

The birth of the Soviet space museums: creating the earthbound experience of space flight during the golden years of the Soviet space programme, 1957–68

Introduction

Very few people have experienced space flight, or ever will. Out of a world population of more than 6 billion, fewer than 500 people have flown in space. The vast majority of humanity can only imagine the experience of space flight by viewing public displays of artefacts and models of hardware. Aviation and space museums in the United States and those in the former Soviet Union have presented this experience in strikingly different ways, despite the apparent parallels between the space programmes of the two Cold War competitors.

In the early 1960s, the United States quickly embraced the idea of publicly displaying its space achievements throughout the country. From its inception, the National Aeronautics and Space Administration (NASA), the civilian face of the US space effort, embarked on a campaign to publicise and support such exhibitions. Within a few years, the century-old Smithsonian Institution, through its National Air Museum, situated on the National Mall in Washington DC, would become the premier site for US space displays through an exclusive artefact transfer agreement with NASA. Other American museums, particularly those specialising in the history of technology and transportation, also began to mount space-themed displays.

In the Soviet Union, there was a much more complex and timid evolution of the presentation of space flight. In the Soviet case, two parallel exhibition strategies appeared during the 1960s – public displays in museums throughout the Soviet Union and in state-sponsored exhibitions sent to foreign venues, and private, corporate displays intended only for the benefit of those in the space community. The effect of this approach was to separate the collection and preservation of real, flown objects from the activities of public display and education. Corporate and official entities retained tight control over the artefacts of space flight and jealously guarded their in-house displays to prevent public access. Given their limited, but educated, audiences, such displays typically did not include interpretative labels

– in contrast with standard museum practice in the US. Displays at spacecraft, rocket and other aerospace manufacturers served as legacy exhibits, in institutions such as RSC Energia (the legacy facility of Sergei Korolev), JSC Zvezda (spacesuit manufacturer) and Khrunichev (engine and launch-vehicle manufacturer). Public displays in the USSR also eschewed interpretation, but for a different reason: to focus on space as a celebratory symbol. The end result was two distinct styles of display – progress-oriented, non-public museums (that still exist in Russia today) and public establishments that emphasise slick, packaged ‘edutainment’ and rely on models and projections of future space flight.

The themes and approaches of exhibits on the USSR space programme also followed distinct geographical tracks. Exhibitions in cities such as Moscow and travelling exhibitions intended for international audiences often were nearly identical in content, including identical objects and descriptive components. However, public museums located outside major urban centres often had their own distinct identities and included a wider range of materials. There was thus a greater diversity in content among the domestic public displays than between the state-sponsored travelling shows and large public exhibitions.

Early displays: exhibitions without artefacts

From their inception, public space museums in the USSR mounted displays that echoed the popular press celebrations of Soviet mastery of rocket technology. The exhibits were not intended to explain the technology or institutional context of space flight, but to celebrate national accomplishments in the mastery of technology. The first space exhibition in the Soviet Union on record was a small commemorative display featuring stamps and buttons (*znachki*) that opened at the Moscow Planetarium in the years that followed the launch of Sputnik in October 1957. The exhibition included the space-related stamps, postcards, *znachki* and commemorative coins that had been issued before the February 1961 opening. The coins and stamps featured highly-stylised representations of the spacecraft that executed the much-celebrated space firsts of the Soviet Union. None revealed technically-accurate details of the space hardware, nor were they meant to do so. Instead, the Moscow Planetarium director, V K Litski, conceived the exhibition as an encouragement for established collectors, most likely adults, to expand their traditional philately and numismatic collections to include space subject matter.¹ Stamp and coin collecting was considered a pursuit of the intelligentsia in the USSR, not a child’s hobby.

The objects selected for this first exhibition were remarkable in a crucial respect – none represented authentic hardware from the space programme. All were objects that first the Russian and later the Soviet state had traditionally presented to individuals or groups to reward

accomplishment or to popularise a state-sponsored activity. Stamps, for example, had a long history of promotional use within first Russia and then the Soviet Union. Under Tsarist rule, stamps were issued as a substitute for travel abroad, which was expensive and suspected to facilitate the spread of liberal ideas. Under Bolshevik rule, stamps were designed and circulated to encourage interest in and support for state projects such as Soviet Arctic exploration and the development of nuclear energy. Pins or *znachki*, too, represented a long and established Russian tradition whose origins can be traced back to ancient Rome. During the Soviet period, the symbolism attached to *znachki* shifted from rewarding accomplishment to acting as souvenirs of national celebrations. Finally, the commemorative coins minted at the *montenyi dvor*' (mint) offered the opportunity to create a new class of symbolic objects related to the nascent space programme. At first, these coins occupied the *znachki*'s former role and were awarded ceremoniously at the conclusion of projects. During the space programme, production of the coins proliferated; they began appearing as diplomatic gifts and were struck as often to honour anniversaries of past events as to note recently completed projects. Eventually, the coins joined the ranks of collectables.

During the decade after the 1961 Moscow Planetarium show, hundreds of space-themed public and private museums, large and small, sprouted up across the Soviet Union, including those that could make any claim to fame related to space flight. The development of these exhibitions provides an interesting perspective on the space programme and its role in post-Stalinist Soviet society and culture. The museums were housed in buildings ranging from nineteenth-century houses to well-known Stalinist monuments; they varied in size and scope from table-top classroom exhibits, through single-room shrines dedicated to the lives of individuals, to the heroic-scale celebrations of hardware. As the size and scope of the exhibitions varied, so too did the audiences. In some cases, the exhibitions invited the public to glimpse a vision of the promised post-Second World War Soviet abundance and technological prowess. In other cases, semi-private exhibitions sought to affirm the work and potential rewards of life within the closed worlds of post-Second World War technology centres, or modern-day *sharagas* (scientific and technical prison camps), which continue to serve as legacy centres today.

The 1961 Planetarium show was obviously an expedient way to mount an exhibition and also fulfilled that institution's mandate to promote scientific awareness. Planetariums throughout the Soviet Union had served to lure the religious and superstitious from churches to new temples of scientific worship. However, since they had been built around a projection dome and designed with limited exhibition space, they could not accommodate large-scale Soviet technology. Plans for a full-size space museum on the scale of what was to become

the Smithsonian Institution's National Air and Space Museum began very early in the Soviet Union, pre-dating NASA's earliest exhibitions and NASA's relations with the Smithsonian. Yuri Gagarin laid the cornerstone for a large space museum on 13 June 1961 in the city of Kaluga, home of Konstantin Tsiolkovski, the intellectual founder of Soviet space flight, in whose honour the museum would be named. Sergei Korolev, the chief designer of the space programme in the mid-1960s, also played a driving role in establishing the museum in the rocket pioneer's adopted home town. Plans for the museum were subject to architectural competitions. The team of Boris S Barkhin, Evgeniy I Kireev, Nataliya G Orlova, Valentin A Stroy and Kirill D Fomin won the honour of designing a building that went on to win the State Prize. Korolev did not live to see the building open, however; it took more than six years to complete and formally opened on 3 October 1967, nearly two years after Korolev's death and close to six months before Gagarin's.

Evolution of a space exhibition icon: the Kosmos Pavilion

During the 1960s, as work on the geographically-remote Tsiolkovski museum proceeded, the Exhibition for Economic Achievements (*Vystavka dostizheni narodnogo khoziaistva*, VDNKh) in Moscow was the national centre for exhibitions on Soviet space achievements. It established the tone and scope of state-sponsored space exhibitions. When the Soviet Union began a parallel and equally active programme of international exhibitions, they resembled those at VDNKh.

The Exhibition of Economic Achievements in Moscow has long been held as a barometer of official pride in Soviet agricultural, scientific and technical accomplishments. The exhibition first opened in 1939 as the All-Union Agricultural Exposition, a celebration of the fruits of Stalinist collectivisation. The purpose of the 1939 exhibition was to demonstrate that there was no famine in the country, only abundance resulting from collectivisation and mechanisation of agriculture. The park has been characterised as an effective forum in presenting state propaganda to the entire Soviet population in the early Stalinist period.² It conveyed the message that the abundance represented in the displays was more real than the scarcity experienced in daily life. The themes and architecture of the park date from that early, high-Stalinist period. A prominent feature was and is Vera Mukhina's sculpture *Rabochi i kolkhoznitsa* (worker and woman collective farmer) – a representation of the *smychka*, or union between the emergent industrial populations of the USSR and the dominant agrarian tradition. The original exhibitions highlighted the dominant role of agrarian life in the Soviet Union. They featured produce, apple groves and garden plots in their scientific displays and included exhibits on folk art and culture from all over the vast country. The celebrations of folk culture and agricultural accomplishments gave way

to demonstrations of Soviet industrial accomplishments only after the post-Second World War reconstruction of the exhibition halls.³

The Mechanisation of Agriculture Pavilion at the exhibition had a long history. The architect, Viacheslav Oltarzhevski, originally designed the structure with four wings extending from the central axis of the exhibition. A statue of Stalin stood at the centre. Construction of the original design was never completed – perhaps because of accusations that the construction was shoddy and the design resembled a swastika when viewed from above.⁴ The final version of the pavilion was built as a large domed structure with only two small wings branching off a grand hallway. This high-Stalinist monument did not officially become the Space Pavilion (or, as it is more affectionately known, the Kosmos Pavilion – the name more commonly used in the US) until 1966. However, displays of space flight first appeared in that building in 1958, edging out the tractors and combines. In that year models of the first three Soviet spacecraft – Sputnik, Sputnik 2 and Sputnik 3 – moved from the main entrance hall of VDNKh into a 100-square-foot exhibition area a year after the original spacecraft accomplished their historic flights.⁵ The models of Sputnik (the first man-made satellite), Sputnik 2 (the spacecraft that carried the dog Laika into space) and the heavily-instrumented Sputnik 3 attracted a steady stream of visitors – even though they lacked detailed explanatory exhibitry and were not authentic hardware.⁶ The models were the first three-dimensional representations of the real objects available to the public and supplemented the earlier announcements and celebrations in the Soviet press. Muscovites (and Western journalists) were hungry to see the material evidence of the USSR's accomplishments in space.

Space exhibits at VDNKh grew slowly in the first few years of the 1960s, mirroring the slowness with which the Soviet Union revealed its space secrets. A model of Vostok, the spacecraft that carried Yuri Gagarin into space, had its first public display on 29 April 1965, within the Mechanisation of Agriculture Pavilion, alongside the three Sputniks.⁷ The model's unveiling was given as the main reason for the transfer of the previous space displays to the pavilion building.⁸ As had been the case with previous displays, the purpose of the exhibit was not to conduct a technical discourse on the engineering of the spacecraft, but to draw visitors to pass by the object and worship the accomplishments of Soviet science and technology. In this way, the display differed from other demonstrations of technological prowess at the exhibition, which was notorious for its vast moving and lit scale models of combines and hydroelectric dams. The 1965 VDNKh Vostok model served its purpose well by not revealing too many technical details but still attracting visitors.

The case of the Vostok display and its use are particularly interesting to a museum curator. Instead of revealing information about the history and technology of a historic accomplishment, the display of

the Vostok model represented a deliberate effort to conceal the actual details of the human space-flight programme in the Soviet Union. The display at the pavilion and subsequent ones carefully camouflaged elements of Vostok's design legacy and its technical characteristics. The *New York Times* reporter who first wrote about the Vostok model interviewed Konstantin Feoktistov, the chief spacecraft designer, and received only the most cursory description of the spacecraft from that knowledgeable engineer and cosmonaut. At the time of his interview with the *New York Times*, Feoktistov was better known as the flight engineer of the first Voskhod spacecraft that carried three men into orbit on the first multi-man mission in October 1964. It is possible that the reporter did not know about Feoktistov's role as designer, in which case he would not have had reason to ask him pointed questions about the design of early Soviet spacecraft. In his recent memoirs, Feoktistov acknowledges that his flight on board the Voskhod was in fact a reward for redesigning the Vostok interior to accommodate three men.⁹ Given his intimate knowledge of the spacecraft, Feoktistov was remarkably guarded in his interview about Vostok and the model on display. The engineer limited his remarks to technical specifications, such as the gross weight and external dimensions, and made no attempt to describe the workings of the spacecraft. This meagre information was not enough for serious comparisons to be made with the flown Mercury capsules that already had been on display throughout the United States and the world.¹⁰

Another model of the Vostok soon appeared at the 26th Salon International de L'Aéronautique et de L'Espace at Le Bourget Airport during the Paris Air Show in June 1965.¹¹ At that time, the Soviet portrayal of the craft was even more deliberately dishonest about its technical details. Yuri Gagarin accompanied the exhibition prop to the Paris Air Show and asserted that the Vostok and Voskhod craft were 'of entirely different design', a lie that the Soviet space establishment would perpetuate for another generation.¹² The Vostok at the Paris Air Show served as a decoy, hinting to the world that great technical advances separated the displayed Vostok from the still shrouded Voskhod. Years later Soviet engineers conceded the designs of Vostok and Voskhod were identical, and Feoktistov admitted the high level of risks taken in refitting a one-man craft to carry three.

These first displays of quasi-realistic models of Vostok were revelations, albeit minor ones. Until 1965 the few published photographs of Vostok itself were of the protective conical shroud that covered the spacecraft through its launch and until its entry into orbit, revealing no more than the external dimensions of the craft. Before then, previously-released drawings deliberately included inaccuracies in the representations of the spacecraft and its function.¹³ This trail of misinformation served to hide not one, but many secrets about the first human space flights. The USSR was

engaged in a Cold War against the United States, and a culture of secrecy prevailed. Despite the fact the Americans were displaying flown Mercury spacecraft throughout the world, it surprised no-one that the Soviet Union adhered to secrecy at that time. The tradition of secrecy was compounded by the fact that the human and science space programmes were an ancillary part of the ballistic-missile programmes of the Soviet Union and not separate from the military – unlike NASA in the US. The USSR had no buffer agency to protect its even more dear military and strategic secrets than the design of spacecraft. Beyond the military culture of secrecy, the Soviet Union feared the technical comparison with the American Mercury and Gemini spacecraft. NASA had taken an active role in displaying and publicising their hardware. Given the quality of Soviet intelligence, there is little doubt that Soviet engineers and managers were well aware that their hardware was less technologically sophisticated than NASA's.

There was a significant technical secret that the Russians guarded very closely. It was one that threatened their role as a generator of space firsts. The Vostok, as designed and flown with a human inside, was incapable of decelerating sufficiently to land safely on the ground. Parachutes could not slow the spherical re-entry capsule from its critical velocity of 27,500 km/h to below a survivable speed of well under 100 km/h. Yuri Gagarin and all five subsequent Vostok cosmonauts had ejected from the spacecraft at an altitude of 20,000 feet and parachuted separately to Earth. Gagarin had not accomplished the first orbit of Earth to the precise specifications of the Fédération Aéronautique Internationale (FAI), which required him to land with his spacecraft.¹⁴ The shiny representation of the Vostok in orbit that was placed on display at VDNKh did not betray the secret of the craft's landing condition. The actual, flown spacecraft would have revealed to the world the used ejection hatch in the same way that the flown Mercury spacecraft revealed that the astronauts depended on recovery crews to disembark from their own spacecraft. Its near-shattered condition would have revealed the fatal velocity at impact.

Beginning in the summer of 1965, the exhibition contents in the Mechanisation of Agriculture Pavilion gradually shifted from combines to spacecraft. In 1966, the pavilion was officially renamed the Kosmos Pavilion (Figure 1), and became known as Moscow's permanent space exhibition.¹⁵ Direct administrative control of the pavilion was under the Soviet Academy of Sciences Council on Exhibitions, which had directed the content of the scientific, industrial agricultural and ethnographic displays at the VDNKh since its rededication in 1959. However, the greater part of the Kosmos Pavilion was not devoted to displays on Soviet accomplishments in human space flight. Only the rear, domed portion of the hall featured the activities of humans in space. The majority of the exhibits represented scientific activities

Figure 1 The Kosmos Pavilion, at the Exhibition for Economic Achievements, Moscow. The Vostok launch vehicle has replaced the statue of Stalin. (Editorial Press of the VDNKh, USSR)

in space flight through high-quality full-scale models of spacecraft, starting with the 1958 model of the Sputnik 3 satellite, thus reflecting the interests and expertise of the Academy of Sciences. The pavilion relied on guides to explain the displays to visitors, reputedly conducting 150 tours per day.¹⁶

When the pavilion was renamed, changes were also made outside the building. A Vostok rocket was placed in an area vacated when a statue of Stalin was removed in the early 1950s.¹⁷ This was a simple and direct indication that a new icon had replaced a powerful symbol of the past. Space was the new focal point of the state. As Stalin had presided over the mechanisation of agriculture, a proud product of

collectivisation and industrialisation, now anonymous rocket engineers and their product, the Vostok rocket, represented the Soviet mastery of Cold War-era technology. As though there could be any doubt of this interpretation, later that year, a 350-foot titanium-covered stylised rising rocket was erected just outside the entrance to the park to commemorate the 'Conquerors of Space'. The monument firmly tied public memory of explosives experts from the Revolution to the contemporary activities of the USSR's engineers and technicians. These engineers and technicians gathered every morning near the base of the monument outside VDNKh to wait for buses that would carry them to work at the space design bureaus. It was commonly known, even during the period of relative secrecy, that the well-made apartment blocks in the area of VDNKh and the botanical gardens had been built to house the growing aerospace community in Moscow. It was less well known before 1966 that the apartments had been built around Sergei Korolev's existing single family home, where he lived until his death.¹⁸ Almost 15 years later, in 1981, the Memorial Museum of Cosmonautics was built underneath the base of the 'Conquerors of Space' obelisk.

As these aerospace engineers went to work, they witnessed a very different set of museum displays, ones not open to the public crowds that the Kosmos Pavilion claimed to receive. These isolated private museums housed the remnants of the actual spacecraft and equipment that had flown or was designed to support human life in space. Each design bureau and enterprise jealously guarded its own collection of objects that represented the material legacy of its contribution to space flight. After much of the flown hardware was lost to destructive post-flight testing, what remained rarely left the factory of origin. It remained under the supervision of a single individual who would collect and arrange the exhibits for the edification of his own colleagues in the form of a legacy display. The purpose of the legacy display was both to reassure old-timers of their accomplishments and to educate newcomers about the heritage of their mission.

Existing in conjunction with the Kosmos Pavilion and the private museums was a world of small museums that sprouted up during this period, each fulfilling a specific demand from an audience or a patron. For example, the display that in 1967 became the Gagarin Spaceflight Training Centre Museum was initiated through the advocacy of Yuri Gagarin. He envisioned the museum as a repository for the gifts that cosmonauts received over the years from local and foreign admirers. The museum took on a decidedly personal tone when Gagarin died in 1968. At that time, the Commandant of the Cosmonaut Corps, Nikolai Kamanin, decreed that everything there associated with Gagarin be gathered to form a memorial museum. Kamanin oversaw the re-creation of Gagarin's office on the site of the museum in Star City.

World's fairs: a tale of two spacecraft

In November 1928 representatives from 31 countries met in Paris to sign the convention that established the International Exhibitions Bureau (BIE), the governing body for the World's International Exhibitions, also known as World's Fairs. The USSR was an original signatory, yet has not hosted a single fair. The United States waited until 1978 to sign the treaty, but had been chosen as the site for the last World's Fair held before the Second World War. The New York World's Fair of 1939, 'The World of Tomorrow', was officially labelled a 'general exhibition, category two', because of the United States' status as a non-signatory to the convention.

While the members of the Academy of Sciences' Council on Exhibitions and the space and science communities created separate styles of space exhibitions within the USSR, the academy formulated a unified version of space-flight exhibits for dissemination abroad. Between 1958 and 1967, there were three official general exhibitions of World's Fairs, one *ad hoc* bilateral exposition exchange and a single American unilateral 'World's Fair'.¹⁹ First was the USSR exhibition at the World's Fair in Brussels in 1958. That World's Fair led to a US and Soviet agreement to hold joint expositions in Moscow and New York the following year. Seattle in 1962 was the third venue at which space accomplishments were offered for direct comparisons. The fourth venue was the New York World's Fair in 1964. And the last exhibition with space themes was the 1967 World's Fair in Montreal. It was the only exhibition in which US and Soviet space achievements could be compared directly. The Soviet Union did not participate in all of these fairs, but space flight was the topic of the time and featured prominently at each fair, with or without models of Sputnik and Vostok.

The World's Fair in Brussels, which opened in April 1958,²⁰ was greeted with much anticipation. The fair's theme was Atomium, conveying the optimism of a renewed faith in science and technology, the rejuvenation of Europe after the Second World War and the hope that nuclear power would be used for peaceful purposes. This was in spite of the fact that the USA and USSR, former allies in the Second World War and the world's two nuclear powers, were actively involved in their Cold War rivalry. The Iron Curtain had already been established, and just months before the start of the Brussels World's Fair the competition between the two nations had entered the new arena of space. Each side claimed dominance in science and technology – an assertion that each side used to explain victory in the Second World War and geopolitical prowess in the Cold War years. The international public expected to see such claims reflected in each country's exhibitions. Comparisons and competitions were inevitable at the Brussels World's Fair.

The United States had just launched its first successful space mission, Explorer 1,²¹ too late to make space the focus of its World's Fair



exhibition. Instead, the major theme of the massive, circular American pavilion was the 'American way of life'. There were examples of the latest calculating machines, including state-of-the-art voting machines and IBM's latest computer.²² A circular screen, the 'Circarama', showed a projected overview of life in the United States every ten minutes.²³

The Soviet pavilion (Figures 2 and 3) conveyed a future-oriented theme, anticipating life as yet to come in the USSR. It featured exhibits of cars not yet in production, a model of the first two Sputniks and a scale model of a solar-powered space station.²⁴ The interior of the massive Soviet building created a strange atmosphere – the centrepiece was a heroic sculpture of Lenin surrounded by scale models of commercial aircraft, giving the impression of heading forward in the same direction.²⁵

At the conclusion of the 1958 fair, the United States and the Soviet Union announced plans to send their respective displays to Moscow and New York in acknowledgment of the popular interest in each country that the pavilions in Brussels had created.²⁶ Today, the more famous of the two 1959 displays is the American exhibition in Moscow. It was inside the famous Whirlpool-sponsored kitchen in Moscow that Vice President Richard Nixon and Nikita Khrushchev held their improvised 'kitchen debate' in July 1959. The less-well-remembered Soviet exposition in New York was opened by Vice President Richard Nixon and Soviet First Deputy Premier Kozlov on 29 June 1959, on the top two floors of the New York Coliseum. In his opening statement, Kozlov made a direct connection between the Soviet's nascent space programme and the legacy of the Second World War, a legacy which explained the theme of the 1958 USSR Pavilion in Brussels:

Despite tremendous losses, the Soviet People found the strength not only to eliminate in a short period of time the aftermath of war but also made big strides along the road of economic and technical progress. A vivid expression of the outstanding successes of our country is the launching in the Soviet Union of the first artificial satellites of the earth and Sun.²⁷

*Figures 2 and 3
The USSR pavilion at
the 1958 World's Fair
in Brussels. A statue
of Lenin oversees the
spacecraft centrepieces
of Soviet technological
progress. (Rudolph Neu)*

Figure 4 John Glenn's Friendship 7 in Seattle in 1962 on the final stop of its world tour. (University of Washington Libraries, Special Collections)²⁹

However, in this exhibition, as at VDNKh in Moscow, the USSR featured the social significance of the Soviet accomplishment of space flight rather than the technical details. As before, the models of the three Sputniks revealed little of the Soviet space programme or Soviet society.

Seattle World's Fair in 1962

The Seattle World's Fair established the practice of looking toward the future for all American World's Fairs for the rest of the century. The fair (originally dubbed the 'Century 21' fair) was originally planned as a revitalisation effort for downtown Seattle. The city had not benefited from the post-Second World War economic boom on the west coast of the United States, and local planners hoped the fair might lure Californian businesses northward. Such intentions notwithstanding, the conjunction of the first human space-flight successes and the dominance of the Boeing Corporation in the local economy transformed the aim from the 'Century 21' goal of promoting tourism and redevelopment in Seattle into the theme of 'America's Space Age World's Fair'.²⁸

After its flight in February 1962 John Glenn's Mercury capsule, Friendship 7, toured 17 countries before arriving at the World's Fair in Seattle in July 1962 (Figure 4).³⁰ This was in marked contrast to Yuri Gagarin, who immediately after his flight personally toured as many countries as possible, but whose spacecraft, Vostok 1, never went on public display – it remained on semi-closed view at the Energia Rocket and Space Corporation, where it remains today.



New York World's Fair in 1964

The theme of the third international space-age fair, the 1964 New York World's Fair, was 'Man's Achievements on a Shrinking Globe in an Expanding Universe'. At the time the Soviet Union appeared to be winning the space race, yet again decided not to participate in an American fair.³¹ This decision provided NASA with an important opportunity to display its achievements. NASA planned a full display, including material on the Apollo effort to land a man on the Moon by the end of the decade. In preparation for the Fair, Hugh Dryden, the NASA Administrator, was appointed to the 14-person Time Capsule Selections Committee, chaired by former Smithsonian Secretary Leonard Carmichael and including such luminaries as Andrew Wyeth, Vannevar Bush and Ralph Bunch.³² With the advice of NASA historian Eugene Emme, Dryden chose to include portions of actual space artefacts in the capsule that was to be sealed for 500 years. The committee selected material from the heat shield of Scott Carpenter's Aurora 7 Mercury spacecraft, a solar cell from the Vanguard satellite, a piece of balloon material from the Echo communications satellite, as well as microform copies of technical and historical accounts of the American space programme.³³

NASA's preparations for the time capsule were a minor prelude to the World's Fair itself. The US Space Park at the World's Fair (Figure 5) was a two-and-a-half-acre collaboration between NASA and the Department of Defense (DoD).³⁴ The park displayed 31 exhibits on the history and future of American rocketry and space

Figure 5 The NASA and Department of Defense Space Park at the New York World's Fair in Flushing Meadows, 1964. (Courtesy NASA)

flight. To present the exhibits' messages, NASA and the DoD jointly offered two weeks' training to the 35 park tour guides.³⁵ The US Space Park featured the flown Mercury Aurora 7, a model of the Gemini spacecraft, and other models of flown scientific, military and international spacecraft. But the displays pointed to the future as much as the past. The Apollo programme occupied a good portion of the park. A model of the aft end of the Saturn IC launch vehicle was a centrepiece – this rocket was part of the system being designed to carry astronauts to the Moon. Mock-ups of the Apollo Command and Service Modules and the Lunar Excursion Module were also on display.³⁶

Though it may seem that all this effort was excessive for a temporary exhibition at a World's Fair, NASA anticipated that the US Space Park might become part of a permanent exhibition in New York. On 6 September 1964, NASA Administrator James E Webb gave a speech at the dedication of the Hall of Science, another fair pavilion adjacent to the Space Park. This pavilion was designed and conceived as a permanent monument to the era the fair celebrated, giving NASA hope that Space Park also might be made permanent. Webb closed his address by saying, 'It is no accident that the US Space Park is located adjacent to the Hall of Science. It is a great credit to the wisdom of Robert Moses and his associates that the permanent structure designed for retention after the fair is the building we are here to dedicate.'³⁷

But planning for the New York site was only to be a temporary measure. Even after the 1962 success of dominating the Seattle World's Fair, NASA was well aware of the expense for the maintenance of these major exhibits. The Century 21 organisation had raised between \$200,000 and \$500,000 to cover the administrative and construction costs for NASA's exhibit there. NASA only agreed to full participation at the New York Fair with approval of a federal appropriation through the Department of Defense, Commerce Department and NASA, specifically for the exhibit. NASA would soon be out of the travelling exhibition service.³⁸ The Smithsonian National Air Museum in Washington DC had begun to incorporate space themes in its own exhibits, including the intrepid Friendship 7 spacecraft. Museum director Paul Johnston saw that space flight offered an opportunity to expand the scope of the National Air Museum (NAM) and could do much to promote plans for a new museum.³⁹

Expo '67 in Montreal

During the latter half of the 1960s, the Soviet Union maintained official secrecy surrounding its space programme. It never officially acknowledged that it had a programme in competition with the US to send men to the Moon and provided few technical details on the programmes that did receive publicity. The 1967 World's Fair in Montreal, Expo '67, 'Man and his World', offered an opportunity for

the Soviet Union to display genuine spacecraft and celebrate their programme in a way similar to the US presentations in New York, or to continue to use models to carry its message of mastery of science and technology. Not surprisingly, the USSR chose the latter. A *New York Times* reporter described the 140,000-square-foot hall packed with technical models, including those of unflown spacecraft and a light show that simulated a Moon landing, as designed to 'overwhelm the visitor'.⁴⁰

Conclusion

Despite the Soviet state's deliberate attempt to recreate the Stalinist illusion of abundance in the post-Stalinist, post-Second World War Soviet Union, its representation of space flight in museums fell short of this goal, since it did not match the didactic technical displays of the previous generation. There were no working models of spacecraft on display that were similar to the model hydroelectric dams of the 1950s, and visitors did not leave the exhibits with greater technical knowledge than they brought with them. Space-flight exhibitions during this period adopted a very narrow and precise focus – they promoted national interest and celebration, but consistently sought to obscure information and guard state secrets. Through space displays, the Khrushchev government promised abundance it could not deliver. As was true during much of his tenure, Nikita Khrushchev had promised far more than he had been capable of delivering. Little is revealed of the actual spacecraft, but their models are frequently paired with models of ambitious plans for the future. Exhibitions of the golden age of Soviet space flight promised the continuation of Soviet achievements in space without revealing how the first feats were accomplished.

Notes and references

- 1 *Ogonëk*, 7/1756 (12 February 1961), p26
- 2 Gambrell, J, 'The wonder of the Soviet world', *The New York Review of Books* (22 December 1994), p31
- 3 Gambrell, J, note 2, p33
- 4 Gambrell, J, note 2, p30
- 5 Childs, M, 'Moscow exhibits stress Sputniks', *The Washington Post and Times Herald* (24 June 1958), pA16
- 6 Childs, M, note 5
- 7 'Vostok model is shown to public in Moscow', *The New York Times* (30 April 1965), p10
- 8 Note 7
- 9 Feoktistov, K, *Kosmicheskaia tekhnika: perspektivy razvitiia* (Moscow: Izdatel'stvo MGTU im. N E Baumana, 1997)
- 10 Feoktistov is only identified as a cosmonaut, not as the chief designer of spacecraft in the interview. The information that he provided is either evident from visual inspection (diameter of the craft), or of general knowledge among the space-flight community (orbited weight of the craft). See note 7.

- 11 'Vostok revealed', *Spaceflight* (July 1965), p161
- 12 Note 11
- 13 Note 11, p162
- 14 The FAI is the international world air sports federation founded in 1905 that sets and documents all aviation and space-flight records throughout the world. In order to comply with FAI mandates, the USSR submitted fraudulently ambiguous paperwork to document Gagarin's flight as the first space flight.
- 15 This label is claimed by the director of the pavilion in 1971, Victor Bazykin. See Bazykin, V, 'Moscow's permanent space exhibition', *Spaceflight*, 3/8 (August 1971), pp295-7.
- 16 This claim is somewhat doubtful, as it coincides with claims of 8-9 million visitors per year. That would mean that as many as 24,000 visitors would make the pilgrimage to the pavilion per day, far more than the 10,000-square-metre facility could comfortably accommodate. Bazykin, V, note 15.
- 17 Gambrell, J, note 2, p33
- 18 The apartment blocks in the region were commonly known as the Korolev houses by the end of the 1960s. Chertok, B E, *Rakety i liudi: lunnaia gonka* (Moscow: Mashinostroenie, 1999).
- 19 Because the New York World's fair in 1964 took place within 15 years of the Seattle World's Fair it was not eligible for BIE approval.
- 20 17 April - 19 October 1958
- 21 The United States launched Explorer 1 on 31 January 1958, the country's first successful launch of an artificial satellite.
- 22 Waggoner, W H, 'We look at them, they look at us', *The New York Times* (11 May 1958), pSM12
- 23 The official Website of the 1958 Brussels World's Fair, <http://www.atomium.be/HTMLsite/EN/AlbumPhoto/album.php?idLanguage=1&Cat01=3&Cat02=22&Cat03=4&Cat04=33>, accessed on 22 January 2004.
- 24 Waggoner, W H, note 22
- 25 Brussels World's Fair Website, http://www.atomium.be/HTMLsite/EN/AlbumPhoto/album.php?idLanguage=1&Cat01=3&Cat02=22&Cat03=4&Cat04=113&cur_row=2, accessed on 22 January 2004.
- 26 'U.S. and Soviets agree to exchange of exhibits', *The Washington Post and Times Herald* (30 December 1958), pA5
- 27 'Text of speeches by Nixon and Kozlov at opening of Soviet exhibition', *The New York Times* (30 June 1959), p16
- 28 Findlay, J M, *Magic Lands: Western Cityscapes and American Culture after 1940* (Berkeley, CA: University of California, 1992), p229
- 29 Findlay, J M, note 28, p233
- 30 Swenson, L S, Jr, Grimwood, J M and Alexander, C C, *The New Ocean: A History of Project Mercury* (Washington DC: NASA, 1966), p436
- 31 The USSR initially considered participating in this unsanctioned fair. It was held too soon after the Seattle Fair to receive an endorsement from the BIE. However, the original plans for Soviet participation were contingent on US participation at a planned World's Fair in Moscow in 1967 to coincide with the 50th anniversary of the Bolshevik Revolution. The USSR withdrew their plans for the fair for financial reasons in 1962.
- 32 Dryden, H L, 'Time capsule for New York Worlds Fair', NASA History Office, 003007
- 33 Dryden, H L, note 32
- 34 US Space Park, New York Worlds Fair, 1964-65, press release, 7 April 1965, NASA History Office, 16580
- 35 'NASA Headquarters, U.S. Space Park Hosts', 23 March 1964, note 34
- 36 'United States Space Park, New York World's Fair, sponsored by Department of Defense and National Aeronautics and Space Administration, key to Space Park diagram', 30 March 1965, note 34
- 37 'NASA Headquarters, U.S. Space Park hosts', 23 March 1964, 'Remarks by James

- E. Webb, National Aeronautics and Space Administration, dedication of the Hall of Science, World's Fair, New York City, September 9, 1964', note 34
- 38 Simpson, G L, reply to letter to James Webb, letter to Guy F Tozzoll, Director, Work Trade Department, Port of New York Authority, 23 January 1963, Awards and Museums – Museums, 16580, United States Space Park, New York World's Fair 1964-65, National Aeronautics and Space Administration, Washington DC
- 39 Neufeld, M J, 'The Enola Gay, the bomb and the National Air and Space Museum', presented at the Yale-Smithsonian Symposium on Material Culture, New Haven, CT, 2 May 1992, Draft 2, 15 March 1993, p4, cites the following: Johnston, S P *et al.*, 'Proposed objectives and plans for the National Air and Space Museum', 15 January 1965, and Johnston, S P *et al.*, 'Memorandum to staff: some notes on the planning program for NASM', 8 November 1965, SI Archives, Rec. Unit 99, Box 58; Dooling, 'History', pp255–6.
- 40 Alden, R, 'Soviet pavilion at Expo 67 is overwhelming, Czechoslovak is imaginative', *The New York Times* (5 May 1967), p12