

The Space Race: Advancements in Communication

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Choosing our topic was difficult, we both spent countless hours attempting to find a topic that would be not only unique, but reflect our interests. Following some heated debate we eventually settled on the Space Race. This was an undoubtedly notable step in American History that had serious ties in communication not only nationally, but on a global scale. We would come to discover that our interest in this era went further than just the moon landing, it was found within the intricate and powerful history that preceded every launch and development.

Once our topic was decided we found that a documentary would best represent the emotions felt throughout this era of scintillating discovery. Research soon followed afterwards, we began by developing our basic knowledge of the topic through various films and databases that were scattered throughout the internet. This allowed us to further narrow down the exact time frame in which we could relate the Space Race to the theme while maintaining the passionate and nostalgic aspect of the period. We then moved on to find books that could provide us with the exact information needed to make the documentary as accurate as possible, this led us to locate first-hand accounts which overall proved to be the most moving and powerful sources.

Creating the project itself was a relative struggle. The ongoing pandemic made collaborative efforts a difficult task. We ended up using a video and audio editing software known as OpenShot. This allowed us to share updates on progress. The video was created mainly by Adam on his laptop while Max helped provide video, photo and audio sources. Finding high quality, non-copyrighted footage from the time period proved to likewise be a difficulty. We managed to settle on high quality photos that while still images, spoke thousands of words.

The Space Race was one of the single most influential decades in American communication. From satellite television to cellular telephones it defined an entire era of technological advancements. Yet it's impacts go further than simply innovation. This iconic period had roots in the infamous Cold War. As a direct result the space-age communication technology that was quickly pushed to the forefront of the conflict was more often than not utilized in espionage-based operations and even in vies for political power. The Space Race's contributions to communication even lives on in the world around us today. Modern computers found their origins in the piloting systems of space shuttles and lunar landing craft, our gps systems, weather trackers, and high definition televisions only exist today because of the massive strides taken during that time period. A family can now speak face to face with relatives living anywhere in the world or a teacher can teach their students from home in the middle of a pandemic. In the long run, the most influential moment from the Space Race wasn't landing men on the moon, or piloting rovers on mars, it was in the way it would bring us together here on Earth.

Annotated Bibliography:

Primary Sources:

Works Cited

Andrews, Evan. *U-2 Spy Plane*. 1 May 1960. *History.com*, A&E Television Networks, 1 May 2015, www.history.com/news/remembering-the-u-2-spy-plane-incident. Accessed 19 Feb. 2021. The U-2 spy plane was an extremely essential plane that was often used in cold war operations. It was used in our video as perfect example of the technological innovations made throughout the Space Race.

AP-Shutterstock. A mushroom cloud rises moments after the atomic bomb was dropped on the Japanese city of Nagasaki on Aug. 9, 1945, three days after the U.S. dropped an atomic bomb on Hiroshima. 9 Aug. 1945. *TIME*, 6 Aug. 2018, time.com/5358113/hiroshima-nagasaki-history-reconciliation/. Accessed 19 Feb. 2021. The bombs dropped on Hiroshima and Nagasaki consolidated American superiority from both a military and technological aspect. The development of the atom bomb was a key defining moment in recent history and the stalemate that occurred following its usage impacted politics up to a century later. We used this image to help identify and contextualize the Space Race's position on a global scale.

Archive, Bettmann. Cold War Nuclear Fallout Shelters. Nov. 1958. *History.com*, A&E Television, 26 Feb. 2020, www.history.com/news/cold-war-fallout-shelter-survival-rations-food. Accessed 18 Feb. 2021. Following the widespread production and successful testing of nuclear bombs throughout the Russian and American superpowers many feared for their lives in the

event of a nuclear attack. Bunkers became a popular installment in various houses and this image is the prime example of one of these bunkers. We used this example of a bunker to show how terrified people were of the Soviet Union and the help further develop the true extent of fear and paranoia that the Space Race cultivated.

Archive, Hulton. Khrushchev with President Kennedy. 1961. *Hull Collegiate School*, 2021, www.hullcollegiateschool.co.uk/content/source-analysis-on-a-cuban-missile-crisis-cartoon-by-year-10-raeesa-5427602150026078. Accessed 19 Feb. 2021. This comic strip and political satire demonstrates a good perspective of how people viewed the ongoing space race and more broadly, the Cold War in general. It depicts John F. Kennedy and Nikita Khrushchev arm wrestling, with the loser causing nuclear war. This image was a perfect addition to our documentary as it shows the kind of political humor that would've been seen on a more individual scale, while highlighting the point of view of the average citizen.

Atkinson, Katie, producer. *Sounds of a Launch*. MP3 file, Wallops Flight Facility, 2018. This was a sound recording of a missile launch. We implemented this audio-byte over still images in hopes of make our project more "professional".

Black, Jeremy. *Eisenhower and the Cold War*. 30 Aug. 1954. *Foreign Policy Research Institute*, 20 Feb. 2018, www.fpri.org/article/2018/02/eisenhower-cold-war/. Accessed 18 Feb. 2021. This photograph depicted president Dwight D. Eisenhower signing a formal and highly important document. This photo fit extremely well over a good chunk of our script, which noted Eisenhower's support of NASA and the space program.

Bureau, Independent. *New York Herald Tribune*. 7 Oct. 1957. *The Independent*, 5 Oct. 2017, theindependent.in/sputnik-the-launch-freed-man-from-gravity/. Accessed 19 Feb. 2021.

This was a newspaper headline that occurred directly following the momentous launch of Sputnik I. It made the claim that the Soviet Union had triumphed in the race to space and upon further investigation goes into further description surrounding the Sputnik satellite and its impacts. We used this image as a good demonstration of the poor outlook many media platforms provided after Sputnik was sent into orbit.

Burke, James. *Computer in the 60s*. 3 Dec. 1981. *British Broadcasting Company (BBC)*, 11 Sept. 2015, www.bbc.co.uk/programmes/p031t265. Accessed 18 Feb. 2021. This photo shows a man operating an extremely clunky and heavy-duty piloting computer from the late 50's to early 60's. By showing this image and following it up with an image of an operating system from only a decade later it helps identify the massive strides taken in technological communication and computing, a point we have attempted to align with our theme.

Butrica, Andrew J. An Air Force Atlas booster placed into orbit a communications relay satellite, PROJECT SCORE. 18 Nov. 1958. *NASA*, 6 Aug. 2004, www.nasa.gov/50th/windows/50s/score.html. Accessed 18 Feb. 2021. This is an image of the Atlas boosters that took the SCORE satellite into orbit. We used this image to help provide the viewer with a greater understanding and view of some of the historical events that we list throughout our script. By providing this photo it helps flesh out the factual side of our documentary.

Catechetical Guild. *Is This Tomorrow*. 1947. *National Geographic Society*, 2021, www.nationalgeographic.org/activity/ally-enemy-american-perception-soviet-union-1920-1950/. Accessed 19 Feb. 2021. We drew multiple photos, illustrations and images from this collection. This source provides a bountiful amount of political propaganda that was

often thrown around the nation during the height of the cold war. As a result this propaganda often had an impact on the minds of Americans throughout the space race, further defining the contextualization aspect of our documentary.

CBS. "CBS Television Special Report: Sputnik 1 (TV)." *The Paley Center for Media*, Paley Center in New York, 2021,

www.paleycenter.org/collection/item/?q=cbs&p=20&item=T78:0582. Accessed 19 Feb.

2021. This is perhaps one of our strongest sources. This clip is a special CBS report created following the launch of Sputnik I. It highlighted both the worries and paranoia the sputnik I satellite created upon its successful voyage. We used it as it most definitely provides the viewer with the feelings and sentiments the average American would've felt as soviet communication spread into the final frontier.

Deutsch, Hulton. Werner von Braun (1912-1977), the German-born American rocket engineer with model rockets. 16 Sept. 1960. *TIME*, 18 June 2019,

time.com/5627637/nasa-nazi-von-braun/. Accessed 19 Feb. 2021. This is an image of the

German born, American scientist, Werner Von Braun. By introducing this picture we not only further developed the history behind NASA and space exploration but we further introduced his undoubtably notable contributions to communicative innovation.

Eisenhower, Dwight D., performer. *Eisenhower's Christmas Message*. .MP4 file, SCORE, 1958.

This was an audio transcript of President Dwight D. Eisenhower's Christmas broadcast.

Taking into consideration the fact that this message was the first ever broadcast to be transmitted through space it holds an extremely important role in tying communication to the Space Race, something that we attempted to fulfill by adding this transcript to the documentary.

---. "Missile-Age Report From Eisenhower 1957." *British Pathé*, 2021,

www.britishpathe.com/video/missile-age-report-from-eisenhower/query/missile-age.

Accessed 19 Feb. 2021. This is a video of former President Dwight D. Eisenhower responding to the initial panic brought forth by the launch of Sputnik I in 1957. In his message he makes sure to denounce Soviet achievements and reassure the general public by reaffirming the US military's superiority. This video not only supports the claim we made regarding the sputnik panic, but it even goes on to introduce the notion of the weaponry based arms race transitioning to the communication based space race.

Euronews. "60 Years On - Laika the Dog in Space." *Euronews*, 11 Mar. 2017,

www.euronews.com/2017/11/03/60-years-on---laika-the-dog-in-space. Accessed 19 Feb.

2021. This is a video clip from a news report on Laika the Dog, the first animal ever sent into space. Laika is well known for her space achievements but also for the sacrifices she made when she was sent to space. The aftermath in the US following the Soviet success in sending Laika into orbit was horrendous. Many Americans felt that they had lost, even more felt that the US should work towards improving their space program, particularly focusing on communication. We used this video because it symbolizes the entirety of the space race and was the main push in the US entering the race.

Ferreira, Mariordo Camila. Aerial view of The Pentagon, Arlington, Virginia. 10 Aug. 2010.

Learn Liberty, Students For Liberty, 27 Dec. 2016,

www.learnliberty.org/blog/the-black-hole-of-pentagon-finance/. Accessed 19 Feb. 2021.

This photo is an aerial black and white photo of the Pentagon in 2010. Because the Pentagon was originally built following WWII, it was often the main source of covert operations in the US. We used this image to show how the communicative improvements

made throughout the Space Race was also a key figure in the espionage that occurred throughout the Cold War.

The first ICB in 1958. 4 Dec. 1958. *NASA*, 2003,

www.nasa.gov/pdf/251093main_The_NASA_Heritage_Of_Creativity.pdf. Accessed 18 Feb. 2021. This is a photo of the group of NASA scientists and higher-ups that helped put together and fund the group. Considering NASA's importance in the Space Race it was vital that we gave some context surrounding the creation of NASA as it becomes important when talking about the communicative innovations made along the way.

Hodges, General. Special Map Showing Contact Between Gen. Hodges' First U.S. Army and Gen. Jadov's Fifth U.S.S.R. Army 25 April 1945. 25 Apr. 1945. *Geographicus: Rare Antique Maps*,

www.geographicus.com/P/AntiqueMap/USArmyRedArmyElbeMeeting-g2section-1945. Accessed 19 Feb. 2021. This is an antique war map that clearly demonstrates the pincer movement that the Soviets and the Americans took in WW2 when they were attempting to retrieve the advanced weaponry and rocketry provided by the one powerful nazis. We included this map as it helps further flesh out the context of which the space race was born out of.

"The Huntsville Times." *Nasa*, NASA,

www.nasa.gov/mission_pages/shuttle/sts1/gagarin_anniversary.html. Accessed 19 Feb. 2021. This is a NASA provided newspaper clipping that shows the true extent of Yuri Gangarin's voyage to the moon. It helps highlight the emotion that Americans would've been feeling upon hearing the news; a mix of curiosity and dread. In our documentary it

once again helps provide a timeline for us to go off of when bringing up the the advancements in communication that occurred throughout the space race.

Kennedy, John F., performer. *John F. Kennedy Moon Speech - Rice Stadium*. .mov file, NASA, 1962. This is a clip from the highly renowned Rice University Speech that John F. Kennedy gave in hopes of provide the US with the goals necessary to reach the moon first. We had to include this clip as it is impossible to make a documentary about the space race without having Kennedy's Moon speech in it.

KGB. 1 Mar. 2018. *History.com*, A&E Television, 25 Apr. 2019, www.history.com/topics/russia/kgb. Accessed 19 Feb. 2021. This was an image depicting the KGB emblem often worn by higher up members in the Soviet Union. The KGB was notable for its covert, espionage based operations. We included the image as a method of showing the total extent of the undercover operations that was performed by both the US and the USSR.

Kilgore, De Witt Douglass. *Arthur C. Clarke at 100*. 1964. *Science Magazine*, American Association for the Advancement of Science, 15 Dec. 2017, science.sciencemag.org/content/358/6369/1393?rss=1&utm_content=bufferf5682&utm_medium=social&utm_source=facebook.com&utm_campaign=buffer. Accessed 18 Feb. 2021. This is an image of the popular science fiction novelist Arthur C. Clarke. His heavy influence in scientific fiction was becoming a reality as the Space Race went on, we included him to show his reaction to Sputnik, thereby demonstrating the fear and paranoia that many people experienced in 1950's America.

Konuhov. *The Victory of Communism Is Inevitable*. 1969. *PBS*, 11 July 2017, www.pbs.org/newshour/world/these-soviet-propaganda-posters-meant-to-evoke-heroism-

pride. Accessed 19 Feb. 2021. This is an example of the rampant Soviet propaganda that was a major factor in influencing the Soviet population into support ventures into space. Propaganda is always a good method of identifying both the sentiments of citizens and the government so we included it to explain the extent of the Space Race.

Launch of Explorer 1 on the Juno rocket. 31 Jan. 1958. *NASA*,

www.nasa.gov/feature/60-years-ago-explorer-1-becomes-america-s-first-satellite.

Accessed 18 Feb. 2021. This is an image of the rocket that launched the explorer I. We added this into the video for the cinematic effect and primary evidence it would provide to our documentary.

Miller, France. Picketing workers watched TV in a tent outside the gates of a U.S. Steel plant in Gary, Indiana, during a strike in 1959. 1959. *LIFE*,

www.life.com/lifestyle/classic-photos-of-people-and-their-television-sets/. Accessed 18

Feb. 2021. This is a collection of images that shows the importance and all around marvel television was to the American People. We included these images to help explain why American space innovations mainly focused on improving communication such as television and radio.

Miller, Francis. Listening to Sputnik I radio signals, ham radio operators Dick Oberholtzer and

wife in Elm Grove, Wisconsin, hear beeps every second, October 1957. 4 Oct. 1957.

National Park Service, 20 Oct. 2020, www.nps.gov/articles/mimiarmsrace-01.htm.

Accessed 19 Feb. 2021. This man and his wife are listening to the signals that were released by the Soviet Sputnik I. The amazement and bewilderment on their faces truly put into scale how incredible the launch of Sputnik really was. We included this image on

account of their faces explaining everything and giving the viewer a much fuller understanding of the emotions an American would be feeling throughout the Space Race.

NASA. *Apollo 11 crew*. 1969. *Encyclopædia Britannica*,

www.britannica.com/biography/Neil-Armstrong#/media/1/35599/127215. Accessed 19

Feb. 2021. This is an image of the entire 3 man crew that was situated on the Apollo II when it reached the lunar surface. We had to include this image to make sure that our viewers understood exactly what we meant when we brought up the moon landing. The picture helps provide some context.

---. "Atlas Missile Explosion (1961)." *British Pathé*, ARCHIVE:British Pathé, 13 Apr. 2014,

www.britishpathe.com/video/atlas-missile-explosion/query/Atlas+Missile. Accessed 19

Feb. 2021. This is the explosion of the Atlas Missile in 1961. This missile was launched in hopes of putting a man into outer space, just as the Russians had done with Yuri Gagarin, there was a catastrophic failure and the rocket exploded. We included this video to explain the hardships and difficulties NASA experience when attempting to catch up the USSR.

---. The Saturn V rocket was used to launch astronauts to the moon. 14 May 1973. *NASA*, 17 Sept. 2010,

www.nasa.gov/audience/forstudents/5-8/features/nasa-knows/what-was-the-saturn-v-58.h

[tml](http://www.nasa.gov/audience/forstudents/5-8/features/nasa-knows/what-was-the-saturn-v-58.h). Accessed 19 Feb. 2021. This is a picture of the Saturn V rocket that would go on to put men on the moon. We felt the need to include this image to give the viewer a much more detailed and factual understanding of the events that unfolded within the Space Race.

---. The TIROS-1 satellite. 1 Apr. 1960. *National Environmental Satellite Data and Information Service*, NOAA, 31 Mar. 2020, www.nesdis.noaa.gov/content/celebrating-60-years-world%E2%80%99s-first-weather-satellite. Accessed 19 Feb. 2021. The image above is an illustration of the TIROS-1 satellite. The advancement it made in weather-tracking help create a much more developed understanding of how to improve communication on earth. We likewise included the image for factual and contextual reasons as well.

---. While Eisenhower opposed sending men to the moon, John Kennedy made it a national priority. Here, Kennedy views the Saturn launch system with von Braun (center) and NASA Deputy Administrator Robert Seamans. Courtesy NASA-HQ-GRIN. 16 Nov. 1963. *PBS*, 5 Nov. 2007, www.pbs.org/wgbh/nova/article/sputnik-impact-on-america/. Accessed 19 Feb. 2021. This is a picture of Von Braun demonstrating the capabilities of the Saturn V rocket to president John F. Kennedy. Kennedy's contributions to the Space Race were absolutely vital so we included this image to build up the factual side of our documentary.

NASA, and NFSA. "Apollo 11 Moonwalk." *National Film and Sound Archive of Australia*, 9 July 2019, www.nfsa.gov.au/latest/csiro-donates-rare-nasa-moon-landing-broadcast-nfsa. Accessed 19 Feb. 2021. This is footage of the first men to walk on the moon. This video marked the end of the most influential part of the space race, which is why we made sure to document and include the video in our documentary.

National Archives and Records Administration. *Women Codebreakers. Smithsonian Magazine*, 5 Oct. 2017, www.smithsonianmag.com/history/how-women-codebreakers-wwii-helped-win-war-180

965058/. Accessed 19 Feb. 2021. This was an image of the women codebreakers that had helped crack codes throughout ww2. Their contributions, along others, eventually led to the first computing systems, an innovation that would go on to impact communication in the long run.

Novosti. *Ten Years of the Space Age*. 1967. *NBC News*, 4 Oct. 2007,

www.nbcnews.com/id/wbna21134276. Accessed 19 Feb. 2021. This is a picture of the rocket that carried Sputnik I into space. The picture was taken at the Baikonur Cosmodrome, which was an incredibly vital rocket location for the soviet union. We included the image to help develop the information surround Sputnik I.

Novosti, Ria. Sergei Korolev, shown here in 1961, served many functions in the Soviet space program, including as the capsule commander from the ground during many of the crewed spaceflights of the 1960s. 1961. *Forbes*, 11 July 2019,

www.forbes.com/sites/startswithabang/2019/07/11/this-is-why-the-soviet-union-lost-the-space-race-to-the-usa/?sh=2b609e6c4192. Accessed 19 Feb. 2021. Sergei Korolevs the capsule commander from the ground during many of the crewed spaceflights. He was the head of the cosmonaut program and was Werner Von Braun's main rival throughout the Space Race. His importance to communication is noted in the documentary.

President Dwight D. Eisenhower shown with scale model of Jupiter C Missile nose cone during speech given from the White House, November 7, 1957. 7 Nov. 1957. *Smithsonian*

National Air and Space Museum,

airandspace.si.edu/multimedia-gallery/president-dwight-eisenhower-si-82-11962jpg.

Accessed 18 Feb. 2021. This President Dwight D. Eisenhower shown with scale model of Jupiter C Missile nose cone during his Christmas broadcast. Considering that this was the

first message ever broadcast through space it serves as almost a symbol of the advancements made during the Space Race. We fit it into the documentary on account of its unrivaled importance.

Scott, David Meerman. Raytheon's Bob Zagrodnick programs the guidance computer for Apollo missions in 1969. 1969. *Raytheon*, Raytheon Technologies, 20 June 2019, www.raytheon.com/news/feature/moon-anniversary. Accessed 19 Feb. 2021. This is a picture of the guidance computer for Apollo missions in 1969. We used this image to explain how far communication had developed in the 12 year period that made up the space race.

Space Adventures #5. 1953. *Classiccomicslibrary*, 19 Mar. 2016, www.classiccomicslibrary.biz. Accessed 18 Feb. 2021. This is an example of a comic book that would've been popular at the height of the Space Race. We included it to expand the viewers knowledge of the reactions media outlets put forth follow the Sputnik I launch.

SPUTNIK-2 PANIC AND PARANOIA IN 1957. Adapted by Johan Grimonprez, .MP4 file, Dan Beaumont Space Museum, 1962. This is potentially one of the strongest sources we had on hand. It is a broadcast that covers that majority of the panic and paranoia that Americans felt across the nation, even documenting actual interviews with people at the time. The video also goes on to bring up the media, governmental and political reactions felt towards the momentous Sputnik I launch. We included the source as a way of developing the true extent of the emotions and fear that fueled the Space Race.

SPUTNIK: LIFE Magazine. 21 Oct. 1957. *WorthPoint*, www.worthpoint.com/worthopedia/1957-october-21-life-magazine-sputnik-430137454. Accessed 18 Feb. 2021. The image is the Sputnik I edition of LIFE magazine. We

included it to demonstrate the way that media outlets in both the US and the USSR handled the momentous launch of Sputnik I.

Sputnik was just 58cm in diameter and weighed 84kg. 4 Oct. 1957. *BBC*, 4 Oct. 2017, www.bbc.com/news/science-environment-41498083. Accessed 19 Feb. 2021. This was a picture of a recreation of the Sputnik I satellite. We included it to demonstrate the size and shape of the satellite, once again for the factual aspect of the Documentary.

Stampler, Laura. *Our Triumph in Space Is the Hymn to Soviet Country!* 4 Oct. 1957. *Business Insider*, 26 Apr. 2012, www.businessinsider.com/here-are-the-soviets-extremely-intense-space-race-propaganda-posters-from-1958-1963-2012-4#happy-new-year-kids-15. Accessed 18 Feb. 2021. We drew multiple photos, illustrations and images from this collection. This source provides a bountiful amount of political propaganda that was often thrown around the nation during the height of the cold war. As a result this propaganda often had an impact on the minds of Americans throughout the space race, further defining the contextualization aspect of our documentary.

Tsar Bomba: The Largest Atomic Test in World History. 30 Oct. 1961. *The National WWII Museum*, 29 Aug. 2020, www.nationalww2museum.org/war/articles/tsar-bomba-largest-atomic-test-world-history. Accessed 19 Feb. 2021. This is a picture of the largest nuclear detonation in human history. The Tsar Bomba struck an indescribable fear into the hearts of Americans and was one of the driving factors in building up our nuclear arsenal alongside Space Race innovation. We added this image for the suspenseful effect it would provide alongside the extra context.

United States. Office of Civil Defense., and Archer Productions. "Duck and Cover." *Library of Congress*, 27 Oct. 2010, www.loc.gov/item/mbrs01836081/. Accessed 19 Feb. 2021.

This is a children's PSA regarding what to do in the event of a nuclear detonation. This video is primary evidence and tribute to the paranoia and fear Americans experienced during the Cold War, a major factor in initiating the Space Race. We included it as a bit of contextualization at the beginning of our documentary.

V-2 rocket. Encyclopædia Britannica, www.britannica.com/technology/V-2-missile. Accessed 19 Feb. 2021. This is a picture of the extremely important V-2 missile. This was one of the first rockets to make it into low-earth orbit and it was initially created by Nazi rocket scientists as a method of hitting long-range locations such as the multiple missiles that were fired at London near the end of WW2. The V-2 design was uncovered by the Soviet military and used as a base for many rocket systems. Werner Von Braun helped design the missile and once becoming an American implemented the design in his rockets. We included this because without the V-2 missile the Space Race would've never happened to the extent that it did.

Voice of America. 1955. Cold War Radio Museum, 2016, www.coldwarradiomuseum.com/.

Accessed 19 Feb. 2021. This is an image of popular musical artist Louis Armstrong. He is pictured in the middle of a radio talk show, a form of entertainment that was able to be broadcasted nationwide with the introduction of low-orbit relay satellites. We included this image to demonstrate one of the many innovations made throughout the Space Race.

Wernher Von Braun. 1 May 1964. National Space Society, NSS, 2019, space.nss.org/nss-wernher-von-braun-memorial-award/. Accessed 18 Feb. 2021. The man pictured in the photo is former Nazi scientist Werner Von Braun. He was the scientist that

led the majority of the US' space exploration programs and eventually went on to lead the National Aeronautics and Space Administration. His role in the space race was extremely vital and he was the main reason the US pursued the improvement of communication throughout the Space Race.

Wernher von Braun at a Washington, D.C., news conference holding a model of Explorer 1 after its successful launch. 31 Jan. 1958. *NASA*, www.nasa.gov/feature/60-years-ago-explorer-1-becomes-america-s-first-satellite. Accessed 18 Feb. 2021. The image pictured shows former Nazi scientist Werner Von Braun demonstrating and celebrating the successful launch of Explorer I. This success was short-lived as the Soviets made space progress at an exponentially faster rate. We included this specific event as it builds up the history that would lead to the race to the moon, particularly the competition the scientists often endured.

Secondary Sources:

Works Cited

Editors, History.com, editor. "Sputnik Launched." *History.com*, edited by History.com Editors, A&E Television Networks, 24 Nov. 2009, www.history.com/this-day-in-history/sputnik-launched. Accessed 25 Sept. 2020. This was an extremely helpful website that gave us a much more developed understanding of the Space Race itself and the communication that came alongside it. The majority of our information from the other print sources made much more sense after we looked through and took notes from this website.

Glover, Linda K. *National Geographic Encyclopedia of Space*. Washington, National Geographic, 2005. This was a book that focused much more on the technological and historical side of the Space Race rather than the emotions or contextualization that we made sure to develop in our documentary. We used this book to get the cold hard facts and went on to analyze our primary sources by conforming with this book's timeline.

Haerens, Margaret. *NASA*. Detroit, Greenhaven Press, 2012. This book specifically focused on the creation, importance and overall achievements of the National Aeronautics and Space Administration. We used this book to develop our understanding of Werner Von Braun and his importance within the Space Race itself.

Jha, Martand. "This is How the Space Race Changed the Great Power Rivalry Forever." *The National Interest*, Center for the National Interest, 27 July 2017, nationalinterest.org/feature/how-the-space-race-changed-the-great-power-rivalry-forever-21690. Accessed 7 Oct. 2020. The National Interest was the best website we could find that helped us get a better grasp on the feelings and emotions of Americans going through the Space Race. It was likewise extremely helpful in its ability to contextualize events, something that we found incredibly important as we were piecing together our documentary.

Kennedy, Randy. "When the Space Age Blasted Off, Pop Culture Followed." *The New York Times*, New York Times Company, 25 Sept. 2007, www.nytimes.com/2007/09/25/science/space/25pop.html. Accessed 25 Oct. 2020. This site was incredibly useful when it came to tying the Space Race back to the average citizens during the time period. We used this source to help us find comic books,

propaganda and even newspaper articles that all provided us with a better perspective of the emotions people were feeling.

Mann, Adam. "What Was the Space Race?" *Space.com*, Future US, 7 Aug. 2019, www.space.com/space-race.html. Accessed 24 Oct. 2020. This was one of the first sources of information that we used. It was perfect for us to use when deciding on a time period and a topic.

Nelson, Craig. *Rocket Men: The Epic Story of the First Men on the Moon*. New York, Viking, 2009. This book was mainly only useful in the part of our documentary in which we go over the conclusion of the Space Race and how landing men on the moon changed everything.

RMG's Editors, editor. "Space Race Timeline." *Royal Museums Greenwich*, Unicorn Publishing Group, www.rmg.co.uk/discover/explore/space-race-timeline. Accessed 25 Sept. 2020. The timeline provided on this web site was particularly useful when piecing our documentary together, as corroborating between the information we used and the timeline allowed us to keep track of the bigger picture.

Satellite Broadband UK. "20 Things We Wouldn't Have without Space Travel." *Jet Propulsion Laboratory*, edited by Tony Greicius et al., NASA - California Institute of Technology, www.jpl.nasa.gov/infographics/infographic.view.php?id=11358. Accessed 25 Oct. 2020. This source was almost completely specific to the communicative innovations that formed as a result of the Space Race, this was perfect for helping us tie the theme back to our topic.

Schefter, James L. *The Race*. New York, Doubleday, 1999. I thoroughly enjoyed the information this book provided in terms of both from the perspective of the American side vs. the

Russian side. It became extremely relevant as we had to find primary sources relating to the achievements of the Soviets, and Idea we could easily grasp after reading this book.