

# Perceptions of Apollo: Myth, nostalgia, memory or all of the above?

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## Abstract

This essay explores the place of the Apollo program in the popular recollection of Americans more than 30 years after the last Moon landings in 1972, partly through a discussion of films and popular music. The collective memory of this singular episode in the history of the USA has altered over time. It has taken on mythical qualities, as well as a nostalgia for a time long gone. From a postmodern, post-cold war perspective Project Apollo appears increasingly unique, an experience born out of cold war rivalries long gone in which a demonstration of American technological capability was required. Many in the spaceflight community seek to become a multi-planetary species, and they point to Apollo in an increasingly mythical way as a representation of something that should be replicated. But the circumstances that made Apollo succeed have long since passed.

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## 1. Introduction

The major contours of the American sprint to the Moon during the 1960s have been told and retold. Project Apollo—the sites where it took place, the people who participated in it and the memory of it—have been singled out for comment, celebration or castigation, depending on perspective. This begs several questions. What has been the cultural significance of this activity after more than 30 years? How do those who recall the effort reflect on it at the beginning of the 21st century in a postmodern, post-cold war world far removed from that of the late 1960s and early 1970s? What is the perspective on the Moon landings by those of differing cultural, generational, economic and ethnic backgrounds? What role did Apollo play at the time—and after—in helping to define modern American society, politics and perspectives on itself and its place in the world? What is it about the Apollo program of the 1960s and early 1970s that captured the imagination—that is, if it did—of the American people? Finally, what about

Apollo retains its saliency more than 30 years after the last Moon landing in December 1972?

### 1.1. Apollo as mythic event

While few have suggested that Apollo is a mythical event in reality it was one of the more important in American history. In a certain sense, the meaning of Apollo is consumed by myth; however, that myth is not a falsehood—as many people seem to believe—it is a story about the past that points to the highest ideals of the society. As James Oliver Robertson observed in *American Myth, American Reality*, “Myths are the patterns of behavior, or belief, and/or perception—which people have in common. Myths are not deliberately, or necessarily consciously, fictitious” [1].

This myth is not so much a fable or falsehood, as it is a story, a kind of poetry, about events and situations that have great significance both for those involved and those that follow. Myths are, in fact, essential truths for the members of a cultural group who hold them, enact them or perceive them. They are sometimes expressed in diffuse ideologies, but in literate societies like the USA they are also embedded in historical narratives. Robertson’s work is one of the many studies that focus on

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American myths—such as the myth of the chosen people, the myth of a God-given destiny and the myth of a New World innocence or inherent virtue [2]. As scholars of aerospace history are now beginning to recognize, those who recollect the history of flight have also held versions of these myths. They in turn relate them to a range of experiences helping to explain the evolution of the subject [3].

Memory, myth and history are closely akin to each other; essentially they are stories that explain how things got to be the way they are. But common parlance suggests that memory is often faulty, myth is fiction and only history is, or at least aspires to be, true. History, however, is an attempt to recount, model or reconstruct the memory of the past for the purposes of the present. For a variety of reasons, such attempts are never completely successful. Thus, although few historians overtly do so, it is important to distinguish between history—the recounting of past events—and the past that is truly lost forever. History never completely or accurately describes the past, but attempts to develop approximate mental models or reconstructions of events. Different cultures at different times formulated and presented their reconstructions of the past in strikingly different ways. Thus, it is highly dangerous to attempt to evaluate the relationship between another culture's concept of "history", one's own concept of "history", and the lost reality of the past. All themes overlap in some way, but none is a precise mirror image of the other. Many people confuse history with the unrecoverable past, and confuse myth and memory with fiction [4].

This must, of necessity, raise the specter of the inexact character of historical "truth", and of its relationship to myth and memory and the reality of the dim and unrecoverable past. It has reinforced, however, that what particular groups have understood and acted upon as truth, even if quite absurd to outsiders, has changed throughout time, circumstances and other mediations in the social fabric. Indeed, these truths have differed from time to time and place to place with reckless abandon and enormous variety. Religious, social, political, ethnic, national, language and other types of groups over time have held a remarkably diverse set of truths, all internally consistent and rational, that have ruled their cultures. Choice between them is present everywhere both in the past and the present; my truth dissolves into your myth and your truth into my myth almost as soon as it is articulated. This is reinforced everywhere and the version of truth espoused by various groups about themselves and about those excluded from their fellowship is misunderstood. Perhaps Pontius Pilate framed the dilemma best two millennia ago when he asked Jesus, "What is truth?" [5]. Those versions of truth not accepted are often called "myths", as Pilate obviously thought about the truth espoused by Jesus,

but they nonetheless cement relationships and provide rationale for actions. They have given and continue to give meaning and value to individual human lives and to create a focal point for explaining the sufferings and triumphs of the group.

## **2. Apollo as an expression of the agrarian myth of the frontier**

Apollo has become trapped in the myth of the agrarian frontier. That myth suggests an almost transcendental faith in American growth, American institutions and American exceptionalism. It is an exceedingly comfortable myth, one that justified continental expansion even as it suggested that the well-spring of all that was right and appropriate with American democracy emerged from that frontier and was manifested in its simple yeoman farmers. It emphasized that, through that frontier experience, America became a land of peace, prosperity, reason and liberty. Only through the maintenance of an agrarian frontier, in this case transferred into space, can these ideals be maintained. Apollo was the first tangible effort to transfer that frontier into space.

Many space advocates have explicitly assigned all of the benefits of the frontier, described for the USA in Frederick Jackson Turner's 1893 essay, to any future exploration of space. It is for them the "final frontier" and has the magical capability to revitalize American society. Indeed, the myth of a garden on the frontier, with connotations of perfection everywhere, abounds in American culture. Of course, Turner's "frontier thesis" is perhaps the most influential essay ever read at an American Historical Association's annual conference. It exerted a powerful force in the historiography of the USA, in no small measure because of its powerful statement of American exceptionalism. Turner took as his cue an observation in the 1890 US census that the American frontier had for the first time closed. He noted, "Up to our own day American history has been in a large degree the history of the colonization of the Great West. The existence of an area of free land, its continuous recession, and the advance of American settlement westward explain American development". He insisted that the frontier made Americans American, gave the nation its democratic character, and ensured the virtues of self-reliance, community, egalitarianism and the promise of justice. He noted that cheap or even free land provided a "safety valve" that protected the nation against uprisings of the poverty-stricken and malcontented. The frontier also produced a people with "coarseness and strength...acuteness and inquisitiveness, that practical and inventive turn of mind...[full of] restless and nervous energy...that buoyancy and exuberance which comes with freedom". It gave the people

of the USA, in essence, virtually every positive quality they have ever possessed [6].

Repeated use of the frontier analogy for spaceflight, with its vision of a new land and a new and better society, has given the US public a distinctive perspective on spacefaring. It has always tapped a vein of rich ideological power. The symbolism of the frontier has been critical to understanding how Americans have viewed themselves since at least the end of the 19th century, and perhaps for much longer. It conjured up an image of self-reliant Americans moving westward in sweeping waves of discovery, exploration, conquest and settlement of an untamed wilderness. And in the process of movement, the Europeans who settled North America became an indigenous American people. The frontier ideal has always carried with it the ideals of optimism, democracy and right relationships.

It also summoned in the popular mind a wide range of vivid and memorable tales of heroism, each a morally justified step toward the modern democratic state. While the frontier ideal reduced the complexity of events to a relatively static morality play, avoided matters that challenged or contradicted the myth (such as the near extermination of the region's previous inhabitants), viewed Americans moving westward as inherently good and their opponents as evil, and ignored the cultural context of westward migration, it served a critical unifying purpose for spaceflight advocates. Those persuaded by this metaphor, and many have been, recognize that it summons them not only to recall past glories but also to undertake—or at least to acquiesce in—a heroic engagement under the ideal with the forces of social, political and economic injustice [7].

Turner's image of the American frontier has been an especially evocative and somewhat romantic popular theme for proponents of the aggressive space program that Apollo represented. The popular conceptions of "conquest" and "westering" in the settlement of the American continent by Anglos has been a powerful metaphor for the propriety of space exploration and has enjoyed wide usage by advocates of an aggressive space program. It hearkens back to the most powerful and positive images of the American West and the frontier in speaking of what might be gained in the unknown of space. But more importantly, it calls upon the adventurousness of the American people and offers the promise of a change in society as it moves to a new, untainted place where it could remake society. Such has always been the siren call of the frontier myth.

From Captain Kirk's soliloquy—"Space, the final frontier"—at the beginning of each *Star Trek* episode to Kennedy's speech about setting sail on "this new ocean" of space, the frontier allusion has been a critical component of space program promotion. Astronaut, then senator, John Glenn captured some of this tenor in 1983 when he summoned images of the American

heritage of pioneering and argued that the next great frontier challenge was in space: "It represents the modern frontier for national adventure. Our spirit as a nation is reflected in our willingness to explore the unknown for the benefit of all humanity, and space is a prime medium in which to test our mettle" [8].

Perhaps the most powerful recent public image of the frontier in space exploration came in the popular 2000 film by Clint Eastwood, himself an actor closely identified with the mythic American West, *Space Cowboys*. This film begins in 1958 with a quartet of young military test pilots of Team Daedalus flying advanced aircraft in the high desert of California—à la the *Right Stuff* opening—crashing the test vehicle for silly but improbable reasons, and then being sacked and replaced by a chimpanzee for spaceflight. Presumably these four intrepid aviators—Frank Corvin (Clint Eastwood), Hawk (Tommy Lee Jones), Jerry (Donald Sutherland) and Tank (James Garner)—were to be the first Americans in space, although how this was supposed to take place was not explained in the film. Dismissed from their program, 40 years later Corvin is summoned by longstanding rival and NASA official Bob Gerson (James Cromwell) to repair and reboot what is thought to be a Russian communications satellite. It contains an obsolete guidance system that Corvin designed and that only he can repair. It turns out that this is actually a leftover cold war satellite equipped with live nuclear warheads that the four buddies have to get rid of and thereby prove their mettle. Humorous to a fault, much of the remainder of the story revolves around a bunch of old geezers—described in tabloids as "The Ripe Stuff"—finally having a chance to achieve their youthful dream. For one of them at least, Hawk, it was reaching the Moon. He failed to achieve his dream of participating in Apollo, but survives a crash landing on the Moon at the end of the film as Frank Sinatra sings the rousing chorus of "Fly Me to the Moon" [9].

*Space Cowboys* subtly creates a duality of young organization man/old frontier individualist. The older "frontiersmen" have the knowledge and skill necessary to "conquer" space but are out of step with the system. There are constant comments on the inability of NASA to control Corvin and the other members of Team Daedalus. At the same time, the second part of the film—the mission—demonstrates the capability of the elderly frontiersmen to overcome even the most insurmountable problems and "conquer" space. In so doing, they disprove the belief that they are outdated and irrelevant. *Space Cowboys* succeeds well as a study in the deconstruction of its heroes and their place in modern America, while also providing satisfying entertainment. Most importantly, the film deconstructs the traditionally romanticized conception of the young hero by depicting the four old friends as sensible and judicious—yet flawed—septuagenarians still capable of

great heroism. The villains in the film are senior NASA and Russian space officials who conspire to subvert the mission, aided by career astronauts who are depicted as snotty and cocky kids without judgment or skill.

Clint Eastwood obtained NASA assistance in making this film, being allowed to shoot at the Johnson Space Center, the Kennedy Space Center and the Dryden Flight Research Center. “I wanted to make the film as believable as possible”, he said.

In order to do that we needed NASA’s help to get as close as we could to the circumstances surrounding a launch. It’s a complicated process and it requires careful planning and teamwork on all levels. Bringing a film crew in to simulate the whole thing was probably an even bigger headache for NASA, but the agency really came through for us. I couldn’t be more pleased with the results [10].

Ironically, NASA emerges from this film as the butt of most of the jokes. The film satirizes the stuffiness of NASA for seemingly going out of its way to make the most exciting activity imaginable, spaceflight, look boring. The linkages between spaceflight and the frontier are paramount throughout the film. Beginning with the title of the film, the principal star and his relationship to the mythic West depicted in Hollywood, the other stars—except Donald Sutherland—have significant western acting credits, and the imagery of conquest and taming of the frontier of space all conspire to offer a mythic vision of spaceflight as a final frontier. In the end, space is a place to be conquered in the same way that the mythical frontier of the American West was conquered. In the process, and the heroes of *Space Cowboys* perfectly embody these virtues, America will be revitalized in the model of Frederick Jackson Turner and his “frontier thesis”. *Space Cowboys* evokes a deeply mythical understanding of spaceflight and the adventure that was Apollo.

### 3. Skepticism unbound

The prospect of an unlimited future bound up in Apollo is at best the frontier myth recast for a new century. While it might be somewhat romantic, stirring up an old indeterminate hopefulness, Apollo led to something quite different from what space advocates wanted. The adventure was limited and confined, as well as limiting and confining to the society that undertook it. The resulting years have seen the development of satellites used for practical applications that supported decidedly Earthbound activities, some spectacular robotic science missions, and a human spaceflight program that has been mundane at best. A new birth of freedom on the space frontier and all the other good things that the promise of Apollo portended has turned out to be

stillborn. Clearly, the grandiose history that white Americans thought would come as a result of Apollo has unraveled and does not compel belief as it once did. Spaceflight, once so lost in dreams and idealization, is in the process of being demythologized, criticized and recast. Skepticism, both about Apollo and what has followed, now abounds except among the most die-hard space enthusiasts. Many question Apollo’s cost, its benefits and sometimes even if it happened at all. They worry that the public purse may continue to be used for such adventures, benefiting only a select few. They wonder about government largesse for aerospace corporations and warn that high government officials may yet be captured by the myth to the detriment of the nation [11].

While there may be many myths about Apollo and spaceflight, the principal one is the story of a resolute nation moving outward into the unknown beyond Earth. These were ordinary Americans doing extraordinary things, a heroic perspective that would ultimately lead to a peaceful, productive future for all humankind. In this great place, in this limitless future, human nature was supposed to rise out of its old turpitude and depravity to a new dignity. There sturdy Americans would have the chance to live rationally and quietly, free of all contaminating influences that had gone before on Earth. By the millions, had the promise of Apollo been kept, these Americans would find homes in the undeveloped vastness of the Moon, Mars and other parts of the Solar System, bringing life to the wasteland of space and turning it into a garden. Never mind that it was a utopia with neither form nor substance [12].

From the beginning this mythical promise arising from Apollo overflowed with the unresolved contradictions of innocence. Civilization was to find in space its next higher incarnation, and in that expectation the myth affirmed a belief in perfection, a gigantic expectation that all would become good and decent. Space would offer a place to escape civilization, while at the same time it required the highest forms of organization that civilization could muster just to reach it and survive there. While logic insists that one cannot have it both ways, that a progressive future cannot create a distant past, the myth of spaceflight wrought by the success of Apollo did not follow the rules of logic. Instead, what emerged from Apollo was a siren’s song, a poetic riff about America’s past and future. No single episode in modern times has enjoyed such optimism from those who embraced it, an optimism that is all but blinding [13].

A measure of the power of Apollo to conjure visions of a golden age for humanity may be found in the folk—science fiction folk—song, “Hope Eyrie”, by Leslie Fish, written in 1975 soon after the conclusion of the Apollo program. It posits an open future for humanity as it is

no longer shackled to Earth and therefore subject to what might befall the planet:

Worlds grow old and suns grow cold  
 And death we never can doubt.  
 Time's cold wind, wailing down the past,  
 Reminds us that all flesh is grass  
 And history's lamps blow out.  
 But the Eagle has landed; tell your children when.  
 Time won't drive us down to dust again...  
 From all who tried out of history's tide,  
 Salute for the team that won.  
 And the old Earth smiles at her children's reach,  
 The wave that carried us up the beach  
 To reach for the shining sun.  
 For the Eagle has landed; tell your children when.  
 Time won't drive us down to dust again [14].

The belief that we would no longer be trapped on one tiny world, helpless to escape whatever might befall it, proved a powerful draw for those embracing spaceflight. "Hope Eyrie" remains the quintessential anthem of the pro-space community. As such, it celebrates Apollo as the first step off this world. It suggests that the best of what humans have to offer will be replicated in the unorganized region of space. Deeply mythic and powerfully nostalgic, the song chokes up many and brings tears to the eyes of some within the community. It resonates with the mythic frontier of the past that now metamorphoses into the future frontier of space.

#### 4. Space as a bastion of concentrated power

Of course, space is not an easy place where people might start anew absent the structures and perspectives present on Earth. From the dawn of the space age, and we see this most effectively in Project Apollo, the regime above the Earth's atmosphere has been ruled by concentrated institutional power, though there, as in other places, power has often been hidden behind beguiling masks. Most have accepted at face value the benign nature of this power, even as they recognize that it rests with the military-industrial complex and the scientific-technological elite of the USA. The region has, of course, been the scene of intense struggles over power and hierarchy, not only between nations but also between classes, genders and other groups. The outcome of those struggles has features unique in modern America—power elites that are not much like those in other areas, particularly those elites located at intersections between the federal agencies, corporations and interest groups—for example, NASA and the various corporations that it employed in Apollo, or the space scientists and engineers [15].

Though distinctive in many respects, the power accrued by those overseeing Apollo sometimes cor-

rupted them, making them exploitative of others and engendering in them cynicism toward those they dominated. They tried to conceal that fact by laying claim to the dominant myths and symbols of the American frontier, invoking heroes from American folklore, positivist images of "manifest destiny" and happy visions of white-topped wagon trains traveling across the prairies. Few have been eager to criticize the power elite that made possible Project Apollo, for they were the great, necessary agents of progress and development, leading to humanity's hopeful future beyond Earth. Any to do so have been branded as hopelessly naïve, biased or even polemical. But not to explore this aspect of the Apollo legacy ensures that the conventional story of Apollo will forever remain manifest, to the detriment of all.

It is important to understand that Apollo succeeded only because of the concerted effort of the government of the USA, one of the two great superpowers of the post-World War II era. No other nation could have accomplished the feat. Without question it was an enormous undertaking, with only the building of the Panama Canal rivaling the Apollo program's size as the largest non-military technological endeavor ever undertaken by the USA and only the Manhattan Project to build the atomic bomb in World War II being comparable in a wartime setting [16]. In the end, a unique confluence of political necessity, personal commitment and activism, scientific and technological ability, economic prosperity and public mood made possible the accomplishment of the lunar landing program. What perhaps should be suggested is that a complex web or system of ties between various people, institutions and interests allowed Apollo completion pretty much as it had first been envisioned [17]. To suggest that anything other than concentrated, top-down management commanding enormous resources might be able to reach this end is untenable. Earlier science fiction literature and film emphasized small groups undertaking these missions [18], but the reality of Apollo served to focus spaceflight into a massive government-sponsored activity that could not be successful through any other means. Reality could not have been further from those earlier perceptions.

Of course how could it be otherwise? The immediate postwar era found the application of wartime mobilization models for science also being applied to peacetime problems. This centralization mesmerized the Kennedy administration, perhaps the quintessential centralizing force of the cold war era. David Halberstam shrewdly observed that "if there was anything that bound the men [of the Kennedy administration], their followers, and their subordinates together, it was the belief that sheer intelligence and rationality could answer and solve anything" [19]. This translated into an ever increasing commitment to science and technology to resolve

problems and point the direction for the future. They took that approach with international relations, and the space program and the techno-war in Vietnam were two direct results. They also took that same road in other public policy arenas with the natural result a centralization of power in the hands of very few.

Through these activities the federal government enhanced its power and gained virtually total control of spaceflight as an activity. While many Americans celebrated this use of federal power, others bemoaned its intrusion into their vision for the future. For example, the Space Frontier Foundation was established in 1988 by a group of space advocates led by O'Neill acolyte Rick Tumlinson to overcome the incessant NASA cheerleading that it saw elsewhere in the pro-space movement. Tumlinson believed that a new activist organization was required to get the government out of the way so that private entities could open the space frontier. To that end the Space Frontier Foundation has worked to “convert the image held by many young people that the future will be worse than the present, and [to] reject the idea that the world’s greatest moments are in its past” [20].

Tumlinson and the Space Frontier Foundation believe deeply that it is human destiny to expand beyond Earth. They also contend “that the current elitist nationalist space programs are not creating the conditions for a free and open frontier in space and must be replaced with ones that will”. They proudly announce, “We are considered to be the most radical legitimate space group in the world”. Tumlinson’s non-governmental ideology plays out in the Space Frontier Foundation at every level. He sees civilization at a crossroads, with one path leading to limits on growth and opportunity, environmental degradation and ultimately human extinction. This path restricts or ends exploration of the Solar System and does not foster human settlement of the Moon, Mars or anywhere else. The other path, one in which humanity begins to live permanently off this planet, promises “limitless growth, an environmentally pristine Earth, and an open and free frontier in Space” [21]. But, for Tumlinson, the government is standing in the way and needs to be removed from the process.

This resentment toward government power in spaceflight is comparable to cries of opposition voiced in the American West for control of water through the creation of a hydraulic civilization under the suzerainty of the federal government. In order to flourish in the arid West, Americans had to create an agricultural system that is dependent upon large-scale government-managed waterworks—productive (for irrigation) and protective (for flood control). This not only made the West habitable, but it also brought urbanization and wealth there as well. Ancient Egypt and South Asia first engaged in this type of civilization, and became

dominant powers in their regions in the process. But, always, there were winners and losers in this situation and those left out harped on the inequities of the system. In the American West, the “Sagebrush Revolution” of the latter 20th century pitted the individualist West against the organization and power of the federal government. Ironically, the very organization and power that had created the modern American West was under attack from those who had so benefited from it. Ironically, the spaceflight advocates who argued for colonization of the Moon and Mars eschewed the very organizations—NASA and the federal government—that had made possible the first step in that direction through Project Apollo. In this arena, a sense of nostalgia is everywhere present [22].

## 5. Apollo as trope of America’s grand vision for the future

A not insignificant fraction of perceptions about Apollo reflects a common narrative structure—the program represented an implementation of a grand visionary concept for human exploration that may be directly traced to the European voyages of discovery beginning in the 15th century [23]. Given this observation, Apollo has been celebrated as an investment in technology, science and knowledge that would enable humanity—or at least Americans—to do more than just dip its toes in the cosmic ocean, to become a truly spacefaring people.

At a fundamental level Americans have taken as a measure of the majesty of this vision the length of time, complexity and expense of the program, and the linkage of the length of time, complexity and expense of Apollo to earlier explorations. The Spanish exploration of the Americas proved time-consuming, complex and expensive. So did the efforts of other European powers in the sweepstakes of exploration and imperialism that took place over long periods made possible by these explorations. Apollo was much the same only more so, and this made it special and grand and visionary. It cost about \$25.4 billion—more than \$100 billions in 2004 dollars—to mount the Apollo program to explore the Moon in the 1960s and early 1970s.

Apollo represented for many recent observers, and perhaps for the majority of the US public during the 1960s, an epochal event that would signal the opening of a new frontier in which a grand visionary future for Americans would be realized. It is, after all, what set the USA apart from the rest of the nations of the world. American exceptionalism reigned in this context, as Apollo is depicted as a great event in US history, one that must be revered because it shows how successful we could be when we try. At a basic level Apollo served as a trope of the USA’s grand vision for the future. This exceptionalist perspective has also dominated the historiography of Apollo from the beginning to the present [24].

It is therefore quite appropriate to view the years since Apollo as an unresolved political–cultural conundrum in which the hopes of advocates exceeded the willingness of political institutions to make commitments, in no small measure because American tropes of space exploration as destiny and utopia ran counter to political pragmatics [25]. Although present earlier, this conundrum became more evident as space exploration moved from an “exceptional” undertaking in the 1960s to a “normal” one in the years after. For the Apollo period, as the dominant cold war interests of the 1950s and early 1960s in space exploration waned, NASA and exploration advocates sought to extend the exploration ideals they saw embodied in Apollo. Instead, space exploration in the aftermath of Apollo had to be redefined through and by a variety of political–cultural crosscurrents—free-market ideology and privatization, popular culture, military interests/cold war/non-cold war and foreign policy/international relations. Advocates tended to view the deeply embedded openness (in a sociological sense) of American political culture as obstructing the implementation of this aggressive vision in Apollo’s narrative structure [26].

To an extent far more than even perceived at the time, Apollo became a symbol of the space policy ideal, despite the fact that it really represented an aberration in US political history. Apollo created a belief on the part of the NASA rank and file—probably extending to at least much of the senior leadership of the space agency—an expectation that the direction of any major space goal from the president would always bring NASA a broad consensus of support and provide it with the resources and license to dispense them as it saw fit. Something NASA officials have been slow to understand is that Apollo had not been conducted under normal political circumstances and would not be repeated. Apollo was, therefore, an anomaly in the national decision-making process. The dilemma of this “golden age” of Apollo has been difficult to overcome and has remained implicit—where once it had been explicit—in the space policy discussions of the USA since the 1960s [27].

In sum, Apollo brought forth a long existentialist fall from grace, along with hopes for a resurrection at some future indeterminate date when the cosmos would be opened as space advocates desired. Observers may measure this in many ways, but the lament for Apollo that exists in many parts of the pro-space movement suggests the tenor of the argument. It suggests a loss of vision once had by the nation in the Apollo era. A powerful statement of this is captured in the poem, “Legends”, by Bill Roper.

Once upon a time,  
 You could hear the Saturn’s roar  
 As it rose upon its fiery tail to space.

And once upon a time, the men that we sent out  
 Landed in a strange and alien place...  
 Once upon a time, they tore the gantries down  
 And the rockets flew no longer to the Moon.  
 And once upon a time,  
 We swore that we’d return,  
 But it doesn’t look like we’ll be back there soon.  
 And as the Moon shines down  
 On the shattered launching ground,  
 I remember Apollo,  
 Who flew the chariot of the Sun.  
 And I wonder of the legends they will tell  
 A thousand years from now [28].

President George W. Bush acted on January 14, 2004 to announce that NASA should focus its energies on human space exploration, with the Moon and Mars two likely targets, because of this lament for a visionary space program in the mold of Apollo. Bush was responding to what many viewed as a failure of the grand scheme with his announcement to refocus NASA on exploration. Bush declared that the USA would return to the Moon between 2015 and 2020. With sufficient diligence and resources, of course, virtually anything humans can imagine in spaceflight may be achieved [29]. This trope represents a significant element of the myth of Apollo.

## 6. Apollo as nostalgia

Apollo’s powerful incarnation as trope for a grand national vision of the future sparks considerable nostalgia for the exciting experience of astronauts walking on the Moon. While there were setbacks, the experience of the 11 years of Apollo between 1961 and 1972 contained more triumph and tragedy, more heroic sacrifice, more strenuous effort than many wars and certainly the years of space exploration since. Many remember Apollo as an effort wrought with high drama and excitement. More importantly, Apollo was a government program that actually succeeded. Twelve American astronauts did indeed land on the Moon and return safely to Earth, achieving the first of those landings “before this decade is out”, as John F. Kennedy had directed. All this happened while the USA underwent social revolution, suffered defeat in Vietnam and undertook the Great Society programs that have been castigated since the 1990s as largely failures. And NASA accomplished Apollo within the confines of its overall budget targets [30]. All this prompts many to reflect on the episode with nostalgia and longing for a return to a simpler, more clear-cut time.

Apollo nostalgia manifests itself in several ways. It may be found in numerous popular conceptions of

Apollo, especially in film, literature, music, theater and advertising. In each of these arenas, three great themes played out in the nostalgic past of Apollo. First, reaching for the Moon represented a spiritual quest, a purification of humanity, and a search for absolution and immortality. Because of this, much of the nostalgia for Apollo has all the trappings of religion. Second, Apollo represented the next step in human evolution, and carried with it a Darwinian “survival of the fittest” overtone that we now look back on regretfully as a missed opportunity. Third, and perhaps most important, Apollo nostalgia hearkens back to an era of the 1960s in which order ruled and all seemed in its place. Central to this, in the pre-Great Society and pre-social reformation era, white men oversaw America in a “Leave it to Beaver” type of existence, where women were docile helpmates, ethnic and race relations favored American-born whites, and all understood their place in the system. Most important for reinforcement of this issue, the system worked and in memory enjoyed efficiencies lost in a postmodern, multi-cultural setting.

Apollo as spiritual event found expression from the very first unveiling of the program. It has grown in significance over time, and fundamentally reflects nostalgia for a simpler time in which issues had greater clarity [31]. Never mind that these issues only appear more comprehensible because of the passage of time. At a uniquely oblique angle Project Apollo represented the incarnation of a new religious tradition. It evoked, in a metaphorical and absolutist sense, emotions of awe, devotion, omnipotence and, most importantly, redemption for humanity. It embodied a new clerical caste (the engineers and especially the astronauts), arcane rituals (Mission Control and other operational activities) that were deeply mythical as well as possessing a higher purpose, a language of devotion (the NASA jargon invoked by both practitioners and acolytes/enthusiasts), articles of faith and a theology of salvation that allowed humanity to reach beyond Earth and populate the cosmos. The promise of a utopian Zion on a new world, coupled with immortality for the species resonates through every fiber of the space exploration community. Wernher von Braun, as only one example among many, viewed Apollo as a new beginning for humankind. These deep-seated convictions energized space exploration and the subjugation of the universe from before the dawn of the space age [32].

There were large numbers of Apollo advocates who presented the program in explicitly spiritual terms, but behind these were countless others who used secular language to express religious ideals. Novelist Ray Bradbury once commented, in a fashion reminiscent of a jeremiad:

Too many of us have lost the passion and emotion of the remarkable things we’ve done in space. Let us not

tear up the future, but rather again heed the creative metaphors that render space travel a religious experience. When the blast of a rocket launch slams you against the wall and all the rust is shaken off your body, you will hear the great shout of the universe and the joyful crying of people who have been changed by what they’ve seen (quoted in [33]).

He firmly believes that no one leaves a space launch untransformed. Like the Eucharist, the ritual of the launch offers a recommitment to the endeavor and a symbolic cleansing of the communicant’s soul. The experience, as he commented repeatedly, is both thrilling and sanctifying.

As a second aspect of this nostalgia, Apollo’s history has also been depicted as a missed opportunity for the next step in human evolution. Nothing demonstrates this more effectively than *Apollo 15* astronaut Alfred F. Worden’s 1974 verse, which reads in part:

Say to me no more Apollo  
Say to me the job is done—  
Then I say your words are hollow  
and our work has just begun.  
Say to me we need the money

Just to feed the poor, and more—  
And I’ll say to you that’s funny  
its for them that we explore...

Say to me our world is dying,  
Ready for its last hurrah—  
I cry—you fool, keep trying  
We must find our Shangri La [34].

Anger and frustration, coupled with nostalgia for Apollo, are present throughout this and numerous other poetic expressions written since the Apollo program ended in 1972.

A third aspect of Apollo nostalgia revolves around the issue of mythical recreations of an era of the 1960s in which order ruled and all seemed in its place. The expression of public comfort with the white male establishment is palpable throughout the recounting of the story of Apollo. The quintessential company man worked for NASA during Apollo. The engineering “geeks” of Mission Control, with their short-sleeved white shirts, narrow black ties, slide rules hung on their belts like sidearms, and their pocket protectors complete with compass and ruler and myriad pens and mechanical pencils all personified a conservative America, oblivious to the embryonic ‘counter-culture’, that many looked back on with fondness and nostalgia. Norman Mailer, as much an embodiment of the 1960s counter-culture as anyone, ranted about this aspect of Apollo while covering the Moon landings in 1969. Mailer expressed fascination and not a little perplexity with the time warp that he witnessed at the Manned Spacecraft

Center in Houston. He railed against an overwhelmingly white male NASA steeped in middle class values and reverence for the American flag and mainstream culture. Mailer grudgingly admitted, however, that NASA's approach to task accomplishment—which he viewed as the embodiment of the Protestant Work Ethic—and its technological and scientific capability got results with Apollo. Even so, he railed at NASA's closed and austere society, one where he believed outsiders were distrusted and held at arm's length with a bland and faceless courtesy that betrayed nothing. For all his skepticism, for all his esotericism, Mailer captures much of interest concerning rocket technology and the people who produced it in Project Apollo [35].

Mailer's critique foreshadows by 25 years a powerful nostalgia that has grown up around Apollo as a program that was done right, in no small part because it took place within the cultural confines of an era before the social revolution of the 1960s. Nothing captures this nostalgia more effectively than the feature film, *Apollo 13*. Set in 1970, when an explosion crippled a lunar landing mission and NASA nearly lost astronauts Jim Lovell, Fred Haise and Jack Swigert, it has been recast as one of the NASA's finest hours, a successful failure. At 56h into the flight an oxygen tank in the Apollo service module ruptured and damaged several of the power, electrical and life support systems. People throughout the world watched and waited and hoped as NASA personnel on the ground and the crew worked to find a way safely home. It was a close-run thing, but the crew returned safely on April 17, 1970. The near disaster served several important purposes for the civil space program—especially prompting reconsideration of the propriety of the whole effort while also solidifying in the popular mind NASA's collective genius [36]. While one must give the NASA flight team high marks for perseverance, dedication and an unshakable belief that they could bring the crew home safely, it is quite strange that no one seems to realize that the mission had already failed, and failed catastrophically, by the time of the accident. The fact that Apollo 13 is now viewed as one of the NASA's shining moments says much about the ability of humanity to recast historical events into meaningful morality plays [37].

In this instance, Apollo 13 became a vehicle for criticism of the social order that emerged from the 1960s and a celebration of an earlier age. When the film appeared in 1995, reviewer John Powers, writing for the *Washington Post*, commented on its incessant nostalgia for “the paradisiacal America invoked by Ronald Reagan and Pat Buchanan—an America where men were men, women were subservient, and people of color kept out of the way”. In addition, Powers wrote, “Its story line could be a Republican parable about 1995 America: A marvelous vessel loses its power and speeds toward extinction, until it's saved by a team of heroic

white men” [38]. If anything, Powers underemphasized the white America evoked in *Apollo 13*. The only women with speaking parts of substance were Marilyn Lovell (Kathleen Quinlin), wife of the Apollo 13 commander, whose role is distinctly one of offering proud support while privately fearing the worst, and their daughter, whose role seems to be as spokesperson for the social revolution underway while consistently reflecting its least important elements. For example, she complains in a shriekish voice that the Beatles have just broken up and her world has accordingly collapsed.

The heroes of *Apollo 13* are the geeks of Mission Control, with the astronauts aboard the spacecraft as spirited but essentially and metaphorically emasculated characters to be saved. Lovell, Haise and Swigert must wait to be rescued in a manner not unlike Rapunzel, as an active helper but unable to accomplish the task alone. As historian Tom D. Crouch wrote of this film's depiction of the “studs” in Mission Control:

The real heroes of this film are either bald or sporting brush cuts; wear thick glasses; are partial to rumpled short sleeve shirts; and chain-smoke an endless string of cigarettes, cigars, and pipes. For all of that, these slide rule-wielding technonerd solve all of the difficult problems required to bring the crew home. They are, in the words of one of the astronauts portrayed in the film, “steely eyed missile men” [39].

*Apollo 13* the film, accordingly, venerates a long past era in American history. Indeed, it may have been an era already gone by the time of the actual mission in 1970. It is a hallowing of masculinity in a nostalgic context.

A recent study completed for NASA concluded that representation of space exploration on film is highly nostalgic, and Apollo fuels that perception:

As a group, the public entertainments we tend to buy into are either nostalgic visions of the “space race” period (“The Right Stuff”, “Apollo 13”, “From the Earth to the Moon”) or fantasies reflecting the romantic imagination of the Flash Gordon/Buck Rogers era (“Star Wars” rather than “Star Trek”). These are the visions people support in the most meaningful way possible: with their time and dollars...Boomers have a great nostalgic affection for NASA, but their own priorities have shifted from a future focus to maintaining what they have. They see money spent on space exploration as threatening their future entitlements [40].

At a sublime level, Apollo nostalgia may serve as a trope for a larger lack of interest in the future expressed by Americans at the beginning of the 21st century. As a country, a shifting cultural center of gravity toward maintenance of the status quo rather than looking to the future has stalled a shared national vision that energized earlier efforts.

## 7. So what?

So where does this leave us in relation to Project Apollo; its memory, myth and nostalgia? The public perception is one of unabiding success and the pride that comes to the nation as a result of it. This mythical/nostalgic perspective has advanced over time into the mainstream of culture. The perceived success of Apollo solidified an image of exploration and success more than anything else that NASA ever did, despite astounding robotic missions throughout the Solar System, and it has served as the standard against which the very public bungling of NASA since the Moon landings have been measured. Increasingly, nothing NASA can do equals the success of Apollo. Indeed, one of the most significant myths arising from Apollo may well be the belief that the USA can accomplish any task, no matter how difficult, if it resolves to do so.

At a fundamental level stories of Apollo serve as ways in which people define and transmit their cultures. The stories are not and do not have to be real if the morals they impart are binding and relevant. Psychologist David C. McClelland spent a career seeking to understand how the need for achievement is a distinct human motive that can be distinguished from other needs. In *The Achieving Society*, McClelland quantifies the “achievement motive” by scoring the content of folk tales, elementary school reading primers, and popular music, and then linking these measures to social outcomes. He points out how entrepreneurial societies had their roots in folk literature and fairy tales that emphasize achievement, told to children who implement those values as adults. The Apollo story tells us who we are as a society and what values we wish to impart to future generations [41].

Using McClelland’s ideas as a model, the success of Apollo suggests the best of American society and, while they might not explicitly apply McClelland’s model, many within the space community see the program as something increasingly attractive and worthy of recreating. It represented a time and place when leaders set moderately difficult but potentially achievable goals that were then translated into individual achievable tasks with deliberate but manageable risks. In essence, Apollo symbolized a moderate degree of risk that highly skilled and thoughtful people overcame through their diligent efforts and abilities. The Apollo team, characteristic of achievement-motivated people in McClelland’s study, was more concerned with achievement than with the ordinary rewards of wealth and fame. They did not reject rewards, but those rewards were not as valued as the accomplishment itself. Object lessons in this are everywhere apparent in the Apollo program. These are some of the ingredients that Americans want to recapture with their remembering of Apollo [42].

Most interestingly, perhaps, Americans hark back to that brief, bright, shining moment in time when we went to the Moon and want to recreate Apollo as the 21st century dawns. But the difficulty with Apollo nostalgia is that it recalls a time that no longer exists. Apollo was born out of cold war rivalries long gone, and indeed they did not exist much beyond the mid-1960s. Demonstration of American technological capability is no longer required and nothing else compels the level of resource expenditure that it required. The idea that Apollo would lead to an age of space exploration was only a secondary consideration among policy planners of the time. Recreating Apollo is doomed to fail, in no small measure because of the myths and nostalgia surrounding it as we look back more than 30 years to its singular success.

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