

The “Space Race” of the 1950’s and 1960’s was quite an interesting and amazing time, not only for the United States and The Soviet Union, but for the rest of the world as well. New, and fantastic ideas of exploring beyond our own world, mankind going into a whole new and unknown territory. The idea of seeing what is really out there, and ultimately if we are truly alone in the universe. The two “superpowers” of the world locked in a battle to see who could develop the technology faster, and be the first to go into this unknown expanse. Two nations in a race to stake a “claim” on other worlds. The “Space Race” was, in essence, a show of arms between the United States and the Soviet Union to prove who was more technologically advanced.

The space race began as many government and military programs do, as a way to increase military power, and dominance on the world stage. The earliest stages of this program began in Nazi Germany when Nazi scientist Wernher von Braun and his team developed, built, and successfully launched the V-2 rocket. These rockets were, of course, weaponized to deliver explosives to London, and the hopes of having them deliver nuclear warheads to the Allied countries, and even to the United States. As World War II was coming to an end, von Braun, along with many of his fellow scientists surrendered to the United States, bringing both materials, and a wealth of knowledge with them to the United States army. With this newfound knowledge, the army established its first rocket program in White Sands, NM, and later to Huntsville, AL, and eventually became the NASA Marshall Spaceflight Program.

Of course, the United States was not alone in the acquisition of rocketry, as the Soviet Union also captured many Nazi rocket scientists and began their own rocket programs. The

Soviet Union's program was headed by Sergei Korolev who, like von Braun, was a very accomplished scientist. These men and their respective teams were instrumental in creating and developing these two nation's respective space programs. They both began as a means to deliver warheads great distances in attempts to dominate the world military scene, however, when the United States and Soviet Union realized the further potential for rockets to deliver satellites into orbit, both for the study of our own planet, as well as further space exploration, the "Space Race" was born, but the threat of war was still very real. The Soviet R-7 rocket, for example, was incredibly powerful, and the United States government was fearful that it would have the ability to deliver a nuclear warhead into the United States. For this reason, we had a much more urgent mission to launch spy satellites to gather intelligence on the military activity of the Soviet Union.

The true "Space Race" officially began in 1957 when it was decided that would be the year that scientists from around the world would band together to begin their study from space, while it was the United States and the Soviet Union that made their intentions known that they would be launching satellites for just that purpose. The Soviet Union, of course beat the United States with the launch of their Sputnik (Russian for "Traveler") satellite on October 4th, 1957. The soviet people celebrated their victory, and their amazing achievement, and only a month later, launched Laika the dog into orbit aboard Sputnik 2. Meanwhile, the United States struggled through many failures before finally launching the Explorer I satellite into orbit on January 31st, 1958. However, with the use of the equipment on board, we learned more about our atmosphere by discovering the Van Allen Radiation Belt.

Once both nations had successfully entered the realm of space, the American people, the anti-communist McCarthy era, and the overall national pride felt by the country drove the United States need to catch up to the Soviet's technology, go beyond it, and prevail in the "Space Race".

The National Aeronautics and Space Administration (NASA) was created on October 1st that year by an act of congress, but NASA wasn't the only space organization created at that time. President Eisenhower also two other space programs oriented around national security. The first was a program built with, and for, the United States Air Force, and was dedicated to exploring the potential of space from a military perspective. The second program was spearheaded by the Central Intelligence Agency (CIA) along with the U.S. Air Force, and the new National Reconnaissance Office (whose existence, incidentally, was classified until September 18th, 1992). This program was code-named Corona, and was developed for intelligence gathering on not only the Soviet Union, but their allies as well. Meanwhile the Soviet Union began a government program of their own, Project Vostok. Both of these programs were advancing quickly, but the Soviets once again took the lead on April 12th, 1961 by not only putting one of their men into space, but also into orbit. This was achieved by Yuri Gagarin aboard the Vostok-1. However, the Soviet Union's celebrations were short lived, as the United States, less than a month later, on May 5th, 1961, launched astronaut Alan Shepard into space. He did not reach the level of the Soviet cosmonaut, and his flight only lasted for fifteen minutes, but it did succeed in putting the United States back in the race.

A short time after Alan Shepard's short mission, and only a few months after John F. Kennedy took office, on May 25th the president sent out an incredible challenge, and commitment to the country, and to NASA, to successfully land a man on the Moon, and to return to Earth by the end of the decade. This was a pledge that most Americans did not feel could possibly be achieved, but with President Kennedy's ability to inspire our great nation, and the hard work and determination of all the others involved, the American people went from disbelief to pure excitement at the possibilities that could lie ahead. This was a major boost to the "space

race” between us and the Soviet Union, as it put the whole race on the fast track. President Kennedy asked congress for an additional seven to nine billion dollars over the next five years to fund the nation’s space program. With pressure from vice president Lyndon Johnson, congress passed the budget expansion, by nearly five hundred times, and NASA received the funding it needed to grow, and ultimately to realize the vision of our president, John F. Kennedy, and the dream of our nation and the world. Of course, an enormous amount of money like this doesn’t come without sacrifice. This sacrifice came in the form of increased taxes on the American people. This was a particularly heavy burden on a nation terrified that a nuclear war may be imminent, but as we always have, we worked harder, fought harder, and made it work. This huge boost in financing and development also created a large amount of jobs which greatly helped the economy by employing a great number of out of work Americans.

Project Mercury was the fruit of much of the new push into space, its mission was to prove whether or not we could design a vehicle to operate and survive in the “great unknown”, and if human beings would be able to do the same. By the time Project Mercury had completed, the Faith 7 spacecraft was launched, and aboard it, American, Gordon Cooper successfully orbits the Earth twenty two times. However, the Soviets once again eclipsed our accomplishment by orbiting the planet eighty one times with their Vostok 5, and also were the first to put a woman into space when Valentia Tereshkova completed a staggering forty eight orbits around the Earth. However, this would be the beginning of the end for the Soviet’s lead against the United States in the race to the moon. Tragically, on November 22nd, 1963, at the age of only 46, President John F. Kennedy was assassinated in Dallas, Texas by Lee Harvey Oswald while setting the stage for his re-election campaign. Many have believed, over the years however, that the death of President Kennedy may have actually saved our space program from failing, as the American

people could not bear the thought of letting him down, or destroying a great man's legacy. President Lyndon B. Johnson was feeling the pressure of the race, but never backed down in his commitment to it. On March 23rd, 1965, during a phone call with Senator John McLellen President Johnson stated "We hope it works out all right. We got a long ways to go. These boys [the Soviets] are kind of running rings around us, but we don't get hot until we get real behind and then we start looking for somebody to make a scapegoat out of ... but ... we think we got a fair chance to keep up with these people by '70." And to that extent, Lyndon B. Johnson remained committed to President Kennedy's goal of landing a man on the moon by the end of that decade.

The next logical step was to develop vehicles large enough to carry more people. To this extent, the Soviets introduced the Voskhod spacecraft, while the United States created the Gemini. The Soviets took the early lead with the Voskhod 1 when they sent three of their own into orbit, and the Voskhod 2 sending cosmonaut Alexei Leonov to complete the first spacewalk. It is during the Gemini missions that we surpassed the Soviets. Throughout these missions, we learned to change course and change orbit, were able to dock with a rocket, and performed spacewalks of our own. By the time the program was completed we had discovered how to work, fly, and even live in outer space for a long enough time to complete the Moon mission we had set out to accomplish. As we were coming closer and closer to realizing our goal with the introduction of the Apollo program, and despite the tragedy of the Apollo 1 on January 27th, 1967, and the loss of three of our very own, the Soviets realized their defeat, and chose to change their directive to one of gathering data both in Earth orbit, and of the moon through unmanned spacecraft. They also began sending animals into space for long periods of time, and developing newer, greater technologies for use in space.

The year 1968 proves to be a big year in space exploration. The Soviet Union launches Turtles and other biological specimens on a slingshot mission around the moon and back to Earth aboard the Zond 5 craft. “The crew of Apollo 7 begin a 10 day mission to study the new spacecraft”¹ In December that year, Apollo 8 was launched which the first mission that sent men into orbit around the Moon. Astronauts William Anders, James Lovell, and Frank Borman, successfully orbit the Moon, and on Christmas Eve, in a broadcast heard all around the world, took turns reading the Book of Genesis from the bible.

Beyond his commitment and dedication to see President Kennedy’s Moon landing mission through, however, President Johnson drastically lowered the amount of funding he was willing to provide NASA for post-Apollo endeavors. “Decisions were made not to order additional Apollo hardware, such as the Saturn V moon rocket.”² These decisions effectively put an end to the Apollo program after the Apollo 11 mission. However, ironically, at the end of his presidency, Lyndon B. Johnson sent, as a gesture of goodwill to the leaders of the world, the now iconic “Earthrise” photo taken by William Anders on December 24th, 1968.

The Soviets achieve a great milestone on January 16th, 1969 when the Soyuz 4 and 5 spacecrafts become the first Soviet spacecraft to dock together. Then, of course, comes July 20th, 1969, a day that will live forever in the history books as the day mankind first stepped foot on land that was not of our world. From the famous words “The Eagle has landed”, to Neil Armstrong and Edwin “Buzz” Aldrin take the very first steps onto the surface of the Moon by any human being, and thus claim both a hard fought victory for the United States in the “Space Race”, but more importantly a victory for all of mankind, and the now iconic statement by Neil

¹ "Timeline of Space Exploration." The Space Race. 2001-2009, 1, Accessed July 23, 2016. <http://www.thespace.com/timeline/>.

² Logsdon, John M. "Ten Presidents and NASA." May 28, 2008, 3, Accessed July 18, 2016. http://www.nasa.gov/50th/50th_magazine/10presidents.html.

Armstrong, “That’s one small step for man... one giant leap for mankind”. We proved, on that day, that no matter how big we dream, how high the mountain is, or how many obstacles stand in our way, that if we set our minds to accomplish the unimaginable, it will be done!

Following the Moon landing, though he recognized the United States having the lead in space meant, in part, that we also had leadership in global diplomacy, current President, Richard M. Nixon spoke directly to the astronauts who had just walked on the moon, “As you talk to us from the Sea of Tranquility, it inspires us to redouble our efforts to bring peace and tranquility to Earth.” President Nixon, throughout his presidency would continue the downward slide of NASA’s budget to the point that it would stand at less than one percent of the federal budget, less than a quarter of what it once was. This put the final nail in the coffin for the Apollo program, forcing NASA to cancel three already planned lunar missions; Apollo 18, Apollo 19, and Apollo 20. Sadly, it has remained at that level ever since. However, President Nixon’s handling of the space program wasn’t altogether negative or destructive. In January of 1972, Nixon gave the go ahead on developing the space shuttle. He stressed that the space shuttle would best be served by using for both civilian as well as military purposes, of course stressing more the prior. The president envisioned great things for the space shuttle such as aiding in earthquakes and other natural disasters, bringing nuclear waste into space to dispose of it, collecting solar power in space and sending it to the Earth, among other uses.

During Jimmy Carter’s presidency, space exploration saw the lowest level of support since its induction. It was this lack of presidential support that tied NASA’s hands in the space shuttle program, and in 1979 almost put an end to it entirely. However, Carter’s top men advised the president not to be so hasty, as the shuttle would be needed to play a major role in the launch of reconnaissance satellites that, among other things, would be crucial in keeping an eye on other

nations as agreements for arms control were being developed. Although the first launch of the space shuttle came shortly after Carter's presidency, he contributed to the messages being taken into space in hopes of reaching other intelligent beings. The following is that message in its entirety; "We cast this message into the cosmos. It is likely to survive a billion years into our future, when our civilization is profoundly altered and the surface of the Earth may be vastly changed. Of the 200 billion stars in the Milky Way galaxy, some – perhaps many – may have inhabited planets and spacefaring civilizations. If one such civilization intercepts Voyager and can understand these recorded contents, here is our message: 'This is a present from a small distant world, a token of our sounds, our science, our images, our music, our thoughts, and our feelings. We are attempting to survive our time so that we may live into yours. We hope someday, having solved the problems we face, to join a community of galactic civilizations. This record represents our hope and our determination, and our good will in a vast and awesome universe.'"³ While in office, Jimmy Carter did honor a handful of astronauts, and the wife of Gus Grissom with Congressional Space Medals of Honor at the Kennedy Space Center.

After the "Space Race" came to an end, a new, and very different era of space exploration began. Russia (formerly the Soviet Union) and the United States began to work together, the cold war eventually came to an end and a whole new era of peace was built between us. Together, we created the International Space Station which was launched on November 20th, 1998. This was a huge milestone in the history of our two nations, as well as the other nations who contributed to it.

³ Logsdon, John M. "Ten Presidents and NASA." May 28, 2008, 6, Accessed July 18, 2016. http://www.nasa.gov/50th/50th_magazine/10presidents.html.

The “Space Race” that had once been a battle for supremacy, it seems, has ultimately become part of that which helped to end the cold war, brought together the two largest “super powers” on Earth, and united much of the modern world in an effort to work together under the ideals President Kennedy took charge of, and what this world has been built upon, and that is exploration, discovery, and possibly one day we will truly be a people united.

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