares up to 1,750 tons of radioactive soil and vegetation was removed and shipped to South Carolina, and fails to mention that at Thule some 237,000 cubic feet of contaminated ice, snow, water, and crash debris were removed to the United States over a four month period.

She perpetuates the myth that while three of the four bombs were destroyed at Thule the fourth one was lost, disappearing “beneath the frozen sea.” She should have dug a little deeper beyond an inadequately-researched BBC investigation in 2008 that got it wrong. Several of the inaccuracies from that documentary are recited verbatim in Jacobsen’s book.[\[5\]](#)

Part of the confusion may stem from her ignorance about an underwater search and its purpose. Star III, a submersible from the Scripps Institution of Oceanography at the University of California, La Jolla, was used in Bylot Sound in August 1968 and performed 11 dives. What was it looking for?

The definitive study of the accident, published in 2009 by Svend Christensen, is something a conscientious researcher would have easily found. “No nuclear weapons have been left on the bottom of the sea in Thule, nor was any secondary [the thermonuclear part of the bomb] left in the sea.” . . . “[T]here is no bomb, there was no bomb, and the Americans were not looking for a bomb.” Rather, US recovery efforts were dedicated to finding the so-called “marshal’s baton.” The term refers to the uranium-235 fissile core of a secondary, and is also referred to as the “spark plug.” Probably no more than a half-meter long, with a diameter as little as 3.3 centimeters, it is a rather small object to find on the sea bottom and it never was.[\[6\]](#)

Jacobsen overlooks the most significant military consequence of the accident. A few days after Thule, Secretary of Defense Robert McNamara ordered the removal of nuclear weapons from planes on airborne alert. The alerts were later curtailed and then suspended altogether, a dramatic change in the Strategic Air Command’s operations.

### Secret Planes and Soviet MiGs

Intense secrecy shrouded activities at Area 51 for more than five decades. These efforts included patrols on the ground to keep the inquisitive at a distance, and marking off the tract of land as restricted airspace to prevent aerial snooping. Nonetheless, much has become known about four activities that were carried out at the base. In addition to the three noted above—the U-2, OXCART (which was also known as the SR-71 or A-12), and the F-117—the use of the facility to explore the capabilities of secretly-acquired MiG aircraft has been well publicized. Jacobsen’s discussion of these key Area 51 operations is thin at best. She seldom breaks any new ground, and often is just plain incorrect.

Most of Jacobsen’s discussion of the connection between Area 51 and aircraft development focuses on the U-2 spy plane and the OXCART. President Eisenhower approved the U-2 effort, originally codenamed AQUATONE (and later CHALICE and then IDEALIST) in 1954 in an attempt to develop, in the pre-satellite era, a plane that could overfly the Soviet Union with impunity. Rather than depending on fear, rumor, and scraps of intelligence, Eisenhower wanted the United States to acquire solid information on Soviet military capabilities. What the CIA needed was a secure location where the

revolutionary aircraft could be tested—which it found at Groom Lake in Nevada, part of what would become known as Area 51.

Jacobsen provides an account of the U-2 connection to Area 51, and the use of the facility to test the aircraft. The same can be said with respect to the OXCART, a codename misnomer if there ever was one, for the plane was certainly not slow moving. In contrast to the approximately 550 mph speed of the U-2, OXCARTS eventually were able to fly at over 2,100 mph (Mach 3+). Also, where the U-2 flew at 65,000-70,000 feet, the OXCART's ceiling was more than 90,000 feet.[\[7\]](#)

Jacobsen deserves credit for the many interviews she conducted with Area 51 personnel—including, but not limited to, U-2 and OXCART pilots. The interviews allow her to describe life at the secret base in more detail than anyone has done previously. Her interview with OXCART pilot Ken Collins yields a detailed description of both his crash while piloting the highly secret aircraft and the aftermath, as Collins and the CIA sought to prevent public exposure of the top-secret effort. But overall, her research has added little to the history of these programs.

Strewn throughout her story, moreover, are numerous mistakes and questionable claims. According to *Area 51*, the National Photographic Interpretation Center (NPIC) was briefed on the facility's existence in 1955. But NPIC wasn't even established until 1961—as was the National Reconnaissance Office (NRO), not in 1958 as stated. And while the NRO was not officially declassified until September 1992 those who knew of its existence prior to that cannot be characterized as “a select few”—not if one counts the many thousands of subscribers who read about it in the 9 December 1973 issue of *The Washington Post*, or learned about it from a variety of books and articles, including *The CIA and the Cult of Intelligence* (1974) and *Deep Black* (1986).[\[8\]](#)

Dr. Albert “Bud” Wheelon was the head of the Office of Scientific Intelligence during the Cuban missile crisis, not the Directorate of Science and Technology (which he headed when it was later created in August 1963). Project PALLADIUM did not involve sending aircraft towards Cuba to monitor the capabilities of their radars, but involved making it appear that aircraft were flying towards the island. And “Blackbird” was not the Pentagon's official designation for the SR-71. In its covert development stage it was designated Project EARNING and later was designated SENIOR CROWN.

In her recounting of OXCART development activities at Area 51, Jacobsen repeats an improbable tale and combines it with an impossible one. She asserts that the Soviet Union passed a sketch of the OXCART onto the United States, via diplomatic channels. Given that obtaining such a sketch would represent a significant intelligence coup it is highly implausible the Soviets would do any such thing.

Her account of security concerns at Area 51 includes the statement of one source who alleged that in late 1959, “satellites passed overhead often.” In late 1959, however, there were a total of only two Soviet satellites in orbit: Sputnik 3, launched in May 1958, which circled the earth every 90 to 105 minutes, and the Luna 3, whose mission was to

photograph the far side of the moon and whose orbit took it no closer to Earth than 12,214 miles – about 12,000 miles too far for reconnaissance purposes. Even allowing for uncertainty as to what was on Sputnik 3, one potential reconnaissance satellite does not make for frequent coverage.[\[9\]](#)

She also asserts that in 1960 the “CIA knew the Soviets had . . . photographic images of the facility from the satellites they’d been sending overhead.” If this were true Jacobsen would be responsible for a major revision in the history of Cold War intelligence, for it would mean that the Soviets had beaten Washington in placing photographic reconnaissance satellites into orbit. But Moscow only began experimenting with photographic reconnaissance satellites in 1962, and did not achieve a working system until 1964.[\[10\]](#)

In what seems to be an attempt to pump up just how long some of the programs she is writing about were secret, Jacobsen makes assertions about when they were first declassified—that is, when the US government officially acknowledged their existence. The magnitude of her errors can be measured in decades. She asserts, for example, that the U-2 program was declassified in 1998 and the OXCART program in 2007. But the use of the U-2 for aerial reconnaissance was declassified as soon as President Eisenhower acknowledged its use after the 1 May 1960 shoot down of Francis Gary Powers. Over the next decades thousands of pages of documents about the U-2 were released; the plane appeared in air shows; one was displayed in the National Air and Space Museum in 1982; and an outside expert on the aircraft, Chris Pocock, was allowed to fly in it—not to mention its fabled role in the 1962 missile crisis.

Similarly, for over a decade there has been a wealth of material available in declassified records about the OXCART, including John Parangosky’s *Studies in Intelligence* article (“[The OXCART Story](#)”). In fact, Jacobsen refers to it as well as reports about a variety of OXCART missions over North Korea and North Vietnam. She seems to have confused declassification with the fact that the CIA held a U-2 symposium in 1998, and released a new monograph on the OXCART in 2007. In a similar vein, she writes that “Dr. Bud Wheelon . . . has given only a few interviews in his life.” This will certainly come as a surprise to a number of writers and filmmakers who have found him easily accessible—including Dwayne Day, Chris Pocock, William E. Burrows, Jonathan Lewis, and one of us (Richelson).[\[11\]](#)

“Anemic” and “extremely anemic” are certainly fair descriptions of Jacobsen’s treatment of the F-117A Nighthawk stealth fighter (which she repeatedly and mistakenly refers to as “the nation’s first stealth bomber” disregarding the B-2 Spirit) and the use of Area 51 to test the capabilities of captured, purchased or otherwise acquired Soviet MiGs. Discussion of the F-117 program is limited to about ten pages, and the reader will neither learn of its theoretical origins in the 200-plus page study of a Russian mathematician (“Method of Edge Waves in the Physical Theory of Diffraction”), nor of the deadly crashes that occurred before the plane became operational, nor even about the rampant speculation about the plane that preceded declassification. Her source notes contain a

fraction of references to the wealth of material that has been published or released on this topic in the last two decades.[\[12\]](#)

The 16-page chapter “The MiGs of Area 51” discusses the MiG-21 obtained when an Iraqi air force colonel flew it to Israel in 1966, and the Israelis, in turn, delivered it to the United States. But much of the rest of the chapter focuses on the background of individuals and their involvement in programs such as NASA’s X-15. There is little on the multitude of MiG-related activities that involved more advanced versions of the MiG— information that has appeared in *Aviation Week & Space Technology* and, more importantly, in the 2008 book *Red Eagles: America’s Secret MiGs*.[\[13\]](#)

### Saving the Worst for Last

Early in the book Jacobsen mentions the Roswell Incident and UFOs, but it is not until the penultimate chapter of her book that she presumes to explain what actually happened there in the summer of 1947.

Some background: the Roswell Incident refers to some metallic debris that was found on 7 July 1947 at a ranch approximately 75 miles northwest of Roswell, New Mexico. The rancher who discovered it contacted the local sheriff who contacted Roswell Army Air Field. Several intelligence officers were sent and collected a portion of the debris and took it to Roswell AAF that evening. The next day, the public information officer released a statement saying that a flying disc had been recovered. The front-page headline of the July 8th edition of the *Roswell Daily Record* was, “RAAF Captures Flying Saucer on Ranch in Roswell Region.”

The debris was then flown to Eighth Air Force Headquarters at Fort Worth AAF in Texas and inspected. The conclusion was that the debris was the remnants of a weather balloon. The press was invited to take photographs of Brigadier General Roger Ramey, Eighth Air Force commander, and the debris. A statement was issued stating that there was a misunderstanding and that the debris was a weather balloon.

The incident was largely forgotten for decades (although never by UFO buffs) until it reared its head again in the 1970s, along with some new claims: an extraterrestrial spacecraft had crashed; bodies of aliens had been recovered; and the Air Force and other US government agencies had been covering it up since 1947. These “discoveries” fueled numerous articles, books, and cable TV specials, resulting in a cottage industry about saucers, aliens, and cover-ups, all of which help sustain the local economy in Roswell.

In 1994, the Office of the Secretary of the Air Force undertook a declassification effort to set the record straight once and for all. The release included documents, photographs, and a detailed explanation of what had really happened.[\[14\]](#)

The supposed crash of a flying saucer in July 1947 was actually an accident in a top secret program known as Project MOGUL. To US national security officials, there was no more urgent question in 1947 than finding out when the Soviet Union might get the atomic bomb. Various secret programs were instituted to monitor that denied area, among them, Project MOGUL. It involved launching into the upper atmosphere balloons with sophisticated instrumentation that could detect, at long range, low frequency sound transmissions generated by suspected Soviet nuclear explosions or ballistic missile launches.[\[15\]](#)

The balloons were made of special material and had acoustical sensors, radar reflecting targets, and other devices; altogether, they stretched more than 600 feet in length. The trick was to have the balloons remain at a high altitude for a long period so that they could detect an atomic test, not knowing when one might occur. Ultimately, Project MOGUL never became operational because questions of cost, security, and feasibility could never be settled satisfactorily.

Nonetheless, a series of experimental balloons were launched during the summer of 1947 at nearby Alamogordo Army Airfield (now Holloman AFB). The Air Force report concludes that the debris that was found came from MOGUL flight number 4 that was launched on 4 June 1947.

While Project MOGUL explains the “flying disc,” a second Air Force report explains the alien body sightings. The report concluded, “The ‘aliens’ observed in the New Mexico desert were probably anthropomorphic test dummies that were carried aloft by US Air Force high altitude balloons for scientific research.” This was part of the high altitude aircraft escape projects HIGH DIVE and EXCELSIOR. “The object of these studies was to devise a method to return a pilot or astronaut to earth by parachute, if forced to escape at extreme altitudes.” Anthropomorphic dummies were transported to altitudes of up to 98,000 feet by balloons and then released while instruments recorded their fall. Some 43 high-altitude balloon flights carrying 67 anthropomorphic dummies were launched and recovered throughout New Mexico between June 1954 and February 1959. Undoubtedly, sightings by local observers of military units recovering the dummies led to the allegations that aliens had been recovered.[\[16\]](#)

Jacobsen would be guilty of authorial malpractice simply by never mentioning the 1,000-page Air Force report. And she does not. Yet that is not the end of the matter. She compounds this egregious omission by putting forth fanciful claims based entirely on the word of a retired engineer who worked for EG&G, a private contractor who worked for the Atomic Energy Commission (AEC), which had facilities at Area 51.

She begins her absurd and ridiculous explanation with the assertion that Josef Stalin was much taken with Orson Welles’s “War of the Worlds” broadcast that aired on Halloween evening in 1938. (There is no reputable source that proves Stalin even knew of the broadcast, and Jacobsen doesn’t provide one). Then, in 1947, according to Jacobsen, Stalin approved a mission to fly an aircraft down the West coast of the United States and make a landing. The purpose of Stalin’s nefarious scheme was to have child-

like aviators get out of the craft who would be mistaken for visitors from Mars. Reminiscent of Welles's broadcast, the event would be "something that could sow terror in the hearts of the fearful imperialists and send panic-stricken Americans running into the streets."[\[17\]](#)

As hard as that fairy tale is to believe, it only gets worse. According to Jacobsen, one such aircraft crashed near Roswell in 1947, and "responders . . . found not only a crashed craft, but also . . . bodies alongside [it]. These were not aliens. Nor were they consenting airmen. They were human guinea pigs. Unusually petite for pilots, they appeared to be children. Each was under five feet tall. Physically, the bodies of aviators revealed anatomical conundrums. They were grotesquely deformed, but each in the same manner as the others. They had unusually large heads and abnormally shaped oversize eyes. . . . Two of the child-size aviators were comatose but still alive."[\[18\]](#)

Everything was sent to Wright Field (now Wright-Patterson AFB) in Ohio. In 1951 the Roswell crash remains were sent to Nevada and the AEC was put in charge. EG&G set up a secret facility 16 miles northwest of Groom Lake, designated S-4. Five engineers were chosen to investigate, and the last surviving member of this secret group is Jacobsen's source.

The rest of her account is so grotesque and simultaneously risible that it cannot be recounted except in her own words.

The engineers were told [by whom she doesn't tell us] that the children were rumored to have been kidnapped by Dr. Josef Mengele, the Nazi madman who, at Auschwitz and elsewhere, was known to have performed unspeakable experimental surgical procedures mostly on children, dwarfs, and twins. The engineers learned that just before the war ended, Josef Mengele made a deal with Stalin. Stalin offered Mengele an opportunity to continue work in eugenics. . . . in secret, in the Soviet Union.

Mengele held up his side of the Faustian bargain and provided Stalin with the child-size crew. . . . Mengele never took up residence in the Soviet Union. Instead he lived for four years in Germany under an assumed name and then escaped to South America, where he lived first in Argentina and then in Paraguay, until his death in 1979.[\[19\]](#)

Jacobsen's *pièce de résistance* is that President Harry Truman did not reveal this dastardly act because, according to her engineer source, "we were doing the same thing." The US program, naturally, was overseen by Vannevar Bush. "At least through the 1980s it was still going on," according to her source.[\[20\]](#)

### Unsound Methods or None at All

In many ways, *Area 51* is a case study of how not to research and write about top-secret activities.

Certainly, no author writing about secret intelligence and military activities is obliged to consult or list every single source on a subject. The literature, at this point, is too vast. Yet Jacobsen managed to avoid citing so many seminal sources on the topics covered in her book that it raises suspicion. There is no reference to the most recent works on the U-2 and OXCART/ SR-71 by Chris Pocock and Paul Crickmore, respectively. (Her sole reference to Pocock's work is his 1989 U-2 book, but since then he has published several more works on the plane, including the 2005 volume, *50 Years of the U-2*). A seminal work on the development of the F-117, *Have Blue and the F-117A: Evolution of the 'Stealth' Fighter*, is also ignored. But as noted earlier, her most egregious omissions are undoubtedly the Air Force's reports on Roswell, *Fact vs. Fiction* and *Case Closed*. This is underscored because of her controversial and unsubstantiated thesis about the Roswell UFO stories.[\[21\]](#)

Occasional, or even numerous errors, are not necessarily a fatal flaw either. At some point, however there is such a thing as a critical mass of mistakes. Indeed, one repeatedly finds elementary mistakes in the book although the correct information was contained in the sources she ostensibly relied upon. Accurate information about Bud Wheelon's job in August 1962; the creation of the Science & Technology Directorate; and Project PALLADIUM can be found in the sources she cites. Alone, the title and year of publication (1991) of one cited source—*NPIC: Thirty and Thriving*—would suggest that NPIC did not exist in 1955 as claimed by Jacobsen.[\[22\]](#)

In addition, the author seems to have a strange notion of what constitutes a reliable source. An early indication of her low threshold occurs when she first cites Stanton Friedman, a UFO conspiracy theorist, on the importance of the Roswell Incident. She notes that Friedman was "often referred to by Larry King and others as America's leading expert on UFOs." Aside from the fact that any positive reputation Friedman has is apparently restricted to those who believe in UFOs and extraterrestrials, why would any serious author cite appearances with a notoriously credulous entertainer as proof of reliability? It thus comes as no surprise that Ms. Jacobsen is willing to hang her Roswell explanation entirely on the alleged memories of a single, 88-year-old retired engineer—who ABC News found to be contradictory and confused when they interviewed him off-camera.[\[23\]](#)

Her understanding of a basic scientific principle, Occam's razor, is also deficient. The principle posits that when choosing among competing hypotheses, the one with fewer new assumptions is likely the truer one. For Jacobsen, this means a terrestrial explanation is better than an extra-terrestrial one. That is rational, but then she never examines, or even acknowledges the existence of, the most plausible and logical terrestrial explanation, that of operations MOGUL and HIGH DIVE. In fact she turns Occam's razor on its head by offering what must be called an obscene theory, given the real suffering that occurred as a result of Mengele's medical experiments. This isn't investigative journalism, much less scholarship.

Also due for some criticism are both the publisher (there is no evidence of editorial oversight or controls) and some of the early reviewers. The latter, even if skeptical about

the Roswell account, have praised the book's scholarship. *Area 51* is not the first time that journalistic reviewers have been taken in by a book with several pages of notes—even when a cursory examination would have revealed that the sources were supplied only intermittently. Thus, [Janet Maslin](#), writing in *The New York Times*, describes Jacobsen's Roswell thesis as “a hasty-sounding addendum to an otherwise straightforward investigative book about aviation and military history.” Even worse, [Scott Martelle](#), the reviewer for the *Los Angeles Times*, described *Area 51* as “deeply researched and documented through a patchwork of declassified reports that must have been numbing to navigate.”<sup>[24]</sup>

On 5 June 2011, *Area 51* debuted on the *New York Times* best-seller list as the number 7 non-fiction hardcover best seller. A month later, it still ranks on the list as number 15.

Robert S. Norris is a senior fellow with the Federation of American Scientists in Washington, DC. His books include [Racing for the Bomb: General Leslie R. Groves, The Manhattan Project's Indispensable Man](#) (Steerforth Press, 2002). Jeffrey T. Richelson, a member of *Washington Decoded's* editorial board, is a senior fellow with the National Security Archive. His books include [The Wizards of Langley: Inside the CIA's Directorate of Science and Technology](#) (Westview, 2001).

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[1] “Bush was in charge of the Manhattan Project;” Bush “the man in charge of the Manhattan Project”; “Bush was the director of the Manhattan Project, the nation's first true black operation, and he ran it with totalitarian-like control.” Jacobsen, *Area 51*, xiii, 23, 96. The definitive biography of Vannevar Bush is G. Pascal Zachary, *Endless Frontier: Vannevar Bush, Engineer of the American Century* (New York: Free Press, 1997). See also Norris, *Racing for the Bomb*.

[2] Jacobsen, *Area 51*, 160; Dino Brugioni, *Eyeball to Eyeball: The Inside Story of the Cuban Missile Crisis* (New York: Random House, 1991), 43.

[3] *Ibid.*, 144. On Kyshtym, see Thomas S. Cochran, William M. Arkin, Robert S. Norris, and Jeffrey I. Sands, *Nuclear Weapons Databook, Volume IV: Soviet Nuclear Weapons* (Cambridge, MA: Ballinger, 1989), 79-81.

[4] The extensive literature on PLUMBBOB includes Robert A. Divine, *Blowing on the Wind: The Nuclear Test Ban Debate, 1954-1960* (New York: Oxford University Press, 1978); Richard L. Miller, *Under the Cloud: The Decades of Nuclear Testing* (New York: The

Free Press, 19086); Howard Ball, *Justice Downwind: America's Atomic Testing Program in the 1950s* (New York: Oxford University Press, 1986); A. Costandina Titus, *Bombs in the Backyard: Atomic Testing and American Politics* (Reno: University of Nevada Press, 1987); Terrence R. Fehner & F. G. Gosling, *Battlefield of the Cold War: The Nevada Test Site Volume I: Atmospheric Nuclear Weapons Testing, 1951-1963* (Washington, DC: Department of Energy, 2006).

[5] Jacobsen, *Area 51*, 300, 452fn.

[6] Svend Aage Christensen, *The Marshal's Baton: There is no bomb, There was no bomb, They were not looking for a bomb* (Copenhagen: Danish Institute for International Affairs, 2009), 123, 125.

[7] David Robarge, [ARCHANGEL: CIA's Supersonic A-12 Reconnaissance Aircraft](#) (Washington, DC: Central Intelligence Agency, 2007), 11.

[8] Jacobsen, *Area 51*, 169.

[9] *Ibid.*, 133.

[10] *Ibid.*, 151. The Royal Aircraft Establishment *Table of Earth Satellites 1957-1980* provides a listing of all satellite launches, orbits, and lifetimes in that period. For an account of the early development of the Soviet reconnaissance satellite program see, Peter A. Gorin, "Zenit: The Soviet Response to CORONA," in Dwayne A. Day, John M. Logsdon, and Brian Latell, *Eye in the Sky: The Story of the CORONA Spy Satellites* (Washington, DC: Smithsonian Institution Press, 1998), 157-170. Jacobsen also repeats without question the erroneous claims of one source on two occasions about satellite activity. According to that source, in 1968 the Soviet Union was overflying Area 51 with satellites every 45 minutes. Given that low-earth orbit satellites take about 90 minutes to circle the earth and the earth is turning underneath, it would take a far larger constellation of reconnaissance satellites to produce coverage every 45 minutes than the Soviet Union had available. Today, with its constellation of imagery satellites, the United States may be able to get four to five images a day of a specific target. Coverage every 45 minutes, if it included satellites with infrared (and thus) nighttime capability (as Jacobsen claims elsewhere), would permit 32 images to be obtained in a single day. In addition, the same source claims that there are at least fifteen satellites "parked" over Iraq and Afghanistan. The actual number is zero, since the only satellites parked over any place on earth are parked over the equator—although some of those satellites (used for missile launch detection, communications, data relay, and signals intelligence) are used for operations in Iraq and Afghanistan. The number is probably a lot closer to five than fifteen. Jacobsen, *Area 51*, 356-357.

[11] *Ibid.*, 387.

[12] *Ibid.*, 339.

[13] Steve Davies, *Red Eagles: America's Secret MiGs* (Oxford: Osprey, 2008).

[14] Headquarters USAF, *The Roswell Report: Fact vs. Fiction in the New Mexico Desert* (Washington, DC: Government Printing Office, 1995). The Roswell Incident has been extensively dealt with in an excellent book, Benson Saler, Charles A. Ziegler, and Charles B. Moore, *UFO Crash at Roswell: The Genesis of a Modern Myth* (Washington, DC: Smithsonian Institution Press, 1997). In an amazing display of illogic Jacobsen does cite Saler et al., in a footnote but dismisses the work by claiming the book is about a balloon event (not the saucer event) that coincidentally happened on the same day! "Hereafter, when I refer to the 'crash at Roswell,' I am referring to an aircraft, not a balloon, as has also been written. While there was a balloon-borne radar-reflector project going on at White Sands in the summer of 1947, this is not what crashed at Roswell." Jacobsen, *Area 51*, 407, fn 64.

[15] Jeffrey T. Richelson, *Spying on the Bomb: American Nuclear Intelligence from Nazi Germany to Iran and North Korea* (New York: W.W. Norton & Company, 2006); Charles A. Ziegler and David Jacobson, *Spying without Spies: Origins of America's Secret Nuclear Surveillance System* (Westport, CT: Praeger, 1995).

[16] Headquarters USAF, *The Roswell Report: Case Closed* (Washington, DC: Government Printing Office, 1997). "The report is based on thoroughly documented research supported by official records, technical reports, film footage, photographs, and interviews with individuals who were involved in these events." *Ibid.*, 3.

[17] Jacobsen, *Area 51*, 33.

[18] *Ibid.*, 368.

[19] *Ibid.*, 370-371.

[20] *Ibid.*, 373-373. Not surprisingly, there is no mention of such activities in Zachary's biography of Bush.

[21] Her bibliography contains a reference to Curtis Peebles, *Watch the Skies: A Chronicle of the Flying Saucer Myth* (Washington, DC: Smithsonian Institution Press, 1994) which discusses the Roswell case only briefly. There is no reference to Philip J. Klass, *The Real Roswell Crashed-Saucer Coverup* (Amherst, NY: Prometheus Books, 1997), which is devoted to debunking the claim that Roswell involved a crashed saucer.

[22] Donald E. Welzenbach, "[Science and Technology: Origins of a Directorate](#)," *Studies in Intelligence*, Vol. 30, No. 2 (Summer 1986), 13-26; Gene Poteat, "[Stealth, Countermeasures, and ELINT, 1960-1975](#)," *Studies in Intelligence*, Vol. 48, No. 1 (1998), 51-59.

[23] Jacobsen, *Area 51*, 15.

[24] Regarding intermittent or inconsistent sourcing, see Jeffrey T. Richelson, “[Sins of Omission and Commission](#),” *Washington Decoded* (www.washingtondecoded.com), 11 September 2007. Janet Maslin, “[A Military Post’s Secrets: Espionage, Not Aliens](#),” *New York Times*, 16 May 2011; Scott Martelle, “[UFOs and other secrets of ‘Area 51’](#),” *Los Angeles Times*, 30 May 2011.