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"Remember Them Not for How They Died": American Memory and the Challenger Accident

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“Remember Them Not for How They Died”: American Memory and the *Challenger* Accident

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ABSTRACT

The sudden explosion of the *Challenger* space shuttle seventy-three seconds into its launch in 1986 not only brought the American space program to a halt for almost three years, but also firmly imprinted itself upon public memory. The *Challenger* accident, preceded by the *Apollo 1* and later followed by the *Columbia*, became a unique event to memorialize. Witnessed by people of all ages due to the presence of schoolteacher Christa McAuliffe, the impact of the tragedy was exacerbated by the media storm which followed. In the months and years after the accident, a plethora of monuments, memorials, and museum exhibits were constructed to honor the lost astronauts. This essay will examine how and why the *Challenger* accident has persisted in American memory.

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CHAPTER 1

INTRODUCTION

"They gave their lives in service to their country in the ongoing exploration of humankind's final frontier. Remember them not for how they died but for those ideals by which they lived."[1]

"People were coming in off the street just to watch what was happening. We didn't even try to work. The place just stopped, everybody silent, just watching TV," recalled restaurant hostess Sandra Cawrse.[2] Another resident of Columbia, South Carolina, remembered feeling like he was "being kicked in the stomach" upon learning of the loss of the *Challenger* space shuttle and realizing one of the astronauts was a fellow South Carolinian.[3] If asked, most Americans alive on January 28, 1986, will have a memory related to where they were when they witnessed or heard about the *Challenger* explosion. Although the destruction of the shuttle happened in seconds, the loss of the *Challenger* crew became firmly imprinted in public memory. Countless prayer services, public memorials, and fundraisers were held in the days and weeks following the

[1] Inscription upon one of two memorial plaques placed at the site of the *Apollo 1* accident. The launch complex is no longer open to Kennedy Space Center visitors. To view the plaques, see: "Launch Complex 34," Air Force, Space, and Missile Museum, accessed April 1, 2017, http://afspacemuseum.org/ccafs/CX34/.

[2] Staff Reports, "Shuttle Explosion Stuns Columbians: Fate of Challenger Brings City to Standstill," *The State*, January 29, 1986, sec. C, 1, Ethel Evangeline Martin Bolden Papers, Box 7, South Caroliniana Library.

[3] Staff Reports, 13.

accident. Months after the disaster, communities across the country began to erect permanent reminders of the tragedy and monuments for the lost crew members.

A number of different factors compounded to shape public memory of the *Challenger* accident. The tragedy was not the first loss of life for the American space program. The *Challenger* accident invited comparisons to the *Apollo 1* fire and was later tied to the disintegration of the space shuttle *Columbia*. Memory was also undoubtedly affected by the flood of media coverage in the aftermath of the accident and by official statements made by the National Aeronautics and Space Administration (NASA) and President Ronald Reagan, which were notably lacking any definitive answers to what had caused the explosion. While many of the news reports focused on the shock and horror of the accident, Reagan and NASA stressed the heroic sacrifice of the astronauts and claimed loss was an inevitable part of exploration, fitting the tragedy into a narrative of progress. Further confusion was added with the revelation that the accident was a direct result of NASA's negligence. These conflicting accounts complicated the remembrance of the *Challenger* accident and the line between already-existing monuments, temporary memorials, and more permanent forms of remembrance became difficult to discern.

But how did the *Challenger* become engrained in public memory? What was ultimately remembered about the accident? And why was the remembrance of the *Challenger* accident unique? Commemorating the *Challenger* created several problems. Unlike other tragedies, as the site of the accident was unreachable and there were few physical objects remaining after the explosion, leaving no anchor for memorialization. The most tangible part of *Challenger* for the American public was ironically, the most traumatizing: the oft-repeated footage of its explosion. With no answers for why the

accident had occurred, the media resorted to repetition and speculation to fill the silence. Adding to the trauma, the *Challenger*'s violent and abrupt end was witnessed by thousands of schoolchildren, viewing the event in classrooms across the country due to the involvement of Christa McAuliffe. Although most tragedies inspire a movement to prevent future loss, this was not the case with the *Challenger* accident. Public support for continuing space exploration remained strong in the aftermath of the explosion. However, the hiatus in manned missions provided room to focus on memorialization.

Many permanent memorials were created in the months and years after the accident. The loss of the *Challenger* inspired several national monuments, including a marker at Arlington National Cemetery and the Space Mirror Memorial on the grounds of the Kennedy Space Center. The families of the lost astronauts were not satisfied with how their loved ones were being remembered. They created Challenger Centers as living educational memorials, thus expanding what constitutes a monument. The accident also led to unique memorialization on the local level. Lake City, South Carolina, hometown to *Challenger* astronaut Dr. Ronald McNair, repurposed monuments already erected in McNair's honor in the wake of the accident. After the space shuttle *Columbia* accident, NASA committed itself to remembering its past mistakes, creating an annual Day of Remembrance. Beyond monuments and other forms of commemoration, museum representation of the shuttle played a significant role in how the *Challenger* has persisted in public memory. Allowing time for controversy to settle and challenged by difficult topic, the decades after the *Challenger* accident saw the creation of museum exhibitions addressing the tragedy. Displays at the National Air and Space Museum (NASM) and the Kennedy Space Center Visitor Center act as a conduit through which the public may

interact with and remember the *Challenger* accident. Through these memorials, monuments, and museum exhibits, the loss of the *Challenger* lives on in public memory.

CHAPTER 2

LOSS AND THE AMERICAN SPACE PROGRAM

On the morning of January 28, 1986, the seven crew members of *Challenger* mission STS-51-L prepared for their seventh attempt to journey into space. Previously scheduled departures had been scrubbed due to weather and detected technical problems. The weather was still not ideal that morning. Various accounts of the shuttle launch recalled large amounts of ice had accumulated on the launch pad the night before the mission. The unusually cold weather was eventually identified as the cause for the failure of the seals on the vehicle's solid rocket boosters (SRBs). A congressional investigation later discovered that NASA had been aware of this potential issue but decided to proceed.[4] A large crowd of reporters, teachers, and schoolchildren were assembled at Cape Canaveral for the event. Initial takeoff appeared perfect, however, seventy-three seconds into the launch the shuttle abruptly exploded, trailing smoke as it disintegrated and fell into the Atlantic Ocean, leaving its viewers stunned and devastated.[5]

[4] Accounts of the *Challenger* launch and subsequent explosion include: Richard S. Lewis, *Challenger: The Final Voyage* (New York: Columbia University Press, 1988); Malcolm McConnell, *Challenger : A Major Malfunction* (Garden City, N.Y: Doubleday, 1987); Allan J. McDonald and James R. Hansen, *Truth, Lies, and O-Rings: Inside the Space Shuttle Challenger Disaster* (Gainsville: University Press of Florida, 2009); Diane Vaughan, *The Challenger Launch Decision: Risky Technology, Culture, and Deviance at NASA* (Chicago: University of Chicago Press, 1996); Richard C. Cook, *Challenger Revealed: An Insider's Account of How the Reagan Administration Caused the Greatest Tragedy of the Space Age* (Thunder's Mouth Press, 2006).

[5] Michael Hirsley, "Shuttle Tragedy Stuns Nation," *Chicago Tribune*, January 29, 1986, sec. A.

Before the shocking tragedy, the American space shuttle program had been experiencing unprecedented success. The launch of the *Challenger* had been highly anticipated by the public. However, the events which unfolded on live national television the morning of January 28, 1986, brought the American space program to a standstill for two and a half years. While watching news coverage of the shuttle accident in her social studies classroom, Marcia Hendrix, a school teacher in Columbia, South Carolina, recalled the *Apollo 1* tragedy. Noting none of her students "were even born in 1967," twenty years earlier when the Apollo crew was lost, and "for these kids, there probably was no thought that this could happen."[6] Hendrix was recalling the loss of the crew of the *Apollo 1* which had occurred nearly twenty years earlier. As part of a different era of the space program, memory of the disastrous beginning of the Apollo program had been eclipsed by time and six successful moon visits. The loss of the *Challenger* reawakened memories and naturally invited comparisons between the two accidents.

Almost seven years after President John F. Kennedy's 1961 call to become the first nation to visit the moon, the Apollo program was preparing to test its new spacecraft. On the morning of January 27, 1967, NASA personnel gathered at Kennedy Space Center's Launch Complex 34 (LC-34) for a routine test of the *Apollo 1*. The three crewmembers, Virgil I. "Gus" Grissom, Edward H. White II, and Roger B. Chaffee, were strapped into the capsule to simulate a launch. Several hours into the test, a fire was sparked in the enriched-oxygen environment of the spacecraft. The crew quickly perished despite their attempts to escape from the capsule and outside personnel's attempts to open

[6] Staff Reports, "Shuttle Explosion Stuns Columbians: Fate of Challenger Brings City to Standstill."

the capsule's hatches.[7] The astronauts of the *Apollo 1* died without ever leaving the ground. NASA waited two hours to break the news of the accident to the public, but once announced, information about the tragedy spread rapidly across the country. Americans expressed shock and concern at the inauspicious start to their journey to the moon.[8]

The accident did not inspire the level of memorialization seen in the wake of the *Challenger*. The tragedy of the *Apollo 1* was by no means forgotten; as proven by Hendrix and other interviews conducted after the *Challenger*, the 1986 accident reawakened memories of the lost *Apollo* astronauts. This disparity perhaps can be attributed to the differences between the two disasters. The *Apollo 1* accident was not broadcast live like the *Challenger* disaster. It occurred on the ground at a private launch complex. The site of the *Apollo 1* fire, LC-34, was retired in 1971 and its parts were taken for use on other Apollo projects. In acknowledgement of the lives lost at the location, several objects of remembrance were added to LC-34. An informational kiosk displays highlights of every mission hosted at the launch complex while an alcove containing three stone benches engraved with the names and military branches of the *Apollo 1* astronauts. In addition to one plaque imploring the reader to "remember [the astronauts]… those ideals by which they lived," another plaque memorializes the crew of the *Apollo 1*, containing the inscription: "In memory of those who made the ultimate sacrifice/So others could reach the stars/Ad astra per aspera/(A rough road leads to the

[7] Richard W. Orloff, "Apollo 1- The Fire: January 27, 1967," in *Apollo by the Numbers: A Statistical Reference*, 2nd ed. (Washington, D.C.: NASA History Division Office of Policy and Plans, 2004), https://history.nasa.gov/SP-4029/Apollo_01a_Summary.htm.

[8] Colin Burgess, Kate Doolan, and Bert Vis, *Fallen Astronauts: Heroes Who Died Reaching for the Moon* (Lincoln: University of Nebraska Press, 2003), 145–46.

stars)/God speed to the crew/of/Apollo 1."[9] The language used by these memorial plaques emphasizes the sacrifice of the *Apollo 1* crew and indicates a desire to focus upon the future of the space program. Ironically, although once a stop on tours at Kennedy Space Center, LC-34 has been closed to the public due to the effects of more recent missions. The site was removed from tours due to the presence of hazardous materials and was made accessible only to NASA personnel.[10]

Besides having no access to the site of the accident, the treatment of the remains of the burned spacecraft may have affected the remembrance of the *Apollo 1*. After the fire, NASA personnel were quick to remove the destroyed capsule from the launch pad to be examined for the cause of the accident. At the conclusion of its investigation, NASA placed the capsule, referred to in official documents as Apollo 204, in storage for ten years at Langley Research Center.[11] Discussion about the future of the capsule began in 1977 as active preservation of the spacecraft ceased, and multiple officials recommended the Apollo 204 be destroyed. NASA came up with several creative ways in which to dispose of the capsule, including crushing the spacecraft and transporting the remains "via helicopter…over water to the nearest point in [the] Atlantic Ocean off Virginia

[9] "Launch Complex 34."

[10] Roger D. Launius, "Abandoned in Place: Interpreting the U.S. Material Culture of the Moon Race," *The Public Historian* 31, no. 3 (2009): 10, https://doi.org/10.1525/tph.2009.31.3.9; and "Launch Complex 34," Air Force, Space, and Missile Museum.

[11] National Aeronautics and Space Administration, "Apollo 204 Permanent Storage- Langley 1206 Warehouse Complex," April 12, 1990, NASA HQ Historical Reference Collection, Folder: Apollo 204 CM (#012) Disposition of; and National Aeronautics and Space Administration, "Apollo 204 Permanent Storage- Command Capsule," April 12, 1990, NASA HQ Historical Reference Collection, Folder: Apollo 204 CM (#012) Disposition of. Hereafter, the NASA HQ Historical Reference Collection shall be referred to as "NASA HQ HRC."

Capes…[to] jettison [it] off the continental shelf."[12] The debate continued for over twenty years, resurfacing in several different memos and emails.

In 1990, NASA attempted to move the capsule to Cape Canaveral to be stored in an abandoned missile silo along the remains of the *Challenger*. However, the decision generated a renewed interest in the preservation of the *Apollo 1*. Former astronauts and the *Apollo* crew's families protested the move. As per an exclusive agreement, NASA offered the capsule to the National Air and Space Museum. The museum declined to accession it due to an inability to store, preserve, or display the object.[13] Additionally, NASM was reluctant to show any part of the *Apollo 1* capsule. It remained in permanent storage, despite multiple requests to release or memorialize the object, until Kennedy Space Center opened an exhibition in honor of the fiftieth anniversary of the accident in 2017. The *Apollo 1*'s three-part hatch, which the astronauts were unable to open to escape the fire, is displayed in an exhibit with a title echoing the plaque placed at LC-34— "Ad Astra Per Aspera- A Rough Road Leads to the Stars."[14]

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[12] NASA Management Support Division Chief, "Disposal of Apollo 204 Hardware" November 11, 1977, NASA HQ HRC, Folder: Apollo 204 CM (#012) Disposition of; NASA Associate Administrator and Comptroller, "Disposal of Apollo 204 Residuals Memorandum to NASA Deputy Administrator" (Washington, D.C., September 30, 1977), NASA HQ HRC, Folder: Apollo 204 CM (#012) Disposition of.

[13] National Aeronautics and Space Administration, "Apollo 204 Facts" (Washington, D.C., December 17, 1998), NASA HQ HRC, Folder: Apollo 204 CM (#012) Disposition of.; and Noel W. Hinners and Martin Harwit, "Agreement Between the National Aeronautics and Space Administration and the Smithsonian Institution Concerning the Transfer and Management of NASA Historical Artifacts," December 31, 1991; Allan Needell, "Apollo Command Module 012 (Apollo 1) Memorandum to NASA/NASM Artifacts Committee" (Washington, D.C., January 20, 1999), NASA HQ HRC, Folder: Apollo 204 CM (#012) Disposition of.

[14] Steven Siceloff, "Apollo 1 Crew Honored in New Tribute Exhibit," NASA, January 27, 2017, http://www.nasa.gov/feature/apollo-1-crew-honored-in-new-tribute-exhibit.; Daniel S. Goldin, "Reply to Mrs. Grissom Request," April 11, 1996, NASA HQ HRC, Folder: Apollo 204 CM (#012) Disposition of. NASA Administrator Daniel Goldin replied to a display request from one of the Apollo 1 widows with the following statement: "NASA has never released space artifacts related to the deaths of astronauts for exhibit. However, our exhibits staff at Headquarters and at the Kennedy Space Center would be most pleased to work with you to identify appropriate materials to create an exhibit celebrating the lives and achievements of the Apollo One crew. The brave men who lost their lives in the Apollo One fire

Despite the development of several museum exhibits within the last ten years, the inability of the public to see the physical remains of the *Apollo 1* or *Challenger* accidents affected the memory of the event. Unlike other national disasters which have followed the *Challenger*, such as the Oklahoma City bombing or September 11th, the sites at which these events occurred are extremely difficult or impossible for the public to access and memorialize.[15] Additionally, these national disasters possess radically different causes, which in turn had an impact upon the ways in which each was defined and remembered. The Oklahoma City bombing or September 11th attacks were acts of terrorism. The human intentionality behind both events provided an immediate source for the violence and loss of life. In comparison, although they also inspired national responses, the *Apollo 1* fire and the *Challenger* explosion were both accidents. The *Apollo 1* crew was killed during a training accident, ensuing on what was assumed to be the relative safety of the ground.

In the eyes of the American public, the launch of the *Challenger* was an occasion of hope and excitement. The subsequent explosion of the shuttle upon its takeoff abruptly cut the feeling of building anticipation and signaled a critical mission failure, one which NASA always knew was a dangerous possibility but which had never become a realized threat. Without televised footage of the *Apollo 1* fire, NASA could shield the public from its devastating results—the same could not be said for the *Challenger* accident. Although

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contributed greatly to space exploration, and their contributions and sacrifices will always be remembered." Note: there are two different versions of Goldin's response within the Apollo 204 Disposition folder in the NASA Historical Reference Collection. One contains the above statement. The other uses the exclusive agreement with NASM to justify why the Apollo capsule cannot be released to another museum, as per the Apollo families' request.

[15] See: Edward T. Linenthal, *The Unfinished Bombing: Oklahoma City in American Memory* (New York: Oxford University Press, 2001); and J. William Thompson, *From Memory to Memorial: Shanksville, America, and Flight 93* (University Park: The Pennsylvania State University Press, 2017).

it took several months to collect the remains of the shuttle and its crew, a constant replaying of the video footage of the *Challenger*'s explosion bombarded the public. Despite this horrifying media loop, there were challenges to memorializing an event which played out in seconds and took place miles above the earth. The ephemeral nature of the *Challenger* accident left behind no trace in the sky besides a trail of smoke. There was no centralized site at which the public could gather or to reflect upon the event. It is difficult to examine the memorialization of the *Challenger* without considering the memory of the *Apollo 1* accident. Many in the public drew comparisons between the two tragedies in the aftermath of the *Challenger* explosion. However, despite their similarities, the *Challenger* and the *Apollo 1* were remembered in very different ways and to different degrees. The more-public and publicized *Challenger* disaster allowed the American public to act as witnesses, unlike the private *Apollo 1* training accident. One of the diverging factors between the two disasters was the evolution of media coverage of the space program by the time of the *Challenger* accident.

CHAPTER 3

MEDIA AND MEMORIAL SERVICES

Before the explosion, media coverage around the seven astronauts was extensive. By the time of the devastating launch, Americans were familiar with the crew of the *Challenger*. Author J. Alfred Phelps noted "the crew was an American microcosm."[16] The astronauts who represented the United States were no longer solely white men. Remarkably diverse, the seven astronauts represented not only different geographical areas of the United States but also a variety of racial, cultural, and religious backgrounds. The crew included both military personnel and civilians, seasoned astronauts and novices. An increasing number of Americans felt connected to the space program because of this inclusion.[17] The diversity of the *Challenger* crew made the shuttle's destruction all the more devastating to the American public.

In the wake of the accident, what were once human-interest stories celebrating the launch became the serious subjects of endless news reports. Every small detail about the *Challenger* astronauts became public knowledge. A former member of the Air Force, Mission Commander Lieutenant Colonel Francis (Dick) Scobee of Washington had previously flown the *Challenger* on its fifth mission. Navy Captain Michael Smith of

[16] J. Alfred Phelps, *They Had a Dream: The Story of African American Astronauts* (Novato, CA: Presidio Press, 1994), 164.

[17] The battle for diversity at NASA was long and complicated. However, from the 1950s to the 1970s, proponents of inclusion continuously argued the specifications for astronauts excluded too many Americans. For more on the history of changing hiring practices, see: Kim McQuaid, "Race, Gender, and Space Exploration: A Chapter in the Social History of the Space Age," *Journal of American Studies* 41, no. 2 (2007): 405–34.

North Carolina was piloting the shuttle at the time of the accident.[18] Reporters also lingered upon the three mission specialists aboard the shuttle. Colonel Ellison Onizuka was the first astronaut of Japanese ancestry and the first from Hawaii. [19] Dr. Judith Resnik of Ohio was Jewish and the second American woman in space. The final specialist, Dr. Ronald E. McNair, hailed from South Carolina and similar to Resnik, was the second African American astronaut. The crew was completed with two payload specialists, one of which was engineer Gregory Jarvis from Michigan. Yet none of the Challenger astronauts gathered as much media attention as New Hampshire teacher Christa McAuliffe.[20]

Touted as the first civilian in space, McAuliffe was nationally chosen from thousands of applicants to participate in NASA's Teacher in Space program, intended to produce several education lessons focused on space travel to be broadcast into classrooms across the nation. Some Americans later blamed these televised lessons as part of the reason NASA officials were so eager to launch the Challenger on that frigid January morning. Any further delay to the shuttle's departure would have pushed the planned

[18] National Aeronautics and Space Administration, "Astronaut Biographical Data: Dick Scobee," accessed March 21, 2017, https://www.jsc.nasa.gov/Bios/htmlbios/scobee.html; National Aeronautics and Space Administration; and "Astronaut Biographical Data: Michael Smith," accessed March 21, 2017, https://www.jsc.nasa.gov/Bios/htmlbios/ smith-michael.html.

[19] Elizabeth Sullivan, "Challenger Astronaut and Hawaii Native Ellison S. Onizuka Always Wanted to Go to Space," *The Plain Dealer,* January 30, 1986, http://www.cleveland.com/nation/index.ssf/2011/01/ challenger_ astronaut_and_hawai.html; and *A Tribute to National Aeronautics and Space Administration Minority Astronauts: Past and Present*, 2nd ed., NP-1999-06-238-HQ (National Aeronautics and Space Administration, 1999), 26. Several of the *Challenger* astronauts received posthumous promotions. For example, Onizuka was promoted to the rank of colonel- perhaps a way through which the military could memorialize and honor the lost astronauts.

[20] National Aeronautics and Space Administration, "Astronaut Biographical Data: Judith A. Resnik (Ph.D.)," accessed March 21, 2017, https://www.jsc.nasa.gov/Bios/htmlbios/resnik.html; National Aeronautics and Space Administration, "Astronaut Biographical Data: Ronald E. McNair (Ph.D.)," accessed March 21, 2017, https://www.jsc.nasa.gov/Bios/htmlbios/mcnair.html; National Aeronautics and Space Administration, "Astronaut Biographical Data: Gregory Jarvis," accessed March 21, 2017, https://www.jsc.nasa.gov/Bios/htmlbios/jarvis.html.

lessons to the weekend when students would not be in class. Others, including NASA personnel and politicians, suggested that pressure had been put on NASA to launch the shuttle because Reagan wished to reference the crew, particularly McAuliffe, in his State of the Union address, scheduled for the same day as the launch. After the explosion, for the first time in its history the address was postponed.[21] Public anticipation for the *Challenger* mission was high, built up by the pre-launch news coverage and planned speech and lessons.

Intending to celebrate the special occasion, the crowd gathered at Cape Canaveral eagerly awaited the *Challenger*'s launch. Including the astronauts' families and the 113 semi-finalists for the Teacher in Space program, the crowd in Florida was joined by schoolchildren in classrooms around the country who tuned in to a live feed of the event.[22] In New Hampshire, the students of McAuliffe's Concord High School gathered in the school auditorium to watch the *Challenger*. After experiencing the months of building anticipation for the launch, the unexpected and abrupt loss of the shuttle had traumatizing results. Coverage of the exciting mission became documentation of the lingering trail of smoke stretching across the sky and the assembled crowd's shock and devastation. Journalists later estimated that "tens of thousands of Americans viewed the liftoff live…and hundreds of thousands more saw replays of the explosion on television within minutes of the disaster."[23] Television networks scrambled to answer the demand for information about what had gone so terribly wrong. The evening following the

[21] Vaughan, *The Challenger Launch Decision*, 15–16; Phelps, *They Had a Dream*, 183.

[22] Hirsley, "Shuttle Tragedy Stuns Nation," 1.

[23] Hirsley, 4.

accident, news coverage ran uninterrupted as NBC, CBS, and ABC offered more than five hours of commercial-free programming.[24]

In the aftermath of the accident, the public looked to NASA for answers on what had caused the unexpected destruction of the shuttle. Officials at NASA were initially at a loss, without any definite response to what had just occurred. It ordered a five-hour blackout of official media communication immediately following the explosion, after which officials simply announced they would not be speculating on the cause of the accident but were ordering a full investigation. NASA issued a single official press release the day of the accident, simply publicizing that Vice President George H. W. Bush and Senators Garn and Glenn, both former astronauts, were visiting with the families of the *Challenger* crew.[25] Public confusion ensued due to NASA's silence, inspiring a cacophony of media voices to which the public listened through national and international newspapers and television broadcasts. Stories about the tragedy dominated the news cycle in the days following the accident and international media only added to the chaos. In London, *The Times* quickly declared the *Challenger* accident "the worst ever space disaster" and noted the condolences given by the Soviet Union at its embassy in Washington D.C.[26] Despite the statement from the Russians, speculation about the

[24] Jack Lule, "The Political Use of Victims: The Shaping of the Challenger Disaster," *Political Communication and Persuasion*, NASA SP, 7 (April 1990): 115, https://doi.org/10.1080/10584609.1990.9962891.

[25] "NASA's Official Statement," *The Washington Post*, January 29, 1986, sec. A; Lisabeth Durzo Sisk, "A Content Analysis of Nasa's News Release Messages Following the Challenger and Columbia Space Shuttle Crashes: Crisis Communications and Media Relations" 2004, 7; National Aeronautics and Space Administration, "Kennedy Space Center Release: Vice President, Senators Garn and Glenn Visit Crew Families," January 28, 1986.

[26] Michael Binyon and Christopher Thomas, "Crew Die in Shuttle Disaster - US Challenger Space Shuttle Explodes," *The Times*, January 29, 1986.

accident ran rampant among the public. Theories attributing the shuttle explosion to the Soviet Union or Libya began to circulate as NASA's continued to struggle to definitively diagnose the cause of the accident.

Americans expressed the shock, confusion, and sorrow they felt after viewing the failed launch through various forms of media. One man wrote to *The Washington Post*, remembering how he stood in a crowd of people watching the explosion play on the television over and over. Another editorial from a witness of the accident recalled: "As I watched, I could only stare in disbelief, and cry."[27] Some interviewed by newspapers recalled being upset about how television coverage after the explosion lingered on McAuliffe's family at Cape Canaveral and the students at her high school in New Hampshire. Because the *Challenger* launch was shown live in classrooms around the country, media coverage immediately expressed concern about the emotional wellbeing of the students who had watched the shuttle explosion. Interviewed psychologists suggested monitoring children for signs of depression after viewing the shuttle explosion. One doctor noted that "what made the death [of the astronauts] gruesome was it was a public death"[28] American students did have a significant reaction to the tragedy. Thousands of letters and drawn pictures were sent to NASA in the months after the accident and a portion of these submissions were displayed in the halls of NASA buildings. Other students wrote poetry to express their feelings about the loss of the

[27] "Letters to the Editor: The Challenger's Last Flight," *The Washington Post*, February 1, 1986, sec. A.

[28] Warren Bolton and Dawn Hinshaw, "Touched By Tragedy," *The Columbia Record*, January 28, 1986, No. 238 edition, sec. A, Ethel Evangeline Martin Bolden Papers, Box 7, South Caroliniana Library.

Challenger.[29] The media surrounding the Challenger mission and accident helped to shape public memory of the event and also gave the public an outlet through which they could begin to memorialize the lost astronauts.

In the absence of any clear answers from NASA or the media, the public turned to President Reagan, who attempted to help Americans process the loss of the *Challenger*. Replacing his previously scheduled State of the Union address, Reagan gave a brief national broadcast which began with the declaration that "today is a day for mourning and remembering."[30] The speech was the first of its kind. Even in the wake of the Apollo fire, Lyndon B. Johnson only issued a simple statement instead of making a public address. And, in case of the failure of the Apollo 11 mission, Richard Nixon prepared a national address that was ultimately never needed. In addition to the general public, Reagan's speech needed to address several specific groups, including the families of the lost astronauts, schoolchildren, and NASA employees.[31] Speaking to the concerns of each group, the broadcast acted as a public expression of grief, sympathy, and understanding which urged the country to come together to begin remembering the *Challenger* crew. Reagan reminded the nation that the loss of the *Challenger* was "all part of taking a chance and expanding man's horizons. The future doesn't belong to the fainthearted; it belongs to the brave. The *Challenger* crew was pulling us into the future, and we'll

[29] Many of the submissions are still preserved in the NASA Historical Reference Collection and documented through newspaper articles. For example: "NASA Recognizes Student Efforts," *The Daily Gazette*, March 26, 1986, sec. A, NASA HQ HRC, File 009279, 51-L Tragedy Impact: Poetry.

[30] *President Ronald Reagan's Speech on Space Shuttle Challenger* (United States. White House, 1986).

[31] Mary E. Stuckey, *Slipping the Surly Bonds: Reagan's Challenger Address* (College Station, US: Texas A&M University Press, 2006), 7, 82–83.

continue to follow them."[32] Throughout the speech, Reagan emphasized continuing the crew's legacy despite the tragedy, suggesting that the best way to remember the astronauts was through support of the space program. In a later study, scholar Jack Lule claimed that Reagan's experience with the media allowed the president to transform "a potential disaster for his space program into a signal event that redefined and reconfirmed the meaning and value of U.S. space exploration."[33] The American space program had long been a point of pride. Reagan's quick response to the *Challenger* accident through his personalized speech set the tone for how the tragedy would be memorialized. By reminding the public that loss was a necessary part of exploration and it should not deter future progress, Reagan ensured memorialization of the *Challenger* would be focused on the sacrifice and achievements of the astronauts.

Echoing the sentiments of Reagan, numerous memorial services were held across the country in the days following the accident. These services proved to be popular with the American public. Over ten million surveyed American adults attended a local memorial service in honor of the astronauts.[34] On January 29, 1986, several hundred people gathered at the National Air and Space Museum for the unveiling of a commemorative photograph of the crew, accompanied by a reading of a poem the museum director had found taped to the building's doors the morning after the accident. Former astronaut Senator John Glenn also gave a speech about the *Challenger* accident,

[32] *President Ronald Reagan's Speech on Space Shuttle Challenger*.

[33] Lule, "The Political Use of Victims: The Shaping of the Challenger Disaster," 116.

[34] John D. Miller, "The Challenger Accident and Public Opinion," *Space Policy* 3, no. 2 (May 1987): 128–29.

which connected the shuttle accident to the *Apollo 1* fire.[35] Students of McAuliffe's school in New Hampshire processed the loss of the *Challenger* together through a memorial service at a local church while an additional service was held for thousands of mourners on the statehouse lawn in Concord. In Washington D.C., a memorial wreath was laid out at the National Cathedral to honor the astronauts.[36]

On January 31, three days after the accident, NASA held its own memorial service for employees at the Johnson Space Center in Houston, Texas. An audience of approximately ten thousand gathered outside on grounds traditionally used for the homecoming ceremonies of returning astronauts. Later surveys estimated 78% of Americans watched all or part of the memorial service on television.[37] The President and Mrs. Reagan, the children of President John F. Kennedy, and approximately ninety members of Congress travelled to Texas to attend the memorial. Journalists from as far away as Japan and Australia also arrived to cover the event. Family members of six of the seven astronauts attended the service and met privately with the Reagans. The family of Dr. Resnik instead held a smaller service at Temple Israel in Akron, Ohio, which was attended by Ohio Governor Richard Celeste and other former astronauts. Reagan once again became the face of the public memorialization of the *Challenger* accident. He addressed the assembled crowd in Houston and the public watching through their television sets by stating: "Man will continue his conquest of space. To reach out for new

[35] Lois Romano, "Air Museum's Memorial to Shuttle Crew," *The Washington Post*, January 30, 1986, sec. B.

[36] Laura A. Kiernan, "Concord, N.H., Overwhelmed with Memories of McAuliffe," *The Washington Post*, January 30, 1986, sec. A, 19; Sue Anne Pressley, "Reagan Bids Shuttle Crew Farewell," *The Washington Post*, February 1, 1986, sec. A.

[37] Miller, "The Challenger Accident and Public Opinion," 127.

goals and even great achievements, that is the way we shall commemorate our seven *Challenger* heroes."[38] At the conclusion of the service, four jets flew in the missing man formation over the memorial service, leaving space for an absent aircraft.[39] An emotional tribute to the lost astronauts, the official memorial service for the Challenger crew served as a model and inspired additional memorialization attempts around the country.

Although not actively viewed or attended by significant proportions of the American public, several smaller services were also held in the hometowns of the *Challenger* astronauts. The crew compartment of the shuttle was not recovered from the Atlantic Ocean until early March 1986, but most of the astronauts' families had already determined to hold personal ceremonies for their lost loved ones in the weeks following the accident.[40] One such service was held for Dr. Ronald McNair is his hometown of Lake City, South Carolina, on February 2, 1986. Hosted by the Wesley United Methodist Church, approximately 350 people attended the service, including the governor of South Carolina and several of McNair's former teachers and classmates. Reverend Jesse Jackson and fellow South Carolinian astronaut Charles Bolden spoke to the gathered crowd.[41] The large gathering of not just McNair's friends and family members, but influential politicians and community members indicated the significance of the loss of the *Challenger* astronauts. Although not nationally televised like the official NASA

[38] Bernard Weinraub, "Reagan Pays Tribute to 'Our 7 Challenger Heroes': At Service, Reagan Honors 'Our 7 Challenger Heroes,'" *The New York Times*, February 1, 1986, sec. A, 1.

[39] Pressley, "Reagan Bids Shuttle Crew Farewell," 1; Weinraub, "Reagan Pays Tribute," 11.

[40] Michael Isikoff, "Remains of Crew of Shuttle Found: Strong Winds, Current Hamper Recovery," *The Washington Post*, March 10, 1986, sec. A, 1.

[41] "In Perspective: Friends, Family, Politicians Recall SC Astronaut's Courage, Talent," *The Columbia Record*, February 3, 1986, sec. A, Ethel Evangeline Martin Bolden Papers, Box 7, South Caroliniana Library.

ceremony, state news coverage of the memorial service was extensive and was closely followed by South Carolinians.

However, these services were hindered by the continual sensationalized media coverage surrounding the loss of the *Challenger*. Shocking stories and theories were abundant in the weeks after the tragedy as gruesome reports grabbed the attention of horrified and fascinated Americans. Emerging one day after the memorial to McNair, vague claims of "what appeared to be part of a foot" invoked macabre imagery and conflicted with the heroic idolization of the lost astronauts conjured by the public speeches, memorials, and funerals.[42] Upon recovery of the crew's remains, the families were forced to revisit or repeat their previous attempts to obtain closure for their lost loved ones. For example, although services had already been held in her honor, McAuliffe's remains were eventually laid to rest near her New Hampshire home. Two other *Challenger* crewmembers, Michael Smith and Dick Scobee, were laid to rest in military ceremonies at Arlington National Cemetery. Dr. McNair was buried in a cemetery five miles outside Lake City, South Carolina, although his remains were relocated to a city park dedicated in his honor in 2004.[43] Early memorialization of the Challenger accident was complicated by the absence of the astronauts' remains and by dramatic media accounts which many thought disrespected the victims and their families.

[42] Wire Reports, "More Human Remains Reportedly Found," *The Columbia Record*, February 3, 1986, sec. A, Ethel Evangeline Martin Bolden Papers, Box 7, South Caroliniana Library.

[43] Robert T. Hohler, *I Touch the Future* (New York: Random House, 1986), 255; Anndee Hochman, "Challenger's Pilot Is Buried with Full Honors at Arlington," *The Washington Post*, May 4, 1986, sec. A. Personal visit to site of Dr. Ronald E. McNair Memorial Park, Lake City, South Carolina, March 21, 2017. Information about the relocation of Dr. McNair's remains was provided on wayside titled "Dr. Ronald E. McNair Memorial Park."

As time progressed after the *Challenger* accident, the deluge of media coverage subsided as memorial services and funerals concluded. Yet Americans still felt a strong connection to the seven lost astronauts. National mourning, at times facilitated through public speeches by President Reagan, was seemingly led to a conclusion by the burial of the astronauts' remains in the months following the tragedy. Press coverage after the recovery of the shuttle remnants and the astronauts' funerals was transferred to the congressional investigation into the cause of the shuttle's destruction. Performed by the Rogers Commission, the presidential commission tasked with determining why the *Challenger* mission ended in disaster, the no-less dramatic investigation was broadcast on television but attracted less attention than earlier televised reports. Fading news coverage and a decline in organized national mourning inspired localized and privatized drives to permanently preserve the memory of the *Challenger*. Across the country, groups began to erect monuments and buildings were renamed in honor of the crew. Many of these new efforts to commemorate the *Challenger* took the form of traditional monuments and markers, a concrete remembrance of an intangible tragedy. Others, perhaps due to the unique circumstances of the *Challenger* disaster, resorted to memorialization with unique designs, effects, or messages about the crew.

CHAPTER 4

REMEMBERING A NATION'S LOSS

Remembrance and memorialization of the *Challenger* accident was closely tied to public perception of the space program. Whether direct or indirect, the role that NASA played in the causation of the disaster influenced how the public remembered the event. The Rogers Commission determined that the organizational structure and decision-making process at NASA was partially to blame for the accident. Those aware of potential problems with the shuttle were not heard over the general desire to keep to the scheduled shuttle launch.[44] The findings of the commission caused NASA to lose assistance from the federal government. Congress and the Reagan administration were wary to invest in the organization in the wake of the accident, and funding was stretched or scaled back for attempts to construct a replacement shuttle.[45] However, NASA was affected beyond loss of funding.

Immediately after the *Challenger* accident, NASA suffered a wave of institutional guilt which was only amplified by the findings that the loss of the shuttle was preventable. This guilt felt for the preventable loss of the *Challenger* pushed NASA to carefully memorialize the astronauts. [46] Additionally, public opinion was crucial in

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[44] Gregory Moorhead, Richard Ference, and Chris P. Neck, "Group Decision Fiascoes Continue: Space Shuttle Challenger and a Revised Groupthink Framework," *Human Relations* 44, no. 6 (1991): 539.

[45] Mark E. Byrnes, *Politics and Space: Image Making by NASA* (Westport, Conn: Praeger, 1994), 130.

[46] Bettyann Holtzmann Kevles, *Almost Heaven: The Story of Women in Space* (Cambridge: MIT Press, 2006), 109.

influencing the organization's response to the *Challenger* accident. The American public was key to retaining or even increasing funding. In order to save face, NASA carefully fit the loss of the *Challenger* into a narrative of progress—failure was a necessary, if unfortunate, part of space exploration. Looking towards the future of the space program, one full of new triumphs and discoveries, would become one way of honoring the lost astronauts. NASA's efforts in the wake of the *Challenger* accident, whether through official statements or memorial services, proved popular with the public. Incredibly, despite the work of the Rogers Commission, public support for NASA generally increased in the aftermath of the *Challenger* accident. Surveys recorded an 11% increase in public belief that the benefits of the space program exceeded the costs, whether financial or human.[47] The public perception of the national space program in the wake of the accident had connections to how the event was remembered. The public believed that the risks of the space program did not mean space exploration should be permanently halted, but the hiatus in manned missions created by the *Challenger* accident provided room for remembrance.

In the months following the loss of the *Challenger*, memorialization of the astronauts expanded into varying levels of organization. Efforts to dedicate and erect permanent memorials in honor of the *Challenger* occurred internationally, nationally, and locally. Memorialization efforts were not restricted to the United States, or even tethered to the earth itself. In 1975, the Soviet Union decided to exclusively name features on the planet Venus after notable women in science. Despite Cold War tensions, several days after the *Challenger* accident the Soviet daily newspaper *Sotsialisticheskaya Industriya*

[47] Miller, "The Challenger Accident and Public Opinion," 128–29.

announced that two craters would be named in honor of the *Challenger* women, Judith Resnik and Christa McAuliffe. [48] The tragedy of the Challenger accident was significant enough to transcend national borders. Other natural and celestial objects were renamed for the crew. A public campaign briefly ran to name seven of Uranus's moons after the lost astronauts. From Colorado mountains to craters on the moon, there was no shortage of natural features dedicated and named for the *Challenger*.[49]

In terms of national remembrance of the accident, only two of the *Challenger* astronauts were buried at Arlington National Cemetery, but all were memorialized together. A little more than one year after the accident, a marker dedicated to the seven crew members was unveiled on the cemetery grounds. NASA Administrator James Fletcher and Vice President George H.W. Bush participated in the ceremony. Echoing President Reagan's televised address, the Vice President's speech noted that the accident was a "brutal reminder that progress sometimes extracts a terrible toll….We will never forget it…[and] we will complete the great voyage." [50] Similar to the NASA memorial service in 1986, the missing man formation was flown over the service at its conclusion. The six-foot tall granite and metal marker was commissioned by a congressional resolution and sculpted by the Army's Institute of Heraldry. The plaques on the monument feature the engraved images and names of the seven astronauts. Etched on the back is "High Flight" by John Gillespie Magee, the same poem President Reagan quoted

[48] "Soviets Name Venus Craters After McAuliffe and Resnik," *The Columbia Record*, February 3, 1986, sec. A, Ethel Evangeline Martin Bolden Papers, Box 7, South Caroliniana Library.

[49] "Peak May Honor Astronauts," *New York Times*, April 12, 1987; "Designation of Certain Features at the Planet Uranus in Honor of the Challenger Space Shuttle Astronauts: Report (to Accompany S. Res. 332)" (Washington, D.C.: U.S. G.P.O, 1986).

[50] D'Vera Cohn, "Challenger Crew Is Honored at Arlington," *The Washington Post*, March 22, 1987, sec. B, 3.

in his January 28, 1986 speech.[51] The presence of the monument in the cemetery, a place specifically set aside for national remembrance, is important to note. Although not large in size compared to other Arlington memorials, the marker is one of only a few physical, reminders born from President Reagan's speech and the memorial service at Houston. Additionally, the monument occupies an important space in American memory—Arlington National Cemetery is specifically dedicated to the mourning of national heroes. The *Challenger* monument in Arlington acts as an official focal point for memory of the accident.

One of the most significant and visible monuments dedicated to the crew of the *Challenger* is the Space Mirror Memorial at the Kennedy Space Center. Proposed in 1988, the fifty by forty foot monument features a granite surface, polished to a mirror finish so that the stone reflects its surroundings. The surface of the mirror was engraved with the names of the lost astronauts, which appear as if reflected into the sky when the monument is slightly tilted.[52] The Astronauts Memorial Foundation led the push to commemorate the *Challenger* crew at the Florida space center. The group ultimately raised $6.2 million dollars to purchase the Space Mirror Memorial. Although created specifically with the *Challenger* astronauts in mind, the names of seven other astronauts who died in plane crashes and, of course, in the *Apollo 1* fire, were also engraved upon the memorial.[53] An official ceremony was held to dedicate the monument on May 9,

[51] Cohn, 3.

[52] "'Space Mirror': Memorial Design Winner," *QUEST,* Spring 1988, NASA HQ HRC Folder 014100, KSC Astronaut Memorial.

[53] Astronauts Memorial Foundation, "Profile of the Astronauts Memorial Foundation," n.d., NASA HQ HRC, Folder 014100, KSC Astronaut Memorial; Jerry Adler, "Putting Names in the Sky: 'Space Mirror' Honors America's Dead Astronauts," *Newsweek,* May 13, 1991, NASA HQ HRC, Folder 014100, KSC Astronaut Memorial.

1991. Several astronauts, 123 family members of astronauts, and two thousand members of the public attended the dedication.[54] The money needed to purchase the large monument and the level of maintenance it necessitated indicated the public's investment in remembering the *Challenger*. Although the memorial frequently suffered malfunctions with its tilting mechanism in the first few years after its dedication, the issues were answered with publicized efforts to quickly remedy the problem.[55] The Space Mirror Memorial was truly a public effort to memorialize the Challenger crew. Concerned that the accident might be forgotten, the Astronauts Memorial Foundation, which organized and financed the project, was created by citizens. Additionally, Floridians proved to be so supportive of the project that they raised a significant portion of the memorial's funds through the sale of commemorative license plates, which featured the image of the *Challenger* shuttle launching.[56] Now featuring the added names of the astronauts who perished in the *Columbia* accident in 2003, the Space Mirror Memorial remains a primary feature of the Kennedy Space Center.

Although the *Challenger* received many memorials and monuments across the country, the families of the lost astronauts envisioned an additional tribute to their loved ones. They created the Challenger Centers, interactive learning centers to promote

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[54] Howard Michael Mason, "The Astronaut Memorial," *Spaceflight*, March 1994, NASA HQ HRC, Folder 014100, KSC Astronaut Memorial; "Monument Reflects Astronauts' Quests," *The Washington Times*, May 10, 1991, sec. A, NASA HQ HRC, Folder 014100, KSC Astronaut Memorial.

[55] For example, see: Marilyn Meyer, "Space Mirror Subject of Frantic Repair Effort," *Florida Today*, November 13, 1997, NASA HQ HRC, Folder 014100, KSC Astronaut Memorial; "Space Memorial Victim of Weather," *The Huntsville Times*, November 10, 1997, sec. A, NASA HQ HRC, Folder 014100, KSC Astronaut Memorial; Marilyn Meyer, "Space Mirror Tilts Back to Proper Angle, Viewing to Resume," *Florida Today*, November 22, 1997, NASA HQ HRC, Folder 014100, KSC Astronaut Memorial.

[56] An example of the commemorative *Challenger* license plates is currently on display in the National Air and Space Museum's display case dedicated to the *Challenger*, further proving the significance of the work of the Astronauts Memorial Foundation.

science and technology. Based in Alexandria, Virginia, the nonprofit organization partnered with a variety of different organizations including schools, universities, museums, science centers, and communities around the world. Each center was set up to mimic a mission control room and included replicated astronaut uniforms with the names of the seven *Challenger* crew members sewn onto a mission patch near the entrance.[57] The first center was planned outside of Washington D.C. in Prince George county in 1987. With a $50 million price tag, the Challenger Center organization endeavored to raise funds via private donation but was not entirely successful. Congress eventually offered additional funds after Senators Garn and Glenn—the same former astronauts who had been a key presence at several *Challenger* crew memorials—proposed a bill to grant money for the construction of the Challenger Centers. Over forty of the centers were constructed through the efforts of the organization, fulfilling the *Challenger* families' goal of carrying "on the spirit of their loved ones by continuing the *Challenger* crew's educational mission."[58]

The twenty-sixth center dedicated in honor of the *Challenger* crew became the closest to Dr. McNair's hometown. Established in partnership with W.A. Perry Middle School in Columbia, South Carolina, the center was opened on February 11, 1996. The

[57] Allen E. Friend Jr., "A Journey Beyond the Outer Limit," *Carolina Panorama*, February 8, 1996, Vol. 5, No. 5 edition, 1, Ethel Evangeline Martin Bolden Papers, Folder 83: Bolden, Charles Frank Jr. Newsclippings 14 July 1979-1 June 1989, South Caroliniana Library; Kathie Scobee Fulgham, "My Father's Last Mission: Firing Up Young Minds Is the Legacy of His Challenger Crew," *The Washington Post*, January 28, 1996, sec. C.

[58] Matthew Daly, "Shuttle Tribute at PortAmerica: Life Station Proposed as 'Living Memorial' to Challenger Crew," *The Washington Post*, January 30, 1987, sec. B; "The Challenger Mission's Legacy," *Challenger Center* (blog), accessed February 7, 2017, https://www.challenger.org/; "Joint Resolution to Designate January 28, 1987, as 'National Challenger Center Day' to Honor the Crew of the Space Shuttle Challenger" ([Washington, D.C.? U.S. G.P.O. : Supt. of Docs., U.S. G.P.O., distributor, 1987); "Joint Resolution to Express the Sense of Congress on Recognition of the Contributions of the Seven Challenger Astronauts by Supporting Establishment of a Children's Challenge Center for Space Science" ([Washington, D.C.? U.S. G.P.O. : Supt. of Docs., U.S. G.P.O., distributor, 1987).

dedication ceremony was attended by Cheryl McNair, Dr. McNair's widow and Founding Director of the Challenger Center.[59] Fellow astronaut and friend of Dr. McNair, Charles Bolden Jr., delivered the keynote address. Reporters later interviewed Narvis Redmond, director of the new Richland One Challenger Center, who stated that the newly opened center "represent[ed] another opportunity to pay tribute to South Carolina's native son. [Mrs. McNair] was really depressed that the national media had minimized what Ron did."[60] The Columbia Challenger Center was a significant step towards local memorialization of the *Challenger* accident and added further local memorialization for McNair in particular. In a statement about the Challenger Centers, Senator Glenn stated they would act not as "a statue that will be solemnly viewed and forgotten, but a living memorial" to the Challenger astronauts.[61] The creation of the Challenger Centers directly addressed what the crew's mission was most remembered for: the first teacher in space.

Beyond Challenger Centers, the public's determination to memorialize the *Challenger* crew resulted in the erection of monuments in areas related to the American space program or large and significant cities. Mrs. McNair may have been upset that her husband was not well remembered, but this was certainly not the case in his hometown. Lake City, South Carolina, might have been a small town in rural South Carolina but its residents were determined to honor their former neighbor's memory. McNair's death was

[59] "Richland School District One Challenger Learning Center Grand Opening Dinner," February 11, 1996, Ethel Evangeline Martin Bolden Papers, Folder 316-Schools, Richland County School District One, CA Johnson High School Challenger Learning Center, South Caroliniana Library; "The Challenger Mission's Legacy."

[60] "Richland School District One Challenger Learning Center Grand Opening Dinner."

[61] Daly, "Shuttle Tribute at PortAmerica: Life Station Proposed as 'Living Memorial' to Challenger Crew."

not the first occasion upon which his hometown honored his life and achievements. Following his first mission in space in 1984, Lake City declared February 3 "McNair Day" to celebrate. The community threw a parade, renamed a major road in his honor, and cast his footprints in concrete at a park. Upon the loss of the *Challenger*, the day became dedicated to ensuring the continuation of McNair's memory. Flags were lowered and black bows were placed on street signs around town. [62] Lake City took further steps to remember Dr. McNair, renaming the junior high school in his honor. Other cities and towns followed Lake City's example. Harlem, New York, claimed connections to McNair through his father, who lived in Manhattan. The community decided to rename an elementary school in honor of the astronaut, claiming it would create a "living memorial."[63] Lake City went a step farther than many of these communities when it began to plan a park in McNair's memory in 1989. The park was dedicated on April 29, 1995 and further memorial additions soon followed.[64]

As of March 2017, Lake City's Dr. Ronald E. McNair Memorial Park features a stone monument wall, listing different facts about McNair's life and the names of supporters of the Ronald E. McNair Memorial and Scholarship Fund. A bronze statue of the astronaut in his flight gear stands in front of the wall (fig. 4.1). Besides the memorial wall and statue rests a raised tomb containing McNair's remains, in front of which burns an eternal flame. A fountain surrounds the tomb. Next to the park stands the Ronald E.

[62] "Special Service Set for McNair in Lake City," *The Columbia Record*, January 31, 1986, sec. A, Ethel Evangeline Martin Bolden Papers, Box 7, South Caroliniana Library; Jan Tuten, "McNair Day Gains New Meaning- Shuttle Crash Transforms Celebration into Time of Mourning," *The State*, February 4, 1986, sec. A, Ethel Evangeline Martin Bolden Papers, Box 7, South Caroliniana Library.

[63] "Harlem Official Calls for McNair Elementary School," *The State*, January 31, 1986, sec. D.

[64] Personal visit to Lake City, South Carolina, March 21, 2017.

McNair Life History Center, a small museum and gathering space intended to tell the public about the astronaut.[65] Lake City's memorialization of McNair was unique due to the efforts previously put forth by the town to honor the astronaut's achievements. Upon his death, public tributes were directly converted into sites of memorialization. Lake City constructed many of its memorials to McNair at the center of its community. In addition to the town's only junior high school and one of its busiest roads named in McNair's honor, the memorial park was placed next to the community library. Despite attempts to mimic the memorials of Lake City, South Carolina, the town's efforts to remember Dr. McNair remain unmatched. Several of its monuments and other forms of memorialization were in place prior to the accident, but their purpose evolved after the death of McNair, defining the *Challenger* as a unique event for memorialization.

In addition to physical monuments, the Challenger was commemorated through temporal designations. On the first anniversary of the accident, Congress passed several pieces of legislation acknowledging the achievements and efforts of the *Challenger* crew and their families. The congressional resolutions particularly focused upon the Challenger Centers, creating a "National Challenger Center Day," although a general "National Day of Excellence" was also established to honor the astronauts.[66] Congress's efforts to help memorialize the *Challenger* directly reflected the American public's investment in ensuring the event was remembered. In the aftermath of the 2003 *Columbia*

[65] Personal visit to Lake City, South Carolina, March 21, 2017.

[66] For example: "Joint Resolution Commemorating January 28, 1987, as a National Day of Excellence in Honor of the Crew of the Space Shuttle Challenger" ([Washington, D.C.? U.S. G.P.O. : Supt. of Docs., U.S. G.P.O., distributor, 1987); "Joint Resolution to Designate January 28, 1987, as 'National Challenger Center Day' to Honor the Crew of the Space Shuttle Challenger"; "Joint Resolution to Express the Sense of Congress on Recognition of the Contributions of the Seven Challenger Astronauts by Supporting Establishment of a Children's Challenge Center for Space Science."

accident, NASA also took steps to expand their remembrance of the three American space tragedies beyond physical monuments. It created an annual Day of Remembrance, first directly connected to the first anniversary of the loss of the *Columbia* in 2004.[67] The solemn holiday became a way in which NASA could recognize the loss of the *Apollo 1*, *Challenger*, and *Columbia* crews. Although obviously years apart, the three accidents occurred within on calendar week of each other. NASA arranged its Day of Remembrance so that the annual calendar date fell between the anniversaries of each accident. On each Day of Remembrance, NASA lowers its flags to honor those that have been lost. Incorporating already existent monuments such as the Space Mirror Memorial and the monument at Arlington National Cemetery, NASA officials and astronauts' families visit the graves and memorial sites of the lost crew members (fig. 4.2). This annual pilgrimage emphasizes the importance of monuments and memorials in the remembrance of the *Challenger* crew.

It also has become tradition for the current NASA Administrator to make a statement on each Day of Remembrance. On the fiftieth anniversary of the *Apollo 1* accident in 2017, Administrator Robert Lightfoot tied the three disasters into NASA's narrative of progress. Carefully acknowledging the lives which had been lost, Lightfoot stated:

> We have chosen a tough and unforgiving business, and our mistakes are displayed in the most visible and often tragic ways, but it is the hard work and aspirations of real people striving every day that make our successes possible and also make it possible for us to learn from and overcome our failures. The crews of Apollo 1, Challenger, and Columbia exemplified a pioneering spirit that helped us get where we are today, and we will carry that spirit forward in advancing tomorrow's missions. Those crews, and all of the men and women who have lost

[67] "NASA Day of Remembrance Announcement," SpaceRef, January 29, 2004, http://www.spaceref.com/calendar/calendar.html?pid=2531.

> their lives extending the bounds of our capabilities while working for NASA, will not be forgotten. [68]

Similar to language used in statements and memorials made shortly after the *Challenger* accident, NASA partially attributes its successes to the three space tragedies. Lightfoot emphasizes important lessons have been learned from the mistakes of NASA's past, that although devastating, NASA was still able to obtain some knowledge from the failed missions. The annual Day of Remembrance and NASA's regular statements on the loss of the three astronaut crews help ensure that *Challenger* and the other two accidents do not fade from American public memory, offering a constant reminder of the space tragedies.

No matter their form, memorials for the *Challenger* crew were created out of the desire to honor and remember the astronauts. Erected across the country, the monuments acted as expressions of American grief and stood as promises to continue the memory of the *Challenger* crew. In addition to the memorials and monuments previously discussed, the *Challenger* accident became the subject of several museum exhibits. Although often also memorializing the astronauts, the exhibits possessed the additional goal of summarizing and interpreting the information involving the space shuttle's final mission. The way in which museums acknowledged the accident complemented the memorialization already being carried out by the public. However, each exhibit that mentioned the accident also had a different message or meaning to present about what occurred in the aftermath of the explosion on the morning of January 28, 1986. As specified by NASA in response to the earlier request by the Apollo families, only the

[68] National Aeronautics and Space Administration, "NASA Day of Remembrance," January 31, 2017, http://www.nasa.gov/specials/dor2017/index.html.

National Air and Space Museum and NASA's own museums were allowed access to items connected to the deaths of the *Challenger* astronauts.[69] This policy in turn necessitated different forms of memorialization. The families of the *Challenger* astronauts took matters into their own hands through the creation of the Challenger Centers and museums, with no accessible or appropriate artifacts from the accident, were forced to focus on other aspects of the event.

Visiting the National Air and Space Museum, it may be difficult to spot references to the *Challenger* accident. There is no one exhibit devoted to the loss of the shuttle. Instead, brief references to the tragedy are spread throughout several different panels and exhibits. The largest space devoted to the accident is in the "Moving Beyond Earth" gallery. A glass display case, approximately three feet by three feet by five feet in size, features objects related to the loss of the *Challenger*. There are several *Challenger* mission pins and a newspaper cartoon remembering the *Challenger* crew currently on loan from Dr. June Scobee Rogers. Also displayed are the *Time* magazine cover released after the accident and one of the commemorative *Challenger* license plates used to fund the Space Mirror Memorial at the Kennedy Space Center. Included on panels throughout the display case are images of the *Challenger* at liftoff, the monument at Arlington National Cemetery, and a Challenger Center (fig. 4.3).[70] The largest object within the display is a plaque specifically produced by NASA for the astronauts' families and for the museum. Featuring the title "IN COMMEMORATION," the plaque includes

[69] Goldin, "Reply to Mrs. Grissom Request"; Hinners and Harwit, "Agreement Between."

[70] Personal visit to National Air and Space Museum, Washington D.C., February 28, 2017.

photographs of the *Challenger* astronauts, a mission patch, and "a small United States flag that was recovered from the vehicle debris found on the ocean floor."[71]

The other two space tragedies of the *Apollo 1* and *Columbia* are also represented in the national museum. A display case which is identical in size and shape is dedicated to the *Columbia* accident within the same exhibit. The case also features artifacts similar to those displayed for the *Challenger,* including the *Time* magazine cover after the loss of the *Columbia,* an image of the *Columbia* monument at Arlington National Cemetery, and a memorial plaque with a mission patch and images of the *Columbia* astronauts. References to the *Apollo 1* fire are also present at several points throughout the museum, although none are in the "Moving Beyond Earth" gallery.[72] The *Challenger* display case, and by extension the *Columbia*'s, focus upon the memorialization of the shuttle crews instead of the horror of the accidents. The near "mirror images" of the display cases perhaps indicate a connection between the remembrance of the two accidents, as the similarities between the failed missions generate comparisons in American public memory.[73]

With the retirement of the space shuttle fleet and the transfer of the *Atlantis* to its own display building at the Kennedy Space Center Visitor Center, NASA has taken the opportunity to add exhibitions on the American space tragedies. On the ground floor beneath the suspended *Atlantis,* a quiet hall has been dedicated to the crews of the

[71] Smithsonian Institution, "Plaque, Memorial, Challenger STS 51-L Crew," National Air and Space Museum, April 21, 2016, https://airandspace.si.edu/collection-objects/plaque-memorial-challenger-sts-51-l-crew.

[72] Personal visit to National Air and Space Museum, Washington D.C., February 28, 2017.

[73] Valerie Neal, "Reflections on Spaceflight and Memory," National Air and Space Museum, February 1, 2018, https://airandspace.si.edu/stories/editorial/reflections-spaceflight-and-memory.

Challenger and *Columbia*, the exhibit named "Forever Remembered."[74] Featuring personal items representing each of the lost fourteen astronauts, images of letters written by children, and video of the efforts to recover the shuttles. At the center of the exhibit rest a section of the left side of the *Challenger* fuselage and the flight deck windows from the *Columbia* (fig. 4.4). The memorial to the two crews was opened in a ceremony on June 27, 2015, while a separate exhibition was created to honor the fiftieth anniversary of the loss of the *Apollo 1* crew in 2017. NASA Administrator Charles Bolden spoke at the opening of "Forever Remembered," stating:

> The artifacts here on display are not easy to look at. Many of them are on display for the very first time. It is our hope that by making them available for the public to view we will help remind the world, that every launch, every discovery, every measure of progress, is possible only because of the sacrifice of those we have lost.[75].

Several of the lost astronauts' family members were also present at the exhibit's dedication, including Dr. June Scobee Rogers. She later reflected that although it was sad to see the wreckage of the shuttle, it was "a wonderful memorial" to the astronauts.[76]

NASA's timing for the creation of "Forever Remembered" may give pause, as the exhibit opened twelve years after the *Columbia* accident and almost three decades after the loss of the *Challenger*. An exhibit in the immediate aftermath of the *Challenger*

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[74] Anna Heiney, "'Forever Remembered' Shares Enduring Lessons of Challenger, Columbia," NASA, June 27, 2015, http://www.nasa.gov/feature/forever-remembered-shares-enduring-lessons-of-challenger-columbia.. The $100 million building opened in 2013. Larry Olmsted, "Space Shuttle Atlantis: New $100 Million Kennedy Space Center Visitor Experience," *Forbes,* July 23, 2013, http://www.forbes.com/sites/larryolmsted/2013/07/23/space-shuttle-atlantis-new-100-million-kennedy-space-center-visitor-experience/.

[75] Heiney, "'Forever Remembered' Shares Enduring Lessons of Challenger, Columbia"; Siceloff, "Apollo 1 Crew Honored in New Tribute Exhibit."

[76] Associated Press, "NASA Exhibit: Challenger, Columbia Wreckage on Public Display for 1st Time," NBC News, August 2, 2015, https://www.nbcnews.com/news/us-news/challenger-columbia-wreckage-public-display-1st-time-n402566.

accident would have been unwarranted and unwanted. The accident would have still been the subject of frequent media reports and NASA was preoccupied with recovering the shuttle wreckage and dealing with the Rogers Commission. The language found in speeches and statements made after the *Challenger* accident indicated NASA's desire to look towards the future of space exploration. With the completion of the space shuttle era in 2011, there was no longer a determined future to look forwards to, perhaps allowing NASA to focus on its past. NASA remained wary of the sensitive feelings and memories surrounding the Challenger which persisted decades after the accident. Media surrounding the exhibit reported that all elements of "Forever Remembered" were "conducted in secrecy….out of respect to the dead astronauts' families," and that "NASA's intent [was] to show how the astronauts lived, rather than how they died," excluding any images of the shuttles' explosions. [77] The display of the destroyed shuttles in "Forever Remembered" offers a stark contrast to NASA's first efforts to dispose of the *Apollo 1* capsule in the 1970s. This physical reminder of NASA's failures and the lives which they cost seems to promise a new direction for the remembrance of the American space tragedies.[78]

Remembrance of the *Challenger* accident is complex and varied as permanent monuments and memorials were erected in the months and years after the tragedy. Despite being culpable for the loss of the shuttle, NASA retained public support, but the pause in space missions allowed room for remembrance of the *Challenger* crew.

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[77] Associate Press.

[78] Talia Landman, "New 'Forever Remembered' Exhibit Pays Tribute to Challenger and Columbia Crews STS-51L and STS-107," AmericaSpace, accessed April 3, 2017, http://www.americaspace.com/2015/06/29/new-forever-remembered-exhibit-pays-tribute-to-challenger-and-columbia-crews-sts-51l-and-sts-107/; Heiney, "'Forever Remembered' Shares Enduring Lessons of Challenger, Columbia."

Memorialization took place on international, national, and local levels. Some of the most public tributes included a monument at Arlington National Cemetery and the Space Mirror Memorial on the grounds of Kennedy Space Center, partially funded by the sale of commemorative *Challenger* license plates. The families of the *Challenger* astronauts took matters of remembrance into their own hands and created the Challenger Centers, emphasizing Christa McAuliffe's educational mission. Communities like Lake City, South Carolina, proved that significant memorialization efforts also took place on a local scale, transforming monuments already erected in honor of hometown hero Dr. Ronald McNair's after his tragic death. NASA was slow to organize memorialization for the *Challenger*, only taking efforts to create an annual Day of Remembrance after the *Columbia* accident. In addition to memorials and monuments, the *Challenger* accident was remembered through museum exhibitions, such as those at the National Air and Space Museum and at NASA's own Kennedy Space Center Visitor Center. Each effort to remember the lost astronauts revealed a different facet of the tragedy. The memorialization of the *Challenger* accident took many forms, allowing the tragedy to persist in American memory.

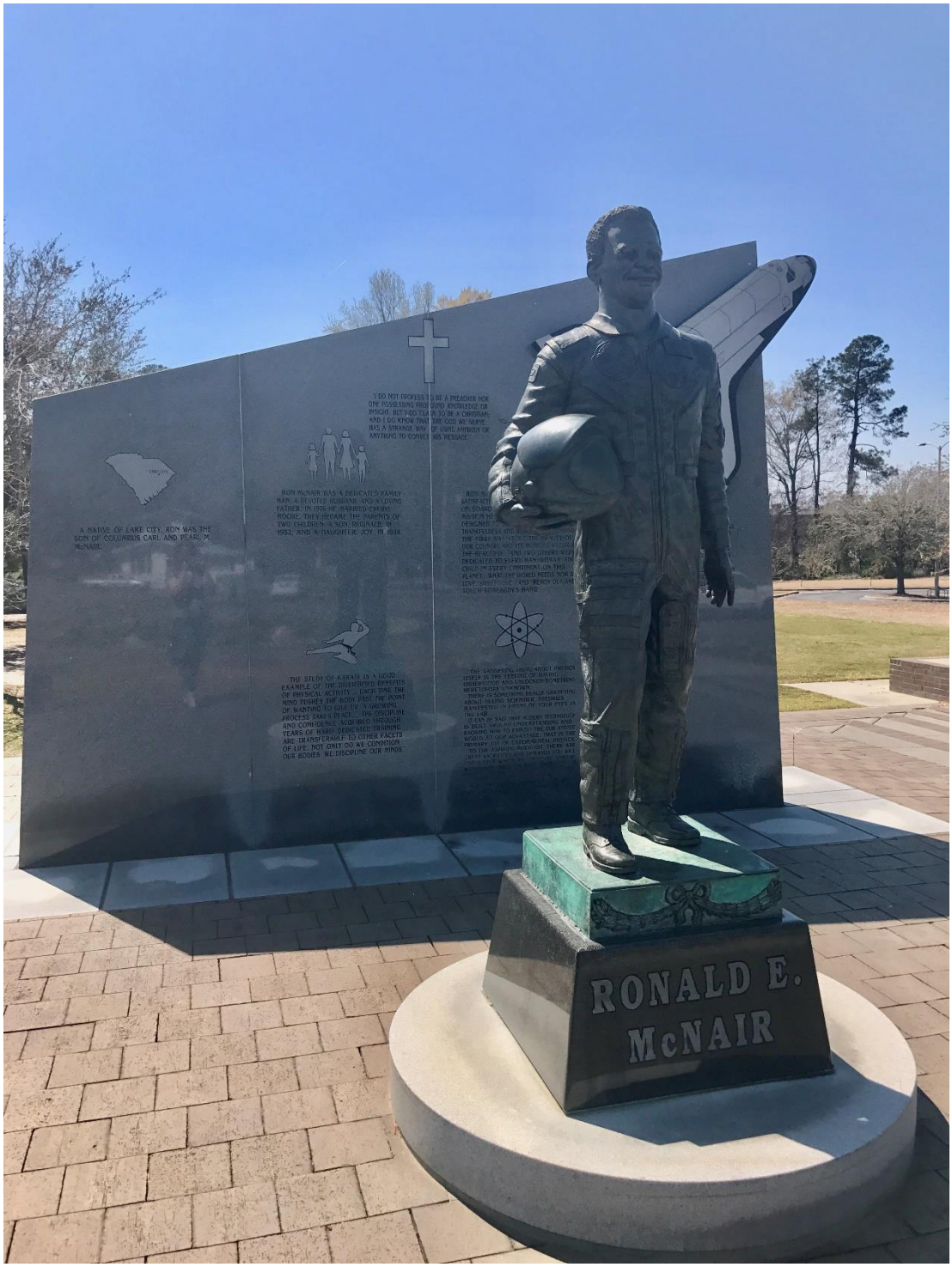

Figure 4.1 *Statue of McNair at the Dr. Ronald E. McNair Memorial Park in Lake City, South Carolina.* Photography by Elizabeth F. Koele, March 21, 2017.

Figure 4.2 *The Space Mirror Memorial at Kennedy Space Center and flowers from NASA's annual Day of Remembrance*. Photography by Tim Jacobs, NASA.

Figure 4.3 *Challenger display case in the "Moving Beyond Earth" gallery, National Air and Space Museum.* Photography by Elizabeth F. Koele, February 28, 2017.

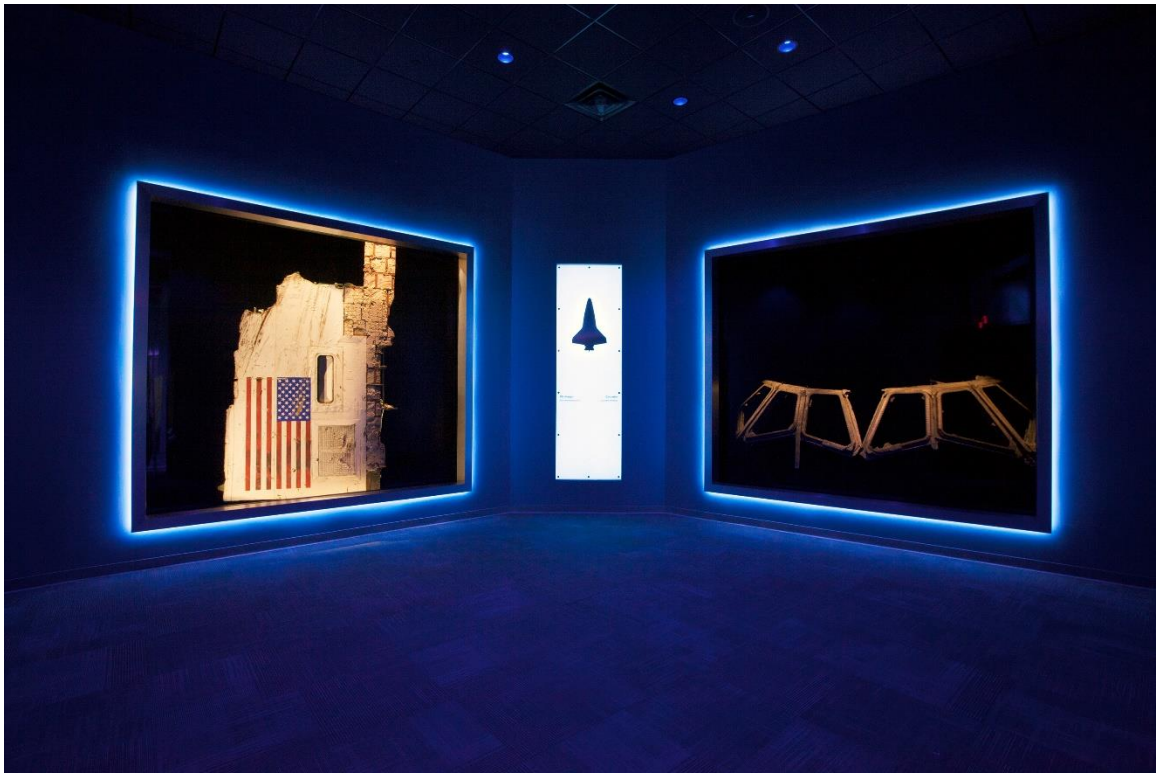

Figure 4.4 *Remnants of the space shuttles Challenger and Columbia in the "Forever Remembered" exhibit at Kennedy Space Center.* Photography by Kim Shiflett, NASA.

CHAPTER 5

CONCLUSION

The explosion of the *Challenger* space shuttle on the cold morning of January 28, 1986, sent shockwaves across the United States. Relentlessly covered by media and witnessed by millions of people, the *Challenger* accident became engrained in American public memory. Communities and organizations across the country came together to mourn the loss and to create their own museum exhibits, monuments, and memorials to facilitate remembrance of the *Challenger*. Grouped with the *Columbia* accident, the *Challenger* has become the subject of museum exhibits, highlight how the tragedy has been remembered and inviting visitors to reflect upon their own memories of the event. Local monuments to the *Challenger* astronauts were transformed into expressions of grief and remembrance in the wake of the accident, while other monuments were created to continue the *Challenger*'s educational mission as represented by Christa McAuliffe. The media surrounded memorial services and astronaut funerals with video footage of the shuttle's violent destruction and gruesome rumors, exacerbating the trauma caused by the event. Statements from President Reagan and NASA stressed the accident would pave the way for future successes and discoveries, folding the tragedy into a narrative of progress. Ultimately, the *Challenger* accident drew comparisons to disasters both before and after its destruction, thus completing a trio of American space tragedies.

Declared an event which defined a generation, the *Challenger* disaster persists in public memory, carried by plethora of monuments and memorials. A reminder that the

journey to the stars is not without its dangers, that NASA is not infallible, the accident marked a turning point in the history of the American space program. The visible and violent deaths of seven astronauts, abruptly ending a mission which had been anticipated for months, shook the country. The unprecedented cacophony of confusion and grief gradually transformed into efforts of remembrance. And although different narratives may be told through the memorialization of the Challenger accident, it is in immediate danger of being forgotten.

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