

CHAPTER 4

LIVE FROM THE MOON: THE SOCIETAL IMPACT OF APOLLO

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In October 2006, newspapers and Web sites around the world carried the news that a 37-year-old mystery had apparently been solved: Computer analysis seemed to reveal that the word “a,” long thought to be missing from Apollo 11 commander Neil Armstrong’s first words after setting foot on the Moon, had been spoken after all.¹ Now there was no need for editors to insert parentheses in Armstrong’s famous quote, “That’s one small step for a man, one giant leap for mankind.” Aside from the relief it gave grammarians—as Armstrong himself acknowledged, the sentence would not have made sense without the missing article—the story illustrated the enduring cultural impact of Project Apollo.

Our society’s experiences of the first human voyages to another world have continued to evolve, even though the last of these pioneering journeys took place more than three decades ago, in December 1972. That is understandable, considering the fact that Apollo was among the most memorable events of the twentieth century. Many observers have identified the Moon missions as one of civilization’s crowning achievements; Apollo has also been called the greatest technological feat of the last millennium. As one would expect for an event of such magnitude, the cultural impact of Apollo has been multifaceted. It was an event of international importance and yet it touched countless lives on an intensely personal level. Apollo was set in motion by geopolitical, cold war concerns that had little to do with exploration: President John F. Kennedy saw the lunar landing challenge as a way to best the Soviet Union and show the world the strength of a free society. But like all explorations, Apollo had some consequences that were largely unanticipated, including the profound effects of seeing Earth from lunar distance.

1. For example, “Armstrong ‘got moon quote right,’” BBC News, 2 October 2006, <http://news.bbc.co.uk/2/hi/americas/5398560.stm> (accessed 13 August 2007).

A LEAP IN PERSPECTIVE

When Americans awoke on Christmas morning of 1968, they were greeted by more than presents under the tree. Newspaper, radio, and television reports were filled with the momentous news that three astronauts—the crew of NASA’s Apollo 8 mission—were on their way back to Earth after becoming the first human beings to orbit the Moon. For the U.S. space program, Apollo 8 represented a major step toward achieving the national goal, set by President Kennedy in 1961, of landing men on the Moon before the end of the 1960s. The news that three astronauts had flown around our nearest celestial neighbor sparked feelings of national pride and accomplishment, but it was also clear that other impacts were being felt from this extraordinary feat.

In particular, there was a new awareness of Earth and its place in universe. Through their spacecraft windows, the crew of the Moonward-bound Apollo 8 had seen their home planet shrink until it was small enough to cover with an outstretched thumb. But it wasn’t just Earth’s small size that impressed the astronauts; it was the fact that our planet was so clearly alive and, in that way, apparently alone in the universe. In contrast to the bleak and lifeless Moonscape, Earth represented, in the words of Apollo 8 command module pilot Jim Lovell, “a grand oasis in the big vastness of space.”

The fact that millions of people heard Lovell’s words live, during a television broadcast by the astronauts from lunar orbit, was one way in which Apollo was unlike any previous exploration in human history. No longer did the populace have to wait for news reports to trickle in from the frontier; now they were eyewitnesses to the event and its impact unfolded in real time. Only the astronauts could actually see what Earth looked like from 230,000 miles away, but anyone following the mission could share, in some measure, that unprecedented leap in perspective. Poet Archibald MacLeish expressed this in a reflection entitled “Riders on Earth Together, Brothers in Eternal Cold” that was printed on the front page of *The New York Times* on Christmas Day:

To see the earth as it truly is, small blue and beautiful in that eternal silence where it floats, is to see ourselves as riders on the earth together, brothers on that bright loveliness in the eternal cold—brothers who know now they are truly brothers.²

This transcendent idea stood in stark contrast to the previous events of 1968. The nation was becoming increasingly divided over such issues as the escalation of the Vietnam War, racial tensions, and the troubles of the inner cities. In a year that saw more than its share of horrors, including the assassinations of Martin Luther King,

2. Archibald MacLeish, “A Reflection: Riders on Earth Together, Brothers in Eternal Cold,” *The New York Times*, 25 December 1968: p. 1.

Jr. and Robert Kennedy, Apollo 8 provided an uplifting end. One of the countless telegrams received by the astronauts after their return said, “You saved 1968.”³

Still, not all reactions to the Moon mission were positive. Atheist Madeline Murray O’Hare protested the fact that during their second lunar-orbit telecast on Christmas Eve the astronauts had read from Genesis; she later sued, unsuccessfully, to block any form of public prayer by astronauts during space missions. But for most Earthlings the impact of Apollo 8’s new perspective on their home was lasting and positive. It was captured in stunning clarity in the astronauts’ photographs, one of which—an image of Earthrise taken by Bill Anders—was later made into a U.S. postage stamp. Many observers have noted the timing of Apollo 8 with respect to the increase in environmental activism; futurist Stewart Brand maintains it is no coincidence that the first Earth Day, a nationwide observance of environmental issues, took place in April 1970, some 16 months after Americans first saw how their world looked from the Moon. It is worth noting that for the astronauts themselves the arresting sight of their world as a lovely and seemingly fragile “Christmas ornament” rising above the lunar horizon was the greatest surprise of the mission. Anders would later recall thinking, “We came all this way to explore the Moon, and the most important thing is that we discovered the Earth.”⁴

SHIFTING PRIORITIES

As momentous as Apollo 8 was, its historical impact was equaled, even surpassed, by that of Apollo 11, the first landing of humans on another world. When Neil Armstrong and Buzz Aldrin took history’s first Moonwalk on 20 July 1969, an estimated 600 million people—one-fifth of the world’s population—witnessed it on live television and radio. It was difficult not to feel the enormity of the event, and some observers viewed it as a turning point in the course of civilization—especially science fiction writers, many of whom had envisioned the event in the decades before it happened. One was Robert Heinlein, who had penned the story for the 1950 film *Destination Moon*; on the day of the Moonwalk he appeared as a guest on CBS News’ television coverage of the mission. “This is the greatest event in all the history of the human race up to this time,” Heinlein said. “Today is New Year’s Day of the Year One. If we don’t change the calendar, historians will do so.”⁵

And yet no one could ignore the fact that the first Moon landing, taking place at a time of continuing turmoil in the United States, was also evoking dissent. On

3. Frank Borman has mentioned this telegram in a number of interviews. See, for example, *American Experience*, PBS, http://www.pbs.org/wgbh/amex/moon/peoplevents/e_1968.html (accessed 13 August 2007).

4. Bill Anders interview with the author, July 1987.

5. *Man on the Moon* [DVD] (Apollo 11 chapter), Marathon Music and Video, distributed by EDI, Eugene, OR, 2003.

the day before the Apollo 11 launch, Ralph Abernathy, chairman of the Southern Christian Leadership Council, came to the Kennedy Space Center with a small group of protesters to draw attention to the plight of the nation's poor. And in New York City on the day of the landing, a member of Harlem's black community voiced the same concern to a network TV reporter:

*The cash they wasted, as far as I'm concerned, in getting to the moon, could have been used to feed poor black people in Harlem, and all over this country. So, you know, never mind the moon; let's get some of that cash in Harlem.*⁶

A defense of the Apollo expenditures (the estimated total was \$24 billion) came from Arthur C. Clarke, the writer and futurist who had collaborated with director Stanley Kubrick to create the screenplay for Kubrick's 1968 epic science fiction film *2001: A Space Odyssey*. In his comments, Clarke looked to Apollo's long-term benefits:

*I think in the long run the money that's been put into the space program is one of the best investments this country has ever made . . . This is a downpayment on the future of mankind. It's as simple as that.*⁷

Another celebrated science fiction visionary, Ray Bradbury, was even more forceful. He encountered negative sentiments while appearing on a televised panel discussion on the Moonwalk in London. There he found himself confronted by criticism of Apollo from his fellow guests, who included Irish political activist Bernadette Devlin. Bradbury responded with his own big-picture perspective, as he later described it:

*This is the result of six billion years of evolution. Tonight, we have given the lie to gravity. We have reached for the stars . . . And you refuse celebrate? To hell with you!*⁸

In general, reactions to Apollo 11 were divided between those who felt that reaching for the Moon was out of step with urgent needs on Earth, and those who insisted that Apollo's cost was outweighed by its long-term significance. How people gauged the importance of the first human footsteps on another world depended very much on who was being asked.

Still, it was clear that Apollo 11's cultural imprint was indelible. The quote that accompanied Neil Armstrong's first lunar footstep became instantly immortal and became the source of countless spinoffs. (Less than a month after the Moonwalk, one appeared at New York's Shea Stadium, where a teenaged fan cheered the Mets baseball team and their manager, Gil Hodges, on the way to their first winning season

6. Ibid.

7. *CBS News Transcript, 10:56:20 PM, EDT, 7/20/69: The Historic Conquest of the Moon as Reported to the American People by CBS News over the CBS Television Network* (New York: CBS News, 1970), p. 60.

8. Ray Bradbury speech, San Francisco Palace of Fine Arts, 10 July 1972 (recording provided to the author by space artist Don Davis).

with a homemade sign: “One Small Step for Hodges, One Giant Leap for Met-kind.”⁹ Another way in which the success of Apollo 11 entered the culture was in a new phrase that entered the language: “If they can put a man on the Moon, why can’t they [fill in the blank]?” The blank ranged from curing cancer to solving the problems of the inner cities.¹⁰ This questioner was usually unaware of the fact that, unlike many of the difficult problems of the day, the Moon landing was a feat of engineering for which the enabling scientific discoveries had already been made. But it underscored the way in which the success of Apollo 11 had permanently altered the public’s sense of what a group of human beings dedicated to a single goal was capable of accomplishing.

Acknowledgement of the Moon landing also showed up in popular songs written shortly afterward. Singer-songwriter Joni Mitchell wrote in her song, “Willy,”

*He stood looking thru the lace at the face on the conquered Moon.*¹¹

Less enduring was a composition entitled “American Moon,” which proclaimed,

*Apollo Eleven delivered our heavenly right to say,
“The man in the moon is a citizen of the U.S.A.”
Stand up and brag for your grand old flag
Waving on the moon tonight, oh yes,
Waving on the moon tonight.*¹²

“American Moon” reflected the way in which Apollo 11 could be viewed through the lens of nationalism: By winning the space race with the Soviet Union, Apollo had given a boost to the nation’s prestige in the world and, for many Americans, a heightened a sense of national pride. But seen through another lens, particularly that of the nation’s disadvantaged, the view was starkly different. To black poet Gil Scott-Heron, Apollo was emblematic of the nation’s racial inequalities. He expressed this in “Whitey on the Moon,” which begins,

*A rat done bit my sister Nell.
(with Whitey on the moon)
Her face and arms began to swell.
(and Whitey’s on the moon)
I can’t pay no doctor bill (but Whitey’s on the moon)
Ten years from now I’ll be payin’ still.
(while Whitey’s on the moon)*¹³

9. Joseph Durso, “Mets Complete a Four-Game Sweep of Padres with Pair of 3-to-2 Victories,” *The New York Times*, 18 August 1969: p. 41.

10. See, for example, “The Moon and Middle America,” *Time*, 1 August 1969; Evan Jenkins, “For Ph.D.s, No End to Lean Years,” *The New York Times*, 8 January 1973: p. 72.

11. Joni Mitchell, “Willy,” *Ladies of the Canyon*, 1970 (CD 1990, Reprise, Burbank, CA, 6376-2).

12. Lyrics are printed on the Web site of the Smithsonian’s National Museum of American History at http://americanhistory.si.edu/ssb/6_thestory/6d_views/main6d1b_ll.html (accessed 13 August 2007). The author saw the song performed by Judy Carne on *The Ed Sullivan Show* on 26 October 1969.

13. *Now and Then: The Poems of Gil Scott-Heron* (Edinburgh, Scotland: Payback Press, 2000), p. 21.

APOLLO FADES FROM VIEW

For many people, the Moon program began and ended with Apollo 11; the night they saw two Americans leave their footprints on another world would prove to be their only vivid memory of Apollo. But in truth, Apollo was far from over. Six more landing attempts followed, all but one of which were successful, while the magnitude of Apollo's lunar explorations quickened at a truly extraordinary pace. In the summer of 1971, just two years after Armstrong and Aldrin explored a bland acre of Moonscape for two and a half hours, Apollo 15 astronauts Dave Scott and Jim Irwin were living on the Moon for three full days. Their Moonwalks lasted up to seven hours—a full working day on the surface of the Moon—and they drove a battery-powered rover for miles across the surface and even up the side of a lunar mountain, where they picked up rocks almost as old as the solar system itself. By that time, however, Apollo had largely faded from the nation's consciousness.

Public interest in the Moon program had begun to fall off after Apollo 11. In November 1969, Apollo 12 astronauts Pete Conrad and Alan Bean achieved history's second lunar landing and made two Moonwalks. Once again there were live pictures from the surface of the Moon, this time in color. But in news coverage there were expressions of apathy; one Tennessee resident was quoted as saying, "It's old hat, it's not like the first time."¹⁴ In a sense, that reaction was predictable, given the fact that Apollo's stated objective of achieving a lunar landing before the end of the 1960s had already been accomplished. In a culture attuned to "firsts," even the second occurrence of something as extraordinary as landing men on the Moon could not generate the same level of excitement.

But there were other factors that exacerbated the decline in interest. One was the sheer strangeness of the events. Unlike science fiction writers (and their readers), most Americans had little familiarity with space technology and although TV commentators struggled mightily to convey the nuts and bolts of the Apollo program, arcane concepts like space rendezvous were, literally and figuratively, over viewers' heads. In addition, NASA (and for that matter, the astronauts themselves) tended to emphasize the technical elements of the program rather than the human experiences that would have been easier for the public to relate to. Then there was lunar science, which increasingly became the focus of both the astronauts and mission planners as the landings progressed. Talk of breccias and vesicles, of coarse-grained basalt and plagioclase feldspar was not easy for nonscientists to follow. The cultural divide between scientists and the rest of the populace was nothing new—it had been described a decade earlier by C. P. Snow in an essay entitled *The Two Cultures*—but Apollo seemed to throw that gap into vivid relief.¹⁵

14. Douglas Robinson, "Second Moon Visit Stirs Less Public Excitement," *The New York Times*, 20 November 1969: p. 30.

15. This effect of Apollo is described by Kerry Joels in "Apollo and the Two Cultures," in *Apollo: Ten Years Since Tranquility Base* (Washington, DC: National Air and Space Museum, 1979).

Still another factor was the increasing dissent over the war in Vietnam. Among young people especially, one of the effects of the war was a mistrust of the government's use of technology; there was little distinction between the technology of warfare and the technology of space exploration. And though Apollo's successes had briefly raised the national mood, they could not compete with Americans' mounting preoccupation with the war. In April 1970, when an oxygen tank aboard Apollo 13 exploded 200,000 miles from Earth, the crisis sparked a resurgence of interest in the Moon program, as NASA struggled to save Jim Lovell and his crew from a lonely death in space. But even then it was clear that the war was still on many people's minds. During the crisis a student at Duke University was asked by a professor, "Do you think they'll get them back?" The student responded by talking about the American troops in Vietnam.¹⁶ A couple of weeks after Apollo 13's safe return, four students were killed by National Guardsmen during an antiwar demonstration at Kent State University, intensifying the country's conflict over the war. Interest in Apollo never recovered to earlier levels.

This was despite the fact that TV pictures of the astronauts' activities on the Moon had greatly improved; the last three Apollo landings carried a higher-quality color TV camera which could be controlled from Earth. And the scenery visited by these teams was some of the most impressive landscapes on the Moon, with towering mountains, a winding canyon, and giant boulders. But even this could not reverse the dwindling tide of public attention. By the time of the final Apollo missions, television networks no longer covered the Moonwalks in their entirety.

THE ASTRONAUTS REVEALED

Apollo ended at a time when many Americans were turning inward. The 1970s saw increasing numbers of people engaged in a search for self-awareness and the realization of one's own potential. Although the quest for enlightenment often spilled over into self-indulgence, prompting writer Tom Wolfe to christen the 1970s "the Me decade," there was more interest than ever before in personal experience as a gateway to understanding. So in the mid-1970s, when several Apollo astronauts began to describe their experiences before, during, and after their lunar missions, they found an extremely receptive audience. People wanted to know what the astronauts thought and felt as they left Earth far behind, orbited the Moon, and walked on its alien surface. They wanted to hear how they had been affected by their incredible voyages. Underneath their curiosity, many harbored a hope that somehow these men had been transformed by their journeys.

And in a couple of instances, the experiences of a lunar astronaut fulfilled that wish. Apollo 15's Jim Irwin returned from the Moon and revealed that he had felt

16. This incident was described to the author by science journalist Mark Washburn in 1988.

the presence of God there. He soon left NASA to pursue a new life as a Baptist minister, working to share his faith. But no Apollo veteran's testimony matched the mood of the period better than Apollo 14's Ed Mitchell. Long interested in psychic phenomena, Mitchell had conducted an experiment in extrasensory perception during the trip to and from the Moon with a handful of volunteers on Earth. Made public only after he and his crewmates returned, Mitchell's experiment spawned a flurry of media reports. In the years that followed, Mitchell said he had experienced a shift in consciousness during the trip home from the Moon, giving him a profound awareness of the universe as a conscious, evolving entity. In 1972 Mitchell left NASA to pursue the scientific study of consciousness and psychic phenomena.¹⁷ One of his first subjects was Uri Geller, whose claimed feats of telekinesis (such as spoon bending) made him an international celebrity in the early 1970s.

Needless to say, these kinds of experiences and activities did not fit with the public's image of the astronauts. During the Apollo program the media, especially *Life* magazine, had portrayed the astronauts as all-American heroes with rock-solid temperaments, heartland opinions, and unwavering morals. Their wives, meanwhile, were expected to maintain composure at all times, despite the stresses imposed on them by their husbands' dangerous profession and by the demands of sudden celebrity. As the 1960s progressed, however, the *Life* magazine image of the astronauts and their wives began to seem incongruous with emerging trends in popular culture. The Apollo missions took place at a time when the antihero was on the rise, as exemplified by such films as *Cool Hand Luke* (1967), *Bullitt* (1968), and *Midnight Cowboy* (1969). Against that backdrop, some saw the astronauts as hopelessly square, in a camp with what newly elected president Richard Nixon had called "the silent majority." Certainly, that did not make it any easier for those segments of the public to relate to the Apollo missions.

So it came as a bit of a shock—and, some observers said, a relief—when astronaut memoirs revealed very human traits.¹⁸ For Apollo 11's Buzz Aldrin, it wasn't the Moon that changed him most dramatically, but what awaited him back on his home planet. In his 1974 autobiography *Return to Earth*, Aldrin candidly related his struggle with alcoholism and manic depression, which came in the wake of the intense public attention he received after Apollo 11.¹⁹ If that was not in line with the public's perceptions of astronauts, then neither was the Apollo 15 astronauts' involvement in a plan to sell first-day covers carried on their Moon mission to a

17. Mitchell has described his experiences in his own book, *The Way of the Explorer* (New York: G. P. Putnam's Sons, 1996).

18. Howard Muson, "Comedown from the Moon—What Has Happened to the Astronauts," *The New York Times*, 3 December 1972, *Sunday Magazine*: p. 37.

19. Edwin E. Aldrin, Jr. with Wayne Warga, *Return to Earth* (New York: Random House, 1973).

German stamp dealer, as described in Jim Irwin's book *To Rule the Night*.²⁰ In 1977 even more damage was done to the astronauts' image by *The All-American Boys*, the memoir of Walt Cunningham, who had been a crewman on Earth-orbit Apollo 7 mission in 1968; it described, among other things, his colleagues' extramarital affairs.²¹ And in his 1979 landmark portrait of the early astronauts, *The Right Stuff*, Tom Wolfe showed the humanity not only of the men but also their wives, who had secretly harbored fears and anxieties they never shared with the public—or each other.

For all the upheavals surrounding their image, the astronauts themselves remained relatively anonymous despite their status as the only humans in history to have visited another world. In 1975 a new television ad campaign by American Express featured celebrities whose faces were largely unknown to the public; one was Apollo 12 commander Pete Conrad. Looking into the camera, Conrad asked, "Do you know me? I walked on the Moon." And Conrad was not the only one who went through his post-Apollo life so unrecognized.

Nevertheless, even as the astronauts themselves receded from the public's consciousness, new reminders of their journeys became firmly embedded in pop culture. When a new network called Music Television (MTV) debuted in the summer of 1981, its trailers featured pictures and film clips of astronauts on the Moon. For MTV's target audience, some of whom had been small children at the time of Apollo 11, these images must have seemed like just another slice of 1960s nostalgia.

HISTORY DOESN'T REPEAT

By the time Moonwalkers were bouncing across MTV trailers, the Moon itself was nowhere to be seen in NASA's activities. In April 1981, after a six-year hiatus in American human spaceflight missions, NASA achieved the first flight of its reusable Space Shuttle. Buoyed by NASA's promise that the Shuttle would make spaceflight routine, many people responded with high enthusiasm. And in the first several years of Shuttle missions there was plenty of action to excite space buffs; they could witness spacewalking Shuttle astronauts repairing satellites and flying through the void with self-propelled maneuvering units. (Moonwalking, on the other hand, was now coming to be known as a dance move performed by Michael Jackson.)

The fact that the Shuttle never ventured beyond low-Earth orbit was lost on some Americans, for whom going to the Moon had become synonymous with the idea of spaceflight. No longer exposed to the intricacies of Apollo, people underestimated the difficulty of lunar voyages and did not realize that no one had been to the Moon since

20. James B. Irwin with William A. Emerson, Jr., *To Rule the Night: The Discovery Voyage of Astronaut Jim Irwin* (Boston: G. K. Hall, 1974; Philadelphia: J. B. Lippincott Co., 1973).

21. Walter Cunningham with Mickey Herskowitz, *The All-American Boys* (New York: Macmillan Co., 1977).

1972. This was evident from a comment by Apollo 17 commander Gene Cernan, who said in late 1986, “People don’t have any concept. They think all astronauts do the same thing, go to the Moon. [They say,] ‘Oh, doesn’t the shuttle go to the Moon?’”²² The reality was that not only were humans no longer going to the Moon, but NASA had no plans to send them there.

And by late 1986 the dream of using the Shuttle to make spaceflight routine had been shattered by the explosion of the Shuttle *Challenger* in January of that year. In the wake of the disaster, there was renewed focus on NASA’s uncertain future; even before the accident, a presidential commission had been convened to study possible long-range plans for the Agency to pursue. Proposed scenarios included a return of humans to the Moon, followed by piloted expeditions to Mars. However much enthusiasm there might have been for this prescription—and there was a great deal among space advocates—there were uncertainties about how to enact it. Was it simply a matter of convincing the president to call for such a program, as John Kennedy had in 1961? Many space advocates thought so, and believed history would repeat itself.

They got a chance to test their belief on 20 July 1989, the 20th anniversary of the Apollo 11 lunar landing, when President George H. W. Bush declared that America was going back to the Moon, “this time to stay,” and after that to Mars. The so-called Space Exploration Initiative (SEI) called for a 30-year effort. But because of the plan’s projected cost, public reaction was decidedly mixed and there was strong Congressional resistance. Even NASA itself failed to embrace the plan. SEI never got off the ground.

More than a decade later, Bush still remembered in detail the stinging defeat of his space initiative, especially the expectation he’d been given by space advocates that he could launch a major space program just by following Kennedy’s example. Summing up the experience, he told NASA Administrator Sean O’Keefe in 2003, “I was set up. We were all set up.”²³

As it turned out, the Apollo model for how to launch an ambitious space program was not valid. And by 1991, with the end of the cold war, the old forces that had given rise to Apollo were no longer in the equation. In the wake of SEI’s failure there was a growing awareness of something sharp-eyed observers had noted long before: Apollo had been a historical anomaly.

APOLLO AS A MULTIGENERATIONAL EXPERIENCE

By the 1990s the generation that had been children during the Apollo missions had grown up. It included countless scientists and engineers, and even a number of astronauts and flight controllers, who had been inspired to pursue their careers by the

22. Author interview with Gene Cernan, December 1986.

23. Sean O’Keefe, personal communication, December 2003.

Moon missions. It also included storytellers who were moved to revisit the Apollo saga. One was film director Ron Howard, who brought Apollo's most dramatic mission, 1970's harrowing Apollo 13 flight, to the screen in 1995. With a cast headed by Oscar-winner Tom Hanks as Jim Lovell, the film depicted the struggle, in space and on the ground, to rescue Lovell and his crew. One of the year's top-grossing films, *Apollo 13* was more than a retelling of events; it was a celebration of the courage and ingenuity that characterized the entire Apollo program. The astronauts were not the only heroes featured; the film also spotlighted the mission controllers in Houston in all their engineering-nerd glory. The film even spawned a couple of new catchphrases: "Houston, we have a problem"²⁴—the first announcement from Hanks' Jim Lovell that Apollo 13 was in trouble—and the rallying cry spoken by Ed Harris as Flight Director Gene Kranz, "Failure is not an option."

Apollo 13 brought the drama of the Moon program to a new generation of young people and reminded adults of what they had lived through but might not have fully absorbed. Writing about the film in *The New York Times*, science writer John Noble Wilford, who had covered the Apollo missions, saw it as a reminder of a particular spirit of exploration. "One can imagine that the story of Apollo 13, perhaps now or in other retellings by generations to come," wrote Wilford, "will evoke a time when people took risks to reach grand goals, a time when the astronauts were themselves lionized and we still embraced heroes."²⁵

The resurgence of interest in Apollo was furthered when Hanks went on to produce a 12-part miniseries for HBO on Apollo, *From the Earth to the Moon* (based in part on this writer's book about the Apollo astronauts and their missions, *A Man on the Moon*). In a sense, the various retellings of the Apollo saga, so many years after the events, filled an important cultural gap. With all the distractions now long gone—the political discord, the distrust of technology, the antihero culture—the public was ready, at last, to celebrate the Moon program with new appreciation and understanding of what it had accomplished.

THE MOON HOAX

Even decades after it happened, some were unwilling to celebrate Apollo, especially the people who believed it had never happened. This was not a new phenomenon; even at the time of the first Moon landings there were some who insisted Apollo was a government hoax and that the Moonwalks had been filmed somewhere in

24. The film's dialogue was a slight rewording of the actual transmission from Apollo 13, "Houston, we've had a problem."

25. John Noble Wilford, "When We Were Racing With the Moon," *The New York Times*, 25 June 1995: p. 2.

the Nevada desert.²⁶ (A group called the International Flat Earth Society, meanwhile, refused to be swayed by the astronauts' own reports and photos showing that the planet is, in fact, a sphere.) In 1978, the film *Capricorn One* portrayed a faked Mars mission; although the director, Peter Hayms, did not believe Apollo had been faked, he was nevertheless fascinated by the notion that such a hoax was possible. Interestingly, he had written the script in 1972 but met strong resistance to the idea in Hollywood. By the late 1970s, when he sold the film, that resistance was gone—in part, because of a new level of distrust of government in the wake of the Watergate scandal that had made the idea of a faked space program more acceptable to studios.²⁷

Capricorn One was well received by audiences, but the idea that Apollo itself had been a hoax was never embraced by a large percentage of Americans. A 1999 Gallup poll revealed that “[T]he overwhelming majority of Americans (89%) do not believe the U.S. government staged or faked the Apollo Moon landing. Only 6% of the public believes the landing was faked and another 5% have no opinion.”²⁸ Still, the hoax theory continued to have a presence in the culture, as evidenced in February 2001 when the Fox TV network aired a program called “Conspiracy Theory: Did We Land on the Moon?”²⁹ The producers used faux-scientific analyses of the astronauts’ photographs to “disprove” their validity; in truth, the show’s popularity revealed, above all, a lack of scientific literacy among its followers.

Despite its obvious flaws, the hoax theory has persisted largely because the Apollo missions were so difficult for most people to relate to. In 1969 the writer Norman Mailer, commissioned by *Life* magazine to cover Apollo 11, had observed after watching the Moonwalk, “The event was so removed, however, so unreal, that no objective correlative existed to prove it had not conceivably been an event staged in a television studio—the greatest con of the century . . .” In the same breath, however, Mailer acknowledged the impossibility of carrying out such a hoax. “It would take criminals and confidence men mightier, more trustworthy and more resourceful than anything in this century or the ones before. Merely to conceive of such men was the surest way to know the event was not staged.”³⁰ Years later, Neil Armstrong put it more simply: “It would have been harder to fake it than to do it.”³¹

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

27. Benedict Nightingale, “What If a Mars Landing Were Faked? Asks Peter Hyams,” *The New York Times*, 28 May 1978: p. D10.

28. <http://www.galluppoll.com/content/?ci=1993&pg=1> (accessed 13 August 2007).

29. For an in-depth discussion of the Fox broadcast and the Moon hoax theories, see <http://www.badastronomy.com/bad/tv/foxapollo.html> (accessed 13 August 2007).

30. Norman Mailer, *Of a Fire on the Moon* (Boston: Little, Brown, 1970), p. 130.

31. Neil Armstrong, personal communication, 2003.

CONCLUSION: AHEAD OF ITS TIME

Today, more than three decades after the program ended, Apollo remains a unique event in the history of space exploration. There is no shortage of reminders of the Moon voyages, including DVDs of the Moonwalks, memorabilia, and other Apollo-related products. Actual Apollo hardware and lunar samples are on display at museums around the world.³² But the reality of humans walking on the Moon has receded into our past. There is something strangely out of place about an event so futuristic that happened so long ago. Gene Cernan described this feeling in his 1999 autobiography, *The Last Man on the Moon*, when he wrote, “Sometimes it seems that Apollo came before its time. President Kennedy reached far into the twenty-first century, grabbed a decade of time and slipped it neatly into the 1960s and 1970s.”³³

If the first human voyages to the Moon had taken place the way science fiction writers and space visionaries had predicted—after a step-by-step progression from the first satellites to the first human spaceflights, then the establishment of a space infrastructure including reusable space shuttles and permanent space stations in Earth orbit—they would not have seemed so unreal. The public would have had decades to get used to the reality of spaceflight, and space technology would have become a familiar part of the culture. As it actually happened, however, the populace was relatively unprepared for what took place from December 1968 to December 1972, when humans journeyed from their home planet to another celestial body.

In January 2004, President George W. Bush announced the Vision for Space Exploration, including return to the Moon. Unlike his father’s ill-fated Space Exploration Initiative, the new program did not rely on substantial increases in the NASA budget. And it came at a time when public support for the space program was high.³⁴ If all goes according to plan, astronauts will be back on the Moon no later than 2020 and our culture will once again be faced with absorbing the reality of humans walking on another world.

Will Apollo turn out to be the momentous punctuation mark in human history that Heinlein, Clarke, and Bradbury predicted at the time of Apollo 11? It seems inescapable that it will, because no matter how far humans are able to go in their quest to explore the universe, the Apollo missions will stand as the opening chapter. Future generations will no doubt judge the program’s significance not only by what Apollo achieved, but what it led to. If, as space visionaries have long maintained, human

32. For a listing of museum displays of Apollo command modules, see “Location of Apollo Command Modules,” National Air and Space Museum Web site, <http://www.nasa.gov/collections/imagery/apollo/spaceraftan.htm> (accessed 13 August 2007).

33. Gene Cernan and Don Davis, *The Last Man on the Moon: Astronaut Eugene Cernan and America’s Race in Space* (New York: St. Martin’s Press, 1999), p. 344.

34. Leonard David, “NSB Report Finds Steady Public Support For NASA,” 25 May 2004, http://www.space.com/spaceneews/archive04/nsbarch_052504.html (accessed 13 August 2007).

expansion into the solar system to become a multiplanet species is inevitable, then Apollo will surely be seen as the first “giant leap” of that journey.

In our time, however, Apollo’s greatest impact has yet to be completely incorporated into the culture. Sending the first explorers to the Moon showed us that humans have the ability to accomplish seemingly impossible things when they work together. And the testimony and photographs of the men who made those voyages revealed Earth as a precious oasis of life in a vast and hostile universe, a world to be cherished and protected. Absorbing these lessons is often at odds with the short-term focus of our day-to-day culture. But Apollo’s impact will always be there to be revisited and re-experienced, and to guide us in charting our long-term future.

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