



The Forgotten First Iteration of the ‘Chinese Space Threat’ to US National Security

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ABSTRACT

Existing analyses of US-China relations in matters of space policy have overwhelmingly focused on the contemporary relationship, with a tendency to represent the interaction between the 2 states as primarily competitive for its entire existence. By making use of American archival materials, this article argues that these characterisations are misleading. Instead, the historical evidence shows that an iteration of a ‘Chinese space threat’ predates contemporary threat perceptions by almost 5 decades. Crucially, however, this first iteration of a ‘Chinese space threat’ was side-lined to such an extent in the 1970s that cooperation in space policy became possible, leading to some significant technology transfer. This cooperation lasted until the modern articulation of a ‘Chinese space threat’ began to make such exchanges controversial once again. Analysis of these archival materials, therefore, shows that, while contemporary tensions between the United States and China in outer space are not new, they are also not the norm.

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1. Introduction

The threat posed by China’s space program to US national security has become self-evident to a number of Congress people and officials since 2007 [1]. Yet, this is not the first time that developments in Chinese space technology have led to alarm among US policymakers. Only a couple of years after the founding of the Chinese space program, American officials had already come to view it as a threat. This trend continued through the 1960s and into the 1970s, when dialogue after the Shanghai Communique led to US–China space cooperation becoming literally a ‘normal’ part of the relationship. The appearance and eventual disappearance of the first iteration of the ‘Chinese space threat’ in the late 1950s is not merely a historical curiosity, but rather understanding this historical precedent should inform future analyses of US-China relations in outer space.

This article contends that existing arguments to the effect that ‘the United States has been markedly negative in its attitudes toward the Chinese space programme compared to other key actors,’ as Mike Sheehan [2] writes, or that competition has primarily characterised the relationship to date, as Joan Johnson-Freese [3] states, should be revised in light of evidence in the archives. Similarly, historical US-China relations in space are not, for example, as Vidya Reddy [4] argues, best characterised by 3 periods

proceeding from the ‘good’, to ‘bad’ and then to ‘ugly’. Such arguments reflect the ahistoricism of contemporary US policy discourse that overwhelmingly focuses on events after the year 2000. Only by omitting historical data are these fatalistic arguments possible. By introducing these new archival data into debates on the nature of US-China relations in outer space, it is hoped that future analyses will be more nuanced. Crucially, the historical record shows that US-China relations in outer space are not inevitably hostile, but rather politically contingent with scope for competition or cooperation. To borrow Reddy’s taxonomy, the evidence in this article shows that a prior ‘bad’ period was the founding state of US-China space relations, making the cooperation which followed after 1972 all the more significant and surprising.

To make this case, this article makes good use of American archival materials which have thus far remained absent from space policy literature on US-China relations. By adding greater historical depth to our understanding of what is rapidly becoming the single indispensable bilateral space relationship, a greater sense can be developed of what is unprecedented and unprecedented in its contemporary articulation.

1.1. The state of the literature: presentist underpinnings of fatalism

The contribution made by this article is necessary to tackle a glaring lack of analyses of the *relationship* between the United States and China in matters of space policy before 2000. Two trends

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characterise literature on the US-China space relationship. The first is a presentism which manifests as a tendency to discuss the contemporary relationship without its proper historical context. The second is a fatalistic attitude to the (future) course of the relationship. These 2 trends are related. Yet, as Sections 2 and 3 of this article demonstrate, future deterioration of US-China space relations only appears to be inevitable if one ignores the historical record of US-China cooperation in outer space.

A brief assessment of the most heavily cited analyses of US-China relations in outer space quickly reveals a tendency to focus entirely on events since 2000, as if there was no (significant) interaction in space policy between the 2 states before then. For example, Mark Hilborne discusses China's 'rise' in space—and the potential for tension—without mentioning the accomplishments of the program before 2003 and discusses the US interests in space in relation to the 'rise' without considering how the United States has historically approached the Chinese space programme [5]. This sort of framing is found across space policy literature, including claims that US-China meetings on space have been 'rare,' or a general impression that there has been no US-China dialogue on space policy [6,7]. Where earlier dynamics are mentioned, the discussion tends to begin with the 1970s. James Clay Moltz notes that US-China cooperation in space policy 'began in the late 1970s,' but gives no indication of the American fears which had to be overcome to pursue those policies [8]. More recently, Vidya Reddy begins his analysis of the US-China relationship with the 'good period,' beginning in 1972, making the same omission [9]. The basis of this article's claim that the first iteration of a 'Chinese space threat' has been forgotten is, therefore, the tendency in the literature to gloss over the relationship before 2000 or only to track back to the 1970s.

Some excellent historical research has been published in English on the Chinese space program (and of course a great deal has been published on its American counterpart). This makes for an important caveat to the charge of presentism in the literature. Dedicated scholars have produced excellent histories of the Chinese and American space programs. However, these studies have been domestic in scope, giving readers a sense of how competing elites and their ideas shaped the space program below the state level. Questions of the significance of the relationship specifically between the United States and China in relation to their space programs have been left out. It is simply outside the scope of Brian Harvey's *China's Space Program* or Gregory Kulacki and Jeffrey Lewis' *A Place for One's Mat*, for example, to engage with the bilateral international politics of the Chinese space program or specifically its perception in the United States [10,11]. Until now, no analysis has been carried out to complement this niche of historically minded work with an assessment of the perceptions the 2 states had of their counterpart's space program. This article begins to address this gap by contributing an analysis of American perceptions of China's space program before the 1990s.

Fatalism is also a common theme, to varying degrees, in the existing literature. The claims of Sheehan and Johnson-Freese to the effect that US-China space relations have been primarily competitive or antagonistic (mentioned earlier in part 1) come across only as somewhat pessimistic rather than truly fatalistic. Ashley Tellis provided perhaps the most fatalistic assessment of the trajectory of the bilateral space relationship when he argued in 2007 that 'the United States has no choice but to run and win this offense/defense space race' [12]. While not as fatalistic as Tellis, when Johnson-Freese, Roger Handberg and Zhen Li, and Baohui Zhang use the concept of a security dilemma, they also imply that the relationship is structured in such a way that it is likely to lead to 'spiral' dynamics [13–15]. That is, even while both sides may have defensive motivations, 'hedging' strategies and misperception put the 2 states in a dangerous situation that is difficult to ameliorate. Arguments

that, to some degree, predict an inevitable decline in US-China space relations have so far not provided an account of how a similar situation in the 1950s and 1960s did not result in conflict.

By turning to the archival record, the contingency of US-China tensions in outer space becomes visible. Yet the contingent nature of the fortunes of the relationship cannot be emphasised enough. It is not that the historical record shows that fatalistic thinking on the US-China space relationship is baseless, but rather that the empirical record shows that tensions are not inevitable, giving some sense of what conditions facilitated a degree of mutual trust in the past. The trilateral Cold War dynamics which provided so much of the context of US-China space cooperation are now firmly a thing of the past. Equally, the argument can be made that American fears of a rising China today are less intense than in the mid-1960s. Whether one is hopeful or fearful for the future of the most important bilateral relationship in outer space today, the historical record can be instructive.

2. 1958 and the birth of the first 'Chinese space threat'

The archival record shows that American officials considered the Chinese space programme as a national security threat almost from its outset. The People's Republic at that time was generally positioned as a threat to the United States. What is notable is that China's nascent space program was ever singled out as a policy issue for discussion in its own right. Understanding the pre-1972 (threatening) significance of the Chinese space program for American observers is, therefore, an essential component for analysing the context of post-1972 cooperation.

2.1. American fears of a Chinese satellite in 1958

In 1958, the secret White House document, 'Report on a Proposed Cooperative Scientific Satellite Launching Project,' discussed the propaganda impact of a Chinese satellite launch and planned responses to a potential success [16]. The members of the group that produced the report—the Operations Coordinating Board (OCB)—were including Under Secretary of State (also chairman of the board), Deputy Secretary of Defense, Director of the Foreign Operations Administration, the Director of Central Intelligence and a 'representative of the President' [17]. Executive Order 10483 created the board and charged it, most importantly, with 'initiat [ing] new proposals for action within the framework of national security policies in response to opportunity and changes in the situation' [17]. It seems that the OCB discussed the threat posed by Chinese space technology under this remit. A further important aspect that contextualises the 1958 report is the state of the anti-technology transfer mechanisms of the Coordinating Committee for Multilateral Export Controls (COCOM), to which China has been subject to the most severe controls until 1957 [18,19]. Communist procurement of a variety of high technologies was, therefore, already an 'obvious' security concern, with China being an especially sensitive case. That the nascent *space* technological aspect was specifically being considered in its own right is notable in and of itself.

The central concern of the 1958 report is the damaging impact a Chinese satellite could have on US national interests. It thereby presents Chinese space technology as an instrument intended for advancing Communism in Asia. The report states that

the launching by Communist China of an earth satellite, which could only result from USSR assistance, would tend to enhance the prestige of the Chinese Communist regime throughout Asia ... and could further undermine the reputation of the west for technological leadership [20].

Earlier that year, the United States had launched their first satellite, *Explorer 1*, several months after *Sputnik*. The report proposes countering the potential prestige China would gain through launching a satellite by ensuring it was ‘matched by a Free World ally’ [20]. This implies an assumption of rough equivalence in matters of prestige, framing China as a less-than equal ally of the USSR. The report considers Japan as a possible candidate to be placed ‘ahead of, or at least equal to, Red China as the scientific leader of the Afro-Asian world’ [21]. Owing to this contingency plan, the report suggests that

for obvious reasons should we assist another country in launching a scientific satellite, care should be taken that no official U.S. spokesman deprecate Soviet assistance in launching of a satellite, for example, to Communist China [22].

The threat of a Chinese satellite is, therefore, cast solely in terms of a threat to American prestige as part of a wider Cold War struggle between the Communist Bloc and the ‘Free World’. In doing so, the first formulation of a ‘Chinese space threat’ by American onlookers appears to have completely excluded the nuclear potential of the program or any domestic rationale that the Chinese government may have had in pursuing a space program.

The parallels between American representations of the nascent Chinese space program and the USSR’s *Sputnik* are readily apparent. The most important parallel is the similarity of the fearful tone of the 1958 report on the threat of a potential Chinese satellite, compared with elite anxiety about the public perception of *Sputnik* and its ramifications for the technological standing of the US. Saki Dockrill argues that the ‘shock of *Sputnik*’ had more traction with the American people than with the Eisenhower administration [23]. In this light, the post-*Sputnik* atmosphere does go some way to explaining the alarmism of the 1958 White House plan and the overwhelming focus on damage to prestige over any other potential concerns. Yet, it would seem that a sharper framing would see the 1958–1959 concern about a Chinese satellite more specifically as an elite concern about public reactions than a deep-seated fear they held themselves. Adding weight to this characterisation, the archival evidence shows that the prestige threat of a Chinese satellite seems to have disappeared from US policy discussions relatively quickly as the public ‘shock’ of *Sputnik* receded. Modern scholars mostly agree that prestige was central to the Chinese satellite program [10,24–27]. Yet during the 1960s, available documents do not show much American concern about the prestige of a Chinese satellite. After all, the Central Intelligence Agency’s (CIA) ‘Special Report’ on ‘The Race for Third in Space’ implies some prestige benefits for the next spacefaring nation, predicting that ‘a successful satellite launch by any of these countries ... would undoubtedly be exploited to show that country was approaching the scientific abilities of the US and the USSR’ [28]. Yet, the section analysing China’s prospects are not alarmist in tone [29]. The report merely suggests ‘Shuang-Cheng-Tzu’ as the ‘probable launch site for earth satellite’ [30]. How and why had the Chinese satellite threat to American prestige receded?

2.2. Chinese space technology portrayed as nuclear technology

By 1966, American observers had reframed Chinese space technology as solely significant for its nuclear ambitions, reflecting a wider trend on American policymaking toward China. In 1964, China had successfully tested its first atomic bomb and was well on the way to demonstrating a thermonuclear capability (eventually demonstrated in 1967) [31]. Now that China was a nuclear power, the ‘space threat’ to the prestige of the ‘Free World’ articulated in the 1950s fell by the wayside. The CIA’s 1966 general ‘Intelligence

Handbook’ on ‘Communist China’ does not include China’s space program in the military section, instead considering it as a spin-off from China’s medium-range ballistic missile (MRBM) programme [32]. In 1967, the CIA predicted that China might launch a satellite that year ‘for political effect’ but there is no evidence that this ‘political effect’ posed much of a threat in the CIA’s analysis [33]. With the successful Moon landings of Apollo 11 and Apollo 12 in 1969, the United States had cemented its position as the preeminent spacefaring nation and arguably won the ‘Space Race’ (such as it was). American fortunes in space were vastly different in 1957/1958. China’s space technology would be recontextualised as a supporting and subsidiary element of the new Chinese nuclear threat.

By 1970, the ‘Chinese nuclear threat’ had achieved primacy over the first articulation of a ‘Chinese space threat’. When China finally successfully launched its first satellite, Dongfanghong-1 (DFH-1), on 24th April 1970 (some 12 years after the first American fears), the response in the United States was muted and (most importantly) couched in terms of a ‘Chinese nuclear threat’. The White House did not release a statement on the launch, and the next Presidential Press Conference on 8th May did not cover DFH-1 [34]. Subcommittees in the House and the Senate, however, both heard evidence on the launch. On the House Subcommittee on Department of Defense, Congressman Mahon asked Dr John Foster (the DoD’s Director of Defense Research and Engineering) to begin his testimony by commenting on China’s first satellite [35]. Foster [36] told the subcommittee that ‘it really did indicate rather strongly ... the Chinese commitment to a large space program’. He added that he thought that the Chinese had realised ‘the enormous political impact that such a launch has around the world’ and that ‘the Chinese statement made it rather clear that they associate this space effort with their future needs from a military point of view’. Crucially, however, the context of the testimony was firmly in nuclear matters: the discussion then immediately proceeded to discuss the ‘Chinese ICBM threat’ with no concerns raised by the Congressmen on the significance of DFH-1 in its own right [36]. Similarly, a Senate subcommittee on the ‘Internal Security Act’ had met before the launch of DFH-1 and heard evidence on China’s missile program along with the threat posed by Sino-Soviet tensions [37]. The witness, Dr Stefan Possony, an academic at the University of Pennsylvania, submitted additional material to update his evidence in May [38]. His analysis of DFH-1 focused on the implications for China’s capabilities to deliver nuclear weapons and included a denigration of the accuracy of their missile, using the orbital trajectory as evidence [39].

It seems that the somewhat McCarthyite rhetoric in Congress was not present in classified circles. Perhaps, the best evidence for a relaxed attitude at the CIA on the national security ramifications of China’s space program in 1971 is displayed in a memo for Henry Kissinger from Director Richard Helms. Helms suggests ‘encouraging them [China] to acquire and rely on a [satellite] reconnaissance program of their own’ including ‘making it easy for the Chinese to get necessary information and equipment for a useful, but not very high quality, capability’ [40]. This foreshadowed eventual US-China space cooperation, which transferred some Earth observation capacity to the Chinese government. However, the dramatic shift in official US rhetoric toward China after the Shanghai Communique was yet to take place, and therefore, in the meantime, public American discourse and much of the classified debates maintained that China’s space program was a threat because of its supporting role in Chinese nuclear ambitions.

President Nixon and his administration may have been quietly planning a major shift in policy, but publicly the representation of a twin ‘Chinese nuclear/space threat’ continued. Under President Johnson, Secretary of Defense McNamara had used the ‘China

Bomb' to justify American spending on antiballistic missile (ABM) technology [41]. Nixon's secretary of Defense, Melvin Laird [42], continued along the same lines, telling Congressmen that 'the Chinese Communists have not yet launched their ICBM (or space shot)'. He used DFH-1 as further evidence, this time for the Senate in 1970, of the 'potential capability of Communist China's ICBM technology' [43,44]. During this time period, Nixon and Kissinger were already engaged in fairly successful (informal) diplomacy with officials from the People's Republic of China (PRC) [45], yet as late as 1972, Laird [46] was still using the Chinese space program as evidence of a 'Chinese nuclear threat'. This disjuncture between public and classified discourse requires further analysis if we are to understand how the Nixon administration managed this rather dramatic discursive move to marginalise the 'China threat', including both the space and nuclear dimensions—virtually at their azimuth at the time—so comprehensively that only a few years later, all government agencies would concur that space cooperation with China was in the national interest.

3. The end of the first 'Chinese space threat' and cooperation as 'normal'

3.1. Nixon's efforts

President Nixon's early efforts to engage China in diplomacy were initially conducted in a very clandestine manner [47,48]. It was primarily not, therefore, a matter of public discourse, although Nixon had made some public comments which hinted at his interest in this area [49]. Nevertheless, with access to some of the documents in the archives, it is possible to some extent to reconstruct the discursive conditions within classified circles under which Nixon and his chosen advisors, notably Kissinger, had to operate. In the preceding section, we have seen that through the 1960s and into the 1970s, much of the discourse in classified circles advocated some variant of a Chinese threat. Yet, comments at the very highest levels of leadership, such as those by DCI Helms and McNamara quoted above, show that in less formal settings the civilian leadership was fairly agnostic about a Chinese threat—nuclear, space, or otherwise.

According to William Burr [48], whose analysis is based on declassified documents, Nixon himself had been interested in establishing relations with China even before his presidency began in early 1969. To that end, Nixon seems to have used the power of the presidency to direct the organs of state to produce new knowledge about China which supported his policy aims. This took the concrete form of a National Security Study to assess the state of US-China relations and to produce 'Alternative U.S. approaches on China and their costs and risks' [50]. After the events of 1971 and 1972, the discourse in classified documents slowly became less strident in its insistence on the existence of a 'Chinese threat', beginning to present China and its leaders as rational actors wary of Soviet power. A report for internal Department of State use, for example, is remarkably blunt when contradicting the old 'China threat' discourse: 'Peking does not have the military power to seize Taiwan' and 'they presumably would like us to be against ... the expansion of Soviet power' [51]. Nixon [52] could tell other senior policymakers (and the Taiwanese government) that there would be 'a more normal relationship with ... the Chinese mainland. Because our interests require it. Not because we love them, but because they're there. The once powerful pro-Kuomintang lobby did not, and perhaps could not, respond to Nixon's secretive and fast-moving strategy [53,54]. Under these discursive conditions it became possible, almost necessary, to redefine the prevailing meaning and significance of Chinese space technology in American foreign policy.

The Nixon administration began the work of recontextualising Chinese space technology by producing the necessary wider discursive conditions and favourably entertaining some space technology transfer. However, events in American domestic politics—namely the Watergate scandal—gave Presidents Nixon and Ford little room to manoeuvre when it came to China policy. John Lewis Gaddis [55] quotes Kissinger in 1975 as saying 'Our domestic drama ... first paralyzed us, then overwhelmed us.' The Shanghai Communiqué contained no timetable for the normalisation of relations [56]. It would fall instead to the newly elected President Carter to continue the process. Inside the Carter administration, normalisation of Sino-US relations was portrayed as the culmination of Nixon and Ford's efforts to engage China [57]. High level, 'exploratory talks' between Secretary Vance and the 'new Chinese leadership' began in 1977 [58]. According to a memo from Frank Press, the President's Science and Technology adviser, it was Carter's idea to send a delegation of 'science and technology officials' to China [59]. Kissinger had already facilitated the technology transfer of computer chips and jet engines to China—with the latter flaunting the export rules of the COCOM—meaning that there was precedent for the Carter administration's exchanges of space technology [60].

3.2. 'All agencies concur'—normalisation comes to Sino-US space relations

Space cooperation with China was a product of prior American foreign policy discourse but in turn also helped to reproduce a new American perception of the interaction of Chinese and American space technologies. This was both in terms of American representations of its own space technology but crucially of China's space program too. While it was only one area of a wide variety of bilateral deals, in a sense the lack of controversy on the issue demonstrates the relatively nonthreatening status of China's space and missile technology at that stage. The threat posed by technology transfer to China did not dominate the discussion or prevent space cooperation (as it would in the 2000s and 2010s). As indicated previously, this article argues that existing arguments to the effect that 'the United States has been markedly negative in its attitudes toward the Chinese space programme compared to other key actors,' as Sheehan [61] argues, or that competition has primarily characterised the relationship to date, as Johnson-Freese [62] argues, should be revised in light of evidence in the archives examined in this section.

The archival documents clearly demonstrate that the Carter administration sought to recast both American and Chinese space technology as a noncontroversial, literally 'normal' aspect of a bilateral relationship. On May 21 1978, Benjamin Huberman (a staffer on the National Security Council (NSC) and Assistant Director of the Office of Science and Technology Policy (OSTP)) along with a representative from the State Department and the US Liaison Office met with 3 Chinese officials. Huberman began by setting out the Frank Press' proposed science and technology exchange and 'explain[ed] briefly our thinking on the mutual benefit of this proposed visit' [63]. He drew on the Shanghai Communiqué to frame the proposal, stating that 'our relationships in science and technology have been growing in a mutually beneficial manner consistent with the Shanghai Communiqué' [64]. He stated that

we believe such cooperation would be a logical next step in our expanding science and technology relationships. ... wide-ranging cooperation ... is as inevitable as it is highly desirable [65].

The first specific field he named was the LANDSAT deal and 'cooperation in remote sensing,' followed immediately by

'cooperation in the field of satellites; for example, by having the United States provide reimbursable launch services ... or room on U.S. satellites for Chinese scientific experiments' [66]. Export controls were also mentioned, with Huberman saying that 'we will attempt to have this [remote-sensing equipment] export approved by exemption from the [COCOM] regulations' [67]. The Soviet Union was mentioned in direct relation to this, saying that this 'would give us more flexibility in dealing with export cases to China without and, at the same time, undermining the export controls to the Soviet Union which both you and we want to maintain' [68]. Despite this fairly wide-ranging set of proposals, it should be noted that overall, space is not mentioned nearly as much as general scientific and technological cooperation. Chiang received Huberman's offers favourably, and the talks continued [69].

Carter approved Frank Press' plan around June 26, 1978 (before the formal recognition of the PRC), writing back 'I do not want you to go as Santa Claus. Be sure exchanges are equitable & mutually beneficial'—the plan did not mention any threats posed by China nor the risks of technology transfer [59]. Brzezinski was briefed by Michel Oksenberg (a member of the NSC) before his meeting on June 27, 1978 with 'the Frank Press delegation' to 'place the trip in its appropriate foreign policy context' [70]. Oksenberg reminded Brzezinski that

our relations with China consists of 3 dimensions: (1) the global, strategic; (2) the diplomatic ... and (3) the bilateral, commercial, cultural, scientific and technological. We are committed to advancing our relations with China in all 3 dimensions ... we approach China with a long-term appreciation of its historic and strategic importance. We desire to expand our consultative relationship ... so that our separate actions might be mutually reinforcing [71].

Oksenberg broke the bilateral points into 2. The first was that 'we note China's current drive for modernity—a development we welcome, for a strong and secure China is in our interest. We seek a China which confidently pursues an independent policy in world affairs' [72]. The second dealt with the areas in which cooperation could take place, which included space. He wrote that 'the S&T relationship we seek with China must be mutually beneficial and reciprocal. There are areas where we can gain from China ... and we expect the Chinese to be as forthcoming as we are' [72].

China's significance had clearly changed from even a few years before—the threat posed by China was a distant element of internal policy discourse during this decision. Instead, China was consistently represented as an opportunity for the United States by the Carter administration. By extension, this tacitly recast American space technology as an instrument for cooperating with China—a sharp departure in comparison to its use to catalogue prospective targets for American weapons. While the immediate inner circle of the Carter administration was clearly advancing a single coherent discourse on space cooperation with China, the wider foreign policy elite had not always been as flexible on the question of the 'Chinese space threat'. The Carter administration, therefore, had a significant task in advancing the new understanding of space technology to the rest of the federal government.

Securing a consensus on China's role in US foreign policy, and specifically in S&T policy, was considered by the Carter administration to be essential for enacting a policy of cooperation. This required reframing American space technology as something to be shared rather than withheld and reframing Chinese space technology as supporting, rather than harming, American national security. By October 13, 1978, the first explicit sign that this was being achieved had arrived. Frank Press informed the President that 'all the agencies concur in this action plan' [73]. The interagency

meeting is also referred to in an NSC memo to Brzezinski, informing him that 'Frank Press chaired a PRC subcommittee meeting on science and technology exchanges' and included 'State, DOD, CIA, OMB, NSF, HEW, DOI, DOE, DOA, DOC, JCS, NASA, ICA, OSTP, and the NSC' [74]. As has already been indicated, some of the most important members of these organisations had been arguing that China posed a threat for some time. President Carter and his closest advisors had somehow brought about a consensus that nearly entirely overturned the pre-1972 official American understanding of Chinese space technology. Summing up the process for the President, Zbigniew Brzezinski [73] stated that Press had 'managed to secure total consensus among all agencies concerning the road immediately ahead ... hence, no interagency disputes require your attention.' The immediate policy context of the proposed space cooperation underlines this point. Space was only one of a number of policy areas discussed at the same time, including 'students,' 'energy,' 'agriculture,' and 'health' [73]. The controversy over space technology had died down to the point where it could be considered a 'normal' area of US-China interaction.

The LANDSAT transfers are the most valuable examples for understanding how far-reaching and durable the change in US policy was. Specifically, it demonstrates that the policy shift was not 'just talk', but rather led to practical and technical outcomes. LANDSAT was, by both the logics of the time and the 21st century, a clear 'dual-use' technology because it could not only aid agricultural production but could also provide a basic military mapping and reconnaissance capability. Indeed, the CIA [75] had already warned that China was 'attempting to exploit' its 'reconnaissance potential' under its earlier moniker, the Earth Resources Technology Satellite. The report suggested that the data were ultimately 'useful to missile targeting' and also large-scale maps of the Sino-Soviet border [76]. These earlier concerns were once again overcome in the pursuit of the normalisation negotiations. On October 30, 1979, Brzezinski sent a memo to NASA's administrator (copying in the Secretaries of State and Defense, and the Director of the CIA), reiterating that no security risks were to be taken and for dissenting views to be raised if any were to arise [77]. There is no evidence in the archival record, however, that any dissent was raised at a senior level. Any concerns which existed were overcome, and the LANDSAT deal went ahead.

The United States and China cooperated extensively on the LANDSAT Earth observation program, and it was formally agreed that 2 LANDSAT ground stations would eventually be built in China [78–80]. American space technology had ultimately been physically modified to reflect the new political reality between the United States and China. The inclusion of a Chinese site into the American ground station network was unprecedented and deeply significant within the context of Cold War history. As Ruth Oldenziel [81] argues that the geography of American satellite ground stations reflected the Communist/Free world divide. By this logic, in this one area, China had been moved from the former to the latter category—unthinkable only a decade before.

LANDSAT cooperation was also not a partisan issue, with the Reagan administration continuing the Carter-era S&T exchanges. Before the *Challenger* disaster in 1986, US-China space cooperation remained dialogical, although also technocratic (with little to no public profile). Within the administration, the justification for cooperation became more focused on the Soviet Union—at first privately, and later publicly. In 1980, a draft memo was produced for the Secretary of Defense for his trip to China—the author is unknown [82]. The memo states that the secretary should 'indicate that we are undertaking to differentiate in COCOM between' technology transfer policy for the United States and China and 'that LANDSAT D is an example. However, any public linkage of the LANDSAT D decision to Soviet aggression against Afghanistan

should be avoided' [83]. Importantly, the US-China space relationship remained dialogical in the 1980s. The science and technology relationship was supplemented with additional conferences and fora for discussion, although without further technology transfers [84–86]. A State Department cable from Washington to Beijing in 1986 indicated a 'concern' that US-China meetings on matters of technology transfer should not be discussed with the press, underlining the point that US-China cooperation in these matters was (intentionally) a technocratic pursuit [87]. Talking points provided by the Department of Defense to the State Department on the topic of hosted payloads likewise expressed a mixture of hope and caution, stating that 'We are impressed by the flexibility [of] China' but also that 'the USG ... has national security concerns' [88]. A more symbolic and public gesture was President Reagan's suggestion in 1984 to fly a Chinese citizen on the Space Shuttle [89]. The *Challenger* incident likely side-lined this as a possibility [90] and provoked a public debate on US space policy, a part of which involved Sino-US space relations. As this debate progressed, the status of China in relation to US space policy gained more of a public profile than had existed since the 1950s.

This final point makes for a useful dividing line in the history of US-China space relations. Before the late 1980s and 1990s, the space relationship had almost no public political profile, ensuring that American policymaking toward China on matters of space policy was solely the preserve of the foreign policy elite, specifically those in the executive branch and bureaucracy. Through the 1990s and into the 2000s, this was increasingly no longer the case. Consequently, this makes for a convenient point at which to end the historical analysis of this article, before narratives of a 'Chinese space threat' returned to American politics. Some degree of cooperation continued into the mid-1990s, with a few American payloads launched on Chinese rockets and a 'New Commercial Space Launch Agreement' in 1995, but cooperation seems to have totally petered out by the year 2000 [91,92].

4. Conclusion

Consulting American archival materials casts US space policy toward China in the 20th century in a light much different to its portrayal in contemporary policy and academic debates. The US not only cooperated in space policy from 1978 until the 1990s, including the American transfer of technology to China, but crucially this cooperation came *after* over a decade of American perceptions of the Chinese space program as a threat. Consequently, characterising the US-China space relationship as inevitably and uniformly competitive or antagonistic is a misrepresentation of the historical record. American space policy toward China in the 1970s onwards reflected some of the same agility that other areas of American policy exhibited, rapidly shifting from threat perception to the possibility of partnership. How 'deep' this cooperation was developed would be a matter for a future analysis of post-1978 cooperation, rather than tracking the rise and fall of the first American threat perceptions of China's space program undertaken in this article. Even at this early stage of archival analysis, however, it is still possible to make the important point that threat perceptions were overcome to the extent that cooperation was not just thinkable, but that technology was indeed transferred, and a dialogue maintained for around 2 decades.

Correcting the omissions in existing historical analytical claims is directly relevant to debates on US space policy toward China in the 21st century. The drastic shift in the American position on China's space program should serve as a reminder that nothing in space policy—or politics at large—is truly predetermined or inevitable. In 1958, senior American officials feared a Chinese-repeat of the *Sputnik* shock, and the perceived damage to American prestige that went with it. Arguably, American anxiety about Chinese space

technology only intensified through the 1960s, as it became totally synonymous with the growing, perceived Chinese nuclear threat. Despite this less than amicable beginning, however, the changing wider political context of the Cold War created an opening for US-China cooperation—and space policy played a role in that process. The pattern of cooperation, although somewhat fragile, still survived the end of the Cold War to some extent.

Studying the archival record does not only give reasons for hope for the future—it also gives cause for concern. The durability of US-China space cooperation was predicated on a Cold War context. The Carter and Reagan administrations pursued cooperation with China in space as part of the broader pre-existing attempts to ultimately pressure the Soviet Union. Cooperation in space was, therefore, not simply approved by American elites as a good in itself, even if some of the people involved saw it that way. Without the structural context of the Cold War, this kind of justification for cooperation is clearly unworkable. While contemporary US-China relations are not as strained as in 1972, advocates of US-China space cooperation in the 21st century still seem to have an enormous task ahead of them to side-line the current perception of a 'Chinese space threat'.

With the historical context provided by the archive, contemporary tensions between the United States and China in outer space should not be seen as new, but equally they should not be seen as the norm. Rather, as analysts of space policy, we should be aware of how quickly affairs can change—and how unexpectedly.

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Appendix A. Supplementary data

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