

A New Frontier - or just a 240,000 mile cul de sac?

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There is a popular view, reinforced by anniversary-driven hagiography, television rehash and most of all through the lionising of John F. Kennedy that after Sputnik, the world's first satellite launched in 1957, America was forced into catch-up mode. With space exploration symbolising state power, the USA suddenly fell behind the USSR and remained in thrall to Khrushchev's wondrous feats of space endeavour until 'do-nothing' Eisenhower ceded the White House to Kennedy. Within months of the inauguration, Kennedy stood before Congress and pledged to send a man to the moon and return him safely to the earth "before this decade is out."¹ His speech galvanised a nation behind a crash programme that saw Neil Armstrong step out into the Sea of Tranquillity in July 1969 fulfilling the President's pledge and forever wedding this historic achievement with Kennedy's drive for a 'New Frontier' in the heavens. It was JFK, the popular discourse would suggest, who broke our earthly bounds and made the conquest of space a reality.

As historians however, we face the problem that early US space policy is viewed through the wrong end of a telescope. The moon landing in July 1969 provided the twentieth century's iconic moment – a clear fulfilment of Kennedy's striving for his 'New Frontier'. It is regarded as the culmination of a spectacular marriage of science and technology, of political and public support that all coalesced to deliver a fitting legacy for an unfinished Presidency. Yet scrape away the veneer and it can be argued that the policy, infrastructure and planning that enabled the USA to catch up with Soviet efforts was ultimately down to a small group of men – none of them JFK. The prime Executive responsibility for getting man to the moon and ensuring the American flag stood, slightly askew, on the grey and inhospitable surface of earth's nearest neighbour lay with one President building on the foundations of another. Dwight D. Eisenhower created the edifice through Lyndon Johnson's Senatorial manoeuvring. The latter urged an uninterested Kennedy to shoot for the moon –

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and then delivered the dead President's legacy. Indeed, the one place where Kennedy can be seen to make his mark is in ensuring that man got no further than the moon.

Since Gene Cernan, Ron Evans and Jack Schmidt's Apollo 17 flight in December 1972, no human has ventured beyond earth's orbit.² Today, almost forty years since the last of the moon missions, the International Space Station orbits 240 miles above the earth's surface – not much more than the driving distance between New York City and Washington DC.³ That much is down to Kennedy, who broke off at a tangent from the space policy he inherited from Eisenhower, using it merely as a tactic in waging the Cold War with the Soviet Union. Kennedy's aim was not romantic. He demonstrated no desire to open up the heavens to those of us on earth. It was not to shift the United States' frontier from its ocean shores to the wider Solar System. In the wake of the Bay of Pigs fiasco and Yuri Gagarin's first successful earth orbit, the decision to land a man on the moon was Cold War 'realpolitik' pure and simple. Kennedy's desire to send a man to the moon was not based on a scientific need, the American spirit of Adventure or any other Frontier Spirit – or even a national security imperative. This was about beating the Soviets at something - at anything - as a means to placate the American people and rebuild American prestige in both the free democracies of the Western world, and the emerging independent countries of Africa and Asia.

When one explores the evidence, Kennedy simply was not wedded to the exploration of outer space. Several times after making his 'moon pledge' he questioned the wisdom – and the cost - of this unique marriage of Governmental expectation, emerging technology and project management brilliance. On 21 November 1962, while the USA was still in a state of deep shock over the Cuban Missile Crisis, Kennedy called a meeting of his advisors to brief him on his options for the US space programme. There had been concern in the media, reacting to comments of the Head of the Apollo Programme, Brainerd Holmes, notably in *Time* magazine⁴, that America may miss the end of decade target that Kennedy had set for a moon landing.⁵ At the meeting, both NASA Administrator James Webb and Kennedy's budget director David Bell had stated that the moon programme was in danger of slipping and required significant additional investment if Kennedy's 'pledge' was to be met. Each set out a number of spending options, stressing the overall balanced nature of NASA's developmental programmes and also the importance of 'other' areas, such as scientific investigations in space, communications and meteorology. The participants also were acutely

aware of the significant number of ‘Black’ (secret) space programmes, specifically around covert reconnaissance that were absorbing the Department of Defence’s budget.⁶ Kennedy’s response, recorded on a White House tape, was intriguing: “I’m not that interested in Space,” he said. Indeed, just a minute earlier, he had justified the Apollo manned lunar programme by saying “The Soviet Union has made this a test of the system, so that’s why we’re doing it.”⁷ Apollo was merely an ideological battlefield in the theatre of the Cold War. Success would bring undoubted prestige to the victor. For the US, this would be a key reclamation of America’s technological and organisational superiority, achieved in a democratic, capitalist, free-market, private enterprise-led environment over the centralised, planned economy of the USSR.

Khrushchev had used Space as a Cold War battle ground first, with the launch of Sputnik. By being first to harness the ‘military-industrial complex’ and wed military ballistic firepower with a seeming step-change in technological advancement, he had delivered an immense power play. It was both an opportunity to cement his own power in the USSR and a crushing blow to the American psyche, though, merely a wake-up call to the Executive. In return, Apollo was a demonstration of US power. For Kennedy – and for NASA, which delivered his intent – the manned moon landing was the goal. After the November 1962 meeting it became the absolute primary focus of the agency – a clear policy break from the slow-but-steady groundwork, focused on unmanned meteorological and communications satellites, set in place by Eisenhower.. However, this single-focus programme, using technology with little, if any, immediate benefit to national security or true scientific advancement, proved a dead end rather than a true policy advance. Indeed, when Apollo 11 landed on the moon, Mission Control in Houston, Texas, flashed up Kennedy’s pledge on the screen and followed it with: ‘Task accomplished’. At a stroke, Apollo had reached out a quarter of a million miles – and reached a dead end.

It *could* have been different. Kennedy supporters, such as his speechwriter and close advisor Ted Sorensen, are dismissive of Eisenhower’s early space policy, judging it only from the response to the Soviets’ launch of Sputnik in October 1957. Sorensen has argued that “the Eisenhower Administration, despite prodding from Majority Leader Johnson, started its own programme slowly and tardily, with much scoffing and scepticism from Republican officials about the meaning of the Russian effort.”⁸ Yet an investigation into Eisenhower’s space policy planning, both in advance of the Soviet launch and in its wake, suggests a rather

different picture. It is impossible to draw a firm line between Eisenhower's thoughts on space exploration and wider defence issues in his first term in the White House. His 'New Look' defence policy was an expression of his economic conservatism and inherent dislike of high-spending big government. The New Look emphasised defence based on nuclear weapons, a leaning towards ballistic missile development and drastic cutbacks in conventional forces following the cessation of hostilities in Korea.⁹ It relied on technological innovation. In support of his New Look, Eisenhower made two significant related steps that were influential in his post-Sputnik actions in setting up and charting the direction of NASA as a civilian agency. But the impact of these actions was undercut by an indecisive approach to the management of the competing armed services' missile development programmes. This blind spot for Eisenhower prompted much of the short-lived furore in the wake of Sputnik. It is a blind spot attacked notably by Cold War historians Philip Nash and Chester Pach. Nash damns Eisenhower's handling of his nuclear arsenal with faint praise. Acknowledging that the President was "no idiot", he dismisses his insights on the development and deployment of the technology at his disposal as "fleeting, narrow, and tawdry."¹⁰ Pach focuses on the response to Sputnik and the relative weakness of Eisenhower's position in relation to Senate Leader Johnson who used his Senate inquiry into satellite and missile programmes to flail the President for his ineptitude.¹¹

But was 'Ike' quite so inept? Following the successful detonation of a miniaturised 15 Megaton fusion bomb at Bikini Atoll in March 1954, Eisenhower was confident he had the nuclear firepower to deter Soviet aggression – and firepower that could be delivered by the aircraft of Strategic Air Command. This gave the Army and Air Force breathing space to develop and deliver the intercontinental ballistic missiles (ICBMs) and intermediate range ballistic missiles (IRBMs) that had been inching slowly through the Pentagon's planning hierarchy since the first German scientists had arrived at Fort Bliss in 1946. Eisenhower hoped that competing missile programmes would spur speed and innovation. However, the inter-service rivalry had just the opposite effect. Each service pursued its own path, with its own group of scientists, its own contractors and its own agenda. The result was duplication and delay – the consequence of an unfocused approach and separation of the best minds from the task. Even Science Adviser James Killian, one of Eisenhower's staunchest supporters whose Technological Capabilities Panel had been advising the President since 1954, noted the president's 'worries', but also lack of decisive action over what appeared chaotic missile

development. In his memoirs he recalled “numerous examples, could be cited, of his [Eisenhower’s] worry about the military-industrial complex, duplication in the DOD, technological excess and the damage to the country of uncontrolled military expense.”¹² Johnson’s post-Sputnik Senate Hearings highlighted the lack of coherence in US missile development, and Eisenhower finally acted to remedy this policy error with the appointment of the first Missile ‘Czar’ in November 1957.

Yet Eisenhower often acted instinctively. He was confident that the armed forces would overcome their missile development issues, but was equally confident that those missiles would not need to be used in any immediate timeframe. Where he *was* concerned was in the great difficulties both the Pentagon and CIA were having in obtaining credible intelligence on the strength of the Soviet nuclear threat. As Philip Taubman describes in *Secret Empire*, he was prepared to act decisively when he could see a clear purpose for a project and could anticipate a positive result.¹³ Recognising the lack of verifiable intelligence, Eisenhower fully backed the development of the U2 reconnaissance aeroplane and, knowing this would be but an interim solution, the Corona reconnaissance satellite system. Both initiatives were kept out of the public eye: the U2 was placed under CIA control and developed in unprecedented secrecy; Corona was ‘hidden in plain sight’, disguised as the Discoverer Programme¹⁴. The development of both the U2 and Corona was managed by Richard Bissell at the CIA. This arm’s length management influenced Eisenhower’s later policy making in the creation of NASA; its dovetailing with defence initiatives; and, indeed, the decision to hand the Mercury man-in-space programme to NASA rather than the Pentagon.

Eisenhower’s key interest in space was for national security, but he was also an advocate of a scientific exploration programme and had supported an initiative as early as 1955 to launch an American Satellite during the International Geophysical Year. He was at pains to insist that this satellite should be a civilian project and conducted in public on as transparent a basis as was possible for a project using a brand new rocket designed by the Navy. The assumption outside the White House – and particularly on Capitol Hill - was that the United States would launch the world’s first satellite. This, however, was never Eisenhower’s aim, despite historians including Taubman still perceiving it as such. Without doubt, Eisenhower was aware of the national security benefits satellites might bring. Such benefits had been highlighted in the Killian Committee Report presented in February 1955,

which, in addition to recommending acceleration in missile development, focused on the use of satellites for communications and intelligence gathering.¹⁵ It was also tacitly acknowledged that whoever launched the first satellite would set the precedent of freedom-of-space: no country would govern outer space. In that respect, it was actually more beneficial to be second, since any initial legal furore would have died down.

While the civilian-led Vanguard programme inched forward, beset by technical difficulties, the Army, Navy and Air Force were at the height of their competition to build and test ICBMs and IRBMs. Although the Atlas, Thor, Minuteman and Polaris missile programmes point to their eventual success, competition was fragmenting the rocket development programme. The consequence of this fragmentation became apparent across the world with the launch of Sputnik 1 on 4 October 1957. Eisenhower responded coolly to Sputnik's launch. He understood better than most the real situation the Soviets were in, but could reveal little of this without undermining US surveillance efforts. U2 spy planes had been flying over the Soviet Union for more than a year and the covert intelligence they had gathered was startling. If there was a bomber gap or missile gap, it was heavily in the US's favour. Over the following weeks, Eisenhower faced down knee-jerk demands for nuclear shelters, for more bombers and more and better bombs, for more missiles and for a sea of dollars to get an American satellite into space even more quickly. For historian Steven Ambrose it was "one of his finest hours."¹⁶ The key problem he faced was one of perception: the media was rolling the launch of Sputnik and a perceived deficit in the missile race into one issue, something Eisenhower would not do. He saw military missile development as something entirely separate from a satellite contest in space, and knew that American technology outstripped Russian equivalents in all areas other than a heavy lift ballistic booster. But the public were simply not on the same wavelength as the President, and the launch of Sputnik 2, which coincided with the celebration of the 40th anniversary of the October Revolution, caused Eisenhower to modify his response.¹⁷ Sputnik 2 was another propaganda coup for Khrushchev as it also launched a dog, Laika, into orbit. It immediately sent a message that the USSR was racing towards putting a man in space. Near-hysteria followed in the popular US press. *Time* noted, "the Soviet rocket generated a total thrust more than enough to power an atomic bomb to the moon, more than enough to power a missile around the earth.....In such an apocalyptic week, communism's new coalition of dazzling technology and cutthroat politics represented an epochal threat to the free world."¹⁸

Eisenhower addressed the nation on 7 November. He addressed the fear in people's minds about national security saying, "we are well ahead of the Soviets in the nuclear field both in quantity and quality. We intend to stay ahead."¹⁹

Towards the end of 1957, Eisenhower's approval ratings had fallen from 79% to 57% - by far the lowest rating of his presidency.²⁰ The media appeared to hold the high ground, with the influential weeklies lined up against a perceived slow-moving presidency. Indeed, *Time* crowned Khrushchev its man of the year for his Sputnik successes.²¹ American prestige dropped further with the first test of America's Vanguard rocket. For the scientists, this was merely a staging point on the way to perfecting the Vanguard rocket, but to a public and media stung by America's second-best status, this 'launch' was all about catching up the Soviet space lead – albeit with a 6.5lb satellite. But the US space effort was to be humiliated further when 'Test Vehicle 3' exploded four feet off the pad.²² Thanks to live TV coverage, enabled by Eisenhower's demand that International Geophysical Activities be entirely open to public scrutiny, millions watched the unfolding debacle in amazement. The humiliation of the spectacle was global: in London, the *Daily Express* led next day with the headline 'US calls it Kaputnik'. The *Daily Herald* was no less scathing with: 'Oh what a flopnik!'²³ At the United Nations, the tongue-in-cheek Soviets asked their American counterparts if the US might wish to receive assistance under the Soviet programme of foreign aid for technical assistance to backward nations.²⁴

Eisenhower now had to act decisively to bring coherence to the space programme and a clear separation from what would be seen by the Soviets as aggressive military spending. Eisenhower had already named Killian as head of the President's Scientific Advisory Council, which brought all the rival services together under one missile czar. Then, on 29 July 1958, he acted on Killian's advice and formally established NASA. This built on the existing National Advisory Committee for Aeronautics (NACA) and, as the introduction to the Act stated, added importantly to [America's] knowledge of the Earth, the Solar System and the Universe.²⁵ NASA's role within this process was to ensure the USA's leadership in space science. At first, Eisenhower was reluctant to put space development in the hands of a civilian agency, but was persuaded of the merits of the plan by Killian. Congress supported the civilian agency suggestion and, in fact, the 1958 National Aeronautics and Space Bill was presided over and introduced to Congress by the Democrat Senator and Majority Leader, Lyndon B. Johnson. That bipartisanship eventually played a part in delivering the legislation

should have ensured that Eisenhower's vision for US space policy had a chance of surviving the change in Administration. With a Presidential election looming in 1960, it is clear that Johnson assessed that space, and closing the rocket and missile gap, would be a leading issue in the debate. Unlike Eisenhower, who would not even countenance the US being in a race with the Soviets in space matters, both Johnson and Republican Vice President Richard Nixon were manoeuvring to be in a strong position to use the space race issue in the fight for the White House.

As part of his Vice Presidential responsibility, Nixon was Eisenhower's point-man in working with Congress to get the 1958 Space Bill passed. Killian too played a key role. The MIT President enhanced his standing with Eisenhower through his calm response to the Sputnik Autumn of 1957.²⁶ He had been a trusted advisor of the President since the first term, delivering the Killian Report in 1955, advocating the highest national priority for US ICBM and IRBM programs.²⁷ Joining the Administration less than three weeks after Sputnik's launch, as Burrows notes, Killian "calmly insisted there was less to the feat than met the eye and that attacks on Ike were just shabby politics."²⁸ He advised that Eisenhower needed a single agency outside the military to drive US efforts, and his President's Science Advisory Committee honed in on the venerable National Advisory committee for Aeronautics (NACA) as the best foundation for a new agency. He was a critical player in influencing Eisenhower's thinking – although it may simply be a sign of the 'Hidden Hand' Presidency that Eisenhower had appointed someone to the role who held similar views to himself!²⁹ As Killian's memoirs show, he held Eisenhower in the highest regard. He stated that "Eisenhower was exceptionally responsive to innovative ideas, especially in science, technology and the military. When we had framed a space programme and proposed an organisation to carry it out, he was immediately interested."³⁰

Johnson, as Majority Leader in the Democrat-run Senate, steered the path for the Bill to reach the Statute Books. He had first thrown his hat into the space ring in 1957 when he used the Senate Preparedness Committee for a special investigation into US satellite and missile programmes in the wake of the launch of Sputnik 2. He had most certainly made space a partisan issue but had quickly become expert in both US rocket, satellite and missile efforts, and in the political manoeuvring necessary to strike back at the Soviets. This was a platform Johnson thought he could use to secure the 1960 Democrat Presidential Nomination. Asserting his dominance on space in Congress in 1958, he ensured the legislation hit the

statutes in a manner that delivered on the President's needs, but also fitted his agenda for the upcoming election.

One should not underrate Eisenhower's contribution to NASA's original plans. On 1 October 1958, the President removed the task of developing a man in space project from the military and gave it to the new agency NASA. It was an echo of his decisions around the U2 spy plane, which had been developed not by the Air Force but by the CIA, cutting through massive, cloying bureaucracy. In adopting a similar tactic with NASA, the supposedly sceptical President had sanctioned and created a well-funded, Congressionally-supported, non-military agency to manage the US's scientific space efforts – all achieved in under a year. This immediately put clear water between the peaceful exploration of space and military defence, where the parallel missile and satellite programme continued largely beyond the reach of the media and immediate interest of the public. The newly-emerging US space programme was building on four foundations defined by the President's Science Advisory Committee, namely: man's thrust of curiosity; national defence; national prestige; and scientific growth.³¹ Meanwhile, the harsh military undertones of stockpiling ballistic missiles and developing ever-more refined launchers was seen as very different from NASA's activities – despite the fact that they shared the same core technologies, research programmes and even launch sites.

It is fascinating to consider what might have happened had Nixon and not Kennedy won the 1960 Presidential election. According to John Logsdon, the foremost expert in Kennedy's space politics:

Kennedy's risk-taking and image conscious personality played a major role in his decision to go to the Moon. Richard Nixon had a very different personality. [He] may also have been more sympathetic to the advocates of a stronger military space programme. And his appointee as NASA Administrator would likely have been different. Of course, he would not have had Johnson, a space advocate, as VP, but Henry Cabot Lodge, a space sceptic. All of this leads me to think that the Nixon space policy would have been a bit more activist than Eisenhower's, but certainly not as activist or bold as Kennedy's. Would we have gotten to the Moon by now if Nixon had been elected? I rather doubt it.³²

In the event, Kennedy outmanoeuvred Johnson to win the Democrat nomination, and then edged passed Nixon to win the race to the White House. The change in Administration from Eisenhower to Kennedy was more than simply a hand-over from one president to the next. Eisenhower represented the first half of the twentieth century. Born in 1890, he arrived in the White House in his sixties, with a world-wide reputation and with the everlasting gratitude of a nation. He had nothing to prove as a hero or leader and presided for the next eight years over increasing domestic wealth and over a world situation of relative peace, albeit with a policy of brinkmanship and massive retaliation. Kennedy represented a break in the generations. Even a year before the election he was relatively unknown outside the north eastern States and at forty-three, he was easily young enough to be Eisenhower's son. He had much to prove and space policy would be a platform through which he could assert his distance from the previous administration and present his cold warrior credentials. Yet he aimed to wrap it in a liberal coat of moral superiority, indeed of exceptionalism, gleaned from the United States' unprecedented success since victory in World War Two. His policy took a 90 degree turn from his predecessor, not to fulfil his rhetoric, but as a tool to recover damaged prestige.

The foreshortening of history by the popular media would have it that Kennedy stood before Congress on 25 May 1961 with the moon landing as the centrepiece of a directive that swiftly galvanised 400,000 Americans into a relentless drive to the moon where this time, the Soviets would finally be beaten. However, it is worth looking at the reality of Kennedy's speech and the degree of direction it actually provided. Undoubtedly the speech was meant to revive the spirit of optimism of the early weeks of the Presidency. But it gained so much resonance across four decades of regular repetition not as a whole, but because of one section, towards the end. This 'moon pledge' was pounced upon by the media – especially *after* Kennedy's death, and most especially once that pledge had been achieved. The speech was a set-piece; it was unusual for the President to address Congress directly. But Kennedy knew it was essential to recapture the high ground at a time when his new Presidency could lose all momentum due to the body blows inflicted by the Bay of Pigs failure and Gagarin's orbital success. The networks were primed to take the speech live and transcripts were made available for print journalists to have as soon as Kennedy stepped down from the podium. Yet the moon announcement actually comprised only the last fifth of the speech. Before reaching that most famous passage, Kennedy had talked about stimulating the economy at home,

fostering global progress by fighting the advance of communism, extending the US Information Agency and tripling the budget for fallout shelters at home – essentially all the issues raised in the media and rejected by Eisenhower a little over two years previously. Ted Sorensen testified to the minor role the space race had in the address to Congress:

His speech at Rice University was his best and most important speech on the subject. The speech to Congress is far too often taken out of context and more weight is given to it now than may have been anticipated at the time. The President introduced nine policy points at the time and that the space pledge was the ninth of these. Now while it made an excellent closer, we did not expect it to have quite such resonance half a century on. It was an excellent response to Gagarin and also a step to reclaim some of the foreign policy ground lost following the Bay of Pigs fiasco, but the President actually had to ad lib away from the prepared speech to drive the message home.³³

The space passage came almost as an afterthought. That's certainly how the *Los Angeles Times* reported it the following day, in an editorial distinctly critical of Kennedy's address. In an op-ed piece, Robert T Harman wrote, "we expected extraordinary proposals....but he outlines rather ordinary plans...leaked to favourite TV and newspaper reporters days and weeks ago, so there was little impact of surprise. [The speech] was something of a dud....slightly spiced with a 10-year space adventure which Mr. Kennedy didn't seem too certain of himself."³⁴

The speech *did* receive national front page coverage and the space pledge drew the headlines. But equal focus on the analysis was placed on the other elements of the speech. Don Shannon, writing the lead news article for the *Los Angeles Times*, for instance, noted that Kennedy had "urged Congress to back a multi-billion [dollar] programme to put an American on the moon and counter the Soviet Union on earth." He reflected on the fact that Congress was split on the 'omnibus' plan and "noticeably cool on all except his call for a US challenge in space."³⁵ It is perhaps unsurprising that the *Los Angeles Times* was critical of Kennedy's speech. California had backed Nixon in the 1960 election (just), and the *Times* was noted for its conservative stance.

The Democrat-leaning *Washington Post* was slightly more positive. John G Norris reported, "he [Kennedy] committed the United States to an all-out race to overtake Russia in space and to be the first to put men on the moon... 'It is time', said the President, 'for a great

new American enterprise; time for this nation to take a clearly-leading role in space achievement.” The news report chimed with the intent of the President, picking up on his request for a spending boost for space, arms and the jobless, but undercut this when stating that the proposals would be unsatisfactory to liberals since they favoured big business. Equally, Norris noted, they would not satisfy conservatives since the spending boosts would not go far enough. Interestingly, in the ‘Freedom Doctrine’ editorial within the same issue, going to the moon does not even rate a mention.³⁶

That pledge was not a directive for NASA. That was not within Kennedy’s power. Instead Kennedy was posing a question – would Congress agree to the proposal and would it authorise the funding? Congress could have said no, indeed with just fifteen minutes of actual space flight behind them and a very uncertain path to the moon, logic appears to have been outmanoeuvred by the strength of Kennedy’s rhetoric. Two Republican Representatives were quoted opposing Kennedy’s call for support: The *Los Angeles Times* reports Representative Steven Derounian from New York saying: “Not once did I hear him say a word pledging that we would not retreat one inch from the communist tyrants. This was a tired speech full of apologies.” Fellow member of the House, Glenard P Lipscomb added, “this was a lot of words with not enough justification of needs.” It actually took a lot of legwork on Capitol Hill by Vice President Johnson, already the father of space legislation, to ensure that Congress supported Kennedy’s moon-pledge funding request. This was achieved by dividing a programme of works for Gemini and Apollo among contractors in every State of the Union. However, it was not an equal division since there was a strong bias towards Texas, base for the Chair of the House Independent Offices Appropriations Committee, Albert Thomas.

Kennedy was driven by political motives unrelated to any commitment to a moon landing. He had no great scientific or romantic attachment to the race to the moon, but had done his homework prior to the 25 May speech. On 20 April, just after the Bay of Pigs fiasco, Kennedy wrote to Johnson, the space expert in the Administration, and asked for the answers to five questions: “Do we have a chance of beating the Soviets by putting a laboratory in space, or by a trip around the moon, or by a rocket to land on the moon, or by a rocket to go to the moon and back with a man? Is there any other space programme which promises dramatic results in which we could win?”³⁷ All these options picked up on the NASA handover memorandum that outgoing Administrator Keith Glennan had prepared for his

successor, James Webb after the 1960 election³⁸. None was new thinking, but for the first time, there was an echo of Khrushchev's actions in the way Kennedy was looking to use space success as a means to enhance US prestige both at home and in the newly independent nations across Africa and Asia.

Johnson assembled a committee of advisors including Frank Stanton, head of the broadcaster CBS, Donald Cook of American Electric Power, George Brown from engineering company Brown and Root, Air Force Missile Chief Bernard Schriever (a veteran of Corona), Senator Kerr, the newly-appointed chairman of the Senate Space Committee and NASA Administrator Jim Webb. In both a telephone conversation with Johnson and through a detailed five page memo, Saturn rocket developer and space pioneer Werner Von Braun provided a detailed argument to go to the moon. Johnson was convinced, and bullied the panel towards his view. By 23 April, Johnson had provided the answers and Kennedy had shifted his position from his immediate comments following Gagarin's launch. In his first press conference following the first Soviet orbital flight the *Chicago Daily Tribune's* Philip Dodd reported Kennedy saying, "we are behind in the space race with Russia". Dodd noted Kennedy's comments that the news would get worse before it got better, and it would be some time before the US caught up. Tellingly, the report picked up on Kennedy's telegram to Khrushchev in which the President said it was "his sincere desire that...our nations can work together to obtain the greatest benefit to all mankind" – perhaps hinting at joint exploration.³⁹ That view reversed in the coming weeks.

At his press conference on 23 April Kennedy said "if we can get to the moon before the Russians, then we should."⁴⁰ Johnson had convinced Kennedy that a lunar landing was achievable for the Americans but not for the Russians who were, despite appearances, some way behind on technology. His panel was probably swayed more by Johnson's strength of feeling than by rational conviction. Even his phrasing, "before this decade is out," gave Kennedy a get-out card. Even if he completed two terms as president, Kennedy would almost certainly be out of office before the moon landing. If it failed, it would not be on his watch – and potentially could be laid at the feet of Johnson, the Administration's most persuasive space advocate - and that would likely be the case if the Soviets got there first as well. If it succeeded, it could well be while Bobby Kennedy enjoyed his first Presidential term, cementing the Kennedy dynasty at the apogee of American politics.

Congress supported Kennedy's pledge and NASA was thrown into a single-focus programme to ensure an American man reached the moon first. This superseded any other plans NASA had in place, relegating all programmes unrelated to the moon landing to second-class status at best. Kennedy in turn, used the rhetoric of space to underpin his whole New Frontier imagery. He used a speech at Rice University on 12 September 1962 to expand the metaphor: to talk about setting sail on the 'new ocean of space'. The rhetoric was powerful: "We choose to go to the moon. We choose to go to the moon in this decade and do the other things, not because they are easy, but because they are hard, because that goal will serve to organize and measure the best of our energies and skills, because that challenge is one that we are willing to accept, one we are unwilling to postpone and one we intend to win."⁴¹ Everything about Kennedy's approach to space was summed up here. It was about winning a contest.

Once Kennedy had aimed for the moon, any thought of exploration beyond the lunar goal reverted only to fiction. Notably, in death, JFK gained an alter-ego in the form of James Tiberius Kirk, Captain of *Star Trek's* the USS Enterprise. JTK's mission was summed up in the show's recurring opening monologue: "Space: the final frontier. These are the voyages of the Star Ship *Enterprise*. Her five-year mission: to explore strange new worlds, to seek out new life and new civilizations, to boldly go where no man has gone before." Kirk achieved in fiction all that Kennedy had failed to put in place in real life. Ironically, the line was taken from a 1958 essay in support of Eisenhower's space policy by James Killian. In *An Introduction to Outer Space*, he wrote: "...the compelling urge of man to explore and to discover, the thrust of curiosity that leads men to try to go where no one has gone before."⁴²

For Eisenhower, that was not to the moon. NASA's first administrator Keith Glennan notes in his diary a meeting with the President on 20 December 1960, in which Eisenhower stated that he could not care less whether a man ever reached the moon. Comments the previous month, however, showed Eisenhower's delight in US achievements with meteorological, navigation and communications satellites.⁴³ Eisenhower's interest in space was focused on the earth; it was about knowing enough about the enemy to ensure the United States' security. It was about using technology to predict weather patterns and understand natural disasters. It was about making the most of telecommunications and the emerging power of TV. Putting man in space was no more than proof of concept, and a mission to the moon made no sense to the outgoing president.

It is true that Eisenhower was slow to become enthusiastic about space. Initially, he was driven to give it more considered thought by a critical liberal media which failed to fully understand the true nature of a Soviet symbolic gesture. That gesture created a perception of a national security crisis where one did not exist. His reaction to an unexpected weight of negative opinion may have been Eisenhower's greatest, if least lauded, triumph – a triumph for the 'Hidden Hand Presidency' as coined by Fred Greenstein. He put in place a structure for space exploration that *could* have delivered a long-term incremental exploration of space and eclipsed the Apollo programme entirely. But Kennedy's use of the agency as the tool to beat the Soviets without recourse to the use of warheads unwittingly limited NASA's future aspirations.

Kennedy's 90 degree turn on space policy achieved a short term propaganda goal, but immediately limited the aspirations of NASA, of an emerging breed of highly intelligent space engineers and most certainly the politicians charged with making and selling space policy. Would it have been different with a Nixon Presidency in 1960? Certainly Nixon was keen to accentuate the difference between himself and Eisenhower and it is likely that he would have increased general defence spending in a similar fashion to Kennedy. There remains research to be done within the Nixon campaign papers of 1960 on the subject of space, the military-industrial complex, federal support for science and areas such as reconnaissance technology to determine the degree of difference between Nixon's stated positions and those of Eisenhower.

Finally, what if NASA had taken the tortoise's route instead of that of the hare? It is of little historical value to speculate on the likely outcome but it is, perhaps, worth sharing the thoughts of a man with the inside track. In 2009, I sat drinking a beer with Charlie Duke, Capcom to Apollo 11 and the Lunar module pilot on Apollo 16. I asked the tenth man to walk on the moon if NASA had got things right. "Hell no," he responded. "We did things all in the wrong order. We should have built the shuttle first; then assembled a space station. That would have given us a great jumping off point to the moon and far beyond. Kennedy killed those plans and put us back decades."⁴⁴

Endnotes

- ¹ From President Kennedy's Special Address to Congress, 25 May 1961, sourced from Theodore Sorensen, *Let the Word Go Forth* (New York: Laurel, 1991), 174
- ² Andrew Chaikin, *A Man on the Moon* (London: Routledge 1998), 599.
- ³ The actual driving distance is 225 miles.
- ⁴ "Reaching for the Moon", *Time* August 10 1962, 52-57.
- ⁵ Piers Bizony *The Man who Ran the Moon* (London: Icon 2006), 98-107.
- ⁶ *Memorandum for the President on Special review of Space programs*, Box 14, 7-11, http://www.jfklibrary.org/Historical+Resources/Archives/Archives+and+Manuscripts/fa_bell.htm - series 2.2. Accessed 10 October 2011.
- ⁷ A Historic Meeting at the White House on Human Spaceflight, Background and Analysis, <http://history.nasa.gov/JFK-Webbconv/pages/backgnd.html>. Accessed 11 December 2011.
- ⁸ Theodore Sorensen, *Kennedy* (London: Hodder & Stoughton 1965), 578.
- ⁹ David Callahan and Fred Greenstein, "The Reluctant Racer: Eisenhower and U.S. Space Policy," in Roger D. Launius and Howard E. McCurdy, eds., *Spaceflight and the Myth of Presidential Leadership* (Chicago: University of Illinois Press, 1997), 20-25.
- ¹⁰ Paul Nash, *The Other Missiles of October* (Chapel Hill: University of North Carolina Press 1997), 73-74.
- ¹¹ Chester Pach and Elmo Richardson, *The Presidency of Dwight D Eisenhower* (Kansas City: University Press of Kansas, 1991), 171-174.
- ¹² James Killian, *Sputnik, Scientists and Eisenhower* (Cambridge, Mass: The MIT Press, 1977), 230.
- ¹³ Philip Taubman *Secret Empire: Eisenhower, The CIA and the Hidden Story of America's Space Espionage* (New York: Simon & Schuster, 2003). Taubman is rather too elegiac in his support of Eisenhower, making the case for an intricately-planned strategy for national security incorporating secret reconnaissance techniques. Certainly some of Eisenhower's actions were proactive, but others were a reaction to events and the lobbying of politicians, the armed forces and, to a lesser extent, the media.
- ¹⁴ *Ibid.*, 266-267.
- ¹⁵ The Technological Capabilities Panel of the Science Advisory Committee of the Office of Defense Mobilization (sic) was formed in 1954 in response to Eisenhower's request for a study of U.S. technological capabilities to reduce the threat of surprise attack. The panel was headed by Dr. James R. Killian. Generally known as the Killian Committee, it issued its report to Eisenhower on February 14, 1955.
- ¹⁶ Stephen Ambrose, *Eisenhower* (London: Pocket Books, 1992), 472.
- ¹⁷ Dwight D. Eisenhower, *The White House Years: Waging Peace* (London: Heinemann, 1965), 224.
- ¹⁸ "A Time of Danger," *Time*, 11 November 1957, 23.
- ¹⁹ Dwight D. Eisenhower Radio and Television Address to the Nation, November 7 1957, The American Presidency Project, <http://www.presidency.ucsb.edu/ws/index.php?pid=10946&st=&st1=#axzz1dxtbeyiE> Accessed 3 February 2011.

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- ²⁰ Gallup presidential approval ratings, <http://www.gallup.com/poll/116677/presidential-approval-ratings-gallup-historical-statistics-trends.aspx>. Accessed 11 December 2011.
- ²¹ "Nikita Khrushchev: Up From the Plenum," *Time*, 6 January 1958.
- ²² As shown in United-International's newsreel footage on *A Time to Remember: The Space Race*, (AG Plate DVD, Universal Newsreels Collection 2007), ch5.
- ²³ The headlines featured above page 1 lead articles in the *Daily Express* and *Daily Herald* on December 8th, 1957. The *Daily Herald's* headline was subsequently reproduced in *Pravda* alongside their editorial: *Publicity and Reality*; see Paul Dickson, *Sputnik: The Shock of the Century*, (New York: Walker & Co., 2001), 158-159
- ²⁴ Thomas Heppenheimer, *Countdown* (New York: Wiley 1997), 128.
- ²⁵ Deborah Cadbury, *The Space Race* (London: Harper Perennial, 2006), 187.
- ²⁶ The common shorthand for the events of Autumn-December 1957 is the Sputnik Crisis. While politicians such as Lyndon Johnson and also senior military figures such as General James Gavin, a member of the US ICBM development team who described it as 'a technological Pearl Harbour,' deemed it so, this was more for reasons of partisan politicking and to advance a missile build-up agenda. Eisenhower's reaction focused on the reality not the perception. CIA intelligence proved the Soviets did not have the ability to launch an effective nuclear strike on the USA, and Sputnik only fulfilled the Soviets' promise to launch a satellite in the International Geophysical Year. Consequently, this writer chooses to abandon the misperception, and merely refer to the Sputnik Autumn.
- ²⁷ Walter McDougall, *...the Heavens and the Earth* (Baltimore: The Johns Hopkins University Press, 1985), 116.
- ²⁸ William Burrows, *This New Ocean* (New York: Random House, 1998), 190.
- ²⁹ Fred Greenstein, *The Hidden-Hand Presidency: Eisenhower as Leader* (Baltimore: The Johns Hopkins University, 1994). Greenstein's revisionist view of Eisenhower was that he was much more an active than reactive President, achieving his will often through astute appointments, consensus building and behind-the-scenes influence articulated through others.
- ³⁰ Killian, *Sputnik, Scientists and Eisenhower*, 219-220.
- ³¹ Erlund Kennen and Edmund. Harvey, *Mission to the Moon* (New York: William Morrow & Co., 1969), 72.
- ³² Email exchange between Mark Shanahan and John Logsdon, 2-6 March 2011. John Logsdon is the author of *The Decision to go to the Moon: project Apollo and the National Interest* (Cambridge, Mass: MIT Press 1970) and *John F Kennedy And the Race To The Moon* (New York: Palgrave Macmillan, 2010).
- ³³ Email exchange between Mark Shanahan and Theodore Sorensen, 8-10 August, 2010.
- ³⁴ Robert T. Harman, *Los Angeles Times*, 26 May 1961, 4.
- ³⁵ Don Shannon, *Los Angeles Times*, 26 May 1961, 1.
- ³⁶ John G. Norris, *Washington Post*, 26 May 1961, 1- 2. Editorial not attributed.
- ³⁷ *Memorandum for the Vice President*, from JFK to LBJ, 20 April 1961, *Exploring the Unknown*, ed. John Logsdon (NASA, Washington 1995), 424.
- ³⁸ NASA did not submit transition material to the White House during the JFK transition. The tradition of preparing a "transition book" for a new Presidential Administration was not started until the LBJ/Nixon

transition. So, the only transition material JFK received was the Wiesner Report. NASA Administrator T. Keith Glennan did prepare a very long transition memorandum for the new Administrator, James Webb. However, the goal of a manned moon landing was simply including in the list of current projects. It was not singled out for special mention.

³⁹ Philip Dodd, "Behind in the Space Race: Kennedy," *Chicago Daily Tribune*, 13 April 1961, 3.

⁴⁰ Charles Murray and Catherine Bly Cox, *Apollo the Race to the Moon* (New York: Simon & Schuster, 1989), 80.

⁴¹ NASA Johnson Space Centre Historical Archive, <http://er.jsc.nasa.gov/seh/ricetalk.htm>. Accessed 11 December 2011.

⁴² *An Introduction to Outer Space* prepared by The President's Science Advisory Committee, 26 March 1958, <http://history.nasa.gov/monograph10/document.html>. Accessed 6 September 2011.

⁴³ T. Keith Glennan, *The Birth of NASA* (Washington: NASA History Series, 1995), 278 - 292.

⁴⁴ Charles Duke in conversation with Mark Shanahan, Birmingham Hilton Metropole Hotel, 24 April 2009.

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