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THE US, THE USSR, AND SPACE EXPLORATION, 1957-1963

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This article reexamines the political meaning of the Space Age during the administrations of Dwight Eisenhower and John Kennedy. Using the foreign relations papers of the United States and an assortment of other primary and secondary sources, the author posits that space exploration, like the political summit meeting, served as a pressure valve or balancing point to the heightened Cold War tensions of the early 1960s. As events such as the Bay of Pigs Invasion and the Cuban Missile Crisis brought sharp words and the threat of armed conflict, the US and USSR's successful entry into outer space dramatically illustrated humankind's potential, bringing conciliatory dialogue between the superpowers and recognition of a greater human interest.

On February 13, 1961, less than a month after assuming the presidency, John F. Kennedy sent Chairman Nikita Khrushchev a telegram congratulating him and the Soviet people on their recent launching of a space probe to Venus. The message concluded that the United States would "watch its progress with interest and wish [the Soviet Union] success in another chapter of man's exploration of the universe."¹ Khrushchev promptly responded, "I express gratitude to you for this telegram giving high appraisal to this outstanding achievement of peaceful science and for wishes for success in the new stage of the exploration of the cosmos."² Such exchanges, in conjunction to space exploration, were common between the two leaders despite the heightened Cold War tensions of the period. In the midst of the Bay of Pigs invasion, resumed nuclear testing, a growing crisis in Berlin, conflict in southeast Asia and the Cuban Missile

Crisis, space exploration served as a balancing point—a symbol of peaceful coexistence and human progress. Although there were patriotic claims of scientific prowess and superiority and a good deal of competition, through the 1960s both the Soviet and American governments consistently stressed the greater human achievement of space exploration and that the conflicts and misunderstandings between the superpowers were of an earthly nature.

Historiographically, the role of the greater good in space exploration has not been recognized. Instead, nearly all of the literature on the US and USSR's endeavors into outer space has focused on "the space race" as an extension of the Cold War, virtually ignoring all of the cooperative efforts and conciliatory words.³ Fortunately, the twenty-first century historian has the great benefit of hindsight and is able to see the forest for the trees, so to speak. Though it is essential to recognize the strategic or competitive side of US-Soviet space policy, we must place it in its proper and measured context.

While Eisenhower showed little public apprehension, both his administration and the entire United States government began reacting in a decidedly different manner.

It is true that when the space age began with the launching of Sputnik I in October of 1957, political and military leaders in the US saw outer space as a new arena for superpower sparring, while its exploration was simply viewed as Cold War strategic positioning. This jaded reaction was due to the lack of knowledge about

space and its still undefined nature. Since it was humankind's first foray into this new frontier, Sputnik's implications were not fully understood by government officials. President Dwight Eisenhower publicly responded with casual indifference, not even holding a press conference until October 9, five days after the launch. When asked about the Soviet achievement the president responded, "[It] does not raise my apprehensions, not one iota."⁴ He went on to downplay any competition between the two superpowers stating, "Our satellite program has never been conducted as a race with other nations."⁵ But while Eisenhower showed little public apprehension, both his administration and the entire United States government began reacting in a decidedly different manner.

Secretary of State John Foster Dulles viewed the event as a publicity ploy

by the Kremlin, claiming, "The launching of an earth satellite was one of a trilogy of propaganda moves, the other two being the announcement of the successful testing of an ICBM and the recent test of a large-scale bomb."⁶ Resulting from this view of Sputnik as propaganda was Dulles' concern with US prestige both at home and abroad—with the Soviets celebrating their accomplishment and making it known to the rest of the world, American influence could begin to wane. Rather alarmingly, Dulles warned, "If we lose repeatedly to the Russians as we have lost with the Earth satellite, the accumulated damage would be tremendous."⁷ The National Security Council was also concerned about the United States' international image. Karl Herr, vice-chairman of the NSC Operations Coordinating Board, worried that the Sputnik launch and Soviet propaganda would create an image of "a new progressive USSR era" and "the end of the US Golden Age."⁸

Government officials therefore began contemplating their course of action. There could be no immediate counter-launch because American ballistics was not up to par with that of the Soviets. The NSC suggested that the United States stress achievements in other fields such as cancer research,⁹ while others in the Department of State sought solace in the belief that Sputnik was an attempt to "cover-up" the inferiority of Soviet aircraft and atomic capabilities.¹⁰ But such solace was not found. Alarms again sounded after the successful launch of Sputnik II and the launch pad explosion of Vanguard I—the first US satellite attempt. Locked into the Cold War mindset and brushing aside the USSR's persistent claims that its satellites were of a purely scientific nature, the Eisenhower administration could only hope that the twin Sputnik shots would frame the Soviets as—in Dulles' words—"the chief war makers in the world."¹¹

The events of 1957-1958 led to changes in the American space program. Initially, US satellite development was geared towards reconnaissance and was essentially an outgrowth of the U-2 spy-plane program, reflecting the Eisenhower Administration's approach to the new frontier.¹² To be sure, he created a separate agency within the Pentagon called Advanced Research Projects Agency (ARPA), which controlled all space projects.¹³ Shortly after its inception, however, it became increasingly clear that ARPA could not sustain a viable space program. As a result, Congress passed the National Aeronautics and Space Act in 1958, establishing the National Aeronautics and Space Administration (NASA). The creation of NASA not only made

the US space program more efficient, but it also marked a shift away from a militaristic approach to space exploration toward a more humanistic and scientific one. Section 102a of the act, for example, stated, "It is the policy of the United States that activities in space should be devoted to peaceful purposes for the benefit of all mankind." Section 102c continued, "The aeronautical and space activities of the United States shall be conducted so as to contribute materially to...cooperation by the United States with other nations and groups of nations in work done pursuant to this Act and in the peaceful applications of the results thereof."¹⁴

In September of 1958, the passage of the National Defense Education Act paralleled the Space Act and the creation of NASA. This resolution called for federal support and subsidies for scholarships, grants, and graduate education that would be tailored with science and technological research and

As Congress was making significant strides toward the reorientation of the American space program, the Eisenhower administration continued to seek out space's military possibilities.

development in mind. Nevertheless, as Congress was making significant strides toward the reorientation of the American space program, the Eisenhower administration continued to seek out space's military possibilities. Again, the focus was on reconnaissance, but rather than employ the Pentagon or the Air Force, Ike turned to the Central Intelligence Agency.¹⁵

The groundwork of reconnaissance satellite development that began under the Eisenhower administration flourished and became an integral part of the overall American space effort. However, the initial panic that followed the Sputnik launchings eventually receded with the success of the American Explorer satellite program. Slowly, the US was adopting a wider perspective in regard to outer space. John Kennedy dramatically revealed this shift in thinking and in his inaugural address called for US-Soviet cooperation stating, "Together let us explore the stars..."¹⁶ The president elaborated on this sentiment in his first State of the Union Message:

Specifically, I now invite all nations—including the Soviet Union—to join with us in developing a weather prediction program, in a new communications satellite program and in preparation for probing the distant

planets of Mars and Venus, probes which may someday unlock the deepest secrets of the universe.

Today this country is ahead in the science and technology of space while the Soviet Union is ahead in the capacity to lift large vehicles into orbit. Both nations would help themselves as well as other nations by removing these endeavors from the bitter and wasteful competition of the Cold War. The United States would be willing to join with the Soviet Union and the scientists of all nations in a greater effort to make the fruits of this new knowledge available to all....¹⁷

Thus space exploration was metamorphosing into a forum for dialogue and peace. It also served as a focal point of the greater human good during the numerous international crises that arose during Kennedy's brief yet tumultuous term as president.

Through the 1961-1963 period, Kennedy and Khrushchev maintained a constant stream of exchange via congratulatory telegrams that followed the successful launch of a satellite probe or a manned mission. When Yuri Gagarin became the first human to achieve orbit in April of 1961, Kennedy congratulated the Soviet chairman on the mission:

The People of the United States share with the people of the Soviet Union their satisfaction for the safe flight of the astronaut in man's first venture into space.... It is my sincere desire that in the continuing quest for knowledge of outer space, our nations can work together to obtain the greatest benefit to mankind.¹⁸

But just days later on April 17, American-trained and armed Cuban exiles launched an invasion of Cuba at the Bay of Pigs. The USSR was both shocked and angered by the attack and placed the blame squarely on Kennedy's shoulders. Khrushchev promptly contacted Kennedy and stressed the grave nature of the invasion, contending that US actions threatened "the peace of the whole world."¹⁹ He went on to assert that the episode evoked "an understandable feeling of indignation on the part of the Soviet government and the Soviet people" and that, if the US continued with such actions, the USSR "will answer them in full measure."²⁰ The Soviet chairman's heated words were matched by Kennedy's claim that the invasion was justified because "Cubans find intolerable the denial of democratic liberties."²¹ The debate continued with a retaliatory letter from Khrushchev on April 22, which stated that the US had subverted international law and

peaceful relations.²²

Yuri Gagarin and Alan Shepard's flights, as well as the greater human goal of space exploration, tempered this intense debate between the two superpowers. Just eight days after his stinging letter, Khrushchev sent Kennedy another message thanking him for the congratulatory telegram on the Gagarin achievement: "I express the hope that the Soviet Union and the United States may work together on the matter of mastering the universe, considering the mastering of the universe is a part of the great task of creating peace without armaments and war."²³ A week later the chairman sent felicitations for Alan Shepard's flight, adding, "Recent outstanding achievements in man's conquest of the cosmos open up boundless possibilities for understanding nature, in the name of progress. Please convey

Just eight days after sending a stinging letter from to Kennedy about the Bay of Pigs invasion, Khrushchev sent another message thanking Kennedy for the congratulatory telegram on the Gagarin achievement.

my heartfelt congratulations to the pilot, Shepard."²⁴ Kennedy sustained the cycle of good will by thanking Khrushchev for his acknowledgement of the first US manned space mission: "We believe that the peaceful exploration of space is a venture undertaken on behalf of mankind as a whole. In that spirit, each new step in the conquest and understanding of space, wherever made, will be an achievement in which all of us share."²⁵

In a similar vein, John Glenn's Friendship 7 mission—the first orbital flight by an American—served as a peaceful reminder during the continued crisis in Berlin and the resumption of nuclear testing in the US and USSR. While bitter words were tied to these issues, Glenn's flight served as a counterpoint. Khrushchev's congratulatory statement reiterated much of the sentiment of earlier messages:

The successful launching of spaceships signaling the conquest of new heights in science and technology inspire legitimate pride for the limitless potentialities of the human mind to serve the welfare of humanity. It is to be hoped that the genius of man, penetrating the depth of the universe, will be able to find ways to lasting peace and ensure the prosperity of all peoples on our planet earth which, in the space age, though it does not

seem so large, is still dear to all of its inhabitants.

If our countries pooled their efforts—scientific, technical and material—to master the universe, this would be very beneficial for the advance of science and would be joyfully acclaimed by all peoples who would like to see scientific achievements benefit man and not be used for “cold war” purposes and the arms race.²⁶

Kennedy’s response again thanked the Soviet premier for his message and stressed the importance of cooperation in space exploration. The president noted that he was creating a committee to hammer out “concrete proposals” on how the two nations could work together on common projects that would be of benefit to all.²⁷

Kennedy and Khrushchev continued their warm exchanges regarding space flight and exploration and set a precedent for future leaders to follow. Each note sent followed a near formulaic pattern, including a section that stressed the greater human achievement and a congratulatory statement that singled out a particular flight and astronaut or cosmonaut.

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The two leaders, however, did make occasional references to their respective nation’s feats being indicative of their social system’s preeminence. Though the Kennedy-Khrushchev interpersonal exchanges were friendly and warm, abstaining from such claims, there was a competitive edge to much of the rhetoric that was aimed at their fellow countrymen. Khrushchev consistently stressed the victories of communism after each new Soviet accomplishment, while Kennedy targeted the moon as an impending American victory in the space race.²⁸ In his famous speech, “The Space Challenge,” which was delivered before Rice University in September of 1962, the president declared that “the views of this nation can only be fulfilled if we in this nation are first, and therefore we intend to be first.”²⁹

These instances when the underlying Cold War seeped into the governmental leaders’ comments on space exploration, seemingly transforming

it into an ideological battleground between communism and capitalism, have been the focus of many historians and have accordingly dominated the literature on the space age of the 1960s. The Kennedy-Khrushchev exchanges paint a different portrait, illustrating the warm dialogue between the two leaders and their mutual acknowledgement that the Cold War should not extend into outer space. Perhaps even more impressive were the cooperative efforts between the superpowers and the development of numerous committees, agencies, resolutions, and treaties ensuring the separation of space and space exploration from earthly conflicts.

The first such effort at cooperation was the creation of the International Geophysical Year (IGY)—an organization consisting of 60,000 scientists from 66 different countries, including both the United States and the Soviet Union, that was devoted to the study of the earth and its place in the solar system.³⁰ The program, which was initiated in early 1957, before the launch of Sputnik I, laid the groundwork for future multinational endeavors. The following year, the USSR introduced a platform in the United Nations General Assembly that called for the creation of a UN agency dedicated to “international cooperation in the study of cosmic space.”³¹ More specifically the document proposed the adoption of a program for cooperation in rocketry, the continuation of IGY research, and the sharing of research on space and space exploration. While these proposals were in the interest of the international community and especially the US, the USSR tied the platform to a clause that required the “elimination of foreign military bases on the territories of other States, primarily, in Europe, the Near and Middle East and North Africa.”³² The amendment, however, was unacceptable to US military and strategic interests, thus ensuring its demise.

Regardless, the Soviet proposal was a start and it led to further UN talks on international collaboration. After months of wrangling over details, the UN created the Committee on the Peaceful Uses of Outer Space in December of 1959, which consisted of 24 nations whose task was to assist in the continued research of the IGY, serve as a forum for US-Soviet exchange of information, study potential legal issues that may arise, and to organize future conferences on the peaceful uses of outer space.³³ For the first two years of its existence, the committee was rarely active and served mostly as a symbol of the international commitment to designate space as a realm of peace. It was also an indication of the difficulties between the

Soviet leadership and the Eisenhower administration and their inability (or unwillingness) to work together.

This changed when Kennedy took office in 1961. Fostering an environment of good will through his correspondence with Khrushchev, the young president transformed the UN committee into a viable and active forum. During much of 1961, the committee worked on a resolution for lasting space cooperation. US ambassador to the United Nations, Adlai Stevenson, presented American proposals to both the committee and the General Assembly and urged swift action for their implementation, warning, "Unless we act soon the space age...will see waste and danger beyond description as a result of mankind's inability to

exploit his technical advances in a rational social framework."³⁴ The proposals included: a) that outer space be subject to international law; b) that it be open to all nations; c) the denial of all claims made on celestial bodies, including the moon and the planets; d) that the UN serve as the mitigating focal point for all matters relating to space exploration; e) the creation of a registry for all launches; f) cooperation on weather research and analysis via satellite; and g) cooperation in satellite communications.³⁵

Stevenson went on to state that such

initiatives could only advance peace, concluding, "In our judgment the wrong way is to allow the march of science to become a runaway race into the unknown. The right way is to make it an ordered peaceful, cooperative, and consultative forward march under the aegis of the United Nations."³⁶ The US effort came to fruition days later when the General Assembly unanimously passed—with no abstentions—UN Resolution 1721, entitled "International Co-operation in the Peaceful Uses of Outer Space," which contained all of the American proposals.³⁷

The United Nations' resolution acted as a sort of stepping stone toward a tighter US-Soviet agreement on outer space. Khrushchev's comments

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on “pooling efforts,” following the flight of John Glenn’s Friendship 7, initiated more in depth discussion on cooperation. Kennedy responded by expanding upon Resolution 1721. More specifically, he proposed: a) a joint establishment of an early operational weather satellite with each country concentrating on a particular hemisphere; b) the establishment of radio tracking services so that each country could track the other’s orbital activities; c) cooperation in mapping the earth’s magnetic field by launching two satellites—one American and the other Soviet; d) a joint effort in creating intercontinental transmissions via satellite; and e) the pooling of knowledge on space medicine.³⁸ The president went on to suggest that the two nations cooperate in the exploration of the moon, Venus, and Mars.³⁹

Khrushchev answered that the United States’ proposal “does not differ in essence from what we conceive to be practical measures in the field of such cooperation.” In turn, the chairman agreed to cooperation in all of the fields put forth by Kennedy and tacked on a few extra suggestions as well, including a call for a joint US-Soviet search and rescue team to retrieve lost satellites or space capsules and the establishment of an international law that would allow all nations to fully participate in space exploration.⁴⁰ He also requested that the two superpowers begin talks on disarmament—an issue that the USSR had consistently tied to outer space.⁴¹

Throughout 1962, the American and Soviet governments continued discussion on these various proposals. The dialogue, however, was not without its problems—US officials attempted to separate space exploration from disarmament, while the Soviets sought to restrict the use of reconnaissance satellites. In January of 1963, the issue of cooperation was once again brought before the UN General Assembly with the hopes of reaching further agreement. Senator Albert Gore, Sr. presented the US policy, which contained some of the Khrushchev-Kennedy proposals of the previous year. They included: a) a call for UN member states to cooperate in the development of space law; b) agreement on rescue and return of space vehicles and personnel; c) support for the International Year of the Quiet Sun (a joint geomagnetic world survey scheduled from the summer of 1963 to the summer of 1964, a period of minimal solar activity); d) cooperation on and expansion of atmospheric science research and expansion of the World Meteorological Organization; e) broadening of the International Telecommunication Union.⁴² Though these suggestions were acceptable

to the Soviet delegation, Gore's defense of American reconnaissance satellites was not. The Kremlin was stringently opposed to using satellites for "spying, propaganda, or other military purposes."⁴³ The senator defended his position by claiming, "Military activities in space cannot be divorced from the question of military activities on earth." He further explained, "Observation satellites obviously have military as well as scientific and commercial applications, but this can provide no basis for objection to observation satellites."⁴⁴

Despite the discord on reconnaissance satellites, both countries left the assembly agreeing that outer space should be designated as off-limits to nuclear weapons or other weapons of mass destruction. The agreement was formalized when the US, UK, and USSR signed a test-ban treaty that prohibited nuclear testing underwater, in the earth's atmosphere, and in outer space. More impressively was the passage of United Nations General Assembly Resolution 1884, which aimed "to prevent the spread of the arms race to outer space," calling on all states "not to station in outer space any objects carrying nuclear weapons or other kinds of weapons of mass destruction."⁴⁵

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Further talks on US-Soviet cooperation in space exploration paralleled these strides in arms control. American and Soviet delegates met throughout the first half of 1963, hammering out a concrete plan based on the Kennedy-Khrushchev proposals and United Nations Resolution 1721. The meetings went smoothly with NASA's representative Hugh Dryden reporting, "There was no atmosphere of cold war anywhere and has not been in those meetings since the first one..."⁴⁶ The end result was the signing of the "First Memorandum of Understanding" in the summer of 1963, a plan that called for cooperation on weather and communications satellites, as well as a joint geomagnetic survey. In January of 1964, the US-Soviet agreement was realized with the launch of the American communications satellite Echo II. The two nations swapped data on the satellite's transmissions and created the infrastructure for future joint projects. Through the

1960s, US-USSR cooperation continued to reach new heights. Dramatic measures such as the 1972 agreement "Cooperation in the Exploration and Use of Outer Space for Peaceful Purposes" and ultimately the joint Apollo-Soyuz mission, which saw the rendezvous and docking of an American and a Soviet spacecraft, underscored further collaboration in communications and meteorology.

From the succession of John Kennedy to the presidency, exploration of outer space countered the hostilities on earth, at times serving as a safety net or pressure valve when heightened tensions were leading the superpowers precariously close to destruction. With each technological advance, whether it came from the US or USSR, came a reminder of human potential and the possibilities of cooperation. At the dawning of the space age such notions had not fully developed, for outer space was unknown and fear of the unknown resulted in the extension of earthly habits and policies to the new frontier. Hence the Eisenhower administration only saw the strategic possibilities, focusing all of its efforts toward reconnaissance, defense, and national security. Indeed, the Soviet leadership did initially give the Eisenhower administration a reason to be on the defensive, lauding their early accomplishments as proof of communism's superiority. But as Adlai Stevenson observed, space was not governed by ideologies or "two dimensional and finite surfaces," rather, it was a completely different realm that offered unlimited possibility.⁴⁷

This view developed as our knowledge of outer space grew and it was reflected in the perspective of Kennedy and his administration. With the change in leadership came acknowledgement that the Cold War must not extend into outer space and that in a time of growing international tension space exploration could serve as a signpost, quite possibly saving humankind. This new era of international cooperation in outer space resulted in resolutions that defined areas of mutual US-Soviet interest. Along with Chairman Khrushchev, President Kennedy helped transform space exploration into a forum for dialogue between the two nations. The result was a precedent that set the course for the future.

MAJOR EVENTS IN THE SPACE AGE, 1957-1963

1957

- 10/04: Sputnik I, the successfully launched and orbited artificial satellite, marks the beginning of the space age.
- 11/03: Sputnik II and its canine companion, Laika, successfully orbit earth.

1958

- 01/31: The United States enters into the space age with its first satellite, Explorer I.
- 05/15: The "flying laboratory," Sputnik III is launched into orbit where numerous experiments and tests are conducted.
- 07/29: The National Aeronautics and Space Act is signed into law in the United States.

1959

- 01/02: The USSR launches Lunik I, which passes by the moon two days later and heads on to a solar orbit.
- 03/04: Pioneer IV, the first American lunar probe, is launched and passes by the moon.
- 09/14: The USSR implants Lunik II on the moon.
- 10/07: Lunik III transmits first image of the moon's "dark side."
- 12/12: Formation of the United Nations Committee on the Peaceful Uses of Outer Space.

1960

- 03/11: The US Pioneer V heads to the sun where it eventually achieves orbit.
- 04/01: The American satellite, Tiros I, orbits the earth, returning television images of weather patterns.
- 08/20: Two dogs, four mice, one rat, and jars of flies, algae, fungi and plant seeds safely return to the Soviet Union after a day in orbit.

1961

- 01/31: The US launches its first reconnaissance satellite, Samos II.
- 02/12: Soviet probe, Venus I, is launched.
- 02/04: The USSR launches Sputnik V, a seven-ton astronomical satellite.
- 04/12: Yuri Gagarin becomes the first human to orbit the earth.
- 05/05: The sub-orbital flight of Freedom 7 designates Alan Shepard as the first American in space.
- 08/07: Soviet cosmonaut Gherman Titov returns to earth after spending 25 hours in orbit.

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12/20: The United Nations unanimously passes Resolution 1721, "International Cooperation in the Peaceful Uses of Outer Space."

1962

02/20: John Glenn becomes the first American to achieve orbit.

02/23: The European Space Research Organization is formed in Paris.

08/27: American probe, Mariner II, passes by Venus and transmits back data on the planet's atmosphere.

11/01: Soviet probe, Mars I, is launched.

1963

06/16: Former textile mill worker Valentina Tereshkova becomes the first woman in space, orbiting the earth 48 times.

09/30: US sends the first atomic powered satellite into orbit.

10/15: Passage of United Nations Resolution 1884, banning nuclear weapons and all other weapons of mass destruction from outer space.

11/01: Soviet satellite Polyot I alters orbit, becoming the first earth-guided probe.

Source: Sobel, Lester A. *Space: From Sputnik to Gemini*. Interim History. New York: Facts on File, Inc., 1965.

Notes

1. "Telegram From President Kennedy to Chairman Khrushchev," *Foreign Relations of the United States, 1961-1963: Kennedy-Khrushchev Exchanges*, vol. 6, eds. Charles S. Sampson and Glenn W. LaFantasie (Washington, D.C.: United States Government Printing Office, 1996), 4.

2. "Message From Chairman Khrushchev to President Kennedy," *Kennedy-Khrushchev Exchanges*, 4.

3. Most of the monographs on US-Soviet space exploration were written during the Cold War and are unsurprisingly shaped by the period. Despite titles that seem to suggest collaboration (i.e. Don E. Kash's *The Politics of Space Cooperation* and Dodd L. Harvey and Linda C. Ciccoritti's *US-Soviet Cooperation in Space*), the literature—though informative—dwells on the political, ideological, and militaristic conflict between the USSR and US.

4. "Satellites and Our Safety: Stepping Up the Pace," *Newsweek*, 21 October 1957, 29.

5. *Public Papers of the Presidents of the United States* (Washington, D.C.: Office of the Federal Register, National Archives and Records Service, 1952-1961), Dwight D. Eisenhower, 1957, 735, quoted in Dodd L. Harvey and Linda C. Ciccoritti, *U.S.-Soviet Cooperation in Space*, Monographs in International Studies (Miami: University of Miami

Center for Advanced International Studies, 1974), 13.

6. "Implications of the Soviet Earth Satellite for U.S. Security," *Foreign Relations of the United States, 1955-1957: The Soviet Union*, vol. 24 (Washington, D.C.: United States Government Printing Office, 1996), 163.

7. *Ibid.*, 164.

8. Walter A. McDougall, "Sputnik, the Space Race, and the Cold War," *Bulletin of the Atomic Scientists* 41, no. 5 (1985): 23.

9. "Memorandum of Discussion at the 339th Meeting of the National Security Council," *Foreign Relations of the United States, 1955-1957*, 165.

10. "Circular Telegram From the Department of State to All Diplomatic Missions," *Foreign Relations of the United States, 1955-1957*, 167.

11. "Memorandum of Conversation," *Foreign Relations of the United States, 1955-1957*, 189.

12. Paul B. Stares, *The Militarization of Space: U.S. Policy, 1945-1984*, Cornell Studies in Security Affairs, eds. Robert J. Art and Robert Jervis (Ithaca, New York: Cornell University Press, 1985), 22.

13. *Ibid.*, 41.

14. Public Law 85-568, approved July 29, 1958. 85th Cong., 2nd Sess., *H.R. 12575. National Aeronautics and Space Act of 1958*, quoted in Harvey and Ciccoritti, *U.S.-Soviet Cooperation in Space*, 35.

15. Stares, *The Militarization of Space*, 44.

16. John F. Kennedy, "For the Freedom of Man: We Must All Work Together," *Vital Speeches of the Day* 27, no. 8 (1961): 227.

17. *Public Papers of the Presidents of the United States*, Washington, D.C.: Office of the Federal Register, National Archives and Record Service, 1961-1963, John F. Kennedy, 1961, 26-27, quoted in Harvey and Ciccoritti, *U.S.-Soviet Cooperation in Space*, 65.

18. "Telegram From the Department of State to the Embassy in the Soviet Union," *Foreign Relations of the United States: Kennedy-Khrushchev Exchanges*, 7.

19. "Telegram From the Embassy in the Soviet Union to the Department of State," *Foreign Relations of the United States: Kennedy-Khrushchev Exchanges*, 7.

20. *Ibid.*, 8.

21. "Letter From President Kennedy to Chairman Khrushchev," *Foreign Relations of the United States: Kennedy-Khrushchev Exchanges*, 9.

22. "Letter From Chairman Khrushchev to President Kennedy," *Foreign Relations of the United States: Kennedy-Khrushchev Exchanges*, 10-16.

23. "Message From Chairman Khrushchev to President Kennedy," *Foreign Relations of the United States: Kennedy-Khrushchev Exchanges*, 17.

24. "Telegram From Chairman Khrushchev to President Kennedy," *Foreign Relations of the United States: Kennedy-Khrushchev Exchanges*, 17.

25. "Letter From President Kennedy to Chairman Khrushchev," *Foreign Relations of the United States: Kennedy-Khrushchev Exchanges*, 18.

26. "Letter From Chairman Khrushchev to President Kennedy," *Foreign Relations of the United States: Kennedy-Khrushchev Exchanges*, 96.

27. "Telegram From the Department of State to the Embassy in the Soviet Union," *Foreign Relations of the United States: Kennedy-Khrushchev Exchanges*, 97.

28. Much of the historical writing on the Apollo moon voyages casts the event as a race with the USSR. Khrushchev, however, expressed reservations about a possible Soviet mission to the moon as early as June of 1961. Fearing the risks involved, the chairman commented more directly in 1963: "We are not at present planning flight by cosmonauts to the moon.... We do not want to compete with the sending of people to the moon without careful preparation. It is clear that no benefits would be derived from such a competition. On the contrary, it would be harmful as it might result in the destruction of people." *Izvestiya*, October 26, 1963, quoted in Harvey and Ciccoritti, *U.S.-Soviet Cooperation in Space*, 124.

29. John F. Kennedy, "The Space Challenge: High National Priority," *Vital Speeches of the Day* 28, no. 24 (1962): 739.

30. Stephen M. Shaffer and Lisa Robock Shaffer, *The Politics of International Cooperation: A Comparison of U.S. Experience in Space and in Security*, vol. 17, book 4, Monograph Series in World Affairs, ed. Karen A. Feste (Denver: Graduate School of International Studies at the University of Denver, 1980), 16.

31. "The News in Review: USSR Proposal," *United Nations Review* 4 (April 1958): 2.

32. Ibid.

33. Lester A. Sobel, *Space: From Sputnik to Gemini*, Interim History (New York: Facts on File, Inc., 1965), 86.

34. A.E. Stevenson, "International Cooperation in the Peaceful Uses of Outer Space," *Department of State Bulletin* 46 (29 January 1962): 180.

35. Ibid., 185-6.

36. Ibid., 185.

37. "International Co-Operation in the Peaceful Uses of Outer Space," *United Nations Review* 9 (January 1962): 56-7.

38. "Letter From Kennedy to Chairman Khrushchev," *Foreign Relations of the United States: The Kennedy-Khrushchev Exchanges*, 116-7.

39. Ibid., 118.

40. "Letter From Chairman Khrushchev to President Kennedy," *Foreign Relations of the United States: The Kennedy-Khrushchev Exchanges*, 128-9.

41. Throughout the correspondence between Kennedy and Khrushchev, the Soviet leader deliberately tied disarmament to space exploration. His reasoning was that the rockets used for space were also used as weapons. He more fully explained his position in a telegram to Kennedy: "Until an agreement on general and complete disarmament is achieved, both our countries will, nevertheless, be limited in their abilities to cooperate in the field of peaceful use of outer space. It is no secret that rockets for military purposes and spacecraft launched for peaceful purposes are based on common scientific and technological achievements." "Letter From Chairman Khrushchev to President Kennedy," *Foreign Relations of the United States: The Kennedy-Khrushchev Exchanges*, 130.

42. Albert Gore, Sr., "United States Policy on Outer Space," *Department of State Bulletin* 48 (7 January 1963): 21-9.

43. "Telegram From the Embassy of the Soviet Union to the Department of State," *Foreign Relations of the United States: The Soviet Union, 1961-1963*, vol. 5 (Washington, D.C.: United States Government Printing Office, 1996), 760.

44. Gore, "United States Policy on Outer Space," *Department of State Bulletin*, 23.

45. "Outer Space: Assembly Calls Upon All States to Refrain from Placing Weapons of Mass Destruction in Outer Space," *United Nations Review* 10 (December 1963): 18.

46. "Joint US-USSR Talks on Cooperative Space Research Projects Held in Rome, Italy," NASA News Release, March 23, 1963, quoted in Harvey and Ciccoritti, *U.S.-Soviet Cooperation in Space*, 98.

47. Stevenson, "International Cooperation in the Peaceful Uses of Outer Space," *Department of State Bulletin*, 180.