**Abstract**: In 1975 American and Soviet spacecraft docked together in orbit as part of the Apollo-Soyuz Test Project (ASTP), the world’s first international crewed space mission. Focusing on the project’s political symbolism, this article argues that the ASTP was an attempt by the Nixon and Ford administrations to advertise US-Soviet detente by harnessing the optimistic imagery of “space brotherhood”, an instinctive kinship supposedly shared by American astronauts and Soviet cosmonauts. This was ultimately unsuccessful, as detente’s critics appropriated the mission for their own symbolic use to attack US-Soviet detente as a fantastical escape from earthly problems.

“Howdy Partner!”- Space Brotherhood, Detente and the Symbolism of the 1975 Apollo-Soyuz Test Project

On 17 July 1975, an unprecedented instance of superpower space cooperation took place when American and Soviet spacecraft met in Low Earth Orbit to dock and exchange crewmembers as part of the Apollo-Soyuz Test Project (ASTP). The linking of the two spacecraft using a jointly developed, and bizarrely named, “Androgynous Docking Adaptor” was followed by a joyful embrace between Soviet mission commander Colonel Alexei Leonov and his American counterpart, General Thomas Stafford. Apollo-Soyuz was more than the triumphant culmination of three years of challenging organisational and engineering collaboration, it was also a powerful symbol of detente, the contemporary foreign policy doctrine of incrementally expanding cooperation between the Cold War antagonists. This article argues that, for all that was novel about the joint mission, Apollo-Soyuz also invoked a pre-existing idea of “space brotherhood”: a utopian discourse that depicted astronauts and cosmonauts as a transnational elite bound by a deep kinship that cut across, but did not invalidate, their respective ideologies. The Nixon and Ford administrations hoped to harness space brotherhood’s emotional resonance to detoxify detente, a highly controversial policy often maligned as latter-day appeasement. Understanding Apollo-Soyuz as part of a longer tradition of utopian space pageantry not only helps contextualize this unique instance of US-Soviet scientific cooperation, it also illuminates the image-making that was central to 1970s detente.

The ASTP’s political and organisational origins can be traced back to an exchange of letters between NASA Administrator Tom Paine and the President of the Soviet Academy of Sciences, Academician Mstislav V. Keldysh which had followed America’s *Apollo 11* lunar landing. Their discussion of potential cooperative projects eventually coalesced around a rendezvous and docking mission between American and Soviet spacecraft. After Paine left NASA in June 1970, discussions were sustained by his successors and in October 1970 the first NASA delegation left for Moscow for face-to-face meetings. Over the next year, the two programmes took turns hosting each other’s representatives as they puzzled over logistical and technological practicalities and by the beginning of 1972 Apollo-Soyuz had begun to take shape.[[1]](#footnote-1) At the May 1972 Moscow Summit, President Nixon and Soviet Premier Alexei N. Kosygin signed the Agreement Concerning Cooperation in the Exploration and Use of Outer Space for Peaceful Purposes which mandated the two nations explore a rendezvous and docking project.[[2]](#footnote-2) This joint venture had the specific goal of developing and testing the Androgynous Docking Adaptor and the more general aim of exploring whether the world’s two greatest space programmes could learn to work together. Over the next three years, Soviet and American engineers and managers, cosmonauts and astronauts worked feverishly alongside each other to bring Apollo-Soyuz to reality.

However, this diplomatic and organisational narrative is only part of the story. Apollo-Soyuz was not just the most intense and complicated instance of scientific-technical cooperation between the superpowers during the Cold War, this symbolic reconciliation of the Space Race competitors was also a spectacular act of propaganda. Such a blend of technological cooperation and political theatre should be an irresistible subject for scholars of the “New Aerospace History” which explores space exploration’s socio-political ramifications. This vibrant and imaginative literature is exemplified by Howard E. McCurdy’s panoramic primer *Space and the American Imagination* which argued that America’s space programme was shaped as much by its cultural context as the limits of American technology.[[3]](#footnote-3) Furthermore, the political guises adopted by spacefarers, particularly those of Soviet cosmonauts, is a focal area of the New Aerospace History and the related literature examining the “cosmic enthusiasm” that swept the Soviet Bloc after *Sputnik 1’s* launch.[[4]](#footnote-4) Apollo-Soyuz offers historians the opportunity to study the cosmonaut in an unfamiliar environment and time period: Cold War America after the Moon Race had concluded.

The flourishing of the New Aerospace History makes it all the more surprising that Apollo-Soyuz has often been viewed as “In many ways ... more of an end than a beginning”, in the words of NASA’s chief historian Dr. Bill Barry. By using Apollo-Soyuz as a chronological bookend for the Apollo programme, US-Soviet detente or the Space Race, historians have treated the project as the concluding point to other processes rather than a significant event in its own right.[[5]](#footnote-5) Furthermore, despite characterising Apollo-Soyuz as an exercise in symbolism, historians have evaluated the project according to its technological legacy or the relationships that it fostered between American and Soviet engineers.[[6]](#footnote-6) Although historians of space cooperation like Angelina Long-Callahan, Matthew von Bencke and Yuri Karash have situated Apollo-Soyuz within a longer continuum of NASA engagement with the Soviet and later Russian space programme, their focus has been on whether the project can be viewed as the first step towards the Russo-American collaboration that constructed and sustains the International Space Station.[[7]](#footnote-7) The literature’s focus on Apollo-Soyuz’s organisational and diplomatic origins, whilst reasonable, ultimately limits our understanding of the mission as a significant moment in the history of space exploration technology’s political symbolism. If Apollo-Soyuz was a primarily symbolic endeavour then its symbolism should be central to historical analysis of the project. This means focusing on the message that the project’s participants and sponsors sought to relay, and how that message was received and contested.

Placing Apollo-Soyuz’s symbolism at the heart of its enquiry, this article details how the imagery of space brotherhood was used to sell US-Soviet detente. McCurdy contended that a “culture shift preceded the arrival of the space programme”; during the 1950s, a concerted campaign by “space popularisers”, a diverse coalition of science fiction authors, futurists and aeronautical engineers, prepared the American public for the imminent reality of space travel.[[8]](#footnote-8) This article describes a similar process in which detente-era space cooperation was preceded by the propagation of a space brotherhood discourse. Its first section traces the evolution of the utopian ideal of space brotherhood during a period of intense US-Soviet competition in space. The following two sections describe how Presidents Richard Nixon and Gerald Ford used space cooperation with the Soviet Union to portray detente as the visionary foreign policy of the future. A final concluding section explores how Nixon and Ford’s reliance on space brotherhood symbolism ultimately backfired as detente’s critics attacked Apollo-Soyuz as a “costly space circus” that proved their policy was a triumph of style over substance.

Cold War Chivalry- Space Brotherhood during the 1960s

The space brotherhood idea reflected outer space’s unique position in the mid-century American imagination. De Witt Douglas Kilgore has illuminated a discourse that he calls “Astrofuturism”: a utopian Space Age creed propagated by scientists, science fiction authors and engineers that argued it was America’s manifest destiny to expand outwards into the cosmos. Kilgore contends that “the space frontier represents for astrofuturists the landscape in which the human condition can improve”; it was a redemptive, limitless terrain redolent of the rejuvenating Western Frontier that Frederick Jackson Turner had eulogized at the close of the 19th century.[[9]](#footnote-9) In this optimistic realm, even Cold War competition took on a new and more benevolent guise and the space programme’s supporters depicted the Space Race as a benign societal outlet, a “moral substitute for war” in the words of CBS journalist Eric Sevareid.[[10]](#footnote-10) Just as the chivalric combat of Arthurian romances belied the brutal reality of the feudal order, astrofuturist depictions of competition in space appeared to be a more honourable alternative to the Cold War that smouldered on Earth below. Idealized images of astronauts and cosmonauts were central to arguments that the Space Race was a more chivalrous form of Cold War competition. Rather than being rival space pilots or the human component within a colossal cybernetic system, spacefarers became courageous heroes bound to each other by a special and deeply held kinship that the earthbound would never truly understand.[[11]](#footnote-11)

The idea of a heartfelt affinity existing between rival spacefarers predates Yuri Gagarin’s pioneering orbital flight of 1961. In 1959, in the shadow of the Sputnik Crisis, Senate Majority Leader Lyndon Baines Johnson had speculated that space cooperation might help ease Cold War tensions, “Men who have worked together to reach the stars are not likely to descend together into the depths of war and desolation.”[[12]](#footnote-12) The following year, an episode of the space exploration television serial *Men into Space* depicted American astronauts gallantly calling off the first crewed mission to Mars in order to help their imperilled Soviet competitors.[[13]](#footnote-13) These examples could be dismissed as examples of the florid rhetoric that followed in Sputnik’s wake or a common science fiction trope, the daring space rescue mission. However, these first stirrings of space brotherhood also reveal a glimmer of something deeper: a utopian image of space exploration as an arduous but enlightening process that would force the Cold War adversaries to recognize their common humanity. As in early romantic depictions of aviators as the “Knighthood of the Air”, space brotherhood’s protagonists were nationalist heroes who nevertheless belonged to a transnational elite bound by a shared sense of chivalry and affinity for a transformative technology.[[14]](#footnote-14)

Far from being dispelled by the reality of human spaceflight, space brotherhood’s idealistic vision flourished during early 1960s. Yuri Gagarin’s hastily published 1962 memoir *Road to the Stars* lauded John Glenn, the first American to equal his feat, as “a brave man. I would like to share vodka with him and wish him and his family every success. I think that sooner or later we will meet.”[[15]](#footnote-15) Although the book’s frequent, clumsy praise for the Soviet economy’s magnificent achievements betray the heavy hand of Gagarin’s ghost writers, its praise for Glenn strengthened the Space Race’s image as a contest between chivalrous individuals. This image was further reinforced by the spring 1962 US tour of *Vostok 2* cosmonaut Gherman Titov. Although John Glenn found Titov’s incessant praise for the Soviet system tiresome, the two spacefarers managed to strike up a rapport and the press photographed them bonding over an impromptu barbecue at Glenn’s home.[[16]](#footnote-16) On his departure, Titov had enthused that meeting American astronauts had “strengthened my belief that there will be room for all in outer space.”[[17]](#footnote-17) The cosmonaut socialising with Glenn and his family in the astronaut’s suburban home offered a more hopeful alternative to Soviet Premier Nikita Khrushchev’s ominous threats that Gagarin and Titov could easily have been replaced with “other payloads”.[[18]](#footnote-18)

Astronauts’ memoirs frequently detail friendly interactions with their Soviet equivalents characterized by an affinity that stemmed from shared backgrounds as pilots and a mutual respect for each other’s courage.[[19]](#footnote-19) Ultimately, though, space brotherhood presented itself as something more profound than a sense of shared identity derived from belonging to a unique profession. *Apollo 15* commander David Scott likened spacefarers to “members of an elite club [which] subsumed politics, it rose above the bitter fray of the Cold War.” Scott’s depiction of the bond between spacefarers as something edifying that “rose above” politics reflects the crucial theme of redemption that suffuses discussion of space brotherhood. Similarly, *Vostok 6* cosmonaut Valentina Tereshkova, the first woman in space, described the feeling she experienced when she met other space travellers as an instinctive bond, “like an inner certainty of brotherhood and sisterhood.”[[20]](#footnote-20) The instinctive and spontaneous element of space brotherhood that Scott and Tereshkova described helps elucidate the ideas emotional resonance during the 1960s, its authenticity chimed with a popular image of outer space as the terrain of a hopeful future.

As employees of a Cold War agency dedicated to maintaining American space leadership, NASA’s public relations officials distrusted the cosmonauts and sought to discourage astronauts from spontaneously fraternising with these symbols of Soviet power at international aerospace events.[[21]](#footnote-21) At both the 1965 Sixteenth International Astronautical Congress in Athens and the 1967 Paris Le Bourget Air Show, Astronauts ignored their handlers’ claims that the Soviets would only embarrass them. *Voskhod 2* Cosmonaut Alexei Leonov described the four hours that he and Pavel Belyayev spent drinking cognac and swapping stories with astronauts Pete Conrad and Gordon Cooper in Athens as a “very pure meeting”.[[22]](#footnote-22) The aerospace industry magazine *Missiles and Rockets* decried the agency’s paranoid management of the astronauts at Athens as “an intemperate display of poor NASA press relations”.[[23]](#footnote-23) In spite of NASA’s misgivings, demonstrations of space brotherhood ultimately supported the agency’s central argument that competition in space was a glorious undertaking. They presented an appealing vision of the Space Race as the heroic duel between courageous and chivalrous individuals rather than an abstracted, arbitrary contest between two vast military-industrial bureaucracies.[[24]](#footnote-24)

Depictions of spaceflight as a transcendental activity reinforced the shared mystique of astronauts and cosmonauts. Commenting on Andrian Nikolayev’s 1962 *Vostok 3* flight, Mercury astronaut Scott Carpenter wistfully remarked, “I envy him the wonderful experiences he’s going through right now- and I know just how wonderful they are.”[[25]](#footnote-25) Chief amongst these “wonderful experiences” was seeing the curvature of the Earth from space. Whether in Gherman Titov’s lyrical descriptions, “the Earth flared like a million-faceted glass, an extraordinary array of vivid hues”, or the awkward attempts by practical-minded astronauts to relate their otherworldly experiences, Earth’s sublime beauty from orbit quickly became a mainstay of spacefarer rhetoric.[[26]](#footnote-26) Robert Poole’s ruminative cultural history *Earthrise* describes how space enthusiasts on both sides of the Iron Curtain had eagerly anticipated the godlike “celestial” perspective that space travel would bring. The argument went that as more people flew into space and experienced this “overview effect”, humanity would break free from the false consciousness of artificial borders and blocs and embrace a planetary outlook.[[27]](#footnote-27) Seeing the Earth as it supposedly really was, rather than the thrill of a spacecraft launch or the surreal experience of weightlessness, was what truly separated astronauts and cosmonauts from the rest of humanity.

As well as its transcendental joys, astronauts and cosmonauts shared space exploration’s risks. On 27 January 1967, Astronauts Roger Chafee, Gus Grissom, and Ed White were killed when the oxygen-rich atmosphere of their command module simulator ignited during a launch rehearsal test for the *Apollo 1* mission.[[28]](#footnote-28) Less than three months later, *Soyuz 1* cosmonaut Vladimir Komarov died horrifically when his craft’s parachute mechanism malfunctioned during re-entry, slamming his capsule into the Earth.[[29]](#footnote-29) Kurt Vonnegut’s characteristically astute essay on the meanings of *Apollo 11* cast the cosmonaut as a very different Cold War combatant to the Vietcong saboteur: “It would seem wrong to my neighbours, if the name of a defunct Communistic spaceman were mixed into the general body count, were mingled willy-nilly with the encouraging news of so-and-so many communists killed that day.”[[30]](#footnote-30) NASA’s recent tragedy made it easy for Americans to empathize with their Soviet rivals. Numerous editorial cartoons depicted the superpowers as united in grief by portraying the Soviet and American flags lowered at half-mast, either side by side, or divided by a symbolic chasm against the backdrop of a starry sky.[[31]](#footnote-31) The spaceflight tragedies of 1967 added a poignant undercurrent to space brotherhood by emphasising the mutual vulnerability of astronauts and cosmonauts in the face of a pitiless cosmos and fallible machines.

An emerging international legal regime that construed outer space as a de-weaponized sanctuary that was the “common heritage of all mankind” further bolstered arguments that the Space Race was a more chivalrous form of Cold War competition. The 1967 UN Treaty of Principles Governing the Activities of States in the Exploration and Use of Outer Space, commonly referred to as the Outer Space Treaty (OST), banned the deployment of weapons of mass destruction in outer space and on celestial bodies and prohibited nations from making or enforcing territorial claims on those celestial bodies. Article V enshrined the space chivalry of *Men into Space* within international law by grandly terming space travellers “envoys of mankind” who were to be rendered all possible aid by any nation capable of assisting in the event of “accident, distress of emergency”. An additional UN agreement that came into force the following December that further reinforced astronauts’ special legal position by mandating they be returned safely to the state that had launched them.[[32]](#footnote-32) By elevating them to the position of ambassadors of all humanity, the UN legal regime for outer space solidified the image of spacefarers as a transnational elite. President Johnson’s statement on the signing of the OST explicitly invoked space brotherhood, praising the treaty for ensuring “that astronaut and cosmonaut will meet someday on the surface of the Moon as brothers and not as warriors for competing nationalities or ideologies.”[[33]](#footnote-33)

By the time the *Apollo 8* circumlunar mission confirmed America’s unassailable lead in the Moon Race in December 1968, the imagery of space brotherhood was already well established. Space brotherhood cannot be untangled from widespread astrofuturist assumptions about space exploration as a redemptive and transcendental endeavour. Soviet tanks might have crushed Alexander Dubcek’s “Socialism with a human face” as American ordnance rained down on Southeast Asia, but in space the Cold War was transfigured and cleansed. Space brotherhood’s vision of transnational friendship gestured to a cooperative future whilst exalting non-violent competition. Indeed, it was the antagonism between astronauts and cosmonauts’ nations that made their kinship meaningful. The bond between spacefarers was glorious because it overcame the Cold War divide, without this obstacle their professions of affinity would not have been nearly as affecting. Although it became the most iconic symbol of space brotherhood, Apollo-Soyuz did not create the idea of a transnational bond between spacefarers. Leonov and Stafford’s embrace carried so much emotional resonance because the space brotherhood idea was already deeply embedded in American discourse surrounding space exploration.

“There is no national boundary to courage”: Richard Nixon and Space Brotherhood

The emotive power of space brotherhood was irresistibly appealing to Richard Nixon, a president who was uniquely attuned to space exploration’s propaganda potential and eager to establish a more collaborative relationship with the USSR. Inaugurated just weeks after the triumphant *Apollo 8* circumlunar mission, Nixon insinuated himself into the *Apollo* *11* lunar landing mission’s pageantry. In addition to his historic phone call to Aldrin and Armstrong at the Tranquillity Base landing site, Nixon also greeted the astronauts aboard the *USS Hornet* after their capsule’s splashdown and recovery before embarking on a post-mission “Moonglow” world tour that capitalized on the landing. Teasel Muir-Harmony persuasively argues that the Nixon administration used the Apollo programme’s symbolic choreography to portray the world as interconnected and interdependent.[[34]](#footnote-34) As well as this broader symbolic message, Nixon also encouraged NASA’s use of space brotherhood symbolism to send conciliatory signals to the USSR. Throughout the Apollo programme’s lunar exploration phase, Nixon was eager to open the crewed spaceflight programme to international participation including through joint US-Soviet cooperative projects.[[35]](#footnote-35) After the 1972 Moscow Summit, Nixon used space cooperation to dramatize his controversial policy of US-Soviet detente, rhetorically reconfiguring space brotherhood as a reproach to the policy’s detractors. If astronauts and cosmonauts could see beyond their political differences, then surely political leaders might also be able to work together to reduce the likelihood of nuclear war?

On 2 January 1969, Arnold Frutkin, NASA’s Deputy Administrator for International Affairs, informed Administrator Tom Paine that the President-Elect would very likely be interested in renewing US-Soviet space cooperation discussions.[[36]](#footnote-36) Frutkin’s prediction was correct; Nixon may not have entered office with a detailed plan for a docking mission between American and Soviet spacecraft, but he was highly receptive to space cooperation’s propaganda potential. Nixon’s National Security Advisor and foreign policy confidante Henry Kissinger saw space cooperation as a diplomatic lever that was too important to be left solely in NASA’s hands. In an August 1969 memo discussing Administrator Paine’s encouraging correspondence with Academician Keldysh, Kissinger directed an NSC ad-hoc committee on space cooperation be set up. Kissinger argued that executive oversight was necessary because space cooperation was “very largely a foreign policy problem” and contended in a later memo that only a high-level diplomatic effort would help overcome the Soviet leadership’s “great reluctance to risk compromise of [their] military space programme”.[[37]](#footnote-37) In October 1970, with NASA’s first Moscow-bound delegation preparing its negotiating stance, influential White House Aide Peter Flannigan had suggested “slowing down these meetings” to prevent transferring sensitive information and sending a conciliatory signal in light of “developments in the Middle East” (US-Soviet tensions had been exacerbated by the 1970 Jordanian Civil War). Kissinger rejected Flannigan’s suggestion by stating that whilst he was “sensitive” to these factors, space cooperation was an area where “long-term objectives” could be furthered successfully.[[38]](#footnote-38) Space cooperation’s expected propaganda dividend was too great to resist.

Nixon quickly began harnessing space brotherhood’s diplomatic potential by sending *Apollo 8*’s commander, Frank Borman, to the Soviet Union in June 1969. Borman’s visit has been described as a crucial “first step” on the road to the Apollo-Soyuz Test Project and the Soviet Academy of Sciences’ decision to invite the astronaut had sparked considerable interest within the National Security Council for representing a “considerable change in Soviet policy”.[[39]](#footnote-39) Borman recalls Nixon perceiving the visit as an “opening wedge” for greater cooperation and instructing him to “sound out” the Soviets. The astronaut was guided round the USSR by Gherman Titov and the two spacefarers bonded by engaging in a series of light-hearted “selling job” ideological debates they nicknamed “Capitalist Versus Communist”. Borman had impressed his Soviet hosts with moving toasts to the memories of Vladimir Komarov and Yuri Gagarin, who had died in a plane crash the year before and “had become almost a deity in Russian eyes”.[[40]](#footnote-40) In a follow-up memo to Kissinger, Borman proposed organising more formal NASA-Soviet discussions; a “joint meeting of cosmonauts and astronauts” would be an excellent way to exploit the “public awareness” of these spacefarers.[[41]](#footnote-41) Nixon’s use of Borman as a charismatic emissary to the Soviet space programme exploited both the bridge-building imagery of space brotherhood and the doors that membership of this elite club opened.

Borman returned from the USSR bearing two small but significant souvenirs: a pair of medals honouring Gagarin and Komarov gifted to him by the fallen cosmonauts’ widows. Nixon hailed the decision to place these medals on the lunar surface during the *Apollo 11* mission as a fitting tribute to “the sacrifice made by other space pioneers ... there is no national boundary to courage.” Nixon turned the lunar memorial into a moral lesson by adding, “If men can reach the Moon, men can reach agreement.”[[42]](#footnote-42) *The Washington Post* praised the memorial as a “gracious tribute”, that testified to “a kinship transcending not only national frontiers but the most bitter of ideological conflicts”.[[43]](#footnote-43) Muir-Harmony argues that making the Soviets “participants” in this way served Apollo’s broader “interconnected world” message, but acknowledging space brotherhood at America’s moment of triumph also broadcast a specific message to the USSR.[[44]](#footnote-44) US-Soviet space cooperation was on Nixon’s mind and he would discuss potential joint projects with Kissinger, Administrator Paine and Borman during their helicopter ride to the *USS* *Hornet*, the aircraft carrier that would recover the *Apollo 11* capsule.[[45]](#footnote-45) Honouring fallen cosmonauts at Apollo’s moment of triumph recalled the sort of gracious treatment granted to noble but vanquished foes in Arthurian legend. This gesture of space chivalry turned Apollo into a victory of not just superior American technology, but superior American morality. The lunar memorial drew on the themes of space brotherhood, shared sacrifice and the Soviet Gagarin cult to signal that though America had won the race to the Moon, it was a gracious victor.

During the July 1971 *Apollo 15* mission, David Scott placed a second tribute to space brotherhood on the lunar surface. It comprised a small plaque listing the names of fourteen dead astronauts and cosmonauts and a miniature sculpture titled “The Fallen Astronaut” that was arguably the first work of art placed on another celestial body. The USSR was reeling from the June 1971 *Soyuz 11* disaster that had seen a crew of three cosmonauts killed when their spacecraft depressurized as it returned from a groundbreaking mission aboard the *Salyut 1* space station. Scott reflected that although he only knew some of the cosmonauts from “formal photographs alongside a brief announcement of their deaths in the Soviet press” he still felt “a strong sense of brotherhood” with them.[[46]](#footnote-46) Earlier that month, the USSR had invited *Apollo 10* Astronaut Thomas Stafford to represent his country at the state funeral of the *Soyuz 11* cosmonauts by acting as a pallbearer alongside General Secretary Brezhnev.[[47]](#footnote-47) A State Department memo to Kissinger characterized Stafford’s unprecedented involvement in a cosmonaut funeral as a breakthrough that was “remarkably successful” from a diplomatic and publicity perspective.[[48]](#footnote-48) Demonstrations of space brotherhood were becoming increasingly entwined with growing US-Soviet detente. With the lunar memorials, America had sent conciliatory signals; with the *Soyuz 11* funeral, the Soviet leadership responded. As well as being a way of selling detente to the public, space cooperation also acted as a highly visible form of diplomatic semaphore.

Including the US-Soviet space agreement amongst the accords signed at the May 1972 Moscow Summit allowed Nixon to illustrate his post-summit sales pitch to the American people with evocative space brotherhood imagery. In a memo sent shortly after Nixon returned from Moscow, Special Assistant to President David N. Parker wondered whether it would “be possible to get the Astronauts out on the road to talk about the achievements of the Summit.”[[49]](#footnote-49) Sure enough, a “spontaneous” photo call with the recently returned *Apollo* *16* crew was arranged for the June 1972 visit of President Echeverría of Mexico to highlight the space cooperation agreement.[[50]](#footnote-50) Nixon sought to harness the astrofuturist image of space as a redemptive, optimistic realm intimately associated with both scientific progress and timeless mystery. In a November 1972 radio address on foreign policy, Nixon argued that the Moscow Summit had ensured that

“the day is fast approaching when a Russian cosmonaut and an American astronaut will shake hands in space, when a Russian chemist and an American biologist will work side by side to find a cure for cancer. And each time our nations join hands in the works of peace, we advance the day when nations will no longer raise their hands in warfare.”[[51]](#footnote-51)

Space cooperation was deployed as an unambiguously positive proposition, analogous to the inspirational collaboration in medical research that the superpowers had managed to sustain throughout the Cold War.[[52]](#footnote-52) The space agreement crystallized the Summit’s key theme of the necessity of US-Soviet cooperation into a single, resonant symbol: the astronaut and cosmonaut shaking hands.

By the time the Soviet crew for Apollo-Soyuz was first announced in May 1973, Nixon’s administration was engulfed in the Watergate crisis, leaving the president little time to fully devote himself to foreign policy.[[53]](#footnote-53) In September 1973, Nixon informed NASA administrator Fletcher that he was “particularly anxious that you focus your attention on cooperative programmes with the Soviet Union and the European Space Research Organisation” in order to further American foreign policy objectives.[[54]](#footnote-54) Nixon clung to space cooperation’s astrofuturist gleam to present detente as a hopeful counterpart to domestic turmoil. Touring the Johnson Space Centre in Houston in March 1974, Nixon charmed a delegation of visiting Soviet space engineers by briefly welcoming them in Russian. Mistaking the engineers for cosmonauts, Nixon addressed them as surrogates for the Soviet people. He stressed that although he and Brezhnev were both “realists” who understood Apollo-Soyuz alone would not end the Cold War, space cooperation nevertheless proved “that the Russian people are a great people, the American people are a great people, and we can be so much together ... let's work together.”[[55]](#footnote-55) Nixon appealed to an image of shared grandeur exemplified by a mutual interest in space adventure to present detente as a partnership of equals, two “great” nations capable of accomplishing incredible things together.

Nixon reiterated this depiction of space cooperation in his radio address to the Russian People during his final visit to the USSR as president in July 1974, characterising Apollo-Soyuz as “in many ways symbolic of the new relationship we are building between our two nations.” The “Soviet and American spacemen” after “starting from their separate countries, will find their way toward one another and join with one another--just as we are doing and must continue to do across the whole range of our relationship.”[[56]](#footnote-56) Apollo-Soyuz became a parable for detente, the vast distances that its crews had to travel symbolising the arduous political journey undertaken by Nixon and his Soviet counterparts. Nixon’s rhetoric drew on the astrofuturist idea that actions performed in space were freighted with moral meaning. By invoking space brotherhood as an ideal to aspire to, Nixon characterized the ASTP as a sublime expression of superpower unity, a heavenly example for those who doubted earthly detente. Apollo-Soyuz was presented as policy finally catching up with the inner certainty that astronauts and cosmonauts had long acknowledged, that in space all men were brothers.

Gerald Ford and “The Summit in Space”

Gerald R. Ford elaborated on his predecessor’s use of space brotherhood by using visiting cosmonauts as symbols that detente was working. Although cosmonauts had visited the United States before, they had never done so as crewmembers on an upcoming space mission involving American participants. During Apollo-Soyuz, these symbols of Soviet power became so domesticated that even the vociferously anticommunist film star John Wayne would describe cosmonauts Alexei Leonov and Valery Kubasov as “pretty good guys after all” after meeting them during their post-mission tour.[[57]](#footnote-57) This reinterpretation of the cosmonaut from living embodiment of Soviet dogma into the astronaut’s approachable foreign comrade was built on the previous decade’s foundation of space brotherhood. Whether he was shaking hands with ordinary Americans during a training visit or with his astronaut colleagues during the actual mission itself, the grinning cosmonaut was a disarming ambassador for the USSR. Ford hoped that Leonov and Kubasov would convince detente’s doubters that the Soviets were a people with whom America could do business.

The Soviet Apollo-Soyuz crew’s visit to Washington DC in September 1974 was Ford’s first opportunity to use space brotherhood to illustrate detente’s human side. NASA had planned for Nixon to welcome cosmonauts Leonov and Kubasov with a memo to the White House selling the meeting as “an opportunity to dramatize detente in human interest terms”.[[58]](#footnote-58) Nixon’s resignation in August added another layer of importance to the visit, Henry Kissinger told the new president that meeting the cosmonauts would not only “call attention to the importance” that he attached to space cooperation, but also “provide another signal to the Soviets of the continuity in US foreign policy.” As well as the usual stops of DC’s diplomatic tourist trail, the cosmonauts’ itinerary also included a visit to the graves of *Apollo* *1* astronauts Grissom, Chafee and White at Arlington National Cemetery.[[59]](#footnote-59) Soviet spacefarers honouring their fallen American comrades offered a powerful symbol of US-Soviet friendship but space cooperation had another important political function. Once again, the pageantry of space brotherhood was being used as a means of “signalling” the Soviet leadership. The ASTP’s space brotherhood imagery was predicated on the idea of US-Soviet unity and equality; by hosting the cosmonauts, Ford proved that he valued the relationship his predecessor had cultivated.

The cosmonauts’ visit to Washington also included less solemn demonstrations of US-Soviet companionship. On 8 September, Ford invited Leonov, Kubasov and Gen. Georgy Shatalov, Head of Cosmonaut Training, to the Alexandria VA Police Department’s annual picnic to show them, in his words, “a bit of Americana”. *The* *Washington Star* praised Ford’s relaxed demeanour for complementing the event and presenting a stark contrast with his predecessor’s social awkwardness. Crucially, the event provided the perfect setting for Ford to argue “The broader we can make our relations in health, in environment, in space ... the better it is for us here in America, and for the Soviet Union.”[[60]](#footnote-60) Ford hailed Apollo-Soyuz as a triumph of international teamwork as much as technological ingenuity; though any positive media impact was quickly subsumed by the outcry provoked by his announcement the following day that he was granting Nixon a full pardon. Nevertheless, the surreal spectacle of Soviet space heroes enjoying hot dogs, cracked crab and ice tea alongside Virginian police officers was a potent illustration of Ford’s argument that detente promoted increased cultural contact and understanding.

Media coverage of American visits by ASTP cosmonauts delighted in juxtaposing the cosmonauts with Ford’s cherished “Americana”. A *People* photo special on the Soviet crew’s September 1974 visit gushed that “as a cultural exchange, the Apollo Soyuz programme has soared”; accompanying images portrayed the spacefarers training and socialising together as well as the cosmonauts interacting with local colour. Valery Kubasov kicked a football at the Houston Astrodome; Alexei Leonov capered with a belly dancer and sampled Texas Chilli at the San Antonio Folklife Festival.[[61]](#footnote-61) During one training visit to the Johnson Space Centre, Leonov had jokingly introduced himself to a Texan liquor store clerk as “a cowboy from Siberia”.[[62]](#footnote-62) It was an apt description for the characters that cosmonauts played during detente: an incongruous blend of folksy familiarity and Cold War otherness. Leonov and Kubasov were depicted as strangers in a strange land joyously encountering America in all its bewildering, exuberant diversity, “Russian” tourists as much as they were “Soviet” dignitaries. This was in stark contrast to the previous decade’s images of Yuri Gagarin declaiming communism’s inevitable triumph from atop the Lenin Mausoleum. The cosmonaut, the iconic New Soviet Man, learning to relax amidst American material abundance was a powerful advertisement for detente’s central contention that continued diplomatic engagement would help soften the USSR.

The highly publicized camaraderie between the ASTP crews elucidates a critical aspect of space brotherhood: its reverence for stereotypically masculine male bonding. Valentina Tereshkova, the sole female space traveller until the early 1980s, may have felt accepted by her fellow spacefarers but Cold War space exploration remained a world of rigid gender binaries.[[63]](#footnote-63) When not comparing space technology, cosmonauts and astronauts bonded over barbecues and drinking bouts. Astronaut memoirs abound with anecdotes of fraternity house-style hi-jinks: stories of NASA engineers distributing semi-pornographic photographs to a visiting Soviet delegation, or the astronauts separating visiting cosmonauts from their KGB “handlers” to take them on a vodka-fuelled hunting trip in Wyoming.[[64]](#footnote-64) In these stories, boisterous fraternising in stereotypically masculine pursuits was a crucial means of sustaining space brotherhood and breaking down Cold War barriers. Rather than transcending the Space Race’s highly gendered images of heroic masculinity rooted in technological competence, ASTP’s vision of detente as male bonding perpetuated and reinforced them.

Ford’s phone call to the Apollo-Soyuz crews reiterated his depiction of superpower cooperation as a difficult but rewarding endeavour. Like Nixon’s conversations with Apollo astronauts during their Moon landings, the call placed the president centre stage after the crucial challenge, in this case the actual docking itself, had been surmounted. Kissinger had described the call to Ford as a way of congratulating “both crews on their successful and historic achievement” that would also “provide an opportunity to underscore the importance of the mission for US-Soviet space cooperation, its contribution to the strengthening of US-USSR cooperation generally”.[[65]](#footnote-65) Ford depicted the flight as the triumph of careful preparation: “It has taken us many years to open this door to useful cooperation in space between our countries” and looked forward to the “not far off” day when joint missions “will be more or less commonplace”.[[66]](#footnote-66) Presenting the flight not as a one-off spectacular, but as the dazzling culmination of the quieter process of learning to live and work together, Ford argued that detente took time and effort. The sight of American and Soviet spacemen embracing each other as comrades illustrated why patience was a virtue when it came to diplomacy.

The mission’s itinerary was studded with symbolic activities; after speaking to Ford and reading a congratulatory message from Brezhnev, the crews shared meals in each other’s cabins, exchanged flags and gifts and described their homelands to television viewers at home.[[67]](#footnote-67) The two crews addressed each other in their respective languages, with Stafford greeting his “comrades” in Oklahoman-inflected Russian and Leonov at one point entering the American spacecraft with a joyful cry of “Howdy partner!”[[68]](#footnote-68) Although Project Director Chester M. Lee insisted that the flight was more than just a “handshake in space”, even the mission’s scientific experiments were suffused with symbolism. A NASA press release detailing the flight’s “symbology activity” described how the crews would work together to smelt an alloy composed of gold and lead from their respective countries “to symbolize the cooperative aspects of the first international manned space mission”.[[69]](#footnote-69) Apollo-Soyuz’s pro-cooperation message even shone through in advertisements for joint US-Soviet commercial ventures attempting to cash in on the mission. The press release for Apollo-Soyuz commemorative cigarettes declared “To offer a cigarette is an international gesture of friendship”, whereas Revlon and Novaya Zarya’s limited edition cologne EPAS (the Russian initials for ASTP) lifted John F. Kennedy’s earlier plea for space cooperation “Together let us explore the stars”.[[70]](#footnote-70)

Apollo-Soyuz’s constituent spacecraft undocked on 19 July with the Apollo craft continuing to perform experiments for another five days before returning to Earth.[[71]](#footnote-71) Even after the mission had concluded the Ford administration hoped to wring out as many diplomatic and propaganda benefits from the ASTP as possible. In a memo to Ford discussing the ASTP cosmonauts’ post-mission US tour, Kissinger paraphrased Brezhnev’s description of the mission as the “embodiment of the striving of the peoples of the two countries for peaceful cooperation”. The National Security Advisor’s description of the cosmonauts’ gruelling itinerary highlighted the Soviet media’s “very positive coverage” of the ASTP astronauts’ recent tour of the USSR.[[72]](#footnote-72) In another memo to Ford shortly after the flight, Kissinger recommended promoting Mission Commander Tom Stafford to Major General as a way to reward the astronaut for his service whilst also signalling to signal to the Soviets “and others generally” the importance that Ford attached to “this extraordinary achievement in the context of US-Soviet relations.”[[73]](#footnote-73) From the Ford administration’s perspective, the mission had been a triumph; an inspirational means of demonstrating to both the Soviet leadership and the American public the importance of continuing with the cooperative course.

“A Showpiece of Detente”- Evaluating Apollo-Soyuz

From its inception, Apollo-Soyuz was designed to be an optimistic symbol of how detente was transforming the US-Soviet relationship. A 1972 State Department memorandum to Kissinger described the joint mission as “a highly visible demonstration of US-Soviet ability to cooperate in peaceful projects”.[[74]](#footnote-74) As its architects had hoped, the ASTP attracted huge media interest. Two months before the launch, NASA publicity officer John Donnelly warned Ford’s Press Secretary that he expected coverage to be “the heaviest for any mission flown to date, with the exception of *Apollo* *11*” with around “3,000 newsmen expected at the Cape for the launch”.[[75]](#footnote-75) However, the ASTP’s visibility proved to be a mixed blessing; with attention came scrutiny and Apollo-Soyuz became a symbol for detente’s critics as well as its supporters. By 1975, anticommunists such as Neoconservative icon Senator Henry “Scoop” Jackson (Dem., WA) were articulating a moral critique of detente that characterized it as a betrayal of totalitarianism’s victims, particularly Soviet Jewish “refuseniks” and dissident intellectuals.[[76]](#footnote-76) Detente’s opponents used the mission’s meticulously planned symbolism as proof that detente was a policy predicated on spectacular but empty stunts. Space brotherhood might be a pretty sentiment in orbit, they argued, but it was too fragile to survive the journey back to Earth.

Press coverage portrayed Apollo-Soyuz as an event of diplomatic rather than scientific significance. A scathing *Wall Street Journal* piece by Johnathan Spivak lambasted the project as a “costly space circus” accompanied by an “extraordinarily high pitch” of propaganda that “demonstrates politics and international PR should be banned from orbit.”[[77]](#footnote-77) Spivak’s vitriol was exceptional but his judgement of Apollo-Soyuz as a triumph of style over substance was widespread. A *Washington Post* editorial hailed the bravery of the ASTP crews but argued inspirational imagery could not mask “the reality ... that space is a theatre for the hopes of man but not an analogy for earthbound affairs”; US-Soviet cooperation worked “best in places and matters furthest from daily necessities.”[[78]](#footnote-78) A *Los Angeles Times* editorial cartoon “... And One Giant Leap for PR” depicted the two spacecraft joined together not by NASA’s much-vaunted Androgynous Docking Adaptor, but by a briefcase labelled “Madison Avenue”.[[79]](#footnote-79) As space exploration’s novelty wore off the American media had become much more sceptical about high-profile space spectaculars.[[80]](#footnote-80) Within critical press coverage, Apollo-Soyuz’s spectacle of astronaut-cosmonaut comradeship became an advertising gimmick, feeding into broader criticisms of detente as a strategy that valued diplomatic grandstanding over containing the communist threat.

The Ford administration’s efforts to exploit Apollo-Soyuz’s full propaganda potential ended up fuelling allegations that the mission was a diplomatic stunt. A week after the ASTP astronauts had returned to Earth, Ford was in Finland to sign the Helsinki Final Act. The Final Act was the product of the Conference on Security and Cooperation in Europe (CSCE), a multilateral treaty between the US, Canada, the USSR, and all European nations (excluding Hoxhaist Albania) which sought to provide greater structure to East-West relations. However, the Final Act was also intensely controversial; its confirmation of the European territorial status quo was perceived by many conservatives as a betrayal of the “captive nations” of Eastern Europe.[[81]](#footnote-81) Unsurprisingly, Ford hoped the recent space spectacular would elevate detente from the messy reality of the negotiating table to the idealism of the heavens. Ford contended that if the superpowers could “reach agreement so that our astronauts can fit together in the most intricate scientific equipment, work together, and shake hands 137 miles out in space, we as statesmen have an obligation to do as well on Earth.”[[82]](#footnote-82) Once again invoking space brotherhood as the cooperative ideal for the earthbound to emulate, Ford characterized the courageous labours of the ASTP crews, inclusively described as “our astronauts”, as far trickier than the mundane task of the “statesmen” below.

Ford’s strategy of using Apollo-Soyuz as an inspirational symbol for detente backfired because space brotherhood’s transformative vision jarred with the Helsinki Final Act’s vision of accommodation with a Cold War status quo that many Americans found morally intolerable. Rather than detracting attention from detente’s flaws, Apollo-Soyuz served to magnify them as the policy’s critics used the mission as a way to draw attention to the Soviet regime’s human rights abuses. On the eve of the mission, the Jewish Defence League had protested detente by burning a model rocket outside the Soviet Mission to the UN in New York, with one protester yelling, “Just as this rocket does not work, so doesn’t detente”.[[83]](#footnote-83) Another frequently recurring response to Apollo-Soyuz juxtaposed the fantasy of space cooperation with the reality of Soviet tyranny exemplified by exiled Soviet dissident Alexandr Solzhenitsyn. In the words of Congressman Robert E. Bauman (Rep., MD) one was “a showpiece of detente” whilst the other was “the closest a human being can come to being an institution of courage and nobility”.[[84]](#footnote-84) Ford had hoped that space brotherhood’s uplifting symbolism would challenge criticisms that detente was motivated by cynical political calculation. Detente’s opponents responded by appropriating Apollo-Soyuz as their own symbol, using the mission’s spectacular nature as further proof of detente’s disassociation from reality.

Rather than prefiguring a cooperative tomorrow, Apollo-Soyuz increasingly resembled an embarrassing anachronism. A scathing *Washington Star* sketch of a Soviet Embassy reception celebrating the cosmonauts’ post-mission tour highlighted the “credibility gap” between the event’s self-congratulatory backslapping and the reality of US-Soviet relations marked by a “new plateau for detente”.[[85]](#footnote-85) Drawing on recent scholarship’s emphasis on the global nature of the Cold War, Daniel J. Sargent argued that “Detente did not resolve Cold War rivalries; it stabilized them and displaced their violence to the Third World.” As the 1970s progressed, this dynamic became increasingly difficult to ignore. Soviet interference in the Angolan Civil War was the first of a series of interventions that bolstered conservative claims that the USSR’s “adventurist” foreign policy proved the communists were using detente as a cover to foment Third World revolution.[[86]](#footnote-86) In September 1976, a little more than a year after Leonov and Stafford’s orbital embrace, Kissinger informed President Ford that superpower relations were “dangerously sour”.[[87]](#footnote-87) Apollo-Soyuz was a symbolic demonstration of detente that had the misfortune to occur at a time of mounting American frustrations with the USSR; it was a symbol of hope for a cause that seemed increasingly hopeless.

Growing US-Soviet tensions inevitably affected space cooperation negotiations. By 1977, with bilateral talks on how to build on the ASTP’s legacy on the verge of collapse, *Apollo 7* astronaut Walter Cunningham broke ranks with his former employer to allege the ASTP had caused dangerous technology transfer to the Soviets: “In terms of who gained what from the Apollo-Soyuz mission, we were had!”[[88]](#footnote-88) A mooted follow-up mission involving America’s Space Shuttle and a Soviet Salyut space station failed to materialize. With detente discredited, space brotherhood was tarnished by association. When the international spacefarer organisation the Association for Space Explorers (ASE) was founded in the mid-1980s, several American astronauts, including ASTP crewmember Vance Brand, expressed concern that the group would be vulnerable to exploitation by Soviet propagandists if it were to become a political forum.[[89]](#footnote-89) Whilst the ASE attempted to encourage space brotherhood on Earth, astronauts and cosmonauts would not fly together as comrades again until the Shuttle-Mir programme of the 1990s. Shuttle-Mir, which saw NASA’s space flagship ferry astronauts and cosmonauts to and from Russia’s *Mir* space station, was the product of a post-Cold War moment of giddy expectations about the removal of ideological obstacles to US-Russian partnership and the precarious position of the two space programmes in an era of defence conversion.[[90]](#footnote-90) By then, however, the ideological barrier that had given space brotherhood its meaning had evaporated. The Shuttle-Mir spacefarers might have been friends and colleagues, but without this underlying tension they could never be brothers and sisters like their Cold War predecessors.

Apollo-Soyuz was an attempt by Cold War leaders to harness the emotive power of a pre-existing idea of space brotherhood. This concept of a bond between astronauts and cosmonauts that transcended Cold War ideology was informed by astrofuturist expectations about space technology’s transformative power. For Presidents Nixon and Ford, space brotherhood’s appeal was twofold. Public demonstrations of astronaut-cosmonaut comradeship send powerful conciliatory signals to the Soviet leadership, flattering the USSR as a fellow “great nation” and valued partner.[[91]](#footnote-91) Space brotherhood also offered a way to convince the public that detente was a hopeful new dawn rather than a cynical ruse. Ultimately, though, the disparity between Apollo-Soyuz’s hazy image of transnational kinship and the complicated and controversial reality of US-Soviet relations sapped space brotherhood’s emotive power. The ASTP’s downfall was that space brotherhood’s mystical and spontaneous aspect was eroded when it was invoked to support a vision of detente that was more defensive than transformative. The messy reality of accommodation between ideologically opposed superpowers could not help but fall short of space brotherhood’s pristine image of human unity.

Tracing the source of Apollo-Soyuz’s symbolism also demonstrates that despite being the sole US-Soviet cooperative crewed space mission during the Cold War, the joint flight is less anomalous than it initially appears. From the decision to ensure amateur radio frequencies could pick up *Sputnik 1*’s iconic beep through to the flags that Apollo astronauts brought to the Moon, propaganda was an ever-present part of Cold War space exploration.[[92]](#footnote-92) More specifically, Apollo-Soyuz was part of a longer continuum of attempts by American and Soviet leaders to use the charismatic aura of their spacefarers to promote terrestrial foreign policy goals. Contextualising Apollo-Soyuz in this way complicates a whiggish tendency within space history to depict the space powers progressing from irrational competitive Cold War rivalry towards a supposedly more sober and responsible model of international cooperation. Apollo-Soyuz was less a glimmer of the contemporary international partnerships that sustain the ISS than a continuation of the previous decade’s succession of prestige-oriented space spectaculars. The ASTP’s space brotherhood symbolism proves that prestige and image-making considerations continued to shape American space policy even after victory in the Moon Race. In that sense, then, the collaborative posturing of Apollo-Soyuz’s symbolism does have important implications for study of contemporary space cooperation. The ASTP proves that displays of cooperation and collaboration can be just as propagandistic and controversial as the 1960s nationalistic spectacles of competitive space prowess.Ω[[93]](#footnote-93)

1. Edward Clinton Ezell and Linda Neuman Ezell, *The Partnership: A History of the Apollo Soyuz Test Project* (Washington DC: NASA, 1978), 1-14; David F. Portree, *Thirty Years Together: A Chronology of U.S.-Soviet Space Cooperation*, (Houston TX: Hernandez Engineering Inc, 1993), 9-23, available at http://ntrs.nasa.gov/archive/nasa/casi.ntrs.nasa.gov/19930010786.pdf accessed 19 Oct., 2017. [↑](#footnote-ref-1)
2. Office of Technology Assessment, *U.S.-Soviet Cooperation in Space* (Washington, DC: U.S. Congress, Office of Technology Assessment OTA-TM-STI-27, July 1985), 25-6, available at https://www.princeton.edu/~ota/disk2/1985/8533/8533.PDF accessed 19 Oct., 2017. [↑](#footnote-ref-2)
3. Howard E. McCurdy, *Space and the American Imagination* 2nd Edition (Baltimore, MD: Johns Hopkins University Press, 2011); For the “New Aerospace History” and its relationship to previous scholarship see Roger D. Launius, “The Historical Dimension of Space Exploration: Reflections and Possibilities” *Space Policy,* Volume 16 (2000), 23–38; Michael J. Neufeld, “Creating a Memory of the German Rocket Program for the Cold War” in Stephen J. Dick, ed., *Remembering The Space Age (NASA SP-2008-4703),* (Washington DC, NASA History Division, 2008),71-87. [↑](#footnote-ref-3)
4. The essays within Michael J. Neufeld’s edited collection *Spacefarers: Images of Astronauts and Cosmonauts in the Heroic Era of Spaceflight* (Washington DC: Smithsonian Institution Scholarly Press, 2013) testify to the scholarly interest in astronauts and cosmonauts; see also Roger D. Launius, “Heroes in a Vacuum: The Apollo Astronaut as Cultural Icon,” *Florida Historical Quarterly* Volume 87, (Fall 2008), 174-209. The ways that cosmonauts sustained and shaped cosmic enthusiasm are explored in the following edited collections: Eva Maurer, Julia Richers, Monica Ruthers and Carmen Scheide, eds., *Soviet Space Culture: Cosmic Enthusiasm in Socialist Societies* (Basingstoke: Palgrave Macmillan, 2011) and James T. Andrews, and Asif Siddiqi, eds., *Into the Cosmos: Space Exploration and Soviet Culture* (Pittsburgh, PA.: University of Pittsburgh Press, 2011), Andrew Jenks’ biography of Yuri Gagarin, *The Cosmonaut Who Couldn’t Stop Smiling: The Life and Legend of Yuri Gagarin* (DeKalb, IL: Northern Illinois University Press, 2014), is a engrossing examination of the first cosmonaut’s life and afterlife as an ideological exemplar for the Soviet, and later Russian, state. [↑](#footnote-ref-4)
5. William Barry at *The Space Programs under Nixon and Ford,* event at the National Archives: 13 Jun., 2013. recording available at http://www.ustream.tv/recorded/34285199 accessed 19 Oct., 2017.For ASTP as an ending see Raymond Garthoff, *Detente and Confrontation: American-Soviet Relations from Nixon to Reagan* (Washington : Brookings Institution, 1994), 5-6; Audra Wolfe, *Competing with the Soviets: Science, Technology and the State in Cold War America* (Baltimore: Johns Hopkins University Press, 2013),102; Matthew Hersch, *Inventing the American Astronaut* (New York NY: Palgrave Macmillan, 2012), 118; William Burrows, *This New Ocean: The Story of the First Space Age* (New York NY: Modern Library, 1998), 450; Michael Allen, *Live From the Moon: Film, Television and the Space Race* (London: IB Taurus, 2009), 189. [↑](#footnote-ref-5)
6. James Oberg, *Star Crossed Orbits: Inside the US-Russian Space Alliance* (London: McGraw-Hill, 2002), 70-1; Matthew Von Bencke, “*The Politics of Space: A History of US/Soviet/Russian Competition and Cooperation in Space* (Boulder, CO: Westview Press, 1997), 80. [↑](#footnote-ref-6)
7. Von Bencke, *The Politics of Space*; Yuri Karash, *The Superpower Odyssey: A Russian Perspective on Space Cooperation* (Reston, VA: American Institute of Aeronautics and Astronautics, 1999); Angelina Long-Callahan, “Sustaining Soviet American collaboration: 1957-1989” in John Krige, Angelina Long Callahan, and Ashok Maharaj, eds., *NASA in the World: Fifty Years of International Collaboration in Space*: (New York, NY: Palgrave Macmillan, 2013), 127-151. [↑](#footnote-ref-7)
8. McCurdy, *Space and the American Imagination*, 311-14, 319. [↑](#footnote-ref-8)
9. DeWitt Douglas Kilgore, *Astrofutrism: Science, Race and Visions of Utopia in Space* (Philadelphia, PA: University of Pennsylvania Press, MA: 2003), 1-3. [↑](#footnote-ref-9)
10. Matthew J. Tribbe, *No Requiem for the Space Age: The Apollo Moon Landings in American Culture* (New York, NY: Oxford University Press, 2014), 110. [↑](#footnote-ref-10)
11. For the spacefarer as a component within a human-machine system see Slava Gerovitch, “‘New Soviet Man’ Inside Machine: Human Engineering, Spacecraft Design, and the Construction of Communism” *Osiris* Volume 22, No. 1, (2007), 135-157. [↑](#footnote-ref-11)
12. Everett C. Dolman, *Astropolitik: Classical Geopolitics in the Space Age*, (London: Frank Cass, 2002), 172. [↑](#footnote-ref-12)
13. Gary Westfahl, *The Spacesuit Film: A History 1918-1969,* (Jefferson NC: McFarland and Company, 2012), 290-1; See also Margaret Weitekamp, “Setting the Scene: Men into Space and The Man and the Challenge”, in Neufeld ed., *Spacefarers*, 9-34. [↑](#footnote-ref-13)
14. For aviators as a quasi-knightly elite see Joseph Corn, *The Winged Gospel: America’s Romance with Aviation, 1900-1950* (New York, NY: Oxford University Press, 1983)18; Michael Paris, “The Rise of the Airmen: The Origins of Air Force Elitism, c. 1890-1918” *Journal of Contemporary History* Volume 28, No. 1 (Jan., 1993), 123-141 ; Scott W. Palmer’s article on early Russian aviation and nationalism details how Western success in aviation technology was seen as an ideal to be emulated and aviators were likened to the *Bogatyr*, elite warrior heroes of Russian history and legend, “On Wings of Courage: Public "Air-Mindedness" and National Identity in Late Imperial Russia” *The Russian Review* Volume 54, No 2 (Apr., 1995), 209-226 (218-20). [↑](#footnote-ref-14)
15. Yuri Alekseyevich Gagarin, *Road to the Stars: Notes by Soviet Cosmonaut No. 1, Yuri Gagarin* [As told to N. Denisov and S. Borzenko. Ed. by N. Kamanin. Trans. by G. Hanna, and D. Myshne] (Moscow: Foreign Languages Publishing House, 1962),182. [↑](#footnote-ref-15)
16. John Glenn and Nick Taylor, *John Glenn: A Memoir*, (London, Bantam Books, 2000), 380-5. [↑](#footnote-ref-16)
17. “Titov Leaves US Convinced That Americans Want Peace”, *The Washington Post*, 12 May 1962, A5. [↑](#footnote-ref-17)
18. US Congress, Senate, Committee on Aeronautical and Space Sciences, *Soviet Space Programs 1962-1965: Goals and Purposes, Achievements, Plans and International Implications,* (Washington DC: US Government Printing Office, 1966), 75. [↑](#footnote-ref-18)
19. See Edwin “Buzz” Aldrin with Wayne Warga, *Return to Earth* (New York, NY: Random House, 1973), 279-80; Donald K. Slayton with Michael Cassut, Deke! US Manned Space from Mercury to the Shuttle (New York, NY: Forge Publishers, 1994), 286-7; Eugene Cernan with Don Davis, *Last Man on the Moon* (New York, NY: St Martin’s Griffin, 1999), 242-3; Michael Collins, *Carrying the Fire: An Astronaut’s Journey* (New York, NY: Cooper Square Press, 2001) 279-80. [↑](#footnote-ref-19)
20. Scott, David and Alexei Leonov, *Two Sides of the Moon: Our Story of the Cold War Space Race* (London, Simon and Schuster, 2004) 205; Valentina Tereshkova and A. Lothian, *Valentina: First Woman in Space, Conversations with A. Lothian* (Durham: Pentland Press, 1993), 245. [↑](#footnote-ref-20)
21. W. D. Kay argues that Cold War competition was central to NASA’s self-image during the 1960s.Even as competitive rationales became less persuasive to legislators and the public during the latter half of the decade the agency’s budget justifications clung to the “anti-Russian theme”, *Defining NASA: The Historical Debate Over the Agency's Mission* (New York, NY: State University of New York, 2005) 103-4. [↑](#footnote-ref-21)
22. Scott and Leonov, *Two Sides of the Moon,* 130, 202-3. [↑](#footnote-ref-22)
23. “The Ugly American”, *Missiles And Rockets*, 5 Oct., 1965, 55. [↑](#footnote-ref-23)
24. Sociologist Lewis Mumford’s depiction of the Space Race as a contest between Soviet and American “Megamachines” epitomised this anti-technocratic critique, Matthew D. Tribbe *No Requiem for the Space Age: The Apollo Moon Landings in American Culture* (New York, NY: Oxford University Press, 2014) 112. [↑](#footnote-ref-24)
25. Francis French and Colin Burgess, *Into that Silent Sea: Trailblazers of the Space Era, 1961-65* (London: University of Nebraska Press, 2007), 183. [↑](#footnote-ref-25)
26. William Roy Shelton, *Soviet Space Exploration: The First Decade* (New York: Washington Square Press, 1968), 180; Kendrick Oliver, *To Touch the Face of God: The Sacred, the Profane, and the American Space Program, 1957-75*, (Baltimore, MD: Johns Hopkins University Press),38-39, 97-101. [↑](#footnote-ref-26)
27. Robert Poole, *Earthrise: How Man First Saw The Earth* (London: Yale University Press, 2008), 37-43; Frank White, *The Overview Effect* (Boston: Houghton Mifflin Company, 1987), 3-5. [↑](#footnote-ref-27)
28. Francis French and Colin Burgess, *In the Shadow of the Moon: A Challenging Journey to Tranquillity,* *1965-1969*, (London: University of Nebraska Press, 2007), 140- 168. [↑](#footnote-ref-28)
29. Asif Siddiqi, *The Soviet Space Race with Apollo* (Gainesville, FL: University Press of Florida, 2003), 576-90. [↑](#footnote-ref-29)
30. Kurt Vonnegut Jr., “Excelsior! We’re going to the Moon! Excelsior!”, *New York Times*, 13 Jul., 1969, SM9; transnational mourning for spacefarers is another case in which there are striking parallels with earlier romantic aviation discourses, see Florian Schnürer, ‘But in death he has found victory’: the funeral ceremonies for the ‘knights of the sky’ during the Great War as transnational media events’, *European Review of History* Volume 15, No 6, (2008), 643-658. [↑](#footnote-ref-30)
31. *The Evening Bulletin*, 25, April 1967; *The Washington Star*, 25 Apr., 1967; *The Christian Science Monitor*, 25 Apr., 1967; *The World Journal Tribune*, 29 Apr., 1967, Facsimiles in Record Number: 31092 “Digital Files: Cartoons”, NASA History Office Reference Collections, Washington DC (hereafter “NASA History Office”). [↑](#footnote-ref-31)
32. The OST itself is available at http://www.unoosa.org/pdf/gares/ARES\_21\_2222E.pdf accessed 19 Oct., 2017; The 1968 UN Agreement on the Rescue of Astronauts, The Return of Astronauts and the Return of Objects Launched into Space is available at http://www.unoosa.org/oosa/en/ourwork/spacelaw/treaties/introrescueagreement.html accessed 19 Oct., 2017. [↑](#footnote-ref-32)
33. Lyndon B. Johnson, "Remarks at the Signing of the Treaty on Outer Space" 27 Jan., 1967. Available at: *The American Presidency Project*. http://www.presidency.ucsb.edu/ws/?pid=28205. accessed 19 Oct., 2017. [↑](#footnote-ref-33)
34. Teasel Muir-Harmony, *Project Apollo, Cold War Diplomacy and the Framing of Global Interdependence* (Unpublished PhD dissertation, Massachusetts Institute of Technology, 2014), 173-176; John Logsdon, *After Apollo: Richard Nixon and the American Space Program* (Basingstoke: Palgrave Macmillan, 2015), 10-20. [↑](#footnote-ref-34)
35. John Logsdon refers to the idea of flying a foreign astronaut on a later Apollo mission as “Nixon’s pet idea”, see Logsdon, *After Apollo*, 109-112. [↑](#footnote-ref-35)
36. Arnold W. Frutkin to Thomas O. Paine, “US/USSR Space Cooperation”, Memo, 2 Jan., 1969, Record Number 15590 “USSR Cooperation documentation, 1963-1974, NASA History Office, [↑](#footnote-ref-36)
37. Henry A. Kissinger to The President, “Letter from Dr. Paine on Increased International Participation in Space Programs” 27 Aug., 1969, Folder: Space Programmes Foreign Cooperation [Feb 69- Nov 70] Box 392, NSC Subject Files, National Security Council (NSC), Files, Richard Nixon Presidential Library, Yorba Linda, CA (hereafter “Nixon Library”); Henry A Kissinger to The President, “International Space Cooperation: US-Soviet Activities” 6 Jul., 1970 2-3, Folder: “Space programs foreign cooperation 1970 [Feb 69-Nov 70] 1 of 3” Box 392, Subject Files, National Security Council (NSC), Files, Nixon Library. [↑](#footnote-ref-37)
38. Peter Flannigan to Henry A. Kissinger, Memorandum, 7 Oct., 1970, EX OS 3 Space Flight 9/1/1970-10/31/1970 Box 7, Subject Files: Outer Space, White House Central Files, Nixon Library; Henry A. Kissinger to Peter Flannigan, “Space Cooperation with the USSR”, 22 Oct., 1970, Folder: “Space programs foreign cooperation 1970 [Feb 69-Nov 70] 1 of 3”, Box 392, NSC Subject Files, National Security Council (NSC), Files, Nixon Library. [↑](#footnote-ref-38)
39. Logsdon, *After Apollo*, 17; Don Lesh to Henry A. Kissinger “Soviet Invitation to Astronaut Borman” 9 June 1969, Folder: “USSR Vol. III Jun July 1969, 1 of 1”, Box 710, NSC Country Files, Europe USSR, Nixon Library [↑](#footnote-ref-39)
40. Frank Borman with Robert J. Serling, *Countdown: An Autobiography* (New York, NY: Silver Arrow Books, 1988), 237, 247-8. [↑](#footnote-ref-40)
41. Frank Borman to Henry A. Kissinger, Folder: EX OS Outer Space 1969-1970 [1 of 2]; Box 1, Subject Files: Outer Space, White House Central Files, Nixon Library. [↑](#footnote-ref-41)
42. Richard Nixon, "Statement About Honouring American and Russian Space Heroes During the Apollo 11 Mission," 17 Jul., 1969. Available online via *The American Presidency Project* http://www.presidency.ucsb.edu/ws/?pid=2131 accessed 19 Oct., 2017. [↑](#footnote-ref-42)
43. Alan Barth, “Earthly Kinship of Men in Space”, *The Washington Post*, 20 Jul., 1969, 40. [↑](#footnote-ref-43)
44. Muir-Harmony, *Project Apollo, Cold War Diplomacy and the Framing of Global Interdependence*, 143. [↑](#footnote-ref-44)
45. “Memorandum to Dr. Henry Kissinger”, Folder: “Space programs foreign cooperation 1970 [Feb 69-Nov 70] 3 of 3”, Box 392, Subject Files, National Security Council (NSC) Files, Nixon Library. [↑](#footnote-ref-45)
46. The list included the *Apollo 1* astronauts, Vladimir Komarov, the *Soyuz 11* crew, Yuri Gagarin and several astronauts who had also been killed in plane crashes during training exercises. Scott and Leonov, *Two Sides of the Moon* (2005), 313-4; For the *Salyut 1* mission and the ensuing tragedy see Grujica S. Ivanovic, *Salyut: The First Space Station: Triumph and Tragedy* (Chichester: Springer Praxis, 2008). [↑](#footnote-ref-46)
47. Thomas P. Stafford and Michael Cassutt, *We Have Capture: Tom Stafford and The Space Age* (Washington DC: Smithsonian Books, 2002), 152-6. [↑](#footnote-ref-47)
48. Theodore L. Eliot Jr. to Henry A. Kissinger, “Astronaut Stafford’s Trip to the Soviet Union” 6 Jul., 1972, Folder: SP-10-1 USSR 1/1/71, Box 2974, Entry 1613: Subject Numeric Files, 1970-73 Science, Record Group: 59 General Records of the Department of State, NARA. [↑](#footnote-ref-48)
49. David N. Parker to Chuck Colson, “Random Thoughts Re Follow-up to Soviet Trip”, 5 Jun., 1972, Folder: EX OS 3-1 Astronauts 1/1/1971-[1971-1972], Box 10, Subject Files: Outer Space, White House Central Files, Nixon Library. [↑](#footnote-ref-49)
50. David C. Hoopes to The President, “Meeting with Apollo 16 Astronauts and Dr. James C. Fletcher, Thursday 15, June 1972, 12:30 P.M. (5 Minutes), The Oval Office”, Memorandum, Folder: EX OS Outer Space [1971-72] 3 of 3, Subject Files: Outer Space Box 1, White House Central Files, Nixon Library. [↑](#footnote-ref-50)
51. Richard Nixon: "Radio Address on Foreign Policy" 4 Nov., 1972. Online via *The American Presidency Project*. http://www.presidency.ucsb.edu/ws/?pid=3692. [↑](#footnote-ref-51)
52. Erez Manela, “A Pox on Your Narrative: Writing Disease Control into Cold War History,” *Diplomatic History* Volume 34, No 2 (2010), pp. 299-323. [↑](#footnote-ref-52)
53. The Soviet crews made their first official visit to train in the US in July 1973; Scott and Leonov, *Two Sides of the Moon*, 344. [↑](#footnote-ref-53)
54. Richard Nixon to James Fletcher, 25 Sept., 1973, Folder: “EX FG 164 National Aeronautics and Space Administration 1/1/7” Box 2, Subject Files: FG-164 National Aeronautics and Space Administration, White House Central Files, Nixon Library. [↑](#footnote-ref-54)
55. Thomas P. Stafford to Richard M. Nixon, 24 Apr., 1974, Folder: EX OS 3 Space Flight 7/12/1973-12/31/1973, Box 9, Subject Files: Outer Space, White House Central Files, Nixon Library; Richard Nixon: "Remarks Following a Tour of the Lyndon B. Johnson Space Center, Houston, Texas." 20, Mar., 1974, available at *The American Presidency Project*. http://www.presidency.ucsb.edu/ws/?pid=4392 accessed 19 Oct., 2017. [↑](#footnote-ref-55)
56. Richard Nixon: "Radio and Television Address to the People of the Soviet Union" 2 Jul., 1974. Available at *The American Presidency Project*. http://www.presidency.ucsb.edu/ws/?pid=4282 accessed 19 Oct., 2017. [↑](#footnote-ref-56)
57. Stafford, *We Have Capture*, 198. [↑](#footnote-ref-57)
58. John F. Donnelly to Ronald Ziegler, 29 Jul., 1974, EX OS 3-1 Astronauts 1/1/1973-[1973-1974], Box 12, Subject Files: Outer Space, White House Central Files, Nixon Library. [↑](#footnote-ref-58)
59. Henry A. Kissinger to The President, “Meeting with Soviet Cosmonauts”, 6 Sept., 1974; “Tentative Schedule: Visit of Russian Cosmonauts Washington DC September 6-8, 1974”, 19 Aug., 1974, Folder: OS 3 Space flight 8/9/74-3/31/75, Box 1 Outer Space 8/9/74 (exec), to Space Flight 7/31/76 (Exec), White House Central Subject Files, Gerald R. Ford Presidential Library, Ann Arbor, Michigan (hereafter Ford Library). [↑](#footnote-ref-59)
60. Norman Kempster, “Ford, Spacemen Eat Crabs”, *The Washington Star*, 8 Sept., 1974, A.5. [↑](#footnote-ref-60)
61. “The Russians have landed- And Texas says welcome” *People,* 30 Sept., 1974; for similar coverage see Victor K. McElheny, “Soviet Astronauts Enjoy Flight Into Fantasies of Disney World”,*New York Times,* 10 Feb., 1975; 24; Jack Waugh, “Building US-Soviet space team”, *The Christian Science Monitor*, 19 Jul., 1973, 5- 6. [↑](#footnote-ref-61)
62. Scott and Leonov, *Two Sides of the Moon*, 346. [↑](#footnote-ref-62)
63. See Daniel Sage, “Giant Leaps and Forgotten Steps: NASA and the Performance of Gender” in David Bell, and Martin Parker, eds., *Space Travel and Culture: from Apollo to Space Tourism*, (Oxford: Wiley Blackwell, 2009), 146-163; Slava Gerovitch, *Voices of the Soviet Space Program: Cosmonauts, Soldiers, and Engineers Who Took the USSR into Space*.” (New York, NY: Palgrave Macmillan: 2014), 14; Margaret Weitkamp has written persuasively about how NASA’s institutional discomfiture with the female body constrained the opportunities available to would-be female space travellers, “*Right Stuff, Wrong Sex: America’s First Women in Space Program*” (Baltimore, MD.: John Hopkins University Press, 2004). [↑](#footnote-ref-63)
64. Stafford and Cassutt, *We Have Capture,* 185; Donald K. Slayton and Michael Cassutt, *Deke! US Manned Space from Mercury to the Shuttle* (New York: St. Martin's Press, 1995), 294. [↑](#footnote-ref-64)
65. Henry A. Kissinger to The President, “Participation in Apollo-Soyuz Test Project.” Tab A: “Recommended Telephone Call”, 14 Jul., 1975, Folder: OS 3 7/1/75-7/23/75, Box 1 Outer Space 8/9/74 (exec), to Space Flight 7/31/76 (Exec), White House Central Subject Files, Ford Library. [↑](#footnote-ref-65)
66. Gerald R. Ford, "Telephone Conversation With Apollo-Soyuz Test Project Crews Following Rendezvous and Docking of the Spacecraft", 17 Jul., 1975. Available online via, *The American Presidency Project* http://www.presidency.ucsb.edu/ws/?pid=5086 accessed 19 Oct., 2017. [↑](#footnote-ref-66)
67. Ezell and Ezell, *The Partnership*, 329-40. [↑](#footnote-ref-67)
68. Scott and Leonov, *Two Sides of the Moon*, 358-9; For astronauts’ difficulty mastering Russian see Ezell and Ezell, *The Partnership*, 255-5, 260-1 [↑](#footnote-ref-68)
69. “US Soviet Flight Not Just Handshake in Space”, *The* *Baltimore Sun*, 22 Feb., 1975, A1; “Symbology Activity To Be Performed During ASTP” John F. Kennedy Space Centre Press Release, 13 Jul., 1975, Record Number: 007463 “ASTP General July 1975”, NASA History Office. [↑](#footnote-ref-69)
70. “Background Facts: Commemorative cigarette brands”; “Together Let Us Explore the Stars: Bloomingdales introduces a EPAS, the American/Russian Commemorative Fragrance” both in Record Number: 007559 “ASTP: Impact Of”, NASA History Office; further information on EPAS is available at *Bottle, Apollo-Soyuz commemorative, glass, made by Revlon / Novaya Zaria, USA / USSR, 1975* 2016, Museum of Applied Arts & Sciences, <https://ma.as/363253> accessed 19 Oct., 2017. [↑](#footnote-ref-70)
71. Ezell and Ezell, *The Partnership*, 345-7. [↑](#footnote-ref-71)
72. Henry A. Kissinger to The President, “Meeting with US Astronauts and Soviet Cosmonauts” 13 October, Folder: National Aeronautics and Space Administration (4) 10/1/75-8/31/76, Box 14, National Security Adviser, Presidential Agency File 1974-1977, Ford Library. [↑](#footnote-ref-72)
73. Henry A. Kissinger to The President, “Promotion for Astronaut Tom Stafford” 7 Aug., 1975, Folder: “Stafford, Tom”, Box 3, “National Security Advisor, Presidential Name File, 1974-1977”, Ford Library. [↑](#footnote-ref-73)
74. Executive Secretary Theodore L. Elliot to Henry A. Kissinger, “Joint Space Docking Mission and the President’s Visit to the USSR” 29 December, 1972, Folder: SP-1-1 US-USSR 1/1/71 Box 2973, Subject Numeric Files, 1970-73, Entry 1613, Record Group 59: General Records of the Department of State, NARA. [↑](#footnote-ref-74)
75. John Donnelly to Ronald Nessen, 7 May, 1975, Folder: “P750152-1437 thru P750157-1537” (55-74), Box 157C, P-Reel Microfilm Printouts, Entry Number 454: Central Foreign Policy Files, Record Group: 59 General Records of the Department of State, NARA. [↑](#footnote-ref-75)
76. Williams, “Detente and US Domestic Politics” *International Affairs* (Royal Institute of International Affairs) 61, 3 (1985), pp. 431-447 (pp. 439-40). [↑](#footnote-ref-76)
77. Jonathan Spivak, “The First Space Handshake”, *The Wall Street Journal*, 22 Jul., 1975, 16. [↑](#footnote-ref-77)
78. “Apollo-Soyuz”, *The Washington Post*, 17 Jul., 1975, A26. [↑](#footnote-ref-78)
79. “...And One Giant Leap for PR” *The* *Los Angeles Times* 15 Jul., 1975, 113. [↑](#footnote-ref-79)
80. Matthew D. Tribbe’s recent cultural history of the Apollo era *No Requiem for the Space Age* (2014) has explored the way in which the American media and intellectual elite became disenchanted with space propaganda. [↑](#footnote-ref-80)
81. Michael Cotey Morgan, “The United States and the making of the Helsinki Final Act” in Andrew Preston and Frederick Longevall eds., *Nixon in the* World (Oxford: Oxford University Press, 2008), 164-79, ( 165-6) [↑](#footnote-ref-81)
82. James M. Naughton, “Ford Bids Nations Live Up to Spirit of Helsinki Pact” *The New York Times*, 2 Aug., 1975, 1. [↑](#footnote-ref-82)
83. “J.D.L Burns Rocket Model Here in Protesting Detente”, *New York Times,* 16 Jul., 1975, pg. 19; Scoop Jackson attended a less combative rally for Soviet Jews in Florida on the day of the Apollo launch see “Rally for Soviet Jews Marks Cape Liftoff”, *The Jewish Floridian*, 17 Jul., 1975,. 1A, 3A, available at http://ufdc.ufl.edu/AA00010090/02424/1x accessed 19 Oct., 2017. [↑](#footnote-ref-83)
84. 94th Congressional Record, Daily Edition, 15 Jul., 1975, Statement of Robert Bauman H6821-2; For press examples see “Solzhenitsyn and the Spacemen”, *The Chicago Tribune*, 18 Jul., 1975, 2:2; “Dragon or Handshake?”*New York Times* 12 Jul., 1975, 24. [↑](#footnote-ref-84)
85. Joy Billington, “Cheese Rocket Stayed on the Pad”, *The Washington Star,* 14 Oct., 1975, pg. D-3. [↑](#footnote-ref-85)
86. Daniel J. Sargent, *A Superpower Transformed: The Remaking of American Foreign Relations in the 1970s* (Oxford: Oxford University Press, 2015) 247, 221. [↑](#footnote-ref-86)
87. Henry A. Kissinger to The President, “Your Meeting With Gromyko” 30 September, 1976, “USSR (44)”, Box 19, Country File: USSR (32), Presidential Country Files for Europe and Canada, National Security Adviser Files, Ford Library. [↑](#footnote-ref-87)
88. Nicholas C. Chriss, “U.S., Russians to Begin Discussions on Resuming Cooperative Space Missions”, *Los Angeles Times,* 10 Nov., 1977, 1. [↑](#footnote-ref-88)
89. Responding to a 1984 questionnaire sent by the ASE, five astronauts (Walter Cunningham, Ronald E. Evans, Gordon Fullerton, Jim Lovell and Harrison Schmitt) expressed apprehension about the organisation being used for political ends, Folder 3, Box 1, Records of the Association of Space Explorers, Hoover Institution, Stanford University, CA; The ASE will be explored in detail in Andrew Jenks chapter ‘Transnational Utopias, Space Exploration, and the Association of Space Explorers, 1972-1985’ in Alexander Geppert’s forthcoming edited collection *Limiting Outer Space: Astroculture After Apollo* (London: Palgrave Macmillan, 2017), unfortunately this book was yet to be published at the time of writing. [↑](#footnote-ref-89)
90. For Shuttle-Mir see Angelina Long-Callahan, ‘Russian-American Cooperation in Space: Privatisation, Remuneration and Collective Security’ in Krige, Callahan, and Maharaj, (eds.) *NASA in the World*, 153-184; Mark Albrecht, *Falling Back To Earth: A First Hand Account Of The Great Space Race And The End Of The Cold War* (Lexington, KY: New Media Books, 2011); Clay Morgan, *Shuttle-Mir: The United States and Russia Share History's Highest Stage.* NASA SP-2001-4225 (Washington DC: US Government Printing Office, 2001) Available at https://history.nasa.gov/SP-4225.pdf accessed 19 Oct., 2017. [↑](#footnote-ref-90)
91. The decision to invite Stafford to the *Soyuz 11* funeral indicates a similar recognition of space brotherhood’s propaganda potential by Soviet leaders, though without access to Soviet archival sources this article has limited its discussion to the space brotherhood’s reception and appropriation within the United States. [↑](#footnote-ref-91)
92. One of the six major design guidelines for *Sputnik 1* was that its radio signal be powerful enough to be picked up by amateur listeners, Asif Siddiqi, *Sputnik and the Soviet Space Challenge* (Gainesville, FL: University Press of Florida, 2003) 162. [↑](#footnote-ref-92)
93. Ω Thomas Ellis is a History PhD candidate at the University of Southampton. His doctoral research was funded by the UK Arts and Humanities Research Council’s (AHRC) South West and Wales Doctoral Training Partnership. The archival research this article is derived from was made possible by generous travel grant funding from the Gerald R. Ford Presidential Foundation and a research fellowship at the Smithsonian Institution’s National Air and Space Museum organised through the AHRC’s International Placement Scheme. In addition to the journal’s anonymous reviewers, the author wishes to thank Professor Kendrick Oliver for his helpful feedback and mentorship. [↑](#footnote-ref-93)