

Denying the Apollo Moon Landings: Conspiracy and Questioning in Modern American History

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I. Abstract

Almost from the point of the first Apollo missions, a small group of Americans denied that it had taken place at all. It had, they argued, been faked in Hollywood by the federal government for purposes ranging—depending on the particular Apollo landing denier—from embezzlement of the public treasury to complex conspiracy theories involving international intrigue and murderous criminality. They tapped into a rich vein of distrust of government, populist critiques of society, and questions about the fundamentals of epistemology and knowledge creation. At the time of the first landings, opinion polls showed that overall less than five percent, among some communities larger percentages, “doubted the moon voyage had taken place.”¹

For example, Andrew Chaikin commented in his massive history of the Apollo Moon expeditions that at the time of the Apollo 8 circumlunar flight in December 1968 some people thought it was not real; instead it was “all a hoax perpetrated by the government.” Bill Anders, an astronaut on the mission, thought live television would help convince skeptics since watching “three men floating inside a spaceship was as close to proof as they might get.”² He could not have been more wrong. Fueled by conspiracy theorists of all stripes, this number has grown over time. In a 2004 poll, while overall numbers remained about the same, among Americans between 18 and 24 years old “27% expressed doubts that NASA went to the Moon,” according to pollster Mary Lynne Dittmar. Doubt is different from denial, but it was a trend that seemed to be growing over time among those who did not witness the events.³

II. America and the Cult of Conspiracy

Americans, certainly, and perhaps all the cultures of the world, love the idea of conspiracy as an explanation of how and why many events have happened. It plays to their innermost fears and hostilities that there is a well-organized, well-financed, and Machiavellian design being executed by some malevolent group, the dehumanized “them,” which seek to rob “us” of something we hold dear. As one scholar defined a conspiracy, and this represents a practicable approach to the topic, as “the attribution of deliberate agency to something that is more likely to be accidental or unintended.”⁴ This certainly happens often enough. And in all cases these tend to be exaggerated, expanded, and complexified with every retelling.

Conspiracy theories abound in American history. Oliver Stone’s film, *J.F.K.*, while presenting a truly warped picture of recent American history, shows how receptive Americans are to believing that Kennedy was killed as a result of a massive conspiracy variously involving Cuban strongman Fidel Castro, American senior intelligence and law enforcement officers, high communist leaders in the Soviet Union, union organizers, organized crime, and perhaps even the Vice President, Lyndon B. Johnson. Stone’s film only brought the assassination conspiracy to a broad American public. For years amateur and not-so-amateur researchers have been churning out books and articles about the Kennedy assassination conspiracy. It has been one of the really significant growth industries in American history during the last 45 years.⁵

Lest you think these are diversionary abstractions for those who have nothing better to do or that they are the hobgoblins of cracked minds, I would argue that some conspiracies have been instrumental in charting major turns in the direction of the nation. The most striking example is the American Revolution. When the British Empire finally defeated France in the Seven Years War in 1763, Great Britain turned its attention to its colonies like it had not done before, partly to exact taxes from them to help pay for the war and the other costs of empire. The Sugar Act, the Townshend Duties, the Stamp Act, the Intolerable Acts, the Quebec Act, and a host of other laws designed to raise revenue riled American colonists to rebellion. In some respects the United States was born out of a tax revolt, and one can only imagine what would have been Sam Adams and Thomas Jefferson’s reaction had the

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British tried to impose an income tax.⁶ Taken together, these and other efforts of the British government were put forward by colonists as a conspiracy to rob Americans of their rights as Englishmen (women did not even enter into the picture at that point). Ultimately, colonials argued that a grand conspiracy was underway to enslave Americans, and that they were compelled to stand together to defend their liberties and defeat a determined, evil oppressor. Interestingly, the liberty/slavery rhetorical imagery had the potential to enflame many Americans, since they saw the dichotomy between freedom and slavery every day in the cities and especially on the plantations. A conspiracy to enslave white Americans, therefore, was an especially potent force in motivating revolution.⁷

Numerous other instances of significant movements in American history have also been motivated at least in part by the possibility of conspiracy.⁸ Most recently, the terror attacks on September 11, 2001, moved conspiracy theories to the center of American life, as all manner of conjecture emerged about the attacks, virtually all of them easily proven false and dispatched as groundless. Except, the rumors and theories evolved with every retelling into ever more complex and outrageous stories. The so-called “9/11 Truth Movement,” fed by the Internet, found conspiracy theorists debating the role of the government in allowing, perhaps even fomenting, the attacks to gain political advantage.⁹

Numerous books and articles have identified and analyzed this aspect of American society over the years. At sum, conspiracy theories of all stripes are built upon four key elements: 1) Dualism; 2) Scapegoating; 3) Demonization; and 4) Apocalyptic Aggression. These concepts seem present to a greater of lesser degree for all conspiracy theories, and are certainly present in the denials of the Moon landings. As Chip Berlot explains in a recent study of conspiracy theories in modern America:

Dualism is an overarching theme or “metaframe” in which people see the world as divided into forces of good and evil. Scapegoating is a process by which a person or group of people are wrongfully stereotyped as sharing negative traits and are singled out for blame for causing societal problems, while the primary source of the problems is overlooked or absolved of blame. Demonization, a process through which people target individuals or groups as the embodiment of evil, facilitates scapegoating. Even the most sincere and well-intentioned conspiracy theorists contribute to dangerous social dynamics of demonization and scapegoating. Apocalypticism, also a metaframe, involves the expectation that dramatic events are about to unfold during which a confrontation between good and evil will change the world forever and reveal hidden truths. Apocalyptic Aggression occurs when scapegoats are targeted as enemies of the “common good,” and this can lead to discrimination and violent acts.¹⁰

Of course, these elements of conspiracism are very much alive and well in American culture. One needs only to listen to current political debate to learn of conspiracies both left and right seemingly intent on destroying American society and employing all of these key elements in them. This is just as prevalent in the denials of the Moon landings as in other conspiracies advocated in the latter part of the twentieth century and the first part of the twenty-first.

In the case of the Moon landing deniers the interrelationships of the four key elements of dualism; scapegoating; demonization; and apocalyptic aggression are linked in the utter disbelief, distrust, and apparent hatred of anyone who suggests that their presumed evidence of a massive government conspiracy is unpersuasive; I would add that their so-called evidence is outlandish and unworthy of receiving any credence. As historian David Aaronovitch commented about these arguments, “it offended my sense of plausibility.” He added:

My uncogitated objection ran something like this” A hoax on such a grand scale would necessarily involve hundreds if not thousands of participants. There would be those who has planned it all in some Washington office; those in NASA who had agreed; the astronauts themselves, who would have been required to continue with the hoax for the whole of their lives, afraid even of disclosing something to their most intimate friends at the most intimate moments; the set of designers, the photographers, the props department, the security men, the navy people who pretended to fish the returning spacemen out of the ocean and many, many more. It was pretty much impossible for such an operation to be mounted and kept secret, and inconceivable that anybody in power would actually take the risk that it might be blown.¹¹

That is the reaction of most observers who hear the argument that Apollo astronauts never landed on the Moon. The conspiracy theory, or more appropriately *theories* since everyone has their own and they seemingly compete with each other for complexity and lack of verisimilitude, is attractive to those wanting to disbelieve claims of authority figures. Some who know better invoke it in passing as a joke, but those who hold to the conspiracy framework often possess a deep skepticism, even a resentment of national authority.

III. The Rise of Moon Landing Denials

Since before the conclusion of the Apollo program in 1972, some have questioned the Moon landings, claiming that they were faked in some way or another by NASA, and presumably with the acquiescence or perhaps even active involvement of other individuals and organizations. Some of those skeptical of the Apollo flights made their cases based on naïve and poorly constructed knowledge, but imagery from space did not seem to convince them of any reality beyond what they already wanted to believe. For example, my paternal grandfather, Jeffrey Hilliard Launius, was a 75-year-old farmer from southern Illinois at the time of the first Moon landing in 1969. A Democrat since the Great Depression of the 1930s—because, as he said, Roosevelt gave him a job with the WPA when he could not feed his family and was on the verge of losing everything—his denial of the Moon landing was based essentially on lack of knowledge and naiveté. In his estimation such a technological feat was simply not possible. Caught up in the excitement of Apollo 11 in the summer of 1969, I could not understand my grandfather’s denial of what appeared obvious to me. He did not assign any conspiratorial motives to the government, especially the Democrats; after all, it was a party he had trusted implicitly for more than 35 years. Even now I still cannot fully fathom his conflicting position of trust of the Democrats in government and unwillingness to believe what they said about the Moon landing. In his insular world change came grudgingly, however, and a Moon landing was certainly a major change. As a measure of his unwillingness to embrace change, my grandfather farmed his entire life with horses rather than adopting the tractor because in his estimation tractors were “a passing fad.” Jeff Launius still did not believe that America had landed on the Moon at the time of his death in 1984.

President Bill Clinton recalled in his 2004 autobiography a similar story of a carpenter he worked with not long after the Apollo 11 landing. As he wrote about working with him in August 1969:

Just a month before, Apollo 11 astronauts Buzz Aldrin and Neil Armstrong had left their colleague, Michael Collins, aboard spaceship Columbia and walked on the Moon, beating by five months President Kennedy’s goal of putting a man on the Moon before the decade was out. The old carpenter asked me if I really believed it happened. I said sure, I saw it on television. He disagreed; he said that he didn’t believe it for a minute, that “them television fellers” could make things look real that weren’t.

Clinton thought him a crank at the time and since; a homespun skeptic. He then allowed that a healthy criticism of everything was not necessarily a bad idea.¹²

How widespread were the skeptics about the Moon landings in the 1960s? That is almost impossible to say. For example, *New York Times* science reporter John Noble Wilford remarked in December 1969 that “A few stool-warmers in Chicago bars are on record as suggesting that the Apollo 11 moon walk last July was actually staged by Hollywood on a Nevada desert.”¹³ More important, the *Atlanta Constitution* led a story on June 15, 1970, with: “Many skeptics feel moon explorer Neil Armstrong took his ‘giant step for mankind’ somewhere in Arizona.” It based its conclusion that an unspecified “many” questioned the Apollo 11 and 12 landings, and presumably the April 1970 accident aboard Apollo 13, on an admittedly unscientific poll conducted by the Knight Newspapers of 1,721 U.S. citizens in “Miami, Philadelphia, Akron, Ohio, Detroit, Washington, Macon, Ga., and several rural communities in North and South Carolina.” Those polled were asked, “Do you really, completely believe that the United States has actually landed men on the moon and returned them to earth again?” While numbers questioning the Moon landing in Detroit, Miami, and Akron averaged less than five percent, among African Americans in such places as Washington, D.C., a whopping 54 percent “doubted the moon voyage had taken place.” That perhaps said more about the disconnectedness of minority communities from the Apollo effort and the nation’s overarching racism than anything else. As the story reported, “A woman in Macon said she knows she couldn’t watch a telecast from the moon because her set wouldn’t even pick up New York stations.”¹⁴

Not everyone who denied the Moon landings at the time were so naïve and simplistic in their assessments. Some spun conspiracy theories of complex structure and shocking intent. As Howard McCurdy opined, “To some, the thrill of space can’t hold a candle to the thrill of conspiracy.”¹⁵ Over the years many conspiracy scenarios have been concocted, and it sometimes appears that the various theorists are even more cantankerous toward rival theories than they are toward NASA and the Apollo program. An early and persistent theme has been that as a cold war measure the U.S. could not afford to lose the race to the Moon, but when failure loomed NASA faked the landing to save face and national prestige. It used the massive funds dedicated to the effort to “pay off” those who might be persuaded to tell the truth; it also used threats and in some instances criminal actions to stop those who might blow the whistle.¹⁶ One of the most common assertions has been that in the latter 1960s the U.S. government was in disarray because of the debacle of the Vietnam War, the racial crisis in the cities, and social upheaval. The Apollo program proved an ideal positive distraction from this strife, a convenient conspiracy designed to obscure other issues. One story published in 1970 stated this belief as expressed by an African American preacher: “It’s all a deliberate effort to mask problems at home,” *Newsweek* reported, “the people are unhappy—and this takes their minds off their problems.”¹⁷

Other conspiracies were more absurd. For example, William Brian asserted that perhaps Americans did go to the Moon, but they did so through the means of some extraterrestrial technology. In his estimation NASA employed captured—or perhaps given—technology from beings beyond Earth to reach the Moon. This forced the agency to create a cover story for more sinister purposes. “You can’t let one bit of information out without blowing the whole thing,” he noted. “They’d have to explain the propulsion technique that got them there, so they’d have to divulge their UFO research. And if they could tap this energy, that would imply the oil cartels are at risk, and the very structure of our world economy could collapse. They didn’t want to run that risk.” Likewise, others suggested that astronauts found evidence of alien civilization on the Moon, a la the 1968 feature film *2001: A Space Odyssey*, and had to fake imagery on the Moon to cover up that fact.¹⁸ For example, Richard Hoagland has asserted for years the Apollo program discovered large artificial glass structures on the lunar surface that has been kept from the public. Besides other conventions common in a cover-up, Hoagland made the claim the the astronauts that went to the Moon had been hypnotized and any memories of extraterrestrial encounters were removed. Most interestingly, Hoagland has argued NASA deviously orchestrated the origins of the Moon landing denials as a disinformation campaign to mask the discovery of extraterrestrial structures on the lunar surface. As recently as September 25, 2009, Hoagland asserted that the water molecules that NASA’s Lunar Reconnaissance Orbiter had discovered on the Moon was obviously some that had without question been leaked from buried extraterrestrial cities. The most interesting aspect of Hoagland’s charges over time is their increasingly unhinged nature, supported by zero evidence whatsoever.¹⁹

IV. Concocting a Lasting Conspiracy Thesis

The first conspiracy theorist to make a sustained case for denying that the U.S. landed on the Moon was Bill Kaysing, a journalist who had been employed for a few years in the public relations office at Rocketdyne, Inc., a NASA contractor, in the early 1960s. His 1974 pamphlet, *We Never Went to the Moon*, laid out many of the major arguments that have been followed by other conspiracy theorists since that time. His rationale for questioning the Apollo Moon landings offered poorly developed logic, sloppily analyzed data, and sophomorically argued assertions. Kaysing believed that the failure to land on the Moon all sprang from the fact that NASA lacked the technical expertise to accomplish the task, requiring the creation of a massive cover-up to hide that fact. He cited as evidence optical anomalies in some imagery from the Apollo program, questioned the physical features of certain objects in the photographs (such as a lack of a star field in the background of lunar surface imagery and a presumed waving of the U.S. flag in an airless environment), and challenged the possibility of NASA astronauts surviving a trip to the Moon because of radiation exposure.²⁰

Others followed in Kaysing’s footsteps, arguing one conspiracy or another, none with compelling evidence and often with nothing that might be considered anything more than assertions. As John Schwartz wrote of the conspiracy theorists in the *New York Times*, “They examine photos from the missions for signs of studio fakery, and claim to be able to tell that the American flag was waving in what was supposed to be the vacuum of space. They overstate the health risks of traveling through the radiation belts that girdle our planet; they understate the technological prowess of the American space program; and they cry murder behind every death in the program, linking them to an overall conspiracy.”

Ted Goertzel, a professor of sociology at Rutgers University who has studied conspiracy theorists, said “there’s a similar kind of logic behind all of these groups, I think.” For the most part, he explained, “They don’t undertake to prove that their view is true” so much as to “find flaws in what the other side is saying.” And so, he said, argument is a matter of accumulation instead of persuasion. “They feel if they’ve got more facts than the other side, that proves they’re right.”

Schwartz continued: “And while there is no credible evidence to support such views, and the sheer unlikelihood of being able to pull off such an immense plot and keep it secret for four decades staggers the imagination, the deniers continue to amass accusations to this day.”²¹

The nature and extent of the conspiracy differed from advocate to advocate with reckless abandon. They seemed to take one of the three general paths. The first, and the most significant, was that the entire human landing program for the Moon was a sham, manufactured for public consumption by an evil political establishment. According to the conspiracy theorists NASA undertook this elaborate ruse for several reasons. The U.S. government felt pressure to win the space race against the Soviet Union, but with technical challenges too great to overcome NASA decided on pursuing an elaborate sham. Bill Kaysing argued that even though the Soviet Union was watching the American effort closely, it was easier to successfully fake it than actually to land on the Moon. He even suggested that the chance of landing successfully on the Moon stood at 0.017; on what this calculation was based is a mystery and does not square with NASA estimates at the time which stood at approximately 87 percent of a at least one successful

landing before the end of the 1960s.²² In addition, Moon landing deniers asserted that the Apollo program served as a distraction from the other problems of the United States during the 1960s, especially the Vietnam Conflict, despite the fact that it was not a particularly successful distraction judging from the sustained opposition of the American public.

In addition to the full hoax argument, as a second approach, some Moon landing deniers concede that there were robotic missions to the Moon, but that the human Apollo landings were faked. Bart Sibrel, in particular, has asserted that the Apollo spacecraft crews had faked their orbit around the Moon and their walk on its surface by using trick photography, but did accept Earth orbital missions for them. They could not go to the Moon, Sibrel and deniers of his ilk claim, because going beyond the Van Allen Radiation Belts would have given them lethal doses of cosmic radiation. A few conspiracy theorists in this category even allow that NASA landed robotically on the Moon various passive reflector mirrors used for laser ranging and other human-made objects to bamboozle the public.²³ Accordingly, for conspiracy theorists in this camp space probes could be sent to the Moon, but not humans. Then, thirdly, there are those who believe that humans have gone but that they did so with either the assistance of extraterrestrial visitors or the Apollo astronauts discovered extraterrestrial life there. These claims ranged from gravitational anomalies to alien artifacts to alien encounters. Accordingly, this brand of conspiracy theorist claim that NASA covered up what had been found, à la the discovery of the monolith at Clavius Crater on the Moon in *2001: A Space Odyssey*.²⁴

V. Evidence Offered by Moon Landing Deniers

While the various claims of the Moon landing deniers have evolved over time they may be divided into five major categories. First, and by far the most significant of the “evidence” offered about the Moon landing by deniers to cast doubt on the Apollo program is anomalies found in photographs, or to a much less degree movies taken on the missions. Of course, for all but a handful of American astronauts the voyages of exploration to the Moon during Project Apollo were events participated in vicariously from more than 243,000 miles by the inhabitants of Earth. In such a setting, therefore, imagery has played a critical role in the communication of the experience. At some level the questioning of this imagery as a witness to the Moon landings represented a direct assault on the episode in human history. While Apollo imagery documented in graphic detail what took place on the Moon, the use of that same imagery to raise questions about the entire enterprise is an irony to great to ignore. Such a trend has also been common in virtually every contested aspect of history since the rise of the camera in the first part of the nineteenth century. It has been present in efforts to deny the Holocaust, conspiracism and the Kennedy Assassination, and the 9/11 conspiracies, so its presence as the centerpiece of the Moon landing denials should not be surprising.²⁵

At the same time, only about 25 or so images have been invoked in such a set of claims. These include images that do not show stars in the background despite conspiracy theorists’ insistence that they should be clearly seen, the dust was not present on the landing pads of the spacecraft, that shadows and lighting on the Moon are uneven and counterintuitive to the photographs, that flags seem to be blowing in a breeze when there is none on the Moon, that some rocks appear to have propmaster marks on them, and that resseau plate crosshairs sometimes seem to disappear behind objects in an image. For each of these charges there are completely reasonable, understandable, and convincing explanations. Most of these relate to the nature of photography and the vicissitudes of shadows, lighting, and exposure of film in a vacuum. Few Moon landing deniers, however, will accept any explanation whatsoever. I have personally had one say to me, “regardless of whatever you might say, I will never believe that humans have landed on the Moon.”²⁶

The second major piece of “evidence” offered by Moon landing deniers relates to radiation and its survivability by astronauts in space. Usually that has been couched as survivability of the Van Allen radiation belts. While there is indeed radiation both in the Van Allen belts and beyond, and the risk to humans was real, but contentions that they were not survivable is at least sophomoric and perhaps intentionally misleading. All those engaged in spaceflight from the beginning to the present are concerned with this challenge in safely undertaking flights to the Moon, as well as in Earth orbit, it is certainly manageable. They recognized that the risk was dependent on two factors, the amount of radiation received and the length of time to which astronauts were exposed to it. In both cases these were minimal. In the end, the total radiation dose received by each of the astronauts was about one rem while radiation sickness does not take place until one receives a dose of 100-200 rem, and fatal dosages are somewhere in the 300+ rem range. Future long duration, deep space missions remain a concern for flight surgeons and life scientists, but countermeasures to the effects of radiation have made rapid progress in the last decades and those are much more sophisticated than lead shielding.²⁷

Third, the Moon landing deniers have claimed that the technology available to accomplish the Apollo program did not exist and could not have been created in the time necessary to meet the end of decade landing commitment.

Moreover, the U.S. forty years after Apollo 11 does not possess the technology necessary to go the Moon. These claims represent remarkable statements of either naiveté or obtuseness. For example, Apollo landing denier Bart Sibrel claimed:

Almost 40 years ago, with **combined* CSM and LM guidance computer memory totaling only **10.3% [152kb] of a common 1.4MB [1474.56kb] floppy disk** [emphasis in original], NASA claims to have traveled 60,000% as far as any other manned spacecraft has gone *before or since*. Basically a household calculator (or discount watch) took 27 men [Apollo 8 to 17] to the moon and back, with the help of slide rules - accounting for fuel consumption, angle of approach, lunar landing, rate of descent, and so on....These limitations alone, make the trip to the moon a theory, and *not* a fact.²⁸

Sibrel fails, of course, to acknowledge that thousands upon thousands of individuals supported the Apollo missions to the Moon with banks of ground-based computers and the collective brainpower of engineers with mechanical calculators and slide rules, both in detailed planning and throughout the missions. To deny that human beings with less technology than presently available underestimates grotesquely human ingenuity. It is a bit like the assertions of Erich von Däniken in the 1960s who insisted that extraterrestrials with interstellar technology had to have built the pyramids and other ancient wonders because earthlings never could have done so using only ingenuity and muscle power.²⁹ It was disingenuous then and it is now as well.

Certainly the technologies necessary for the Moon landings did not exist at the outset of the program, but those technologies, while sophisticated and impressive, were largely within the grasp of the U.S. at the time of the 1961 decision. More difficult was ensuring that those technological skills were properly managed and used. The rise of the program management concept, configuration control, and systems integration were critical to successfully reaching the Moon by the end of the 1960s.³⁰ At the same time, NASA experienced all manner of difficulties and some serious failures—costing the lives of three astronauts and nearly taking the lives of the Apollo 13 crew—throughout the program. The ancillary assertion that the U.S. cannot return to the Moon at present is a true statement but also one beside the point since the hardware required for a Moon landing would have to be recreated using modern technology based on what is already known from the first experience.

Fourth, Moon landing deniers attack the physical evidence of the Moon rocks returned by the Apollo astronauts as either faked by NASA or collected in Antarctica prior to the missions. Those who claim that the rocks were faked by NASA early emerged but have been displaced by a more sophisticated but still far-fetched denial. For instance, some recent landing deniers claim that when NASA's Marshall Space Flight Center director, Wernher von Braun, visited Antarctica in 1967 it was so he could explore the possibility of using meteorites from the Moon collected in the ice as stand-ins for the rocks claimed to have been from the Apollo landings. Antarctica has been a source of meteorites that emerge from ice as it shifts and each year the National Science Foundation sends teams to the ice in search of new specimens. The six Apollo landing missions collected a total of 840 pounds of Moon rocks and scientists worldwide have analyzed these at length. All agree that these rocks are from the Moon, and no papers in peer-reviewed scientific journals exist disputing the claim. This is not surprising, Moon hoax advocates insist, since they are in actuality meteorites found in Antarctica. The one overriding problem with this theory is that the first lunar meteorite discovered in Antarctica was collected in 1979, a decade after the first Moon landing, and scientists did not realize its lunar origin until 1982. As one scientist stated: "About 36 lunar meteorites have been found in cold and hot deserts since the first one was found in 1979 in Antarctica. All are random samples ejected from unknown locations on the Moon by meteoroid impacts."³¹ Nothing approaching 840 pounds of lunar meteorites has been discovered, and this rarity means that this explanation is completely implausible.³²

Finally, deniers of the Moon landing point to anomalies in the historical record to cast doubt in the NASA account of the Apollo program. For example, one of the persistent beliefs is that the "blueprints" for the Apollo spacecraft and Saturn V rocket have been lost, or perhaps they never existed. This is viewed as evidence of a giant hoax on the part of NASA to fake the Moon landings. Aside from the question as to how such a loss might support NASA's culpability in a hoax, presumably their loss implies they never existed, this is simply untrue. The National Archives and Records Administration maintains a Federal Records Center at East Point, Georgia, just outside of Atlanta, where the records from the Marshall Space Flight Center are housed. Those records include more than 2,900 linear feet of Saturn V records, including drawings and schematics. As Paul Shawcross, of NASA's Office of Inspector General, said in 2000, "The problem in recreating the Saturn 5 is not finding the drawings, it is finding vendors who can supply mid-1960's vintage hardware, and the fact that the launch pads and vehicle assembly buildings have been converted to space shuttle use, so you have no place to launch from. By the time you redesign to accommodate available hardware and re-modify the launch pads, you may as well have started from scratch with a clean sheet design."³³ A similar story about the loss of the original broadcast video from the Apollo 11 landing has been used to cast doubt on the whole endeavor.³⁴

Finally, in this same category of anomalies in the historical record conspiracy theorists have scrutinized every word uttered by the Apollo astronauts over the years to try to catch them in some statement that might be interpreted as denying the landings. Having found none, some have resorted to selectively excerpting them and in some cases to making them up altogether. The classic example is Neil Armstrong, the first human to set foot on the Moon in 1969. Bart Sibrel commented, “Neil Armstrong, the first man to supposedly walk on the moon, refuses to give interviews to anyone on the subject. ‘Ask me no questions, and I’ll tell you no lies.’ Collins also refuses to be interviewed. Aldrin, who granted an interview, threatened to sue us if we showed it to anyone.”³⁵ The implication is clear, they have something to hide and are unwilling to lie about a faked Moon landing. Sibrel has gone further, accosting astronauts and demanding that they swear on the Bible that they walked on the Moon. Some have done so; others refuse to play his games. In one outrageous incident on September 9, 2002, Sibrel confronted Buzz Aldrin at a Los Angeles Hotel, and called him a “liar, a thief, and a coward.” At that point Aldrin, then 72 years old, hit Sibrel with a right hook that sent him to his knees. While Sibrel pressed charges, the Los Angeles County District Attorney’s office declined to pursue the incident. The responses of most of the people viewing the video of this incident has been a concern that Aldrin might have hurt his hand; as one commentator wrote on-line, “I don’t condone of violence but that jackass had it coming.”³⁶

Finally, in a truly bizarre turn of events near the forty anniversary of the first Moon landing, the satirical publication, *The Onion*, published a story entitled, “Conspiracy Theorist Convinces Neil Armstrong Moon Landing Was Faked,” that had worldwide implications.³⁷ This periodical is known for its outrageous humor, but this story was picked up as a truth in several newspapers around the world. Two Bangladeshi newspapers, *The Daily Manab Zamin* and Bengali’s *New Nation*, apologized afterward for reporting humor as fact.³⁸ It is bad enough when conspiracy theorists state such things without foundation, these then get picked up and broadcast by individuals, but when legitimate news organizations do so it is much more disturbing. As one commentator about this incident suggested, “Their excuse: ‘We thought it was true so we printed it without checking’.” Frankly, I understand them, the writer added sarcastically. “After all, if it is on the internet, it *must* be real.”³⁹

VI. Broadcasting the Moon Hoax Conspiracy in the Age of the Internet

As it has turned out, throughout the latter third of the twentieth century and into the twenty-first, with confidence in the U.S. government by the American public declining—because of Vietnam, Watergate, and other scandals and malfeasance—it became somewhat easier for people to believe the worst about such a cover-up. For example, responding to a public opinion survey in 1964, 76 percent of the Americans polled expressed confidence in the ability of their national government “to do what is right” most or all of the time. This was an all-time high in the history of polling, and this goodwill helped lay the foundation for all manner of large initiatives during the 1960s, including all types of reforms. This consensus collapsed in the post-Vietnam and post-Watergate era of the 1970s, to a low of less than 25 percent of Americans believing that the government would seek to do right all or even a majority of the time by the early 1990s.⁴⁰

There has been considerable research on the parts of society that embrace conspiracy theories of all types. Arguing that conspiracism write large represents a fundamental part of the political system, legal scholar Mark Fenster claims that such conspiracies as the Moon Hoax reflect an inadequacy that society as a whole is blind to, and that those who embrace these conspiracies are sublimating their frustrated ideals for the satisfaction of “knowing” something that is a secret from others. Fenster argues that at sum the denial of the Moon landings bring to the fore “a polarization so profound that people end up with an unshakable belief that those in power ‘simply can’t be trusted’.”⁴¹

There have been various polls until the dawn of the new century concerning this subject, all of them showing essentially the same thing, a tiny fraction of the population embrace these conspiracy ideas but the overwhelming majority reject them. In the United States a persistent set of public opinion polls have found that something in the neighborhood of 6 percent of the population doubted that the Moon landings had occurred. It is important to note that “doubt” not necessarily the same as “denial,” but in any case the small percentage is often in the realm of the margin for error. As one pollster said to me, “I can get 5/6 percent of the population to agree to anything.” Gallup pollsters put it this way, “it is not unusual to find about that many people in the typical poll agreeing with almost any question that is asked of them; so the best interpretation is that this particular conspiracy theory is not widespread.” A Gallup poll in 1999 found that “Only 6% of the public believes the landing was faked and another 5% have no opinion. This tracked with other polls at other times that found a 6 percent denial rate.”⁴² In some societies there has been a persistent effort to deny the Moon landings. In Cuba, for example, claims that the American Moon landings were faked is promulgated. Cuba has been on the receiving end of a hard-edged U.S. foreign policy intended to drive Castro from power for fifty years. In such a context, believing the worst about Americans is an easy sell.⁴³ As James Oberg has commented, “the results are similar, fanned by local attitudes toward the U.S. in general and technology

in particular. Some religious fundamentalists—Hare Krishna cultists and some extreme Islamic mullahs, for example—declare the theological impossibility of human trips to other worlds in space.”⁴⁴

Additionally, as time passed and more people were born and grew to maturity since the last of the Moon missions had been completed in 1972 youngsters in the U.S. became increasingly skeptical since they had no firsthand recollection of Apollo. Evidence of that issue was found in a 2004 poll about attitudes toward spaceflight among Americans. While polls had consistently shown that only about six percent of the public as a whole questioned the Moon landings, and a whopping 89 percent firmly believed in their reality, among Americans between 18 and 24 years old “27% expressed doubts that NASA went to the Moon,” according to pollster Mary Lynne Dittmar in a 2004 study. Doubt is different from denial, but it was a trend that seemed to be growing over time.⁴⁵

This has expanded over time. In the summer of 2009, a British poll trumpeted the headlines, “Twenty-five per cent of the British public refuse to believe man has walked on the Moon, a survey conducted on behalf of *E&T* [*Engineering & Technology*] magazine has revealed.” Personal experience supports this rising doubt. An e-mail to me in August 2009 declared the Moon landing a fake, adding “the great majority of mankind is already familiar with the GREAT LIES & DECEPTIONS committed by these NASA HOAXERS about the “Moon Landings.” The writer then went on to comment, “I know for sure, that ‘historians’ are NOT the smartest people on this planet” before going on to deny the Holocaust, “as an invention of HOLLYWOOD GANGSTERS...just like the “Moon Landing’.” Perhaps historians are not always the “smartest people on this planet” but such screeds do not demonstrate brilliance, even though this individual believes he has special knowledge that must be imparted to me and presumably to others. During a recent trip to Vladivostok, Russia, furthermore, I gave four presentations about the Moon landings to university students. In every case, the first question from the students was about challenges to the Apollo account made by conspiracy theorists. All of them channeled the standard criticisms of Apollo made by conspiracy theorists over the years.⁴⁶

Perhaps this transition should not surprise those who study it. A lot of other truly weird beliefs exist in society. Gallup has reported that 37 percent of Americans believe that “houses can be haunted” and that 25 percent believe think that astrology can affect people’s lives. In addition, 20 percent of Americans are not sure whether or not the Sun revolves around the Earth and 49 percent believe the Earth is being visited by extraterrestrials. Those are scientific poll statistics, but in non-random samples the results get truly bizarre. A radio talk show host, Rob McConnell, declared that listeners to his show, “The X Zone,” responded to two questions: Do you believe in ghosts, and did American astronauts really walk on the Moon. The results astounding because 77 percent of respondents said yes to believing in ghosts and 93 percent said that did not believe that the Moon landings had actually occurred. As Seth Shostak from the SETI Institute stated about this: “The respondents believe in ghosts, but do not think NASA put people on the moon. On the one hand, you have uncorroborated testimony about noises in the attic. On the other, you have a decade of effort by tens of thousands of engineers and scientists, endless rocket hardware, thousands of photos, and 378 kilograms (840 pounds) of moon rock.”⁴⁷ Similar results arise when zany individuals give their opinion, but Apollo 17 astronaut Harrison Schmitt was philosophical about it: “If people decide they’re going to deny the facts of history and the facts of science and technology, there’s not much you can do with them. For most of them, I just feel sorry that we failed in their education.”⁴⁸

VII. The Place of the Media

The media, especially, have fueled doubts over the years. A child’s bib on sale on-line places the blame squarely on the back of the media. It reads: “Once upon a time people walked on the moon. They picked up some rocks. These planted some flags. They drove a buggy around for a while. Then they came back. At least that’s what grandpa said. The TV guy said it was all fake. Grandpa says the TV guy is an idiot. Someday, I want to go to the moon too.”⁴⁹ Indefatigable space myth researcher and commentator Jim Oberg commented on this phenomenon: “in the last ten years, an entirely new wave of hoax theories have appeared—on cable TV, on the Internet, via self-publishing, and through other ‘alternative’ publication methods. These methods are the result of technological progress that Apollo symbolized, now ironically fueling the arguments against one of the greatest technological achievements in human history.”⁵⁰

For example, folklorist Linda Degh asserted that the 1978 fictional feature film *Capricorn One*, in which NASA supposedly faked a landing on Mars, may have fostered greater acceptance of the denials of the Moon landings. No question, the February 2001 airing of the Fox special, *Conspiracy Theory: Did We Land on the Moon?*, changed the nature of the debate. In this instance a major network presented a conspiracy scenario without any serious rebuttal that might have been offered.⁵¹ As *USA Today* reported in the aftermath of the “news special”:

According to Fox and its respectfully interviewed “experts”—a constellation of ludicrously marginal and utterly uncredentialed “investigative journalists”—the United States grew so eager to defeat the Soviets in the

intensely competitive 1960s space race that it faked all six Apollo missions that purportedly landed on the moon. Instead of exploring the lunar surface, the American astronauts only tromped around a crude movie set that was created by the plotters in the legendary Area 51 of the Nevada desert.⁵²

While the program claimed to “Let the viewer decide” about the validity of the claims for denial of the Moon landings it made no attempt whatsoever to offer point and counterpoint, thereby giving the viewers a seriously biased view of the issue and skewed evidence in favor of a hoax.

The most egregious violation of propriety came in the Fox show when conspiracy theorists claimed that ten astronauts and two civilians had died “under mysterious circumstances” during the Apollo program. The ten astronauts in question, presumably were the three astronauts killed in the Apollo One fire of January 27, 1967, when their capsule was consumed in a flash fire during ground tests. At one point Scott Grissom, son of Apollo 1 mission commander Gus Grissom who was killed in the incident, claimed that “my father’s death was no accident, he was murdered.” At another point, however, he retracted his statement and declared “that NASA didn’t murder anyone.”⁵³ No question, shoddy workmanship and poor procedures had led to their deaths, and it was a tragic loss. But the deaths of Gus Grissom, Ed White, and Roger Chaffee was an accident and not murder. Some have argued that NASA had them killed because Grissom was on the verge of exposing the Apollo program as a fraud. There is not one scintilla of evidence to support this accusation.⁵⁴ In addition, astronaut Ed Givens died in an automobile accident and astronauts Ted Freeman, C.C. Williams, Elliot See, and Charlie Bassett died in aircraft accidents, all unrelated to each other. This accounts for eight astronauts, but they also counted as astronauts two other pilots who had nothing to do with the Moon landing program, X-15 pilot Mike Adams and Air Force Manned Orbiting Laboratory pilot Robert Lawrence. Finally, they claimed that the death of NASA technician Thomas Baron, and another NASA civilian who was unnamed, was murder to keep the secret of the Moon hoax. None of these claimed were founded on any evidence and border on libel.⁵⁵

The Fox television program fueled an explosion in conspiracy theories about the Moon landings and the audience for them. Glenn Johnson, who had an on-line rocket model business, remarked:

The first I heard about it [the Moon landing deniers] was a FOX TV special called something like "Did we ever go to the Moon?" which had all the feel of a legitimate documentary, but no real research was done. They talked to a bunch of people who were supposedly "experts" who had their reasons, unfounded as they were, for believing that the Apollo landings were impossible. Clever, really because no-one today has the ability to return to the sites to show that there are there. So who are you going to believe? As in a court of law, all you have to show is “reasonable doubt” which is what they (claimed) to show.

After that aired, it all kind of exploded on the internet and took on a life of its own. I’m sure that the people who had been making money talking about the “face on Mars” were jealous of the attention the Moon hoax groups were getting at that time. Being the resident “space geek” I was inundated with questions from friends and acquaintances—many of whom I thought were smarter than that—asking me to explain why the photos showed no stars and why the flag moved and the like. I did, but it got to be tiring, and unfortunately it changed my opinion that most people aren’t so easily duped. They are.⁵⁶

Two scientists who have argued against the value of human spaceflight, even came forward to counter the Fox special’s charges. Robert Park, Director of the Washington office of the American Physical Society, dismissed the “documentary” with this statement, “The body of physical evidence that humans did walk on the Moon is simply overwhelming.” Marc Norman at the University of Tasmania added, “Fox should stick to making cartoons. I’m a big fan of *The Simpsons!*”⁵⁷

The Fox television show exposed a much broader public than ever before to the arguments of the Moon landing deniers. As Linda Degh noted, “The mass media catapult these half-truths into a kind of twilight zone where people can make their guesses sound as truths. Mass media have a terrible impact on people who lack guidance.”⁵⁸ Without a proper rebuttal available from NASA—the agency had taken an official position before of not responding to what it considered absurd claims—many young people publicly began to question the Apollo landings. Several astronauts stepped forward to affirm the legitimacy of the program, but others thought the charges too silly to warrant response. Many debated the issues in the emerging world of the Internet. Indeed, the Internet became a haven for conspiracy theorists of all stripes, and with the barrier for publication on-line so low anyone could put up any page they wished with any assertions they wished to make. But it also became a haven for counters to the conspiracy theorists and a healthy debate has resulted.⁵⁹

Whereas NASA had refrained from officially responding to these charges—avoiding anything that might dignify the claims—the Fox show demanded that it change its approach. After the Fox program first aired, NASA released a one-paragraph press release entitled, “Apollo: Yes, We Did,” that was minimalist to say the least. It also posted a NASA information sheet originally issued in 1977 to readdress some of the concerns and pointed people with questions to various Internet sites where people responding to the deniers posted their discussions. Finally NASA

officials commented, “To some extent debating this subject is an insult to the thousands who worked for years to accomplish the most amazing feats of exploration in history. And it certainly is an insult to the memory of those who have given their lives for the exploration of space.”⁶⁰ This proved inadequate and the space agency created several Internet sites that addressed various aspects of the claims in the Fox television program. As NASA Chief Historian at the time also took action to contract with a senior space historian, Jim Oberg, to write a monograph detailing a response to the Apollo hoax accusations as a primer for parents and teachers seeking to respond to questions from youth. I departed NASA in July 2002 for the Smithsonian Institution, but the project caught the media’s attention in November. At the close of the ABC World News on November 4, 2002, the eve of the national elections, Peter Jennings questioned the effort, saying that “NASA had been so rattled” to commission “a book refuting the conspiracy theorists.” He add, “A professor of astronomy in California said he thought it was beneath NASA’s dignity to give these Twinkies the time of day. Now, that was his phrase, by the way. We simply wonder about NASA.” Jennings got this last part wrong, the professor was Phil Plait and he supported the response, he just wished it had not been necessary.⁶¹

This commentary led to the cancellation of the monograph, NASA Administrator Sean O’Keefe did not want to deal with it, and ad hoc efforts thereafter have sufficed to respond. Jim Oberg’s comment on this situation is worth pondering: “This is the way I see it: If many people who are exposed to the hoaxist arguments find them credible, it is neither the fault of the hoaxists or of their believers—it’s the fault of the educators and explainers (NASA among them) who were responsible for providing adequate knowledge and workable reasoning skills. And the localized success of the hoaxist arguments thus provides us with a detection system to identify just where these resources are inadequate.”⁶²

VIII. The Moon Landing Denials at Forty

In the summer of 2009 the United States celebrated the 40th anniversary of the first Moon landing, Apollo 11. NASA put together an aggressive celebration at various locations around the nation, especially in close proximity to NASA centers and in Washington, D.C. This represented an excellent opportunity to assess the level of belief in the denials of the Moon landing among the populations. Virtually every news story, especially in the electronic world, made some comment about a growing acceptance of denial of the landings. John Schwartz of the *New York Times* made light of this part of the story: “Forty years after men first touched the lifeless dirt of the Moon—and they did. Really. Honest.—polling consistently suggests that some 6 percent of Americans believe the landings were faked and could not have happened. The series of landings, one of the greatest gambles of the human race, was an elaborate hoax developed to raise national pride, many among them insist.”⁶³

Others reported it more seriously. For example, the Associated Press issued a July 20, 2009, story that reported on the “small number” of Moon landing deniers. It quoted Bart Sibrel, “it’s ‘an absolute fact’ the astronauts didn’t go to the moon.” The story recounted Sibrel’s efforts to sell videos on this subject, and remarked on the 2002 incident in which Buzz Aldrin punched him in the face for “accusing him of being a liar and a thief.” The punchline: “Sibrel says he hopes President Barack Obama will confess and tell the world the truth.”⁶⁴ *Boston Globe* reporter Sam Allis waded in the direction of the deniers but then went on to offer a valentine to the Moon landings:

Apollo 11 is never dated. It transcended politics. There was a purity to the mission that secured its spot above the fray. It fused function and beauty. There was something very American about it, too. The mission was the product of our creativity, technical skills, and single-mindedness of purpose. A fractured country came together behind this effort. Name for me other efforts of such magnitude that have since brought us together.

The human face of Apollo 11 was as much the guy in black frame glasses and a short-sleeve, no-iron, white shirt in Houston as it was Neil Armstrong. Apollo 11 was the triumph of the nerds and middle-class America.

And it was romantic. A young, charismatic American president had challenged the country at the beginning of that decade to put a man on the moon by the end of the decade.⁶⁵

Allis recalled how his drill instructor in Army basic training camp had roused him and his fellow draftees out of bed to watch the first steps on the Moon. Others throughout the anniversary also recalled their experiences of Apollo, and occasionally someone questioned the landings altogether.⁶⁶

While not a scientific assessment personal experience in dealing with numerous media inquiries, as well as public presentations concerning the Moon landings, at the time of the fortieth anniversary suggest that the Moon landing denials continue to resonate among the public. Virtually every journalist I talked with asked about the denials. Some made that the centerpiece of their articles. I tended to respond by asking the journalist why they asked about this, and the response was generally that they were looking for a new angle on the Apollo anniversary and this gave them something different that had some controversy about it. Accordingly, the flames of the Moon landing denials are fanned by journalistic attention brought on by competition for a new and different angle.

The fact that the denials of the Moon landings would not go away should not surprise anyone. The twin features of modern society, a youth movement and post-modernism, helped to raise questions about the Moon landings. More than half the world's population had been born since the last of the Moon landings had taken place in December 1972. Consequently, they had lived through the excitement of the experience. This raises the specter of how individuals view time and history. Mostly without even realizing it, individuals tend to divide time into three general, inconsistent, and individualistic spheres or cones of memory. The first is a sphere of personal experience. Events that individuals participated in personally or that had salience to their individual lives are the first and most immediate sphere. These differ from person to person, and include not only activities that the individual experienced firsthand but events of great importance that took place in their memory. For instance, there are colossal events that mark the time of our lives, and they hold great resonance for those participating in them. Virtually all Americans know where they were and what they were doing when they learned of the 9/11 attacks in New York and Washington. The same is true for other dramatic incidents in individual lives such as the Moon landings for those who remember them. It is this memory of our individual and immediate experiences that govern most people's perspective on the past. Roy Rosenzweig and David Thelen in their study of popular uses of history in American life noted that far from Americans being disengaged from history, as has been routinely thought because of their detachment from national themes, most people have supplanted interest in these broader themes to the history of family and locale. Indeed, Rosenzweig and Thelen insist that Americans "pursue the past actively and make it part of everyday life."⁶⁷ They found that no more than 24 percent of their sample answered that the history of the United States was the past they felt was "most important" to them, as opposed to the 50-60 percent who identified a more intimate past as central to their lives.⁶⁸

Less immediate but still resonating with Americans is a sphere of history that is not intimate to the individual but related by members of the family, by close friends, and by mentors. While the person may have no individual sense of history about World War II, for instance, they have heard stories about it and its effects on families and loved ones. It has a reverberation of meaning because of this connection. There are dark areas in this sphere of historical understanding that may be further illuminated through public presentations of the past, in whatever those forms of presentation might take, but they will never enjoy the salience reserved for personal experience in most people's minds.

The third sphere encompassing all humans is the past that has no special connection through loved ones or personal experience. In that context events, epochs, themes, and the like discussed throughout the broad expanse of history have essentially an equal importance. The Crusades, the Ming Dynasty, the English/French/American/Russian/or other revolutions all essentially stand at the same level for most of those who have no intimate connection to them. Difficulties in creating resonance with those events of the past abound, and always perspectives are obscure as this past is digested. It also has considerably more dark spaces than more immediate past events. An important challenge for all historians is how to breach that truly lost and forgotten past and offer its meaning to most people. This is done through many processes, especially rituals, public representations, reenactments, museums and historic sites, and a range of other possibilities for constructing and reinforcing meaning. There are numerous examples of this basic fact across a broad spectrum of American life, as master narratives of American history are reinforced rather than reinterpreted.⁶⁹

For the younger members of society, the recollection of Apollo is distant to begin with and receding into the background quickly as time progresses. Commemoration and ritual help to preserve these events for society as a whole, but if they are not taking place is the case for Apollo, then events dim considerably over the years. Such is the case with the Moon landings, as who generations have come of age since the last of the missions.

IX. Conclusion

At the same time, post-modernism suggests that reality is more a suggestion of meaning rather than an absolute. The fundamental philosophical thrust of modern society has been a blurring of the line between fact and fiction, between realism and poetry, between the unrecoverable past and our memory of it.⁷⁰ This raising of the inexact character of historical "truth," as well as its relationship to myth and memory and the reality of the dim and unrecoverable past, has foreshadowed deep fissures in the landscape of identity and what it means to be American. Truth, it seems, has differed from time to time and place to place with reckless abandon and enormous variety. Choice between them is present everywhere both in the past and the present; my truth dissolves into your myth and your truth into my myth almost as soon as it is articulated. We see this reinforced everywhere about us today, and mostly we shake our heads and misunderstand the versions of truth espoused by various groups about themselves and about those excluded from their fellowship. They have given and continue to give meaning and value to individual human lives and to create a focal point for explaining the sufferings and triumphs of the group.

This is reinforced everywhere and the versions of truth espoused by various groups about themselves and about those excluded from their fellowship is misunderstood. Perhaps Pontius Pilate framed the dilemma best two millennia ago when he asked Jesus, “What is truth?”⁷¹ Those versions of truth not accepted are often called “myths,” as Pilate obviously thought about the truth espoused by Jesus, but they nonetheless cement relationships and provide rationale for actions. They have given and continue to give meaning and value to individual human lives and to create a focal point for explaining the sufferings and triumphs of the group.

At some level there is no absolute; instead everything is constructed. If so, what might be the case of the Moon landings as time passes? Might this be, in essence, an issue of agreeing something was true but could also be agreed that it never happened. If enough doubt could be cast on some particular narrative might it be overcome and obliterated? This has happened in history repeatedly, as versions of the past have replaced earlier versions that seemed so true. For more than a half-century, for example, the Frontier Thesis as enunciated by Frederick Jackson Turner reigned supreme as the primary explanation offered for the manner in which the U.S. character emerged. It has been dismantled and destroyed and all but forgotten in the last quarter of the twentieth century.⁷²

The denials of the Moon landings excited the response of crank and crackpot from most who heard them. Indeed, those conspiracy ideas deserve disdain. But so to, do many other conspiracy theories that are now major elements of the memory of the nation. For example, how many Americans believe that John F. Kennedy was assassinated by means of a massive conspiracy that involved the national security establishment? More than 45 years of a persistent churning over the data, near data, and wishful thinking has forced massive fissures in the conclusions of the Warren Commission. Might this happen in the future in relation to the Moon landings? The United States seems to be on this path already. In the process the blurring of reality and fantasy takes place. Separating the two has forever been a challenge. It becomes moreso the case when they are so entangled and the consequences of each are enhanced.

X. Conclusion

¹ “Many Doubt Man’s Landing on Moon,” *Atlanta Constitution*, June 15, 1970.

² Andrew Chaikin, *A Man in the Moon: The Voyages of the Apollo Astronauts* (New York: Viking, 1994), p. 100.

³ Mary Lynne Dittmar, “Building Constituencies for Project Constellation: Updates to The Market Study of the Space Exploration Program,” presentation at Building and Maintaining the Constituency for Long-Term Space Exploration workshop, George Mason University, Fairfax, VA, July 31-August 3, 2006; The Gallop Poll, “Did Men Really Land on the Moon?” February 15, 2001, available on-line at <http://www.galluppoll.com/content/?ci=1993&pg=1>, accessed 06/26/2007 6:34:00 PM.

⁴ David Aaronovitch, *Voodoo Histories: The Role of the Conspiracy Theory in Shaping Modern History* (London, UK: Jonathan Cape, 2009), p. 5.

⁵ David R. Wrone and DeLloyd J. Guth, *The Assassination of John F. Kennedy* (Westport, CT: Greenwood Press, 1980), listed more than 5,000 publications dealing with the subject. The number has grown substantially since that bibliography was published. Many more have appeared since that time.

⁶ See Robert A. Becker, *Revolution, Reform, and the Politics of American Taxation* (Baton Rouge: Louisiana State University Press, 1980).

⁷ See Bernard Bailyn, *The Ideological Origins of the American Revolution* (Cambridge, MA: Harvard University Press, 1966). On the slavery issue see, William J. Cooper, Jr., *Liberty and Slavery: Southern Politics to 1860* (New York: Alfred A. Knopf, 1983), pp. 28-46.

⁸ I do not want to be too elliptical with my comments on this score, but space does not permit a recitation of all of these themes in American history. I will briefly cite here only a few examples. The anti-Masonic crusade in the early nineteenth century was prompted by a fear that Masons were conspiring to overthrow the government and establish a totalitarian state in which they were supreme. Near the same time an anti-Catholic effort arose to fight a perceived “papal conspiracy” to take over the U.S. On these see David Brion Davis, “Some Themes of Counter-Subversion: An Analysis of Anti-Masonic, Anti-Catholic, and Anti-Mormon Literature,” *Mississippi Valley Historical Review* 47 (September 1960): 205-24. The Populist movement was predicated in part on a belief that there was a grand conspiracy of business interests in the East in the latter nineteenth century who wanted to rob and subjugate the farmers by setting prices and

making them dependent (Lawrence Goodwyn, *Democratic Promise: The Populist Movement in America* (New York: Oxford University Press, 1976). “Black Nationalism” advocates have argued for many years that since the first settlements in North America that there has been a gigantic conspiracy of whites to subjugate and control African Americans (Allen J. Matusow, *The Unraveling of America: A History of Liberalism in the 1960s* (New York: Harper & Row, 1984), pp. 345-75).

⁹ See Jim Marrs, *Inside Job: Unmasking the 9/11 Conspiracies* (San Rafael, CA: Origin Press, 2004); David Ray Griffin, *The New Pearl Harbor: Disturbing Questions About the Bush Administration and 9/11* (Northampton, MA: Interlink Books, 2004); Webster Griffin Tarpley, *9/11 Synthetic Terror: Made in USA* (Joshua Tree, CA: Progressive Press, 2005); David Ray Griffin, *The 9/11 Commission Report: Omissions And Distortions* (Northampton, MA: Interlink Books, 2005); Chip Berlot, “Zog Ate My Brains,” *New Internationalist*, October 2004, pp. 20-21; David Corn, “When 9/11 Conspiracy Theories Go Bad,” *AlterNet*, March 1, 2002, available on-line at <http://www.alternet.org/story/12536/>, accessed September 30, 2009; Mark Robinowitz, “No Planes and No Gas Chambers: Holocaust Deniers Push Hoaxes that Sabotaged 9/11 Truth Movement,” available on-line at <http://oilempire.us/holocaust-denial.html>, accessed March 30, 2009; Jim Hoffman and Don Paul, *Waking up from Our Nightmare: The 9/11/01 Crimes in New York City* (San Francisco, CA: Irresistible/Revolutionary Press, 2004).

¹⁰ Chip Berlot, *Toxic to Democracy: Conspiracy Theories, Demonization, & Scapegoating* (Washington, DC: Political Research Associates, 2009), p. 3.

¹¹ Aaronovitch, *Voodoo Histories*, p. 2.

¹² Bill Clinton, *My Life* (New York: Alfred A. Knopf, 2004), p. 244.

¹³ John Noble Wilford, “A Moon Landing? What Moon Landing?” *New York Times*, December 18, 1969, p. 30.

¹⁴ “Many Doubt Man’s Landing on Moon,” *Atlanta Constitution*, June 15, 1970.

¹⁵ Howard A. McCurdy, “Moonstruck,” *Air & Space/Smithsonian*, October/November 1998, p. 24.

¹⁶ All of these arguments, as well as variations on them, are offered in Bill Kaysing and Randy Reid, *We Never Went to the Moon: America’s Thirty Billion Dollar Swindle* (N.P., 1974). This pamphlet has been reissued several times, notably in Pomeroy, OR: Health Research, 1976, and again in 2002.

¹⁷ *Newsweek*, July 20, 1970, quoted in Rogier van Bakel, “The Wrong Stuff,” *Wired 2* (September 1994): 108-13, 155.

¹⁸ van Bakel, “The Wrong Stuff,” *Wired*, p. 112.

¹⁹ Most of these assertions are made on the web site, The Enterprise Mission, available on-line at <http://www.enterprisemission.com/>, accessed October 9, 2009, and in Richard C. Hoagland and Mike Bara, *Dark Mission: The Secret History of NASA* (Port Townsend, WA: Feral House, 2007).

²⁰ Jerry L. Modisette, Manuel D. Lopez, and Joseph W. Snyder, “Radiation Plan for the Apollo Lunar Mission,” AIAA technical paper, AIAA-1969-19; Janet Barth, *The Radiation Environment*, NASA Goddard Space Flight Center, available on-line at http://radhome.gsfc.nasa.gov/radhome/papers/apl_922.pdf, accessed September 30, 2009; Jim McDade, “Glowing in the Dark: The Glaring Ignorance of Apollo Hoax Hucksters,” 2002, copy in personal collection.

²¹ John Schwartz, “Vocal Minority Insists It Was All Smoke and Mirrors,” *New York Times*, July 14, 2009.

²² Bill Kaysing, *We Never Went to the Moon: America’s Thirty Billion Dollar Swindle* (Pomeroy, WA: Health Research Books, 2002), pp. 26-40.

²³ “Frequently Asked Questions,” www.Moonmovie.com/faq.htm, accessed October 4, 2009.

²⁴ Dave Cosnette “Apollo Moon Conversations and Pictures Show NASA Cover-up,” available on-line at <http://www.ufos-aliens.co.uk/cosmicphotos.html>, accessed October 4, 2009.

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