RELIGION AND OUTER SPACE

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ALIENS IN OUTER SPACE

Myth, Diversity, and the Final Frontier

Eric Michael Mazur

Introduction

"The stories Americans tell about space," writes Jodi Dean, "are stories about who we are and who we want to be" (1998, 11). While Dean uses this notion to explore stories of extraterrestrial beings and related conspiracy theories, it is also true of stories Americans tell about human space flight. Both literally and physically, the American space program has been the vehicle for such stories. From the beginning, the program has been clothed in mythic narratives rooted in the American psyche. Initially, the narrative animating the programs involving astronauts recalled the nation's courageous explorers facing an open frontier. As the goals of the program shifted, so did the accompanying narrative, to one of America as a place where all people can live together in peace. With the change in the accompanying myth, however, came a change in the vision of the astronaut.[1] The pioneers of the Mercury, Gemini, Apollo, and Skylab missions were all-White all-Christian men exploring new worlds by reaching for the stars, whereas the space dwellers of the Shuttle program were men and women of European-American, Asian-American, and African American descent—who were also Christian, Buddhist, Hindu, Jewish, and Muslim—dwelling in low-Earth orbit.

Jonathan Cohen notes that the space program's "shift in spaceflight model … wrought a similar change in religion aboard its spacecraft" (2013, 104). Cohen meant religious behavior and not mere religious identity, and as we will see, this shift also applied to race and gender. The change in operational mission necessitated a change in vehicle; both changes facilitated a shift in the program's mythic narrative. Subsequently, the shifts in mission, vehicle, and mythic narrative also had a significant impact on the image of the astronaut. And while this last shift seems to have eased the inclusion of non-white, non-Christian, non-male

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astronauts, it also had a negative impact on how such inclusion was to be understood. As such, it tells us a great deal "about who we are and who we want to be," even if that is not entirely positive. In the following pages, we shall examine these shifts, and what they communicate about the relationship of myth and diversity in the American space program.

Frontiers and the Early Astronauts

From its earliest articulations, the American space program was associated with the image of the frontier. Fifteen months after President Kennedy challenged Congress to "landing a man on the moon and returning him safely to earth" (Kennedy 1961) he dug deep into the mythic language of the American historical self-conception, alluding to great expanses, wide oceans, and the American spirit to meet challenges and conquer new spaces. He closed this later speech by invoking God's blessing "as we set sail … on the most hazardous and dangerous and greatest adventure on which man has ever embarked" (Kennedy 1962).

The Kennedy staff knew that the image of the frontier resonated with the American public. The Senator's 1960 presidential campaign had labeled their candidate's proposed domestic plan the "New Frontier" (Swanson 2020). Across media, this motif—which had been part of American public rhetoric for decades—was pervasive (see Williamson 1987). In her work *Destined for the Stars*, Catherine Newell explores the "reanimation of the myth of the American frontier" (2019, 10) in the years leading up to the American space program, charting the transition in the popular conceptualization of space from a place filled with threatening aliens to an inviting expanse of almost religious possibilities attainable by those bearing the same American traits as those who had conquered the continent a century earlier. "Space," noted physicist John Wheeler in 1967, "is the modern equivalent of the American frontier" ("Solar System Is Our Parish" 1967). Since September of 1966, millions of television viewers had been told it was "the final frontier."[2] And according to former President Johnson (who, as vice president, had been space program point person for the Kennedy administration), those who ventured into it were "those brave pioneers who have blazed new trails across the untraveled wilderness" (Johnson 1971).

Space historian Roger Launius's claims that "the most striking feature of the first astronauts was how much they looked like mainstream America" (2008, 194) is true, but only because well into the 1970s "mainstream" meant White Christian male. President Eisenhower's 1958 decision that astronauts should be drawn from the military effectively eliminated female candidates (Sherrod 1975, 146). Given the U.S. military dynamics at the time, it also effectively eliminated non-White candidates (see Fenrich 2015, 88). As a result, the "average" astronaut turned out to be almost stereotypically White: among those selected, astronauts with blue eyes outnumbered those with brown, who only slightly outnumbered those with hazel eyes. Twice as many had brown hair as had blond, although there were two

redheads and one with black hair (Sherrod 1975, 152).[3] Every effort was made by NASA to "present the astronauts as embodiments of the leading virtues of American culture"—as "clean-cut 'All American' boys" who were "brave, God-fearing, patriotic individuals with loving wives and children" (Launius 2008, 174–175). These astronauts were, according to anthropologist Deana Weibel, "held up, particularly by the media, as god-like beings," and everything was done to maintain that image (2019). As if to prove the point, only three weeks after his selection to the program, astronaut Duane Graveline was pressured to resign for "personal reasons"—a divorce involving allegations of domestic violence (Schwartz 2016).[4] This "image of the astronaut," writes Launius, "remained relatively stable until the publication of [astronaut] Walter L. Cunningham's autobiography in 1977" (2008, 191)[5]—the center of the narrative transition period: three years after the cancellation of the last Skylab mission and four years before the launch of the first shuttle.

Religion of Apollo

It was clear that the early astronauts were White males, and due to the biases of the day, there was little doubt that they were all Christian. There was political motivation to present the early astronauts as churchgoing and God-fearing, in comparison to the Soviet cosmonauts who were "godless commies" (Weibel 2017).[6] Of the 43 men who went into space as part of the American space program between the 1961 launch of the Mercury program and the 1973 launch of the last Skylab crew, 27 were publicly identifiable as Protestants and seven as Catholics. In practice, they generally "adhered more closely to formal religion than their contemporaries," and many held leadership positions in their congregations (Sherrod 1975, 152).[7] They were, according to NASA Acting Director Thomas Paine, "guys with crewcuts and slide rules who read the Bible and get things done" ("Head Man at NASA: Thomas Otten Paine" 1968).

A more useful measure of religiosity is the performance of religious behaviors (see Comstock 1981), and here the astronauts' behaviors matched that of contemporary European-American culture. Alan Shepard reportedly uttered an "R-rated" (yet probably sincere) prayer before lift-off.[8] Based on the number of astronauts whose most religious acts in space were reporting Santa Claus sightings (for example, see "Excerpts from Radio Talks with Apollo 8 Crew" 1968), many of the others were at least "culturally" Christian. For the most part, the astronauts' religion-related behaviors tended toward the solemn. Some recited prayers, others requested that prayers be said on their behalf (for example, see "Texts of Kennedy-Cooper Remarks at White House and of Astronaut's Speech to Congress" 1963; "Biblical Passages Stafford Requested" 1969). Some who reached the moon's surface left items bearing religious text (for example, see "Apollo to Leave the Text of Eighth Psalm on Moon" 1969; Millard 2019); one carried religious items during his first spacewalk (Mersch 2013, 67). One of the more profound religious acts

occurred just after Neil Armstrong first stepped on to the moon's surface: "Buzz" Aldrin (a Presbyterian) read a biblical passage and performed communion using ritual items he had stowed in his personal effects ("Astronaut Defends Bible Reading on Space Flights" 1969).

As if to stake a Christian claim, a great deal of effort went into landing a Bible on the moon. Ed White had expressed a desire to take a copy with him; after his death, a friend took up the quest and approached other astronauts. Alan Bean promised to take a microfilm copy, but it was erroneously stowed aboard the command module. Lovell agreed to take a similar packet, but Apollo 13 never landed on the moon. Edgar Mitchell finally succeeded, with 200 copies in the command module and 100 in the lunar module ("Crew of Apollo Accepted Risks" 1967; Mersch 2013, 68–76).[9]

Most of these religious acts either were benign or were performed privately. The most public act was also the most controversial. On Christmas Eve 1968, the Apollo 8 crew concluded their television broadcast by reading the first verses of Genesis, after which Frank Borman signed off: "Merry Christmas. God bless all of you, all of you on the good earth" (Wilford 1968). While the reaction on Earth was mostly positive ("Astronauts Cited as Bible Week Opens" 1969), a lawsuit brought by Madalyn Murray O'Hair motivated NASA leadership to discourage future public displays of religiosity (see Aldrin and Abraham 2009, 26).

As general as most of these religious behaviors were, they were still clearly performed by white Christians. At times, they seemed magnanimous: David Scott agreed to take a copy of the first surah of the Qur'an aboard Apollo 15 (Hamida 2007). Aldrin later admitted that it might have been better had he performed a different ritual not tied to one tradition (Cresswell 2012). But they also reflected the biases of the dominant culture. On occasion, the banter between astronauts and Mission Control reflected a lack of sensitivity to minority groups.[10] Lovell defended the Genesis reading (from the Protestant King James Version of the Bible) as "a foundation of Christianity, Judaism and Islam" that was "the foundation of most of the world's religions" (Tareen 2013).[11] Gene Cernan occasionally used "Manischewitz" as a "family friendly" expletive, although it is likely that he learned the name of the kosher wine company from its advertising campaign in Chicago, where he was born (Madrigal 2011; see also Hester 2016). It is also likely that none of the astronauts knew that the frequently used word "glitch" (error or malfunction) had its origins in Yiddish, a vernacular language of Eastern European Jews (Shafran 2018). John Young agreed to take a NASA photographer's family Book of Mormon to the moon on Apollo 16, which was offered only because the photographer's Mormon wife was afraid that the more precious family Bible would not return "if tragedy struck" (see Stephenson 2019). Young also snuck a corned beef sandwich from a nearby Jewish deli aboard Gemini 3; not only was it ordered with neither mustard nor pickle (a *shande*!), but also its discovery led to Congressional hearings and a NASA prohibition ("Corned Beef Incidents are Barred by NASA" 1965; Pearlman 2015).[12] Despite their best efforts, the

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FIGURE 13.1 "Ad Aspa per Aspera" stained glass, Kansas Cosmosphere and Space Center, Hutchinson, Kansas (Alamy).

earliest astronauts were "remarkably homogenous by today's standards: all were White males with Christian backgrounds" (Mersch 2013, 76; see Figure 13.1).

Even as the American space program was taking shape, there were attempts to make the astronaut corps reflective of the broader tapestry of American society. In 1960, the chair of the NASA Special Life Sciences Committee who had overseen the astronauts' medical exams established a program to identify women for the Mercury project (Foster 2008). Apart from gynecological exams, 19 women were subjected to the same tests given to the men; 13 passed, unofficially becoming the "Mercury 13" (Ryan 2009). Ultimately, the program was canceled by Vice President Johnson (Friedman 2014).[13]

The rise and fall of the "Mercury 13" coincided with efforts to desegregate the American space program. In his 1960 presidential campaign, Sen. Kennedy reassured African American community leaders that he would integrate the astronaut program, a promise that, after the election, his administration spun into a political appeal aimed at "the whole non-white world." Air Force pilot Edward Dwight was handpicked for training but was thwarted when his mediocre test scores coincided with allegations of racism (Jackson 2020). The Kennedy assassination diverted attention, and Dwight was reassigned before completing training. In 1967, Robert Lawrence was named the first African American astronaut

to be assigned to a planned "Manned Orbiting Laboratory" (a pre-Skylab military program outside of NASA's purview), but he died in an airplane crash before the program took final form (Hill 1967). Political pressure from the African American community continued, but despite a decision by the Johnson administration to locate NASA facilities in the South, the institution "made no self-conscious effort to break through the gender or race barriers that surrounded the most public faces of the Space Race—the astronauts" (Lewis 2019, 161).

The Unbearable Whiteness of Being in Space

Like the early American astronaut corps, the myth of the frontier narrating it was one that did not reflect well the faces of women or people of color. Articulated most forcefully by historian Frederick Jackson Turner in 1893 and appropriated by others for the next half century or more (see Ford 1993), the frontier "thesis" narrating the American space program argued that the motivation to explore and acquire the great expanse of land lying ahead of the pioneers was instrumental in creating America and the paradigmatic American. While the demographic makeup of those encountering the frontier had been diverse (see Riley 1993; Washington 1993), the America imagined in Turner's thesis presumed explorers who were, like the astronauts who would follow them, white "patriotic individuals with loving wives and children." And while Turner did not specifically address religion, his emphasis on individualism seemed to privilege Protestantism, a thread picked up by subsequent writers (Boles 1993; Goff 2004). The image of the pioneer—the White Protestant man and his wife—fit perfectly with the 19th century image of the quintessential American.[14] It resonated throughout American popular culture, and one could find Turner's notions of the frontier—and its ubiquitous pop cultural derivative, the Western—as new forms of media emerged (see Lawrence and Jewett 2002).

Turner's argument was selectively nostalgic and presented after the object of its focus had already disappeared; his remarks were motivated by an announcement from the Superintendent of the U.S. Census that, because of increased population density across the continent, the use of "frontier" as a demographic designation was no longer possible (Turner 1920, 1). The end of the 19th and beginning of the 20th centuries marked a dramatic transformation in American demographics. The 1890 census provided the first full accounting of Native Americans (Buchanan 2022)—the quintessential symbol of the untamed frontier—while the "Great Migration" of African Americans from the South brought increased racial diversity to the nation's big cities (see Tolnay 2003). A contemporaneous wave of immigrants from non-Protestant and non-Christian countries was so substantial that it prompted a Nativist reaction and a virtual halt to immigration by the 1920s. Likewise, the frontier myth of the white Christian frontiersman employed by the American space program also was selectively nostalgic and articulated at a time when it, too, was demonstrably no longer accurate. The removal of immigration restrictions put in place in the 1920s—coupled with the various rights movements

of the 1960s—made increasingly anachronistic the notion of white Christian male hegemony in space as in the American West. Inevitably, the mythic foundation on which the American space program had been built was unsustainable and weighted by the combination of the day's events and the myth's cultural baggage; it crashed into the reality of late-1960s American society. If 1893 marked the closing of the American frontier, the mid-1960s were, as a historian of American religion Sydney Ahlstrom put it, the beginning of the "post-Puritan" period (1972).

On the one hand, as if encouraged by the famed 1968 "Earthrise" photo taken by William Anders, the attention of many Americans turned back toward Earth (see Harmon 2003). Publications such as the *Whole Earth Catalog* (starting in 1968) and *Operating Manual for Spaceship Earth* (Fuller 1969), and the observance of the first "Earth Day" (1970), reflected a this-worldly reorientation of the period (see Rosenberg 2008). On the other hand, increased criticism over the cost of the program—particularly from community leaders objecting to the prioritization of space exploration over the needs of the impoverished—challenged the significance of the once-enormously popular venture (for example, see Higgins 1969). The 1973 firing of Ruth Bates Harris—an African American woman who had been hired to be the NASA Director of Equal Opportunity—only made matters worse (Holden 1973).

Coincidently, in the same year identified with the end of America's Puritan period, President Nixon introduced the Shuttle program, officially marking the transformation away from the frontier narrative.[15] Grounding the change in economic terms, the President articulated the shift from conquest to the residence, from establishing "our present beach-head in the sky" to creating "a real working presence in space." The shuttle would give "routine access," and would be a "workhorse," making "the space frontier of the 1970's into familiar territory, easily accessible for human endeavor in the 1980's and '90's" (Nixon 1972). As Jon Kelvey characterized it, "the shuttle was the concrete expression of the idea that space would soon be open to everyone, not just heroic Apollo astronauts" (2022).

The change in vehicles also occasioned a change in the mythic foundation, as America—following the Soviet lead—shifted away from a model of exploration and conquest to one of habitation.[16] Intended to upstage the Americans, the Soviets had launched the first woman into space, and the second ("Soviet Pilot, 34, Becomes Second Woman in Space" 1982). They also preceded the Americans in launching people of diverse ethnic heritage; between 1978 and 1988, the Soviet *Intercosmos* program put into space cosmonauts from non-European countries, including Afghanistan, Cuba, India, Mongolia, and Vietnam (see Lewis 2019, 156, 164 n1). As a result, the Soviets also beat the United States in sending aloft non-Christians.[17] And although a number of Soviet-era cosmonauts later admitted to having been religious despite the state's official position of atheism, with the end of the Soviet era, Russian cosmonauts openly engaged in religious behaviors that included blessing of launches by Russian Orthodox priests and adorning the Russian portion of the International Space Station (ISS) with religious icons.

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In the late 1970s, NASA Administrator James Fletcher hired former *Star Trek* actress Nichelle Nichols (Communications Office Nyota Uhura of the original series)—who by then had become an advocate for diversity in the space program—to recruit women and people of color. The effect was profound. Nichols recruited Guion Bluford, the first American of African descent to go into space (in August 1983), as well as Ronald McNair, who followed him in early 1984 (Weitekamp 2013, 27–28). She also recruited Sally Ride, the first American woman to go into space (China 2022). With the launches of Ride and Bluford in 1983, the era of the all-white all-male American astronaut corps was over.[18] In 1985, Japanese American Ellison Onizuka became the first American person of color not of African descent to go into space (Yoshihashi 1986). The following year, Franklin Chang-Diaz became the first Latinx American, and in 2002, John Herrington became the first Native American (Rothman 2016; "Astronaut John Herrington Carried a Piece of Native American History to Space" 2019).

The expansion of racial and gender diversity in the astronaut corps brought with it an almost accidental expansion in religious diversity. Onizuka and Judith Reznik (in 1984) were the first non-Christian Americans sent into space—Buddhist and Jewish, respectively—but both had been recruited by Nichols because Onizuka was Asian American and Reznik was a woman; religion had not been a factor. The first Mormon in space—U.S. Senator Edwin Jacob "Jake" Garn of Utah, also in 1985—was sent largely because he chaired the Senate Appropriations subcommittee that oversaw NASA funding and regularly sought an invitation to go (Browne 1985).[19] Nonetheless, religious diversity—as well as racial, ethnic, and gender diversity—was the hallmark of the American astronaut corps with the beginning of the Shuttle program. Following Onizuka, Reznik, and Garn, Kalpana Chawla was the first Hindu-American, getting there in 1997 ("U.S. Spacecraft Named after Late Indian-American Astronaut Kalpana Chawla" 2020). Prince Sultan bin Salman Abdulaziz Al-Saud of Saudi Arabia was the first Muslim sent into space by the American space program in 1985. As of this writing, the American program has yet to send a Muslim American into space.[20]

As noted earlier, religious behavior is a better marker of religiosity than religious identity, and in the post-Apollo period, religious behaviors diversified as NASA's concern about their public expression eased (see Cohen 2013, 101).[21] One Skylab crew built a Christmas tree from used food containers, and at least one astronaut celebrated Christmas with cosmonauts aboard *Mir.* The crew of *Discovery* celebrated Christmas in space in 1999; since 2000 it has been celebrated regularly aboard the ISS (Uri 2020a; "Christmas in the Heavens" 2003).[22] While the American holiday of Thanksgiving was celebrated regularly—even with cosmonauts aboard *Mir* (Uri 2020b)—New Year's Eve was, according to reports, "a bigger holiday than Christmas" among the international crews on the ISS (Stone 2017).

More personal religious behaviors also continued. Astronauts held both Protestant and Catholic religious services aboard the shuttle, sometimes for themselves, sometimes with fellow astronauts ("Astronaut Jack Lousma Was a Long Way from

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a Church" 1982; Sadowski 2016). Others took items related to their religious affiliation, including a Vatican City flag, prayer cards, and a (very) small piece of an airplane that in 1956 had carried a Christian missionary to Ecuador (Sadowski 2016; Roach 2009). Like their Christian crewmates, Hindu, Jewish, Mormon, and Muslim astronauts took with them into space various sacred texts, some for use and some merely for the trip.[23] They performed religious rituals, and they took along with them items related to the performance of those rituals—again, some for use and some merely for the trip.[24] They brought with them items related to their religious identities.[25] A few even brought items representative of religions to which they were not affiliated.[26]

Goodnight, Moon

The diversification of races, genders, ethnicities, and religious behaviors seems to have resulted in no reported incidence of conflict among the astronauts. It was, however, part of the continuing debate on the ground over the symbolism (and marketing optics) of the American space program and its meaning.

In the early years, planners disagreed over the role of the astronaut. Some argued that astronauts were superfluous passengers—Wernher von Braun called them "missile riders"; Chuck Yeager considered them "Spam in a can" (Mindell 2008, 67). There also was a bit of confusion over who was included in the title; it was usually applied to anyone who crossed the "Kármán line" (a distance related to the relationship of gravity to aerodynamics). But while the *Fédération Aéronautique Internationale* located it at 100 kilometers (62 statute miles) above sea level, Theodore von Kármán—as well as NASA, the U.S. Air Force, and the Federal Aviation Administration—calculated it at 80 kilometers (50 statute miles). This meant that, in the United States, the term applied not only to the men who flew in Mercury, Gemini, and Apollo missions, but also to American test pilots who flew experimental "rocket planes" above 50 statute miles, acts for which they received official "astronaut" citation (see "X-15 Test Pilot Decorated as First Winged Astronaut" 1963). But it was also conferred upon six White Christian American men—NASA trainees Charles Bassett, Roger Chaffee, Theodore Freeman, Edward Givens, Elliot See, and Clifton Williams—who died before going into space. Their names—along with those of four cosmonauts who died during re-entry and two who died of other causes on Earth—are listed on the "Fallen Astronaut" memorial left on the moon's surface in 1971 (see Eveleth 2013).[27] Regardless, a great deal of energy was put into promoting the astronaut as a "heroic Cold War spacefarer" (Lewis 2019, 163) who piloted a "craft" (as opposed to merely riding in a "capsule"; see Garber 2013).

The change in narrative expanded the debate over the definition of who deserved the title. In the Shuttle era, going into space was described as an experience that was available to almost anyone (see Nixon 1972)—the democratic embodiment of an American ideal. However, Shuttle missions included an array

of non-pilot specialists, leading NASA engineer Robert Frost to argue that the title should not be applied to those who were "payload specialists" or "spaceflight participants that pay"—positions possible only with the establishment of the Shuttle program (2017). The debate reflected a perception that greater inclusivity not only represented an American ideal but also a lowering of standards. According to some, the Shuttle had become a "thoroughly domesticated environment," which had led to a "softened image" of the astronauts, whose job now was akin to "'women's work,' deprived of adventure, danger or high return" (Hersch 2011, 88). Astronauts went from being "explorers" to being "homemakers" (Garber 2013).

Erinn McComb argues "The masculine image of the jet test pilot astronaut became part of the gendering of space in early American spaceflight" (2012, 275), suggesting that, once those who were not "jet test pilot astronauts" were included, the authority of what she calls the "cult of masculinity" declined. The change in the space program's mission from exploration to habitation thus facilitated the inclusion of those not part of the "cult": women.[28] But because notions of masculinity in America historically have been defined not just by sex or gender, but also by race, economics, and religion (see Welter 1966; Fessenden 2002), its diminution among the astronaut corps was, in a sense, a symbolic emasculation. The change marked not the beginning of gender neutrality but the end of masculinity, and those who traditionally had been perceived as threats to traditional, race- and religion-based notions would now share in the new feminized ("anti-masculine" rather than "non-masculine") space corps narrative: non-Christians (particularly but not exclusively Jews; see Gilman 1991; Brod 1994) and people of color (particularly but not exclusively African American men; see Ferber 2007).

On Earth as It Is in Heaven?

Asif Siddiqi argues that we "evaluate space activities through the fundamental markers of national identity" (Siddiqi 2008, 17). In the United States, this has included strong notions not only of exploration and frontier, but also of gender, race, and religion. As we have seen, the very White, very Christian, very male American space corps well reflected the generally White, generally Christian, and generally male myth of the pioneer exploring the American frontier. The change in operation—and the concomitant change in vehicle—necessitated (if even subconsciously) a change in the mythic narrative that could support those changes.[29] The result was one that, by coincidence or design, facilitated the inclusion of non-White, non-Christian, non-males; a reflection of a different American mythic narrative that, as a result, suffered by comparison.

It is worth noting that, in the post-Shuttle period, the return to space has been animated by two of the basic (if unspoken) elements of the 1890s frontier myth recycled in the early years of the American space program: Christianity and masculinity. While the sense of Christian "ownership" of the American space

program continued during the Shuttle period—albeit within the context of religious diversity—the rhetoric of the past decade has reached a more exclusivist pitch (see Devaney 2016; Lee 2021), and both moderate and conservative Protestants have insinuated themselves into the American space program's future. The (Episcopal) Washington National Cathedral conducted an official service, blessing a United States Space Force Bible (Welna 2020). American Evangelicals—who were found to be the least interested in space exploration of all of the "world" religions (Ambrosius 2015)—have been vocal supporters of the Space Force. This support is, in part, because it was proposed by a political administration perceived as friendly—specifically by former Vice President Mike Pence, himself a Catholic-turned-Evangelical—and in part because the new venture was justified for military and economic (rather than scientific) reasons (Ambrosius 2020). Using "higher power" rhetoric reflecting religious conservatives' political clout, Space Force recruiting videos shrewdly exploit Evangelical anti-science bias, suggesting that those who enlist "have the potential to play a messianic role" in space (Swanson 2020; Weibel 2020). On the other side of the frontier myth, the phallic design of Jeff Bezos's Blue Origin rocket—as well as the "friendly" competition between billionaires Bezos and Richard Branson—exudes nearly the same hypermasculinity once common among the early astronauts (see Kluger 2021). At the same time, while NASA's most recent program is the first human-bearing system to bear a female name (Artemis, sister of Apollo), it nonetheless perpetuates some of the negative feminine vestiges of the Shuttle program. It is designed to take the first woman and the first person of color to the Moon, but they will be sent there for habitation rather than exploration, and even then, only in the service of another, the greater mission of exploration and conquest: Mars (see "Artemis" n.d.).

"[O]uterspace," notes Jodi Dean, "remains a theater within which American self-understandings are played out, if not exactly worked out" (1998, 20). Since sending the first men aloft, the American space program has not only given us access to that theater; it has provided the actors whose performance we have unwittingly interpreted according to our own understandings. These interpretations provide the texts of the narratives we have used to communicate them to ourselves, narratives that—drawing from common tropes of human understanding—simplify complex adventures while concealing nuances of meaning. The myth of the frontier—with its suggestion of adventure and conquest—also bore implicit notions of race, gender, and religion that reflected the America that clung to it long after its reality had passed. The myth of the "peaceable kingdom"—with its aura of peaceful coexistence and democratic opportunity—bore elements suggesting it was not just the replacement for the frontier myth but also its antithesis. These two myths, so helpful in understanding first the Mercury-Gemini-Apollo programs and then the Shuttle program, shaped the image of these endeavors even if they were the unintended result of changes mandated by cost or change in mission. Inextricably linked, changes in the vehicle and in the mission required changes in the accompanying narratives; it was the nature of American culture

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that determined what those narratives would be. With a history of cultural conflict over matters related to race, religion, and gender, it seems inevitable that the American mythic understanding of the space program—as with so many of its other ventures—would be shaped by these themes. But given that the foreseeable future of space exploration involving humans will likely require the technological and financial—and therefore broadly diverse—contributions of all, it would be wise to regularly consider which myths are deployed to explain why we are engaged in such ventures.

Notes

1 I use the term broadly to indicate anyone who has been either identified publicly as an astronaut or has achieved weightlessness aboard a rocket-powered vertical-launch vehicle; the two are not necessarily synonymous.
2 *Star Trek*, whose opening monologue popularized this phrase, was pitched to television executives as a "*Wagon Train* to the stars," a reference to a program depicting pioneers heading west (Wills 2015).
3 These statistics are for the 29 astronauts assigned to Apollo missions 7-17 only.
4 Donn Eisele's divorce became public after his lone space flight ("Astronaut's Wife Divorces" 1969).
5 One critic complemented it, calling it a "candid and often gossipy" work that focused "as much upon 'astropolitics'" as the "helpful recital on the formal training" (Emme 1978, 782–783).
6 In 1962, cosmonaut Gherman Titov noted that he had seen "no God or angels" in space ("Titov, Denying God, Puts His Faith in the People" 1962). The government likely recorded the astronauts' religious preferences; the argument here is about public image and what the public could have known. Only Walter Cunningham and Russell Schweickart self-identified as "agnostic" (see Cunningham 1977, 27); both flew only one mission. Roger Chaffee (Presbyterian; see "Chaffee is Honored at Memorial Rites" 1967) is not included in this analysis; he died in the Apollo 1 cabin fire before his first launch. The others who died in the fire had previous flight experience and have been included. Also not included are six men who died before entering a launch vehicle and three who resigned before going into space.
7 Richard Gordon considered the priesthood; Edgar Mitchell's mother hoped he'd be a preacher (Sherrod 1975, 165; Mersch 2013, 75).
8 Shepard—the lone Christian Scientist among the early astronauts—is reported to have requested: "Dear Lord, please don't let me fuck up" (see Mott 2015; compare Wolfe 1979, 196). Shepard later took to the moon a microfilm copy of the first issue of *Christian Science Monitor* ("Alan Shepard: Pioneer" 1998).
9 The Apollo Prayer League claims that an additional 212 copies were secreted aboard ("Apollo 14 - Lunar Landing" 2020); NASA denies this (Weisberger 2018).
10 The humor of one skit ("You Don't Have to be Jewish")—portraying a daughter calling her mother-in-law for help—seems to rely more on antisemitic stereotypes than on anything specifically Jewish (Taubman 1968).
11 This was likely the most overtly Protestant act in space: Borman joked later that his greatest accomplishment was getting Catholic shipmate Bill Anders to participate in the reading (Wilford 1969).
12 During a committee hearing, Rep. George Shipley called the incident "just a little bit disgusting." Corned beef was banned on NASA flights until 1981 (Pearlman 2015).
13 The program was killed by an unsigned comment ("Let's stop this now," which could be interpreted as either urgent or patronizing) written by Johnson on the bottom of a

draft letter urging support for the program (Friedman 2014). On 20 July 2021, original "Mercury 13" member Mary Wallace "Wally" Funk made it into space aboard Blue Origin's *New Shepard* (Yuko 2021).

14 For one introduction to the relationship between American Christianity and "Whiteness," see Prentiss (2003).

15 Tragically underscoring the end of the pioneer period, Constance Penley points out that Christa McAuliffe, who in her application to NASA had expressed a desire to emulate "the women pioneers who traveled across the plains in Conestoga wagons, keeping personal journals of their experiences and writing letters back East," died before reaching her frontier and did so having made "almost no journal entries during her months of training" (1997, 26).

16 *Salyut* was first launched in 1971.

17 Boris Volynov was the first Jew in space ("One of Soviet Soyuz-5 Cosmonauts" 1969). Rakesh Sharma was the first person from India; based on his in-flight experiments involving yoga—and a lack of evidence to the contrary—I have presumed that he was at least nominally Hindu (see "First Space Test of Yoga Set for Indian on Soviet Mission" 1984). Thanks to Marcy Braverman Goldstein for her help on this issue.

18 Although not known at the time, it also marked the end of an all-heterosexual space corps. In her obituary Ride was "outed" by the identification of a longtime partner (Grady 2012).

19 Don Lind, commonly identified as the first Mormon in space (see Wagner 2018), was launched just over two weeks after Garn (Browne 1985).

20 Anousheh Ansari is often identified as the first Muslim American in space. However, she was not sent under NASA auspices: she paid a private company over 20 million dollars for a ticket aboard a Russian rocket, a trip for which she was trained in Russia (Hollingham 2014).

21 Mark Polansky and Jessica Meir illustrate the complicated nature of religious identity in modern America. Born to Jewish fathers and non-Jewish mothers, neither would be considered Jewish according to Judaism's historic determination through matrilineal descent. That definition was modified (by the Reform movement only) in 1983; not yet 10 at the time, Meir could be considered Jewish if her parents were members of a Reform congregation and she was raised observing Jewish practice (as defined by the Reform movement). Polansky, however, was already nearly 30 when the definition was modified and therefore unlikely to be Jewish beyond his personal attachment to the community. Regardless, both are claimed as Jews in the Jewish world (for example, see Zaltzman 2021). Interestingly, Meir's father was born in Iraq, making her the first Arab American astronaut; Polansky's mother was of Korean descent, making him the first Korean American astronaut (see Dolsten 2019; Rogers 2021).

22 In 2019–2020, it was celebrated twice aboard the ISS: on December 25 to accommodate the astronauts and again on January 7 to accommodate the Russian Orthodox cosmonauts (Strickland 2021).

23 Texts include the Bhagavad Gita ("Hindu Woman in Space" 2007), Torah (Tenario 2016), Book of Mormon (Weaver 2003), and Qur'an (Broad 1985).

24 Rituals include the Mormon sacrament (Wagner 2017), the Muslim practices of *salat* and *wudhu* (thrice-daily prayer and ritual washing; Miller 1985), and *hilal* (the sighting of the new moon) and the observance of Ramadan (Lewis 2013). Ritual-related items include *tefillin* (Orgel 1991), *atarot* (part of the *tallit*; Freeman 1985), *yads* ("Torah pointers"), a *kiddish* cup and a Havdalah set (Ghermezian 2018), *mezuzot* and a *shofar* ("Rosh Hashanah? Just a Routine Day for Mir Astronaut" 1997), and *hanukkiot* and *dreidls* (Birnbaum 1993).

25 Religion-related items include a Buddhist medallion (Yoshihashi 1986), an image of Lord Ganesha ("Hindu Woman in Space" 2007), and an engraved plaque bearing a Hebrew prayer for travelers (Ghermezian 2018).

26 Steven MacLean, who is not Jewish, took a Torah to honor Israeli astronaut Ilan Ramon (Tenorio 2016); Garrett Reisman, who is Jewish, brought rosary beads and a necklace "blessed by a Buddhist priest" (Klotz 2008).
27 Also listed were the two experienced astronauts who died with Chaffee in the Apollo 1 fire. Not listed were three U.S. Air Force astronauts from the now-declassified MOL program (including Robert Lawrence) who died during training (compare "Who We Honor" n.d.).
28 There has yet to be an openly gay astronaut.
29 Jane Levi argues that the different notions of mission led not only to the difference in vehicles, but also to "the overblown response to the corned-beef sandwich" mentioned earlier (2010, 11).

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