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NASA: The Rise and Fall of an Influential Exploration Program

As a child in the early 90s I remember our 3rd grade teacher talking to us about the NASA space program. I was obsessed with the stars and the planets and believed that someday I too could be an astronaut. As I got older that dream changed but so did the dream of space exploration in America. We no longer hear about NASA's technological developments on regular news outlets and children barely know what the program is all about. Last year in July of 2011 NASA officially closed its doors on its Space Shuttle Program, leaving many wondering what would be next for the organization. Human spaceflight had defined NASA for what it was; a means to send people to outer space, a place they had never been before.

The purpose of this paper is to look at the history of NASA, its development within the United States and how it impacted the American people and the culture during its primary years. I want to also explore how these developments were seen as a unifying entity but also one masking human-killing technology as something people friendly. I also plan to look more deeply at how communications and the media helped advance NASA and its vision to the American public up until recently.

To better understand NASA we must first look at how the organization came to be, and what its original purpose was at the time of its infancy 50 plus years ago. After World War II the United States was prospering in ways it never had before, but with this came complications. After the fall of Nazi Germany in 1945, the United States

and the USSR, today what is Russia, struggled over geopolitical power as well as ideological foundations. The US heavily backed the idea of a capitalistic society while the Soviet Union implemented and advanced the ideals of Marxism and Stalinism. Tensions ran high and there was fear of a nuclear war breaking out between the two countries. Interestingly, before the establishment of NASA or the launch of Sputnik1 “Space science...had been conducted according to the honest and open traditions of the search for pure knowledge. Now, ‘The Age of Innocence’ was ended” (Friedman, 1996, p. 13).

During this time “Congress created NASA in large part through the transformation of the National Advisory Committee for Aeronautics (NACA), a forty-year old collection of government laboratories whose employees spent most of their time conducting research on space flight” (McCurdy, 1997, p. 48). In the first few years NASA was busy conducting experiments for its Vanguard mission. At the same time the “USSR mounted a bold effort under a cloak of secrecy that surprised the world with the successful launch of Sputnik in September 1957” (Friedman, 1996, p. 12). This amazing achievement sent the United States into a panic. “By the early 1950s, atomic war was well established among writers of popular science as one of the ways in which the world could end” (McCurdy, 1996, p. 71). This panic occurred because both the United States and the USSR were in the middle of the nuclear arms race. The original intent was to see who could stockpile the most nuclear weapons. Sputnik1, although placed into orbit and used as a satellite, was actually launched using a rocket derived from an intercontinental ballistic missile. By doing this, the Soviets were sending a warning letting the world know that their weapons could reach anywhere. This very fear was used to preoccupy the

minds of Americans. Many believed they would live to see another world war. “In a series of public opinion polls throughout the 1950s many Americans consistently identified the threat of war as ‘the most important problem facing the entire country today’” (McCurdy, 1997, p. 71).

It was this very fear that “played a critical role in unleashing the billions of dollars necessary to begin the conquest of space. Enthusiasm for the grand vision drew force from nightmares about the cosmos as well as from pleasant dreams of space flight” (McCurdy, 1997, p. 53). NASA’s role was to play the part of the savior. If the United States could out beat the Soviets in the space war, we would then have the upper hand and all would be safe. President Lyndon Johnson was quoted as stating, “Control of space means control of the world, far more certainly, far more totally than any control that has ever or could ever be achieved by weapons, or troops of occupation... Whoever gains that ultimate position gains control, total control, over the earth, for purposes of tyranny or for the service of freedom” (McCurdy, 1997, p. 75). However, in order to out beat the Russians the United States government had to win the support of the American public. To do so the government had to make it easy for audiences to understand why the work that NASA was doing was so influential and important to American society as a whole.

“In formulating public policy, politicians and policy advocates work[ed] with relatively simple models of society and the world. The ability of policy advocates to advance their agendas depend[ed] to a considerable extent upon their skill at constructing models that [were] familiar, easy to understand, and desirable. The models used to explain space exploration drew upon some of the most attractive ideas in American society” (McCurdy, 1997, p. 4).

All the while the political body, tried to calm public worries, which “only fueled suspicions that the government was not disclosing all it knew. To the public at large, space technology seemed to be the source from which salvation or doom would come. It was easy for American to believe that control of space would determine the future of the world” (McCurdy, 1997, p. 74).

The struggle for geopolitical power helped finance all of NASA’s major projects during that time period. After President Kennedy’s inauguration into office, he focused heavily on advancing the space program significantly.

“President Kennedy was persuaded that dramatic progress in human space flight was a link to global political leadership and the way to demonstrate to the world that our technological prowess was superior to that of the Soviets. The Soviet muscle-flexing in big rocket technology exaggerated fears in the U.S. of a ‘missile gap’ that spelled a further security threat and world political dominance of communist socialism over Western democracy” (Friedman, 1996, p. 13).

Within the first few months of Kennedy’s presidential term he initiated a grand undertaking to make the US the first country to send people to space. By March of 1961, the president had allocated the necessary funding to “accelerate development of the Saturn rocket program, and in May he established the goal of placing the first Americans on the Moon. NASA’s budget increased tenfold, from \$524 million in the last full year of the Eisenhower administration (1960) to \$5.3 billion in fiscal year 1965” (McCurdy, 1997, p.77). During 1961 to 1963, Congress granted the organization every budget request. At the same time “NASA’s manpower almost doubled to more than 28,000 and its contractors grew from fewer than 60,000 to over 200,000” (Friedman, 1996, p. 14).

The idea of space exploration had existed prior to the space race and prior to the establishment of NASA through science fiction novels, art, and films that portrayed extraterrestrial life and the dream of space exploration. Several major companies such as “Disney and Collier’s exposed millions of Americans to the possibility of space flight. They did so, moreover, in a manner that allowed people to visualize how space flight would actually appear” (McCurdy, 1997, p. 43). Another influential figure was Chesley Bonestell an artist who “had more impact on the emerging popular culture of space in America...Bonestell did for space what Albert Bierstadt and Thomas Moran accomplished for the American western frontier” (McCurdy, 1997, p. 45). Such individuals helped lay the groundwork for the government’s persuasion of its people.

Along with providing visuals there were several other elements that helped draw in the attention of American citizens; the first and most influential one being the metaphor of space as the last frontier. The United States as a country has a tradition of placing value upon the ideals of exploration, adventure, and new discoveries. Space provided the US with the last frontier. “They [imaginings of space explorations] exalt[ed] the courageous explorer who overcomes unimaginable hardships to conquer new frontiers and promote the ultimate promise of new beginnings, where everything will be better than before” (McCurdy, 1997, p. 5). This analogy of frontier life to space was hugely significant. Prevalent within American culture this romanticized notion of exploring really “bred a love of liberty [which] found its expression in the political doctrine of self rule, and migration to the frontier provided a powerful engine for the cross fertilization of ideas and cultures that promoted America’s sense of national identity” (McCurdy, 1997, p. 144). This would be one of the ways that the government

would be able to draw people in. According to Frank White, the author of *The Overview Effect: Space Exploration and Human Evolution*, “The American peoples response to exploration metaphors and space exploration is often compared to the founding of the country and settling of the West. This is understandable because the United States no longer has a physical frontier, and the space program serves a real cultural need for the vision to remain active” (p. 51-2).

An influential figure within the American capitalist system, and an inspiring figure to many, Ayn Rand was quoted as saying, “Throughout the centuries there were men who took the first steps down new roads armed with nothing but their own vision.”

“Rand’s statement commemorates the pioneering spirit, the notion that American accomplishments have been furthered by the presence of new frontiers into which people could carry fresh ideas, an experience through tot be one of the defining characteristics of American society. In the minds of its advocates, space exploration provides a means to continue this experience. Government support of space exploration would maintain the pioneering spirit by opening new frontiers, without which, space advocates argue[d] America would become indistinguishable from other nationalities and the American sense of purpose would disappear. Within the space frontier, Americans, as did their parents and grandparents, would become explorers and pioneers once more” (McCurdy, 1997, p. 139).

By the end of the 50s the message of space travel had swept through American popular culture. Space exploration was no longer something out of science fiction novels but an attainable goal. “People paid more attention to rocket technology and grew less

skeptical of those promoting space exploration” (McCurdy, 1997, p. 47). The early spaceflight program emerged at a time when the American public was driven by science and technology. This was an era that focused on invention and scientific discovery, these new technologies could potentially help the country win the Cold War against the Soviets. In 1962, the Seattle World Fair opened and this was its primary focus. The exhibit treated science as a process of discovery” (McCurdy, 1997, p. 93). In 1964 the New York World’s Fair had the same intentions, but this time “visitors already knew the moral of the show: the machines on display were prototypes of better things to come. NASA’s spaceships would evolve into luxurious interplanetary liners” (Barbrook, 2007, p. 21). The main attractions at the 1964 World Fair were in fact “space rockets, atomic reactors and high-speed mainframes: state-funded technologies for fighting the Cold War. When combined together into computer-guided missiles, these technologies became horrific weapons which could destroy entire Russian cities and their unfortunate inhabitants” (Barbrook, 2007, p. 21). These weapons of destruction were eventually repackaged for the showing at the exhibits of the World Fairs. No longer were they considered human killing machines but rather people-friendly products that would take humanity only further. “Rockets were built to take heroic astronauts into space, not to drop nuclear warheads on Russian Cities” (Barbrook, 2007, p. 34). This shift in image from mass murdering weapons to advancements for society happened because of the great advertising used to hide the true value and intent of these new technologies. According to Barbrook (2007), “The American elite certainly didn’t want tourists on a fun day out at the New York World’s Fair to leave terrified by displays about the ever-

present danger of a nuclear holocaust. The machines of death were therefore repackaged as prototypes of science fiction technologies” (p.51).

The rise in space exploration interest and the development of technologies with the inclusion of the American public was something that hadn't been seen since World War II. The success of NASA brought trust back to the American government system.

“Through the 1960s, the space program provided successive examples of a government program that worked well. This in turn inspired one of the greatest feats of imagination in American history. NASA's accomplishments allowed members of a society founded on the mistrust of government to believe that their political institutions could organize an incredibly complex endeavor and accomplish it successfully” (McCurdy, 1997, p. 99).

All of the space missions that included astronauts were photographed, recorded and televised and many people traveled to watch the actual launches. The Mercury mission during which John Glenn orbited the Earth in February of 1962, attracted a large viewership. “One hundred thirty-five thousand American's watched John Glenn's orbital flight on national television. The flight stopped traffic in New York's Grand Central Station, as thousands of commuters paused to watch the lift-off on a sixteen foot television screen” (McCurdy, 1997, p. 86.) Pictures of Edward White as the first man to “walk” in space during Gemini 4 are still some of the most recognizable photos today. The implementations learned from the Mercury and Gemini programs provided the necessary building blocks for Kennedy's manned mission to the Moon. In July 1969 the United States achieved this goal. This extraordinary feat was televised for the world to see and the media ate it up, to only feed it back strongly to the American public. “An

estimated 600 million people watched the Apollo 11 landing live on television”

(*Telegraph*, 2009), the entire country stopping to watch this event go down in history.

“By the end of the Apollo program twelve American astronauts had stood on the moon and returned safely to earth. Apollo was a political and technological victory for the U.S. over the Soviet Union in the Cold War. Over 400,000 people worked together to achieve the U.S. goal. It represented the high point of NASA’s history and erased worldwide doubts of U.S. space capabilities vis-à-vis the USSR that had persisted since Sputnik preempted the space frontier” (Friedman, 1996, p. 15).

The human element of having astronauts, created a new face of a hero that would conquer and explore the last frontier. These would be the space cowboys. Individuals like John Glenn, Neil Armstrong, and Buzz Aldrin created an emotional connection with public audiences. These men were heroes because of the large sacrifices that they were willing to make for science, technology, the exploration of space, and mankind. This also fed the media’s fascination with NASA and its human space flight program.

“The bravery of the astronauts touched emotions deeply seated in the American experience at that time. Young and courageous, each sat alone in the single-seat Mercury capsule, like the ‘lone eagle’ Charles Lindbergh crossing the Atlantic Ocean thirty-two years earlier. Facing personal danger, they fit the myth of frontier law enforcers whose grit filled the substance of Hollywood matinees and television screens” (McCurdy, 1997, p. 90).

These men were the celebrities of their time and soon became the primary focus of the media. They would be the fuel to the fire for generating continued support of the American public for NASA and its funding. McCurdy argues that the:

“Astronauts appeared at a time when NASA desperately needed to inspire public trust in its ability to carry out the nation’s space goals. Rockets might explode, but the astronauts shined. They seemed to embody the personal qualities in which Americans of that era wanted to believe: bravery, youth, honesty love of God and country, and family devotion” (McCurdy, 1997, p. 91-2).

The media emphasis was so strong that *Life* magazine ran exclusive features on the astronauts and their families. They also signed a contract with the magazine that gave the publication exclusive rights to their personal stories. Through the help of the media and the creation of the astronaut corps, NASA was able to incorporate personal human values to push along their technological advancements.

During this particular time the media played a significantly influential role in showing Americans how space flight worked in real life. At the time there was much criticism about how televisions would be able to broadcast footage of the missions. Surprisingly enough for television stations they prevailed and had the upper hand on print and radio means of journalism and communication. It provided a visual that people could see rather than having to “describe space technology with diagrams and words” (McCurdy, 1997, p. 95).

By the 1970s NASA began to see a decline in not only interest but also funding. “The NASA budget was rapidly reduced in the early 1970s to less than 1 percent of the federal budget, approximately one-fifth of its budge share at the peak of Apollo 10 years

earlier” (Logsdon, p. 5). During this time the country was dealing with the Vietnam conflict and the people’s support of the government was waning. NASA’s decline during this period can be observed in the marked decrease in the number of launches as well. NASA had to create another vision for its organization in order to gain support. This meant something bigger, grander, and with more “oomph”. From this came about the proposal of the Space Shuttle Program. The largest and most significant problem with this were the monetary estimates made by NASA about how much it would cost to build and implement the shuttle as the only heavy lift vehicle within NASA’s fleet. The organization “sadly misled the space community with a 1972 estimate of about \$300 for the operational cost of delivering a pound of payload to Low Earth Orbit (LEO)” (Friedman, 1996, p. 16). That amount turned out to be significantly greater costing NASA close to \$25,000. The lack of funding also drastically impacted the safety precautions taken with spaceflight missions.

The already-waning space program, languishing due to the lack of major, high profile achievements such as the moon landing, was dealt another crushing blow in the form of the *Challenger* disaster. The Space Shuttle *Challenger* exploded after launch in 1986, killing every person on board. An extensive investigation into the causes followed, but the public’s faith in NASA had been shaken. In particular, large numbers of people were watching due to the *Challenger’s* inclusion of Christa McAuliffe, a member of the Teacher in Space Project, who was intended to be the first teacher in space, making the effects of an already prominent disaster particularly visible. This was one of the most obvious signs of the problems with the Space Shuttle Program; as Friedman says:

“The *Challenger* disaster in 1986 brought into full view the dilemma that had been created by reducing the entire U.S. heavy-lift capacity to one risky vehicle. For three years almost no major U.S. missions left the ground. NASA worked furiously to improve the shuttle and to reduce the risks to a minimum” (p. 16). As hard as NASA tried, the American public opinion had shifted to one that was not as positive as it had been the in previous years. In fact “with the accident, NASA’s image moved from that of an agency that could do no wrong to a bureaucracy that could do little right” (McCurdy, 1997, p. 106).

Another particular problem that arose by this time was that spaceflight wasn’t something out of the ordinary anymore and the general public along with the media became bored with it. White (1998) argues that:

“When the Space Shuttle flights were declared routine, the public and the media slipped into bored acceptance of each launch. The truth is that most of those flights were and are far from routine. The Rogers Commission investigation into the *Challenger* accident revealed problems on many flights, some of which came within inches or moments of threatening the lives of the crews” (p. 50).

In the 1980s the United States plunged into a significant financial crisis. Vietnam had sucked a lot of financial resources out of the country and now with President Regan taking office major policy changes were taking place. NASA was told to do it “faster, better, cheaper” all the while neglecting a lot of safety concerns with Space Shuttle missions. This shift in funding and the interest of the American people had to do primarily with the coming of the end of the Cold War. By 1991 the USSR had lost all support from its military powers and fell. The end of this conflict was the number one

factor to why NASA lost money and its supporters. The US government no longer had a need to fund NASA like before because there was no space threat of another great superpower. McCurdy (1997) argues that:

“As concern about the Cold War weakened, so did the connection between the control of space and national security. This created a fundamental program for people promoting the U.S. space program. The fears that furthered their romantic vision of space exploration no longer preoccupied in the public mind. The United States found itself with a space program fashioned in response to an image of the world that never existed in fact and no longer existed in imagination. Without the Cold War, the civil space program became a cause in search of an explanation” (p.78).

Many space advocates tried their hardest to remind the American people why they needed NASA and the benefits that the organization provided. When that didn't work they then turned to the fear of asteroids. They insisted that, “the swarm of medium – to large-sized comets and asteroids, thousands in number, whose paths interest that of the Earth should be catalogued, their orbits calculated” (McCurdy, 1997, p. 80). In 1989, two years before the collapse of the Soviet Union, Ted Turner, the founder of CNN interviewed Carl Sagan the face and voice of NASA at the time. When asked about the possible threats that would require space travel technology, Sagan suggested that all civilizations must develop space travel or perish, suggesting that the choice was, “spaceflight or extinction.”

However, the actions needed to defend against a threat from asteroids are different than defending against a threat from Soviets. The chances of asteroids reaching

earth were not material to the American people. This was not a threat that they could see or fight with military force. As a matter of fact:

“Warnings about asteroids and comets striking the Earth mobilized a response feeble by comparison to space efforts incited by the Cold War. The Cold War really scared people, and asteroids [did] not. The former motivated otherwise pragmatic individuals to implement elements of an extraordinary dream. It set the employees of the National Aeronautics and Space Administration on a mission from which they did not deviate, even when the cause of that mission disappeared” (McCurdy, 1997, p.82).

This began to sound more like a science-fiction novel than something that could happen in real life. The second major issue that had been realized at the time was that space tourism was only a figment of a dream. By the 1990s many believed that it wouldn't happen and it would forever remain a luxury that regular middle class Americans would never get to experience (Barbrook, 2007, p. 54).

NASA's primary issue that they faced and are facing currently is perhaps that the moon landings were a significant and prominent goal for the space program, something that has been lacking since. There was a solid human connection and the country was united over what that goal was. Logsdon claims that “the lack of clear ‘mandate’ for human spaceflight over the past 35 years has meant that the U.S. human spaceflight program, and indeed the NASA program overall, has been sustained by a complex coalition of narrow interests, not by a clearly articulated national goal and a sustainable political consensus in support of achieving that goal” (p. 4). Similarly in an interview with Ted Turner in 1989, astrophysicist Carl Sagan stated that, “The United States has

been awful. Since 1978, the U.S. which led, pioneered the exploration of the solar system has not launched one space craft to the moon or planets in more than a decade.”

Carl Sagan was only one of many space advocates and scientists who worked for the organization that tried to bring interest back into what NASA was doing for research. Marina Benjamin the author of the book *Rocket Dreams: How the Space Age Shaped Our Vision of a World Beyond* claims that NASA and the exploration of Space has impacted and shaped our worldviews in a variety of ways. “ ‘The impact of seeing the Earth from space focused our energies on the home planet in unprecedented ways, dramatically affecting our relationship to the natural world and our appreciation of the greater community of mankind and prompting a revolution in our understanding of the Earth as a living system.’ ”

In light of the radical changes in the American consciousness and the climate of the space program, NASA has had to change its focus in radical ways. The traditional narratives surrounding American space flight are gone, and new ones installed in their place. The organization up until now had been struggling between the decision of human spaceflight versus robotic exploration of space. The latter is much easier, but not nearly as captivating of the imagination as the former. When humans are involved there are emotions and feelings and the things that they are able to see portray more than a robotic machine. It is multidimensional. The implementation of the human spaceflight program opened up doors for humanity as a whole. Carl Sagan was quoted as saying that through NASA and its exploration of space “We have opened up a universe of wonders. We have looked close up at dozens of new worlds. Worlds that we never saw before. Unless we were so stupid as to destroy ourselves there are going to be people exploring those

worlds. There are going to be human habitations on those worlds. We're going to be moving out into space in the next century" (Klockantre, 2007). On one of NASA's web pages titled Why We Explore, they write, "Humans will not be content with a Space Odyssey carried out by robotic surrogates, any more than the other great voyages of human history. Robots extend the human senses, but will not replace the human mind the foreseeable future, even with advances in artificial intelligence." Humans are able to move one another.

A lot of the changes in the space program today derive from fundamental shifts in the public perception of NASA and how crucial its existence is to the government. At one point, space was seen as the "final frontier", and the astronauts who braved it were considered to be heroes on the same order as the cowboys and lawmen of old. The problem according to astrophysicist Neil deGrasse Tyson, is that Low Earth orbit of the 1960s is no longer a space frontier. He advocates that "The original space act from 1958 says NASA needs to expand its space frontier. Low earth orbit is to boldly go where hundreds have gone before. It's not a frontier anymore." (ubcommunications, 2010)

On the other hand, today's NASA is not nearly as much of an aspiration for people. At one point, children dreamed of becoming astronauts, but modern NASA does not serve as fundamental a purpose in the dream of American national identity. Tyson states that:

"Nobody is dreaming about tomorrow anymore. NASA knows how to dream about tomorrow if the funding can accommodate it. If the funding can empower it. If the funding can enable it. Yeah, you need good teachers, no doubt about it, but the teachers come and go because I got to the next grade. Teachers can help

light a flame but I need something to keep the flame fanned. It's about the effect of NASA on who and what we are as a nation. What we have been as a nation."

(ubcommunications, 2010)

He goes on further and states that :

"NASA at best as I can judge is a force of nature unlike none other. I have never seen with all due respect to other federal agencies, I have never seen 8th graders sit up in their chairs and say, 'When I grow up I want to be an NSF researcher or a NIH researcher.'" What worries me is that if you take away the man program, a program which if you advance frontiers, heroes are made. There's a force operating on the educational pipeline that will stimulate the formation of scientists, engineers, mathematicians, and technologists, the stem research fields."

(ubcommunications, 2010).

In an interview with Forbes (2012), Tyson explained that "It takes more than few steps of reasoning to see how NASA influences a culture and how that culture innovates, creates the economies of tomorrow, stabilizes and then grows your economy."

Interestingly enough, he also recognizes and acknowledges that the fastest way to gain the support of the public and of the American people is if there is another severe national security risk that deals with space and threats from other great superpowers.

"We didn't go to the moon to explore or because it was in our DNA or because we're Americans. We went because we were at war and we felt a threat. It was the kill-the commie threat. In response to that threat we go to the moon. We find out that Russia's not going to the moon – we're done. Mars was never in anybody's sights. Of course, if China says it wants to put military bases on the moon or on

Mars, we're back. We'd be on Mars in two years if that were the case no doubt about it. But no one wants war to be the driver for these things" (Barth, 2012). The effects of NASA's decline are felt more strongly than one might suppose.

Obviously, NASA is not performing research into space flights and related areas of space exploration, which may be seen as a small thing, not truly relevant to the modern world. However, more than merely being a vessel for putting people into space, NASA's research was relevant both as a means of exploring the possible future of technology on the planet as well as a major economic force providing many jobs. In an article written by William J. Broad for *The New York Times* it is estimated that because of budget cuts and attrition within the past years "the shuttle work force has declined to 7,000 workers from about 17,000." This cut in work force also affects the motivation of engineers and scientists to work for NASA. From this the consequence is something called "Team B Effect". The idea is that because of the looming danger of job loss many of the best and the brightest see their work coming to an end and decide to leave before it happens. This then means that all of the "B students" are left to take over those jobs. Broad's article states that "Experts say the Team B effect contributed to the disasters in the mid-1980s and late 1990s that destroyed more than a dozen rockets, wiped out billions of dollars in satellites and threw the nation's unpiloted space program into turmoil."

In 2011 NASA officially closed its doors on the Space Shuttle Program, leaving many wondering where the organization will be going. This shift has created a gap in which the country will now have to rely on other countries to be able to send Americans into space (Handwerk, 2011). "A Monitor/TIPP poll shows clearly that Americans are not pleased by the idea of relying on Russia-or anyone else- to reach space. Some 78 percent

of respondents said it was very or somewhat important for the US to maintain its leadership role in space” (Sapp Enfield, 2011). It is estimated that one seat on the Russian Soyuz spacecraft will cost the U.S \$51 to \$63 million round trip. In the meantime private contracting and commercial spaceflight have become a huge part of the buzz in the media. Recently several large companies such as SpaceX, Virgin Galactic and several others are trying to design cheaper and more affordable transportation into Low Earth Orbit.

NASA formed an integral part, almost a peak, of the history of the United States and even mankind, something people point to as a crowning achievement of human beings everywhere. The 1960s defined the United States as a progressive country, with the means to attain the unattainable. Despite the program’s beginnings as a happy face on machines of war and death, NASA became a way to unite the country and even the world behind single moments and unimaginably ambitious pursuits. More than that, NASA gave people a goal, a future. Astronauts were the heroes of tomorrow. Although this was all done through the propaganda of fear and the idea that disaster would strike, from it arose innovation, dreams of bigger and better things, and the want and need to explore more. NASA helped the country become interested in science and technology as a whole and fueled the desire for children to become astronauts and engineers, areas, which in today’s world are lacking individuals who are interested in these fields. NASA has been cut back in the name of efficiency and pragmatism, as a way of cutting spending from a stretched federal budget, but there is still the possibility that it could join the country as one entity again and perhaps not because there is fear of a national security threat.

It is key to keep in mind that NASA's budget does not even compare to that of the United States military budget of today. During the Bank Bailout the United States government spent \$700 billion dollars, while the running budget for NASA since 1958 to 2010 was \$471.23 billion.

“That sum of money is greater than the entire 50 year running budget of NASA. And so when someone says that we don't have enough money for this space probe. I'm asking no it's not that you don't have enough money, it's that the distribution of money that you're spending is warped in some way that you are removing the only thing that gives people something to dream about tomorrow... You remember the 60s and 70s. You didn't have to go more than a week before there was an article in Life magazine. The home of tomorrow, the city of tomorrow, transportation of tomorrow – all, which ended in the 1970s. After we stopped going to the moon, it all ended. We stopped dreaming and so I worry that the decisions that Congress makes doesn't factor in the consequences of those decisions on tomorrow” (Ihite, 2011).

While discussing what the potential questions for this paper could be with my peers, I had several people gush about how as children they were surrounded by images of astronauts, space shuttles and NASA memorabilia. I too was able to experience some of that but this atmosphere has changed drastically. Although plans for commercial spaceflight are in the works and are more real than ever before, NASA still intends to strive for deep-space exploration. “The bold new human spaceflight vision, despite its many challenges, offers huge opportunities for success and benefits to the nation and humankind. If any organization can succeed – and boldly send humans where none have

gone before – it is NASA and its partners” (Williams, 2011). Although there are plenty of factors that have cause NASA to stumble and struggle, what is important is that human beings are naturally curious creatures. The United States as a world super power prides itself on its knowledge and intellect of the world around us. Friedman (1996) says that, “science has always been among the highest pursuits of civilized societies. An awareness of the mystery of the universe is one of the keys to man’s understanding of himself and of his place in the grand design. We can set no price tag on such knowledge” (p. 21) And so we must ask ourselves time and time again like Neil deGrasse Tyson has asked the American public, “How much are you willing to pay for the universe?”

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