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Chapter 18

Presidents as Rational Actors: NASA and the Race to the Moon*

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Abstract

Much has been written about the United States Apollo Moon missions and the presidents that defined the Moon era of NASA. What this chapter aims to bring to the discussion is the behavior or rationale as to why Eisenhower, Kennedy, Johnson, and Nixon decided it was critical that the United States endeavor to fly to—and land on—the Moon. In political science, rational choice theory explains why actors behave in a certain way on an individual and societal basis. This chapter will use these political science theories to better explain why United States presidents Dwight D. Eisenhower (1953–1961), John F. Kennedy (1961–1963), Lyndon B. Johnson (1963–1969), and Richard Nixon (1969–1974) chose to create and maintain a space policy that included a program aimed at putting American astronauts on the Moon. Did Eisenhower only position policy toward space because of the launch and orbit of Sputnik? It is known that in the beginning Kennedy was not interested in space exploration. What then was the rationale behind his speech in May 1961 and at Rice in 1962? Did Johnson only

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continue the space program to continue the legacy of Kennedy? Why did Nixon decide to continue the Apollo program into the 1970s even though by then going to the Moon was seen as “old news”? This chapter would like to explore each of these presidents involvement with the Apollo program and their interest in the Moon and answer, in turn, these questions about what their specific rationale was for a US Moon program lasting over a decade. Finally, this chapter will conclude with a short comparison on future Moon missions/policies that might arise in the United States and what the rationale is for President Trump to return to the Moon more than forty years later.

I. Introduction

Much has been said about the United States and its Moon program. Much has been said about Presidents Dwight D. Eisenhower, John F. Kennedy, Lyndon B. Johnson, and Richard Nixon about their policies for space and the United States in general. Therefore, this chapter aims to take a more analytical approach to the presidents and their efforts in building the space program as we know it today. It will be through the lens of political science and rational choice theory and behaviorism that the presidents and their decision-making processes—in order to advance United States space policy and put men on the Moon—will be considered.

In an age where everyone questions everything, it is important to think about asking the right questions. The questions that arose, which gave way to this research, were two-fold. Why do presidents act the way they do where policy is concerned? Do presidents ultimately make the final decisions on policy issues? What drives a president to create and enable policy? Then taken to the next level: how do all of these questions get answered with regards to the Eisenhower, Kennedy, Johnson, and Nixon and their policies on space?

From a space perspective, the following questions are considered and will be analyzed in the conclusion of this research. Did Eisenhower only position policy toward space because of the launch of Sputnik? It is known that initially Kennedy was not interested in space exploration. What, then, was the rationale behind his speech at Rice in May 1961? Did Johnson only continue the space program to continue the legacy of Kennedy? What role did Nixon play in NASA’s transition to its post-Apollo existence? And finally looking toward the current US space policy and the future of going back to the Moon: Will Trump be the one to return US astronauts to the Moon?

II. Theory

In political science, rational choice theory explains why actors behave in a certain way on an individual and societal basis. Originally taken from the sphere of economics, rational choice theory, according to Green, “presumes that the individual decision-making unit in question is ‘typical’ or ‘representative’ of some larger group such as buyers or sellers in a particular market. Once individual behavior is established, the analysis generally moves on to examine how individual choices interact to produce outcomes.”¹ Taken from a different perspective, perhaps one more suited to political science, Levin and Milgrom argue that “Rational choice theory starts with the idea that individuals have preferences and choose according to those.”² Basically, what rational choice theory means for the purpose of this chapter is that individuals (i.e., presidents) can use their choices, behaviors, and preferences to shape the political agenda. We use this idea of presidents as decision-makers because, as according to Moe and Wilson, “presidents are held responsible by the public for virtually every aspect of national performance.”³ This means that from the public’s perspective the president is the decision-maker and leader. As the quote indicates “the buck stops here”—after the president there is nowhere else for the decision to go.

In connection with rational choice theory, this chapter will also call upon the behavioral approach in political science. According to Waldo, “The political behavior ‘approach’ is concerned with what men actually do (did), rather than with what they should do (should have done). Its focus is not upon laws, upon constitutions, upon formal governmental organization as such, but upon the study of human behavior.”⁴ Waldo goes on to argue that one of the foci of the political behavior approach is decision-making. He states, “What is stressed in such studies is the process by which decisions get made, not the validity or invalidity of specific decisions.”⁵ Therefore, the basis of both rational choice theory and the behavioral approach are that individuals can be analyzed for their decision-making and that this can be directly applied to presidential leadership. More on how this chapter plans to use these theoretical approaches will be discussed in the next section about the chapter’s methodology.

III. Methodology

Using rational choice theory and the behavioral approach as the backbone of the methodology, this chapter then goes on to consider the decision-making of presidents and what that means for policy, programs, and the overall agenda of the administration. Here we mean to pursue this concept of individual decision-

making with regards to Presidents Eisenhower, Kennedy, Johnson, and Nixon and how their individual choices and decisions made the space policies of the Apollo era what they were and how these decisions put the United States on the Moon. According to Logsdon,

“where the decision-maker is the president, this means that he can take action on the basis of his own values and perceptions and those he chooses to heed, without the necessity of obtaining the consensus among all sectors of the bureaucracy, the Congress, and the public which is usually required for major policy decisions.”⁶

Presidential decisions are multilayered, but they are important, as they set a national policy agenda. Their power is limited to congressional approval, but a president’s decisions serve as a signal for US policy agendas. The behavior and decisions of a president can shape how policy and agendas evolve. As will be seen in the coming sections, presidential style also has a lot to do with their choices and behaviors because each president is unique and as such can make an administration his own.

The reason for discussing the presidents who put the United States on the Moon is twofold. One reason is because of the specific objective of the conference symposium session itself. The other reason is based on the idea that political science analysis is still a critical part of space, and with the anniversary of Apollo 11, it is always important to look back and see what we have done, what we could have done better, and why we did what we did so that we can take those lessons with us into the future—and possibly with us again to the Moon.

IV. Overview of the Apollo Program and the Race to the Moon

The Apollo program was the third and final phase in the US journey to the Moon. The journey began with Project Mercury or the Mercury program, which was initiated by President Eisenhower and required the newly established NASA to develop a space program from scratch when there were no models to follow. Despite their best efforts, NASA and the Mercury team failed to be the first to put a man in space, being beaten by the Soviets by a matter of weeks. This, combined with the failure of the Bay of Pigs invasion, prompted the new President Kennedy to announce the intention to “land a man on the Moon, before this decade is out, and return him safely to the Earth.” This would be a Manhattan Project (the program to develop a nuclear bomb during World War II) scale endeavor and involve over 600,000 people. As mentioned, Project Mercury was the initial phase of this project, with the intention of learning how to put humans in space and explore their ability to operate in this new, exotic environment. Initial-

ly, the intention had been to then transition directly to the Apollo program with its three-person vehicle, but given the time gap between the end of the Mercury program and the Apollo program, NASA decided to initiate the Gemini program, which involved a two-person spacecraft and would allow the United States to practice such feats as spacewalks (although again they were beat to the historic first by the Soviet Union), orbital rendezvous, and docking operations. Gemini proved to be vital to the US effort to reach the Moon, probably ensuring that Kennedy's deadline could be met. The Apollo program itself got off to a disastrous start with the tragic loss of the three Apollo 1 astronauts in the infamous 1967 pad fire, which put the whole program in jeopardy. However, this proved to be a much needed wakeup call for NASA.

The first crewed Apollo mission was Apollo 7, soon followed up by Apollo 8, which was quite a leap as it transited to and orbited the Moon in December 1968. This was done in part because of intelligence revealing that the Soviets were planning something similar, and there were concerns that the Soviets might yet again beat the United States to a historic first (although the Soviet Moon program was, in reality, no real threat to the United States winning the space race, and the rocket that prompted CIA concern exploded on the pad). Apollo 9 tested the Lunar Module in Earth orbit, and Apollo 10 was the dress rehearsal for the Moon landing itself, which was subsequently carried out by Apollo 11 in July 1969. As discussed below, there was no expectation that Apollo 11 would indeed be the mission to land on the Moon, and NASA was prepared for several attempts before the actual landing on the Moon, which is why equipment for up to an Apollo 20 was preordered. The Apollo program was gradually scaled back after the first Moon landing accomplished the goal of landing a man on the Moon and returning him safely to Earth before the decade ended, but the process of scaling back was accelerated with cancellation of Apollo 18, 19, and 20 after the Apollo 13 crisis. However, the equipment for those canceled missions was salvaged and put to use in the Skylab and the Apollo-Soyuz test programs. However, after the completion of the Apollo-Soyuz flight in July 1975, the symbolic end of the space race, the United States would not return humans to space until STS-1, the first flight of the new Space Shuttle in April 1981, and, of course, no humans, of any nationality, have returned to the Moon since Apollo 17 in December 1972.⁷

V. President Eisenhower and the Race to Space

The US space effort pre-Sputnik was primarily focused on the development of reconnaissance satellites and missiles, rather than any scientific or explo-

ration endeavor. As David Callahan and Fred I. Greenstein have written, “A starting point for any discussion of space policy in the 1950s must be a recognition of how intimately linked this issue was with broader national security concerns.”⁸ Eisenhower’s New Look policy emphasized the US missile program and nuclear weapons as well as the development of spy satellites.⁹ “The effect of this priority status for military missiles, however, was to delay the U.S. civilian satellite project.”¹⁰

Additionally, it must be recognized that Eisenhower was concerned about the costs of “fighting” the Cold War. Indeed, this cost, and the need to prepare for a long-haul Cold War was one of the drivers of the New Look policy.¹¹ For Eisenhower national security was linked with the economic health of the nation; while he certainly favored a strong national defense, he also worried about undermining the US economy and growing the size of the government. He also worried about the potential for the military-industrial complex to undermine US democracy, and there is evidence he worried about this long before his farewell address. Additionally, as two researchers have observed, “While Eisenhower saw economic peril in every budget increase and worried about democracy’s future in a technocratic world, he was less concerned than many of his contemporaries about the Soviet threat.”¹²

Furthermore, Eisenhower was not convinced of the necessity of the United States being first into outer space. He recognized the importance of scientific endeavors although even then some of the motivations were related to national security as one of the rationales for establishing Project Vanguard, the civilian satellite program, was to establish a legal precedent for satellite overflight of foreign countries during the International Geophysical Year,¹³ one of the first efforts at international cooperation in the exploration of outer space.¹⁴ Eisenhower was not only unconvinced about the prestige or propaganda value of the United States being first into outer space but felt the United States was making a strategic error by essentially allowing the Soviets to “choose the battlefield.” Eisenhower felt that the United States would be far better off fighting the “prestige” war on economic grounds, where the United States had a clear and distinct advantage. That said, he was not unconcerned about the consequences of the United States losing the race to be first to space; he just was not sufficiently concerned to feel justified in spending the money on a ‘crash program’—something that didn’t change even after Sputnik.¹⁵

Eisenhower did not panic in response to Sputnik because he had access to intelligence showing that the Soviet missile program was proceeding very slowly. It was on this foundation that he based his reaction, but he does seem to have underestimated just how panicked Americans in general were.¹⁶ However, while

Eisenhower may have responded to Sputnik with “casual indifference” in public, the rest of “his administration and the entire United States government began reacting in a decidedly different manner.”¹⁷ Sputnik “appeared to signal both a broad Soviet technological superiority and, more ominously, a specific Soviet advantage in ballistic missiles. Sputnik was the greatest propaganda coup of the cold war and it triggered a torrent of alarmed comment.”¹⁸ However, US intelligence was aware of Soviet missile developments and was expecting a satellite launch, although they were surprised by the weight of both Sputnik I and II. “What startled Eisenhower far more than the advance in Soviet rocketry was the intensity of public concern. Sputnik was not true proof of a Soviet advantage in ICBM development, but it *appeared* to be—and this idea was terrifying to many in the United States.”¹⁹ Eisenhower did not believe that Sputnik should herald a change in policy, because he didn’t believe the security situation had changed.²⁰ Indeed, neither of the 1957 Sputnik launches appear to have altered “U.S. defense plans in any substantial way,” though they did clearly have a considerable cumulative impact on public perceptions.²¹ Eisenhower, however, did recognize the need to educate the public and address their fears.²²

Indeed, starting in October, mere days after the initial Sputnik launch, Eisenhower made several televised addresses discussing public concerns. “Eisenhower simplified and challenged the vulnerability issue directly, noting that potential new Soviet long-range ballistic missiles ‘do not cancel the destructive and deterrent power of our Strategic Air Command.’”²³ Eisenhower was reluctant to spend more money but recognized the need to do so; his main thrust, however, was to shift priorities among existing programs. The decision was made to prioritize programs that were useful and had maximum publicity effect. Furthermore, there was a recognition that the United States had an advantage in being able to deploy shorter-range IRBMs in Western Europe, whereas the Soviets needed an ICBM to threaten the US mainland. Eisenhower also felt that anti-missile defenses needed attention. He even contemplated giving missile defense Manhattan project status, though he fretted about the cost of such a step. The Polaris Missile submarine was also given greater attention, moving the timeline for completion forward by two years.²⁴

“Domestic and allied public opinion clearly had a major impact, and some policies and nearly all pronouncements were designed primarily to reassure these audiences. Eisenhower himself did not perceive that the latest threats were especially great, but acted anyway because of the public fears. The president was especially adamant about pursuing the weapons PR approach.”²⁵

Finally, while Eisenhower initially resisted the development of NASA, given his general aversion to the growth of government, he did come to recognize

the advantages both practically and politically of administrative separation between the military and civilian space programs. However, he insisted that NASA's efforts be scientifically driven and avoid "stunts" for merely propaganda purposes, which would be his later complaints about the Apollo program.²⁶

Overall, President Eisenhower was driven by his concern over the US budget. He did not want to escalate the tension between the United States and the Soviet Union by overstating the importance of Sputnik as he felt the public might make too much of it in the long run. His priority was toward US national security and the economy, which as we will see always lurks behind the decisions of most presidents.

VI. President Kennedy and the Decision to Go to the Moon

President Kennedy's "Special Message to the Congress on Urgent National Needs," made on 25 May 1961, is an iconic piece of space history, and while it is not his most known speech, it demonstrates a shift from his original stances. In the 1950s, then Senator Kennedy, stated he "could not be convinced that all rockets were not a waste of money, and space navigation even worse."²⁷ He, like many Americans of the time,²⁸ supported innovation but were skeptical about landing a man on the Moon, or space capabilities in general.

President Kennedy's speech was one that promoted a "freedom doctrine," going through a list of nine items through which he painted a "special opportunities and dangers."²⁹ His speech was one of nationalism and prestige, one that led to asking the people of the United States to bear the cost of a Moon landing. This ask came close to the end of his speech, after going through the topics of economic and social progress at home and abroad, Soviet and Chinese propaganda in Latin America, national security, intelligence, civil defense, and disarmament.³⁰ His speech was one that sought to unite the American people to fund this endeavor because it would push America above the Soviets, which was a sale that could be made during the Cold War. As Logsdon stated, a large part of the decision to go to the Moon was based on the way space policy served as a signal for international actors of US capabilities and strength.

"If we are to win the battle that is now going on around the world between freedom and tyranny, the dramatic achievements in space which occurred in recent weeks should have made clear to us all, as did the Sputnik in 1957, the impact of this adventure on the minds of men everywhere, who are attempting to make a determination on which road they should take...Now it's time to take longer strides-time for a great new American enterprise-time for this nation to take a clearly leading role in space achievements, which in many ways may hold the key to our future on earth."³¹

This statement was one of prestige, but it was not simply for the nation but for the president. As McDougall points out, “Kennedy’s years were those in which American space policy fell captive to the image makers,”³² meaning that this was a demonstration of the strength of the country and the president. This was important because Kennedy was recovering from the Bay of Pigs invasion, where his administration supported a failed attempt to overthrow Fidel Castro.³³

If the Bay of Pigs was not enough, a week before, the Soviet cosmonaut Yuri Gagarin became the first human to orbit Earth. Both events added pressure on President Kennedy to demonstrate US Strength. The pressure was increased by a report given to Kennedy by the US Air Force Space Study Committee, chaired by Trevor Gardner. The top secret Gardner Report was presented to Kennedy on 20 March 1961 and expressed the military space capabilities the Soviets had, plus the fact that they did not separate peaceful uses from military uses, unlike the way the United States did with NASA and the USAF.³⁴ While this report was an important push for the new administration, the Gardner Committee’s recommendation to have the USAF execute a lunar landing fell short as the new administration leaned toward NASA, the civilian agency.³⁵

In April 1961, Kennedy asked advice from his vice president, Lyndon B. Johnson, on how to move forward with their space program, and the possibility to go to the Moon. In summary, Johnson responded that putting a man on the Moon was not something the Soviets or the United States could do at that time, but that the United States could do it by the late 1960s if the nation put enough effort into it.³⁶

The need for demonstrating US strength and the successful flight done by Alan Shepard gave President Kennedy the boost he needed to ask Congress for appropriations, and both sentiments were reflected in his speech. The rationale behind his request was passionate and encouraging. His speech was crafted in a way that put pressure on Congress to act, because it was not only his decision but the nation’s decision. He expressed to Congress, “This is a choice which this country must make ... a decision we make as a nation.”³⁷ It was a call to action that was in the name of progress and US leadership, one that was rational to an audience that cared about the image of its country, and one that painted Kennedy himself as an innovator, dreamer, and unifier for both the United States and the world.

In conclusion, Kennedy’s legacy in the space industry comes from his very public and inspiring speeches that spoke to lawmakers and to the American people. Kennedy knew that inspiration would be the way to get the American people to do something that was not easy, to venture into demonstrating US strength. And while we remember him because of speeches like the 1962 Rice Stadium

Moon Speech,³⁸ his decisions set forward space as a public geopolitical tool, one that has helped demonstrate US strength and international cooperation. His legacy of inspiration came from his decision to listen to an experienced adviser like Lyndon B. Johnson. Kennedy's tenure was short but not forgotten, and his decisions set the stage for President Johnson to continue the spaceflight as a tool that served the fronts of education, politics, national security, and international cooperation.

VII. Lyndon B. Johnson and the US Space Legacy

Lyndon B. Johnson (LBJ) was a man focused on space even as a senator—long before Sputnik and Kennedy's speech about going to the Moon. Johnson spent a decade as a US senator representing the Democrats and Texas. Even at that early stage in the history of LBJ, his eyes—and his agenda—were looking up at space. LBJ then spent the next seven years in the White House, serving as John F. Kennedy's vice president and as president himself after Kennedy's assassination in November 1963. Only until well into his presidency did Johnson stop looking at space and the Moon as a political agenda item for the United States. As will be discussed in this section, we will look into Johnson the senator, the vice president, the president, and a little bit into Johnson the man. While it is true that one reason for his space policy as president was because of upholding the legacy of Kennedy, it will be seen that this was just a drop in the bucket compared to what was fully driving him toward space and the Moon.

VII.1. Senator Johnson

Lyndon B. Johnson, a Democrat from Stonewall, Texas, was a United States senator from January 1949 until January 1961. During his time as a US senator, under the Eisenhower administration, LBJ was also Senate Majority Leader from January 1955 until he became vice president in January 1961. During his run as a senator and as Senate Majority Leader, Johnson found himself in the politics of the Cold War against the then Soviet Union (USSR). It was on 4 October 1957, upon the launching of the Soviet's Sputnik 1, that the space race between the United States and the Soviet Union really changed the course of US space policy. And in the thick of it was Senator Johnson. According to John Logsdon, "After supper, Johnson took a walk from the ranch house and saw the new satellite moving across the sky."³⁹ LBJ thought:

"That sky had always been so friendly, and had brought us beautiful stars and moonlight and comfort and pleasure; all at once it seemed to have some question marks all over it because of this new development. I guess for the

first time I started to realize that this country of mine might perhaps not be ahead in everything.”⁴⁰

It was most likely at that moment that an ambitious senator from the Hill Country of Central Texas decided the United States needed to be the dominant nation in space. Thus, the space race was underway. From Johnson’s perspective, as he told the Senate Democratic Caucus in January 1958, “Control of space means control of the world,”⁴¹ which meant he was already thinking in terms of hard power politics. He alluded to this hard power again in 1960 in a campaign paper titled “The Record in Space,” where he asserted, “It is a fact that if any nation succeeds in securing control of outer space, it will have the capability of controlling the earth itself.”⁴² This only strengthens the argument that LBJ, even as far back as his time as a senator, was looking at the long term picture where the United States held power on Earth and in space. As well as looking forward to how the United States could maintain hard power, Johnson was also looking to benefit from Sputnik both for himself and for the Democratic Party as “he took the leading role in Congress in sponsoring legislation to create a National Aeronautics and Space Administration (NASA),”⁴³ which he felt would be an asset to the United States from both a military *and civilian* point of view.

To sum up Johnson’s term as Senator and what he did to promote US space policy at this time, Logsdon remarks:

“Johnson had a complex variety of motivations for initiating his investigation and for seizing on the space issue and identifying himself with it personally. He was vitally concerned with national security and believed that the Eisenhower response to Sputnik gravely underestimated the political loss the United States had suffered. He believed that the Congress, which the Democratic party controlled, had a responsibility to develop alternatives to the policy of the Republican administration and that the Soviet space first provided an opportunity for such opposition. And he wanted to become president. Johnson could sense public reaction to space, and concluded that this issue was a means of becoming better known and respected outside the Senate.”⁴⁴

VII.2. Vice-President Johnson

Lyndon B. Johnson was President Kennedy’s vice president from January 1961 until Kennedy’s untimely death in November 1963. Additionally, on 20 April 1961, President Kennedy appointed Vice President Johnson to become chairman of the Space Council. Once LBJ stepped into the role as vice president, he continued to push for space policy in the United States. According to Logsdon,

“He pushed hard for the decision to go to the Moon, writing in a memo to the president, ‘This country should be realistic and recognize that other na-

tions, regardless of their appreciation of our idealistic values, will tend to align themselves with the country which they believe will be the world leader—the winner in the long run. Dramatic accomplishments in space are being identified as a major indicator of world leadership.”⁴⁵

He still believed that power in space meant power on Earth and pushed President Kennedy to continue the space agenda, which was largely left in the control of the vice president anyway. Dallek argues just this point by stating that Johnson took the risk of managing US space policy, as Kennedy wanted, because “he saw American achievements in space as vital to the cold war contest with the Soviet Union.”⁴⁶

Not everyone saw space as the answer to US world power, mainly because of the expense of spaceflight. Going to the Moon seemed highly expensive and perhaps even frivolous. However, Johnson held firm and explained:

“The real ‘competition’ in outer space was between the communist and free enterprise social systems. The control of outer space was going to ‘determine which system of society and government [would] dominate the future ... In the eyes of the world, first in space means first, period; second in space is second in everything.’ When people complained about the cost of space exploration, Johnson replied: ‘Now, would you rather have us be a second-rate nation or should we spend a little money?’⁴⁷

Johnson held on to his belief in space spending for as long as he could but, as we shall see later on, once he became president and had to finance the Vietnam War and worry about domestic issues, it made him start to stress large spending in space less and less—much to his dismay.

On 12 April 1961, Soviet cosmonaut Yuri Gagarin was the first human to journey to outer space and orbit Earth. After Yuri Gagarin became the first human to fly in space, Johnson told Kennedy that the Soviets had leapt ahead “in world prestige attained through technological accomplishments in space.”⁴⁸ At this time his rhetoric not only included US power in space but also technological strength and world prestige. LBJ did not stop at just pushing the administration to send US astronauts to space but he also recommended “manned exploration of the Moon [as] an achievement with great propaganda value.”⁴⁹

Throughout Johnson’s vice presidency, he kept a tight ship where affairs of space policy were concerned. Johnson was known to arrange consultations with NASA or the Department of Defense (DOD) so that they never met jointly. From a political science perspective, this could elude to the fact that perhaps Johnson kept both sides separate on purpose to maintain leverage and control of the situation. “Thus neither agency had a detailed idea of what the other had been doing...”⁵⁰

Overall, during Johnson's tenure as Vice-President, he basically had free reign over space policy because the president was interested but felt less compelled to focus on it himself. Johnson used this to his advantage by promoting not only the United States in the space race but also himself and his work on so prestigious affair as sending men to space and even to the Moon.

VII.3. President Johnson

Lyndon B. Johnson became the US president, after President John F. Kennedy's assassination, on 22 November 1963, and won a second term, making him president until noon on 20 January 1969. President Johnson did want to honor the wishes of Kennedy by continuing the race to the Moon. He, of course, was all for space exploration, because he felt it could serve so many aspects, such as "the national well-being, but especially in the less affluent South, the space program was a splendid way to serve the country's defense, expand the domestic economy, and advance scientific understanding."⁵¹

Now, standing in the shoes of the late President Kennedy, Johnson told Congress in January 1964, "Our plan to place a man on the moon in this decade remains unchanged. It is an ambitious and important goal. In addition to providing great scientific benefits, it will demonstrate that our capability in space is second to no other nation's. We cannot reach this goal without sufficient funds. There is no second-class ticket to space."⁵² Therefore, as Dallek assesses: "Seeing an essential need for continuity, for reassurance that the new president would be faithful to the previous administration's ends and means, Johnson made fulfillment of Kennedy's promise to put a man on the Moon and safely return them to Earth by 1970 one of his major priorities."⁵³

VII.4. Johnson's Great Society

One of President Johnson's domestic programs included his Great Society, which was to reform healthcare, education, poverty, racial inequalities, reduce crime, and improve the environment. Dallek adds, "For Johnson, the work of space exploration was part of a "Great Society," a larger vision he enunciated in May 1964."⁵⁴ This American ideal of a better society brought on by Johnson was unique in its inclusion of space and technological advancement. "Johnson himself told a group of astronauts in 1965 that their missions not only increased 'our knowledge of technology' but also would lead 'to a better life for all.'"⁵⁵ This lofty goal of creating a Great Society domestically paired with space exploration additionally "served his political purposes in the 1964 presidential campaign."⁵⁶

VII.5. International Cooperation and the Outer Space Treaty

What many people might not know is that "...during the first half of 1964 Johnson put greater emphasis on working out cooperative agreements with the Soviet Union to explore outer space."⁵⁷ This included LBJ considering the necessity for some kind of international agreement for outer space. As budgetary constraints were becoming an issue and the space race seemed to be fizzling out, it made more sense to reach a sort of détente in space rather than to push forward as happened in the Cold War era. Therefore, in 1966, Johnson issued "a statement outlining the essential elements of a celestial bodies treaty." Surprisingly, the Soviet Union agreed. The *Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies*, now known as the Outer Space Treaty, or OST, was signed by the United States and the Soviet Union in January 1967 and entered into force in October of that year.⁵⁸

VII.6. Vietnam, Federal Spending, and Popular Appeal

Once Johnson was well into his presidency, the United States was bearing considerable costs for domestic and foreign programs, which affected the popular appeal and decision-making for the space program.

"The increasing costs of the war in Vietnam, which began to escalate rapidly in 1965, and the outlays for the antipoverty and Great Society programs, which also made substantial budgetary demands beginning in 1965, were central considerations in Johnson's resistance to post-Apollo space commitments."⁵⁹

With debt increasing over the Vietnam War, taxes were rising to meet the demands. This also meant cuts in other federal spending. As Dallek explains,

"A \$29 billion deficit brought on by Vietnam spending persuaded Johnson to ask Congress for a 10 percent increase in income taxes. To persuade Congress, Johnson felt compelled to match the tax increase with spending cuts applied to FY 1968 beginning in October 1967. NASA was targeted for \$500 million in reductions."⁶⁰

With all the negative press and the domestic unrest over decisions of the time, popularity of the space program hit a low that did not look like it could be corrected.

"By the end of 1966, it was clear to him [Johnson] that NASA and space exploration beyond the Apollo landing had diminished popular appeal. By the summer of 1965, a third of the nation favored cutting the space budget, while only 16 percent wanted to increase it. Over the next three and a half years, support for cutting space spending went up to 40 percent, with those preferring an increase dropping to 14 percent."⁶¹

Suffice it to say, during President Johnson's terms as leader of the United States many things stacked up against him, which made his successes in the space industry fall to the shadows. It is unfortunate to mention that LBJ will be known more for his Great Society domestic reforms and the disaster of the Vietnam War "much more than his presidential goals in space."⁶²

VII.7. Analysis

To conclude on Lyndon B. Johnson and to analyze his decision-making and leadership, it is important to remember that at the end of the day "Johnson wanted to be remembered as a president who made his mark in space."⁶³ Johnson was a man of action and a man of great dreams. Though often eclipsed by Kennedy, LBJ saw bigger value in space and in the bigger picture of using space for greater advancement and achievement to society. As Dallek states,

"His whole political career had been focused on building and using government programs to expand the economy, raise living standards, relieve privation, and build his Great Society. Overreaching himself by trying to institute domestic reforms and fight a war at the same time, he could not find the means to spend simultaneously on guns and butter. It was a reality he found difficult to accept."⁶⁴

Overall, keeping the rational choice theory and behaviorism in mind, Johnson did have sound reasons for what he did for the space program and space policy throughout his years as senator, vice president, and president. According to Dallek, "Four considerations determined Johnson's thinking about space policy in 1957–1969: national security, personal political and party gain, domestic social advance, and budgetary constraints."⁶⁵ These four considerations ring true based on the decision LBJ made, but there are other considerations that he acknowledged with regard to space policy. As Logsdon explains:

"Certainly the Johnson consultations did inject a series of other goal values—technological advancement, scientific discoveries, commercial applications, domestic political beliefs, economic stimulus, military insurance—into the decision process. National power remained throughout the primary goal to be achieved, but the lunar landing objective was chosen not only because it provided the best chance of beating the Soviets to a spectacular space "first," but also because it provided a means of attaining the other objectives Johnson and other supporters of a large space program believed valid."⁶⁶

"Johnson also believed that the Apollo mission made excellent economic and political sense. Landing a man on the Moon would not only reaffirm America's superiority over the Soviet Union and honor Kennedy's memory, it would also spur both immediate and long-term economic growth and gain the administration considerable political credit with the public."⁶⁷

What this comes down to is that Johnson had many reasons for why he did what he did for the space program and US space policy. He made a legacy that ran over two decades. He may have fallen short on many things—especially the US involvement of the Vietnam War—but when it came to space, he set a high bar. Dallek concludes, “Johnson will stand in the front rank of those who had the foresight and determination, as well as the skill to use presidential power—in spite of its undeniable limitations—to initiate America’s probe into the farthest reaches of outer space.”⁶⁸

VIII. President Nixon and the Apollo Program

VIII.1. Johnson Legacies

While the decision to end the Apollo program and planning for NASA “after Apollo” were undertaken during the Nixon administration, the wheels were set in motion before Nixon announced that he was running for president. Concerns about the rising cost of Vietnam, as well as general costs of the Cold War and the need to spend money on domestic social programs (Johnson’s Great Society) were building a political environment in which grand Apollo-scale ventures were deemed unaffordable. Indeed, for President Johnson and his State Department, the Outer Space Treaty of 1967, the foundational treaty of international space law, was about defusing the space race. The Johnson White House expected opposition from NASA regarding the treaty, because it was expected to be clear that the treaty would mean budget cuts (since the treaty removed space from the arena of Cold War competition and, thus, eliminated the rationale for the “crash” space race approach initiated by Kennedy in 1962.⁶⁹

VIII.2. NASA Post-Apollo Plans

This was perhaps symptomatic of a wider problem regarding NASA administration—a failure to appreciate the changes that were happening, and the organization’s need for a clear vision beyond the Moon landings. NASA head, James Webb, essentially refused to consider post-Apollo planning, believing that NASA’s focus needed to be on the Moon landing goal. However, this was motivated largely by a recognition that there was no certainty the Moon landing attempts would be as successful as they were (i.e., Apollo 11 might not have been the first Moon landing). Indeed:

“In order to make sure that there was enough equipment to achieve the lunar landing goal, NASA ordered 15 Saturn V Moon rockets, 15 lunar landing spacecraft, and 20 command and service module spacecraft. The expectation was that most of this hardware would be necessary to assure Apollo’s

success; it seemed likely that a number of attempts would have to be made to achieve the various milestones in the lunar landing program.”⁷⁰

That said, there were those in NASA already considering the organization’s post-Apollo future. Early plans for the post-Apollo era focused on a space station, to be served either by a modified Apollo Command Module or Gemini capsule. This would allow for development of an understanding of human capabilities for extended periods of time in the space environment. However, George Mueller, Associate Administrator for Manned Space Flight, proposed a reusable space shuttle, although again with the notion that its primary purpose would be for servicing an orbiting space station.⁷¹

VIII.3. Nixon and Apollo

According to Logsdon, “Nixon as Dwight Eisenhower’s vice president had an early impact on the organization of the U.S. space effort.”⁷² Vice President Nixon had argued for a more aggressive space policy than Eisenhower adopted. However, between the elections of 1960 and 1968, Nixon had little involvement in space policy. During the 1968 campaign, Nixon repeatedly said the United States could not afford to give up its leadership position in space, but he also hinted at a recognition that the United States could not afford to continue an Apollo-like effort. Nixon was also interested in promoting a more international approach to the US space effort, discussing with Frank Borman the possibilities of flying non-US astronauts in future.⁷³

“While Richard Nixon came to the White House knowing that he would soon have to make choices regarding the future of the United States in space, the NASA leadership was not well prepared to present the new president with attractive options for that future.”⁷⁴

Nixon regarded *Apollo 11* as one of the most exciting events of his presidency, and he was very enthusiastic about the Apollo astronauts themselves, believing it important that America had heroes. “Nixon’s attitude towards the Apollo astronauts led to a judgment on the part of those planning post-Apollo space efforts that he would never accept a proposal to end U.S. human space flights; any future NASA program would have to keep Americans flying in space.”⁷⁵ However, post-Apollo NASA would be constrained by budgetary realities, especially since the United States was coming to terms with costs of the war in Vietnam, Johnson’s Great Society, and the Cold War in general, and Nixon was determined to reign in US budget deficits.⁷⁶

Nixon’s transition space team recommended a better balance between human and robotic space activities, a continuation of the human spaceflight program, a space station though probably not a large one, study of the possibilities of

reducing launch costs, and greater international cooperation. The team did not think human planetary exploration (i.e., Mars) was worth a commitment, and it recommended a budget amounting to approximately three-fourths of 1 percent of GNP, believing that amount to be commensurate with the importance of space to the United States.⁷⁷

VIII.4. NASA's Post-Apollo Vision

The Space Task Group, formed to consider NASA's post-Apollo future, delivered its report on 15 September 1969. It laid out an expansive and ambitious plan culminating in a human mission to Mars sometime in the 1980s. The new NASA administrator, Tom Paine, presented the plans for post-Apollo NASA as part of maintaining the US lead over the Soviet Union in space, but Nixon was already interested in increasing cooperation not in competition with the Soviets. If a decision was not made soon, human spaceflight faced a real risk of coming to an end by default as the production lines ceased.⁷⁸ "Paine and his associates were convinced that no U.S. president would accept such a situation, and wanted to press their case for quick approval of new human space flight efforts to avoid a lengthy hiatus."⁷⁹

"Those at the helm of NASA did not accurately perceive the broad societal changes that would influence political decisions on what space future was sustainable,"⁸⁰ nor did they appreciate that "decisions on the post-Apollo space program would be made in a very different context than that existing as John F. Kennedy in 1961 decided to send Americans to the Moon."⁸¹ Indeed, much of NASA's top leadership wanted a challenge "worthy to be a successor to Apollo," again not recognizing there was no appetite for continuing the space program on the special crash basis, outside of the normal federal budgetary process that would have required. Furthermore, they were convinced it was "self-evident that the nation should continue an ambitious program of human space flight," which for them meant a significant space station with the goal of a human mission to Mars by the end of the 20th century.⁸²

VIII.5. The Nixon 'Space Doctrine'

Nixon "did not have a broader space strategy and viewed space as another in a long list of domestic policy concerns."⁸³ He did not view it within the broader context of Cold War competition, a competition his administration was working to defuse anyway. Overall, the president wanted to make clear that "NASA's days of operating outside of the continuing competition for government resources were over."⁸⁴ From now on, NASA would have to compete for federal funding as just one among many other government programs. Hoff argues that the NASA

administration failed to appreciate not only their altered place in the hierarchy of budgetary priorities but the changes in the budgetary process itself. Consequently, NASA failed to engage properly or successfully with the Bureau of Budget (BOB) or the Office of Management and Budget (OMB), thereby losing out to programs run by those who were able to navigate the process. NASA also suffered from the warming of relations between the United States and the Soviet Union, which meant the “need to beat the Soviets” rationale and rhetoric NASA still employed was unpersuasive, even antiquated.⁸⁵

Logsdon clearly lays the blame for the stagnation of US human spaceflight for the past 40 years at the feet of decisions by Nixon and his administration, arguing that:

“Even though most presidents since Richard Nixon have proposed some type of major new space development and in most cases provided a timetable for its achievement, in none of those proposals was the undertaking to be carried out on a ‘crash’ basis, and certainly none were accompanied by a ‘massive concentration of energy and will,’ not to mention adequate financial resources. The Nixon decision that ‘space expenditures must take their proper place within a rigorous system of national priorities’ has had an even more lasting impact on the U.S. space program.”⁸⁶

However, Hoff takes a slightly different view of this outcome, arguing that one of the positive things to come out of the Nixon administration was “to move space technology away from being merely a political and military weapon in the cold war ... toward a more balanced and deliberate effort that avoided international competition.”⁸⁷

Regardless of how one views NASA’s last 40 years, NASA has become “just another” federal government program, and while NASA funding has generally remained fairly consistent, it has been insufficient to match ambitions, particularly of space enthusiasts, but also of the stated ambitions of Presidents Herbert W. Bush, George W. Bush, and Barack Obama, all of whom announced ambitious plans for human missions to Mars, the Moon, and asteroids without providing necessary funding increases. While it was clear they wanted a “JFK moment,” they (and/or Congress) failed to follow through with the funding commitments. However, as existing commitments to the Space Shuttle and the ISS are ending or drawing to a close, the United States is beginning to look more seriously at the future of its human spaceflight program. A new leader with a distinct leadership style might just herald a renaissance in American space activity.

IX. Looking Forward: Trump and the Moon?

In recent years, space has taken a backseat in the US national agenda, but President Donald Trump has brought it to the forefront of US policy. This started with reestablishment of the National Space Council through executive order.⁸⁸ Reestablishing the National Space Council signaled to the world that the United States was prepared to focus on space initiatives, with guidance from a group of experts.

On 5 October 2017, Vice President Mike Pence—head of the National Space Council—called for a human return to the Moon;⁸⁹ and, on 11 December 2017, President Donald Trump signed Space Directive-1, which calls for the United States to return to the Moon and beyond.⁹⁰ This document replaces the sentence “Set far-reaching exploration milestones” with the following:

Lead an innovative and sustainable program of exploration with commercial and international partners to enable human expansion across the solar system and to bring back to Earth new knowledge and opportunities. Beginning with missions beyond low-Earth orbit, the United States will lead the return to humans to the Moon for long-term exploration and utilization, followed by human missions to Mars and other destinations.⁹¹

One of the important things to note is that reestablishment of the Space Council includes members of the cabinet and commercial space executives.⁹² This mix of government and industry is noteworthy since Space Directive-1, intends for missions to the Moon to include commercial partners. The focus on commercial space was reinforced by Space Directive-2, which seeks to streamline commercial space regulations and gives the Secretary of Commerce a larger role.⁹³

These decisions by President Trump set forward a new area of space exploration with a large commercial approach. This might be because of the growing number of space companies, which can reduce the burden on the American taxpayer. This approach is understandable, because it would be a difficult sale for any president to ask the American people to support massive appropriations for space exploration. There is no public urgency to get to the Moon, but commercial partners have an interest to go to Mars and setting the Moon gateway allows for government and industry to cooperate.

The future of space exploration on behalf of the United States is not set in stone, as goals and administrations change,⁹⁴ but each president sets forward a steppingstone for the future of humans returning to the Moon and going beyond.

X. Conclusion

Based on the review and analysis given in this chapter, it can be argued that presidents do indeed act as rational actors and are part of the decision-making process in a national government. These presidents not only worked on domestic and foreign policy issues during their tenures as presidents, but they also worked on creating, defining, and carrying out the first versions of space policy in the United States.

Given the questions presented at the introduction of this work, the aim of the conclusion is to see what analyses can be drawn from the questions based on the content of the research.

Why do presidents act the way in which they do where policy is concerned? There are many reasons why a president would choose to act a certain way regarding policy. As was seen under Presidents Eisenhower, Kennedy, Johnson, and Nixon, many times they were faced with domestic issues as well as foreign issues that strained the United States. One of the biggest reasons for a president acting a certain way toward policy is the federal budget. As was the case at the end of Johnson's years as president, the escalating debt from the Vietnam War pushed him to consider other options such as increasing taxes and cutting budgets from programs, including the space program. Another major issue that seemed to influence policy was national security. During the Cold War, Eisenhower needed to ensure the United States was prepared against the rising tensions with the Soviet Union. This increase in national security led to more research being conducted in technology and missile development, which then helped lead to research into rockets powerful enough to enter outer space. These are just two of many reasons why presidents act the way they do toward policy initiatives. It can be argued that policy does not stand alone but can be influenced and, in turn, influence other policies around it, which is why presidents must be ready to look at the bigger picture of how all policies can be connected, what furthering one can mean for the others, and vice versa.

Do presidents ultimately make the final decisions on policy issues? One side to this answer is that it depends on the style of the president. For President Johnson, he was very hands-on when it came to space policy because of his vested interest in the topic and his long-term vision for US space policy stemming from his terms as senator and vice president. On the other hand, Kennedy trusted his advisors and followed the recommendations given to him. He understood that he could trust the people around him to make the right decisions, and he knew how to communicate them to the public. Therefore, his speeches are engrained in the US mind. Kennedy understood that to make his and his advisors visions hap-

pen, they needed to rally Americans behind them. A president can decide to be the driver or to listen to those around him, but it is ultimately the president's decision the path to follow, which ultimately makes the president the decision-maker on policy issues and setting the policy agenda.

What drives a president to create and enable policy? Each president is unique in character, behavior, and rationality. There are many reasons why a president might be driven to create and enable policy. Taken from the research laid out in this chapter, the reasons to go to the Moon and to create a space policy were varied depending on the president. For Eisenhower, it was about national security. For Kennedy, it was about demonstrating US capabilities to the world. For Johnson, it was about self-advancement, economics, and the advancement of science and technology. For Nixon, it was about changing NASA from a special project to being part of the normal federal budget process in a larger endeavor to reign in government spending and defuse Cold War tensions.

Did Eisenhower only position policy toward space because of the launch of Sputnik? While often perceived as being slow to act in the wake of the Sputnik launch, Eisenhower saw space activity as part of the national security landscape and recognized that Soviet space efforts did not immediately threaten America's national security. Eisenhower was reluctant to dramatically expand government spending, particularly on defense, and was not interested in pursuing "stunts" as part of a propaganda war. He viewed America's strength as its economic viability, which he felt was threatened by excessive government spending, particularly for defense, a view he articulated in his farewell address and would continue to articulate with respect to the Apollo program after he left office.

It is known that Kennedy initially was not interested in space exploration. What then was the rationale behind his speeches in May 1961 and 1962? Kennedy understood that a strong US space program demonstrated the overall strength of the United States and the power of the President. His change of mind was driven by advice from the people around him and the work by Lyndon Johnson, his vice president. Kennedy's decisions and speeches came from the need to maintain an image of strength, but it was done in a way that was inspirational to all, because it painted the United States as a technologically capable country, one that was willing to do everything to protect its ideals, as laid out in his 1961 speech to Congress and again in his speech at the Rice Stadium. His speeches set the stage for a space program to receive support from the public and Congress, his speeches let people know that landing on the Moon was difficult, but that was why it needed to be done—it demonstrated what the United States could do, and it created a legacy for Kennedy.

Did Johnson only continue the space program to continue the legacy of Kennedy? Though much has been written about Kennedy and his space legacy, this research argues differently. Based on what was found about President Johnson and his involvement US space policy, not only as president but as a senator and vice president, it would seem he was continuing his *own* legacy into his presidency. Johnson, from the beginning, was the one who felt having a space policy and space program would be a step in the right direction for the United States. He urged not only Eisenhower but also Kennedy to continue to grow the space program, which pushed the United States to land astronauts on the Moon before the Soviets, essentially ending the Cold War space race. It can be argued that Johnson, not Kennedy, is the one with the space policy legacy.

What was the decision process for the post-Apollo transition? Rather than being the result of a clear presidential leadership decision, as with Kennedy's Moon speech, the post-Apollo decline was more of a process. NASA failed to appreciate the change in circumstances and attitudes toward America's human spaceflight program, particularly the willingness to pay for an Apollo-style endeavor. NASA leadership failed to accept that while President Nixon was interested in outer space and certainly the Moon landing, and particularly the astronauts, he viewed NASA as just another federal agency. When NASA proposed an ambitious and expensive program, including a space station as an initial steppingstone to flights to Mars in the 1980s, the Nixon administration (and it was the administration not the president per se) forced a reduction that eventually saddled NASA with a Space Shuttle it could just about pay for. This was not the result of an "anti-space" policy but more part of a broader effort to get government spending under control after the Vietnam War and Johnson's expansive, expensive social programs.

Will Trump be the one to bring US astronauts back to the Moon? The argument is still to be made, but President Trump has taken active steps to reinvigorate US space activities on a grand scale. Yet, everything will take time, because allocating budget for his space directives will fall in the hands of Congress. While the administration seeks to move forward, the political environment in the United States will make it difficult for large-scale projects, such as a return to the Moon or a space force to be approved and implemented. The alternative option is a return to the Moon through commercial actors, which can be the case as the role of the Department of Commerce is increasing in US space activities. At this point, it is a matter of allowing President Trump's space directives to take form to see if Congress and the American people will support and fund a return to the Moon and a trip to Mars.

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