

SHOWCASING SPACE

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Privatising memory: the Soviet space programme through museums and memoirs

Introduction

In the years after Sputnik, Soviet museums dedicated to space exploration played an important role as ‘custodians’ of space history. Artefacts in museums presented and helped to create a unifying ‘consensus narrative’ that fostered a shared sense of identity among both participants and observers of the space programme, an identity that underpinned the myth of a Soviet space effort whose engine was heroism, ingenuity and, most of all, priority.¹ Their claims were buttressed by a huge body of literature issued by ‘official’ journalists who extolled the virtues of the Soviet space programme. The state-sanctioned histories served as supporting texts for the museums, where carefully-selected artefacts, usually spacecraft that had achieved certain ‘firsts’ in the early history of space exploration, were displayed and celebrated as monuments to Soviet technocracy. (For a discussion of Soviet space museums and Soviet exhibitions at World’s Fairs, see Cathleen Lewis’s essay in this volume.)

Three elements defined the memorialisation of Soviet space history during the late Soviet era, i.e. from the 1960s to the late 1980s. First, writers and curators eliminated contingency from the story: all successes were assumed to be inevitable and the idea of failure was made invisible. Second, under pressure from censors, writers and curators constructed a space of ‘limited visibility’ for both actors and artefacts, i.e. only a few selected persons – usually cosmonauts – and objects were displayed to the public. Military domination of the Soviet space programme engendered a culture of enveloping secrecy over most of its participants, institutions and artefacts. For example, when it was first flown, the Voskhod spaceship was described in the Soviet media as a substantive evolution beyond the older Vostok. In actuality, it was simply a rigged-up version of its predecessor; in order to buttress official but untrue claims, Voskhod was never publicly displayed anywhere, rendering an entire programme invisible.² Finally, for the public, there was a single master narrative – a Soviet space history that included a set of fixed stories in which the central characters were key (and usually deceased) individuals such as Konstantin Tsiolkovski, Sergei Korolev

and Yuri Gagarin, and institutions such as the Bolshevik (and later Communist) Party.

The collapse of the Soviet Union represented a rupture for custodians of public memory. If, previously, Russian historians had been forced to work under extreme constraints defined by state-sanctioned narratives, with the coming of *glasnost* ('openness') in the late 1980s, they could not only fill in the gaps of skeleton stories but flesh out entirely new ones. For Russian space history, the transformations were profound. In the previous 40 years, the field had been delimited by secrecy and an obsession with progress and success. Now, former engineers, cosmonauts and politicians spoke out in newspapers, journals and public lectures. The single narrative of Soviet space history – teleological and Whiggish – fractured into multiple and parallel narratives full of doubt (for the claimed successes of the programme), drama (for the episodes we never knew about) and debate (over contesting narratives of history).³

In the post-1991 era, the state's retreat – both commercially and culturally – has profoundly affected the ways in which invested participants contest the history of Soviet space exploration. The state's withdrawal produced conditions where memory was 'privatised' as atomised and decentralised views of history populated the landscape of remembrance. Economic deregulation allowed a new generation of small corporate museums to open their doors, each showcasing artefacts that propagate their respective institution-centred narratives. Artefacts of the former Soviet space programme have also dispersed across the world through commercial auctions and semi-legal means into the collections of interested foreigners, blurring claims for ownership of the detritus of Soviet space history.

The medium of memoirs added a new critical element to the emerging debates over competing narratives of Soviet space history. Freed from Soviet-era constraints, a veritable flood of written material from participants in the space programme – including memoirs, diaries and collections of tributes to deceased comrades – filled the space left vacant by absent official histories. Memoirs represented a different type of 'privatised memory' where history was determined no longer in official, collective and public discursive spaces, but rather through individual action; these memoirs were private ruminations, depending on reflection rather than rhetoric, the personal instead of the public. The high public profile of these post-Soviet memoirs of the space programme has introduced new complexities into the privatised 'market of memory', particularly in claims for ownership of history. In the new context of 'privatised memory', artefacts and memoirs together point to no simple answer to the question: Now that the Soviet Union no longer exists, who owns the Soviet space programme?

The old museums

During the Soviet era, all museums were state-owned. Through the display of selected artefacts, they propagated a master narrative that focused primarily on three deceased personalities: Konstantin Tsiolkovski (1857–1935), who first mathematically substantiated the possibility of space exploration in the early twentieth century, Sergei Korolev (1906–66), the legendary ‘chief designer’ of Sputnik, and Yuri Gagarin (1934–68), the young hero cosmonaut who made the first trip to space in 1961.

The most important museum of national stature was also the earliest to open; in 1967, government officials inaugurated the K. E. Tsiolkovski State Museum for the History of Cosmonautics in the rural town of Kaluga, about 150 km southwest of Moscow. Although the museum’s mandate included publicising the whole history of Soviet space exploration, its collection was focused largely towards deifying the late Tsiolkovski. His original residence at Kaluga had been made into a ‘home museum’ in 1936 soon after his death, and, following the formation of the new museum, it became an adjunct to the main facility.

Artefacts on display at the museum were split between material artefacts of the space programme (such as rockets, spacecraft, spacesuits and instrumentation) and Tsiolkovski’s personal effects or models of his various imaginary spaceships.⁴ Because of the high secrecy associated with the space programme, as well as the reluctance of design organisations working within the military–industrial complex to hand over items, the museum typically displayed models rather than actual flight or test hardware. Even replicas had to be carefully screened and then cleared by the relevant security services in case they disclosed what might be construed as state secrets.⁵ Although the museum was a three-hour train ride from Moscow, official statistics suggest that at least 10 million people visited it during Soviet times, i.e. before 1992. It was by far the most popular Soviet-era museum dedicated to space exploration.⁶

A second major state-sponsored museum from the Soviet era, the Memorial Museum of Cosmonautics, was opened in 1981 at the site of the ‘Conquerors of Space’ memorial in Moscow. Smaller than the Tsiolkovski museum (only about 900 m²), the Memorial Museum displayed replicas of about 30 spacecraft or spacesuits that celebrated progress, success and priority.⁷ More famous than the Memorial Museum was its branch facility located not far away, the S. P. Korolev Memorial Home Museum. Korolev’s surviving mother and daughter opened the branch in 1975 as a way of paying tribute to Korolev’s contributions in founding the Soviet space programme.⁸ The opening of the memorial home coincided with the appearance of several hagiographic biographies of Korolev, which helped to escalate the hero worship that has surrounded Korolev’s legacy to this day.⁹

The house, a shrine to Korolev's life, served as a striking reminder of the personality-centred history of the Soviet space programme, a perspective that rendered opaque the notion that thousands of others might have had something to do with the extraordinary Soviet successes in space flight. Housing over 2000 items from Korolev's life, the facility split its activities between popularising aspects of Korolev's life and sponsoring further historical research into his scientific and engineering legacy through letters and documents donated by his family.¹⁰

Probably the most significant site for displaying space artefacts during the Soviet era was the Kosmos Pavilion, a building that was part of the massive display complex dedicated to highlighting Soviet economic and industrial achievements, the VDNKh (Exhibition of Achievements of the National Economy) in Moscow.¹¹ In 1960, Korolev wrote letters to top Communist Party and government officials suggesting that the government 'organise a display for space' at the VDNKh, a proposal that was soon approved.¹² Recently declassified archival documents underscore the degree to which top government officials such as Dmitri Ustinov were involved in approving and sanitising what was appropriate for public display; they even discussed the aesthetic display value of one artefact over another.¹³ Less a museum than a storehouse open to the public, the Kosmos Pavilion housed numerous replicas of spacecraft, beautifully constructed and hung from ceiling pylons, communicating majesty, grandeur and progress. Placards typically provided detailed and arcane technical information about the artefact or, conversely, vague claims about the social benefits of space travel. Although the displays were not overtly personality-centred, official and disembodied portraits of the three most important faces of the Soviet space programme – Tsiolkovski, Korolev and Gagarin – loomed over the display areas, providing a human element to the celebration of technocratic progress, social harmony and national enlightenment, the major themes of the single state-sponsored narrative of Soviet space travel.

Crossing the divide

By the late 1980s, at the height of *glasnost*, Soviet space history – like every other area of Russian history – entered a period of radical revisionism, a process that continued, albeit at a slower pace, through the 1990s. In official literature and museums, Soviet space history and its curators came face to face with a new world of contingency, expanded visibility and multiple narratives.

The state-sponsored space museums did not fare well in the post-1991 landscape. As the economy ground close to collapse, the museums lost their financial base, their prominence and their audience. In 1991, only 180,000 people visited the Tsiolkovski Museum, half the number that visited the previous year. By 1997,

the museum was already 500 million roubles in debt and workers were being paid on a limited basis. Curators could add new artefacts only because of the generosity of cosmonauts or their families who donated personal items.¹⁴ Meanwhile, at the Memorial Museum of Cosmonautics, the 'main' space museum in Moscow, the number of annual visitors dropped to a dismal 7000 per year in the early 2000s. At the Space Pavilion at the VDNKh, literal relocations masked metaphorical ones: most of the celebratory artefacts of the space programme were shoved aside from view to make way for western European automobiles and sailing boats for sale to the *nouveaux riches* in Moscow.

The financial realities went hand in hand with the state museums' inability to respond critically to the new emerging narratives of Soviet space history. As new 'rediscovered' elements of Soviet space history appeared on an almost daily basis in various newspapers such as *Izvestia*, *Pravda*, and *Krasnaia zvezda*, the narratives propagated by the museums became irrelevant and old-fashioned. If political elites and popular constituencies competed to redefine memorialisation sites and struggle over the meanings of identifiers such as 'Soviet' and 'Russian', space museums avoided such debates entirely in the vain hope that the older master narrative still held resonance.¹⁵ Already in 1992, the curator of the Tsiolkovski Museum recognised the 'fragmentary nature' of his artefacts and their inability to reckon with the new space history, partly attributable to 'the special status of cosmonautics in [... the] country and its connection to the military-industrial complex'.¹⁶ Beyond a few cosmetic changes, the older museums retained their old collections of artefacts and added little that was new.

As state-owned memory fragmented into privatised memories, the old museums also faced competition. By the mid-1990s, Western observers (and the Russian general public) discovered that the Soviet Union had had a parallel but entirely secret world of space museums that displayed the most coveted space artefacts of the period. These were analogous to corporate museums in the Western context, i.e. they were operated by the formerly secret organisations that developed various Soviet space-flight-related objects such as spacecraft, launch vehicles, rocket engines, spacesuits and so on.

The most important of these corporate museums was the museum of the Energia Rocket-Space Corporation (RKK Energia, or in English RSC Energia), the firm that, in its original incarnation, designed and built the most important Soviet space vehicles, including Sputnik, Vostok, Voskhod, Soyuz, Salyut, Mir, etc. Under Korolev's initiative, in 1963 Energia had opened a 'display hall' on its premises devoted to showing various artefacts that they could not allow to be displayed in the public museums. The Energia museum housed such jewels of the Soviet space programme as the Vostok(-1) spaceship that took Yuri Gagarin into orbit in 1961 and the Vostok-6 vehicle that did the same

for the first woman in space, Valentina Tereshkova.¹⁷ Its collection spanned the entire era of rocket design, from the 1930s to the present, and included models or ground-test articles of ballistic missiles, launch vehicles, manned spacecraft, space stations, lunar and interplanetary probes, applications satellites and experimental rockets.¹⁸ After the death of Korolev, who had supported the idea of a display hall as a way to ‘enlighten’ his employees, access to the facility was severely limited. Most of Energia’s employees – even those with special passes for access to all parts of the organisation – were forbidden to visit the area.¹⁹ In the post-1991 period, Energia was partially privatised. In search of any and every economic opportunity to survive during the economic collapse, Energia’s corporate bosses recognised that its display hall could be a useful public-relations tool. The company converted the old viewing area into a museum and offered tours by appointment. Over 8000 people, half of them foreigners, now pay to visit the facility every year.²⁰ Other newly-privatised spacecraft design corporations followed Energia’s lead by opening their own corporate museums, a process that not only fractured the unified narrative of Soviet space history, but also denied artefacts of universal significance to the major state-owned museums, which were struggling to retain their importance in the face of obsolescence.²¹

The privatisation of memory had another important dimension: the unprecedented drain of artefacts from Russia that were put up for sale overseas by cash-strapped veterans of the Soviet space programme. Already in 1992, the director of the Tsiolkovski Museum complained that ‘unique museum artefacts have been dispersed across the country and abroad. Any kind of [...] work to collect [these artefacts] has become almost impossible.’²² Two Sotheby’s auctions in New York, in 1993 and 1996, represented only the first volleys in the wholesale movement of space artefacts from Russia to the rest of the world. In the first auction alone, observers estimated that 227 artefacts worth \$7 million had been sold. One Russian company sold for \$68,500 a vehicle that is still on the surface of the Moon.²³ The chaotic nature of the rush for sale inevitably incurred losses. For example, one full-scale model of the Soviet space shuttle Buran was found languishing in a desert in Bahrain by German journalists after being displayed in Sydney, Australia, for several years. In another case, in 2001, first cosmonaut Yuri Gagarin’s notebooks were sold at Christie’s for \$170,000, only for Russian governmental sources to complain that the diaries, as state documents, were sold illegally to the buyer.²⁴ Soviet space items found a home in the most unlikely places. A random search on eBay in May 2005 with the search terms ‘Soviet space’ shows at least 81 items from the former Soviet space programme on sale, including a compression girdle from a cosmonaut spacesuit and a ‘genuine’ heat-shielding tile from the Buran space shuttle.

The medium is the memoir

At a fundamental level, the physical buying and selling of artefacts from the former Soviet space programme – possible because of the transition to a capitalist economy – not only privatised memory but created a market for it. When people paid money for artefacts, they obtained a physical object; but on a deeper level, the transaction was about ownership of the history of the Soviet space programme. Claims of ownership of this history were contested through the multiple, fractious and contradictory narratives of the history of the Soviet space programme that began appearing in the medium of memoirs in the 1990s. Published largely by private publishers and written by private individuals in a privatised universe, these memoirs became an essential commodity – as artefacts in themselves – in the market of memory. In the new privatised universe, they also had an important function in the market, of ascribing value to traded artefacts – and implicitly to competing narratives – of the history of the Soviet space programme.

The medium of testimony, including both retrospective memoirs and published diaries, has a long and distinguished tradition in the Russian literary and intellectual canons dating back to the pre-Romantic era. Through the Tsarist and Soviet eras, the memoir or *vospominania* (literally ‘recollections’) performed important functions beyond individual expression and historical recording (and everything in between). As Beth Holmgren has noted, ‘For centuries Russians have embraced the memoir as a form of autobiography with [...] a conscience or an agenda.’²⁵ During Soviet times, the published memoir represented a new way to confirm official narratives of the Revolution (or, as was the case most often, martyrdom for the cause of the Revolution).

In the post-1991 era, memoir-writing in Russia boomed, and the medium’s value as history rather than reflections on history has escalated, partly because official sources of history simply disappeared from the book stores. Memoirs occupied a significant part of the resulting vacuum, many of them seeking to refute and then fill in the blank holes of official Soviet history. Cultural critic Alexander Prokhorov claims that memoirs in the post-Soviet era ‘do not pursue any didactic or propagandistic goals; [...] rather they offer an anecdotal account of a famous life that may be consumed as entertainment’.²⁶ But if such a generalisation can be made about the memoirs of popular entertainment figures in present-day Russia, it is most certainly not true of the canon of memoirs on the former Soviet space programme. These space memoirs, voicing individual and personal perspectives, represent another kind of ‘privatised’ memory, one that is not only commercial in nature but also generated and promoted by private individuals. The memoirs also serve two important and interconnected functions: first, they operate as ‘linking narratives’ that imprint personalities and value onto technological artefacts of the former Soviet space programme dispersed throughout private

collections across the world; and, second, memoirs represent a new kind of artefact in the era of privatised memory, i.e. liminal objects of memorialisation that complicate claims for ownership of memory as they travel across thresholds and definitions.

Retrospective memoirs

In the 1990s, Boris Evseevich Chertok (Figure 1) published what was undoubtedly the most famous and widely-referenced memoir of the Soviet space programme, issued under the general title *Rakety i liudi* (*Rockets and People*).²⁷ Chertok, who turned 80 in 1992, played important roles in the founding of the post-war Soviet ballistic-missile programme which later gave birth to the Soviet space programme. He served as a senior designer specialising in guidance and control systems under Korolev and contributed to almost every major Soviet human space project ever attempted. By the time of his semi-retirement in 1992, his name, like those of many other former participants, appeared widely in Russian newspapers and journals as he took on the role of a private commentator on the early history of the programme.²⁸ Many contemporaries of Chertok also published their own memoirs, but Chertok's writings were more visible than his competitors' for several reasons.²⁹ First, they were linked to the most important personality in the Soviet space programme, Sergei Korolev. Second, in contrast to the older state-sponsored narratives, which were vague and nebulous, Chertok's writings were extraordinarily detailed. Finally, they were the first 'revelatory' memoirs to appear, inevitably making everything that came after anticlimactic. In Chertok's memoirs, for the first time readers saw details of a spectrum of previously veiled programmes and events; he dedicated the entire fourth volume to chronicling the Holy Grail of formerly-secret Soviet space history, the N-1 superbooster project that failed to put a Soviet cosmonaut on the Moon (Colour plate 8). In the absence of any official and comprehensive post-1991 histories of the Soviet space programme, Chertok's four volumes became, by default, a canon in and of themselves.³⁰

By definition, memoirs are selective narratives, since they represent very personalised impressions of events; each person involved in an endeavour will have his or her own individual experiences and perspectives. Besides Chertok, other deputies of Korolev – such as Bushuev, Kriukov, Mishin or Okhapkin – had they written memoirs might have created overlapping but very different narrative spaces with different actors and artefacts. But in the absence of any 'official' state history of the Soviet space programme, or indeed a syncretic work written by a professional Russian historian, Chertok's memoirs – and the particular spaces they created with embedded actors and artefacts – have produced one of the most dominant narratives of the history of the Soviet space programme. As a result, for the physically dispersed

Figure 1 Boris Chertok, pictured here in 2003, served as one of the principal deputies of the Soviet space programme from the 1940s to the 1990s. His four-volume memoirs have become important historical markers of the 'new' history of the Russian space programme. (Jesco von Puttkamer)

artefacts of Korolev's legacy, Chertok's dominant narrative serves as a 'linking narrative', i.e. it plays a curatorial role that connects disparate artefacts into coherent stories of Soviet triumphs and failures in exploring space during the years of the Cold War.

By giving a space in which selective events are presented as coherent narratives, by locating the various artefacts of the former Soviet space programme dispersed across the world within those narratives, and by serving in a curatorial role, memoirs such as Chertok's function as a valorising agent for artefacts of the former Soviet space programme. In other words, in the privatised market of memory where ownership of history is bought and sold, memoirs help establish the value of the items exchanged. This value is not necessarily measured in added monetary value (although it can be), but rather in added narrative value, i.e. by adding narratives to artefacts, they make the artefacts 'readable'.

One of the most extensive collections of formerly-secret Soviet space hardware is currently accessible for viewing at the Orevo laboratory complex of the Bauman Moscow State Technical University (formerly the Higher Technical School) at Dmitrov, outside Moscow. Covering about 100 hectares of grounds, the facility houses an enormously varied collection of objects including proposed, developed and abandoned ballistic missiles and spacecraft. Among them are several artefacts from the abandoned Soviet manned lunar programme, including the L1 (Zond) circumlunar vehicle and the LK lunar lander. As objects displayed completely without context – with only brief placards summarising technical characteristics such as thrust, mass, designation, etc. – they represent the extreme version of atomised narratives of Soviet space history. They originally existed as objects without narratives. Chertok's memoirs, among others, gave a space for these artefacts to exist as meaningful elements in a story; in other words, viewers use the memoirs to ascribe meaning and value to artefacts. Besides providing context, memoirs add value in other ways: for example, they imprint personalities on each artefact as identifiers ('Mishin's L1 spacecraft', 'Chelomei's TKS', etc.); they foreground artefacts that represent narratives of absence ('the lunar lander that was never flown') and failure ('all of this hardware was all for nothing'); and they assign descriptive categories to objects by not mentioning them at all ('never mentioned in any Russian source!').

Because Chertok's memoirs dominated post-1991 historiography, his valuations – such as those of success and failure – often trump contending valuations. Like Chertok's writings, other memoirs have also been connected to specific personalities, and they also performed similar roles. Other memoirs, of course, produce parallel and usually contradictory narratives to the Korolev-centred one of Chertok. For example, engineer Ivan Evteev's memoirs *Operezhaia vremia (Ahead of the Times)* imprinted personality and importance on all the missiles

and spacecraft produced by the organisation headed by the late Vladimir Chelomei. Similarly, Vladimir Trofimov's *Osushchestvlenie mechty* (*Accomplishment of a Dream*) did the same for rocket engines created under the late Valentin Glushko.³¹ No private publisher has yet sponsored a memoir that puts Korolev's successor Vasili Mishin centre stage. In other words, there is no major narrative space given to the artefacts created under Mishin's command; typically those artefacts are attached to his predecessor (Korolev) or successor (Glushko).

The emergence of multiple and contradictory narratives for contesting memory has uncorked levels of contentiousness unimaginable in the Soviet era, acrimonies which are at core about claims for ownership of memory in the Soviet space programme. No other conflict weighed more heavily on contemporaries in the 1990s than the one between the two giants of the Soviet space programme, Korolev and Glushko. Both had been thrown into Stalin's Gulag in the late 1930s amid technical disagreements in their workplace that escalated into mutual denunciations.³² In the late 1950s, as they rapidly rose in rank into powerful positions in the Soviet defence industry, they fell out over conflicting technological preferences that proved to be irreconcilable. Their bitter disagreements over the design of the N-1 superbooster contributed to the programme's sad and dramatic ending as rocket after rocket exploded over Kazakhstan. When Korolev died in 1966, the two men were barely on speaking terms. In an ironic twist, less than a decade after Korolev's death, the Soviet government appointed Glushko to head Korolev's old organisation, Energia. In the 15 years that he led this large industrial empire, Glushko single-mindedly tried to whitewash space history by relegating Korolev to a secondary place behind himself. In 1974, in one of his first acts as head of Energia, Glushko instructed the curators of Energia's highly-restricted 'display hall' to remove all traces of Korolev's handiwork (such as the famous R-7 rocket that put Sputnik into space) and replace them with his own rocket engines.³³ Similarly, in the years before his death in 1989, Glushko sought to rewrite the official historical narrative in subtle ways that would not be noticed by foreigners – for example, by having chapters on his research precede those on Korolev.³⁴ In one of his last lectures, Glushko accused Korolev's old comrade-in-arms Mikhail Tikhonravov, also the designer of Sputnik, of having written the deadly denunciation that landed Glushko in the Gulag in the 1930s.³⁵

These types of struggles over the remembered history were hidden and muffled under the dominance of a single state-sponsored master narrative during the Soviet era, but they were unleashed into public discourse, and then contentiously carried into the 1990s by 'curators' responsible to the individual legacies of Korolev, Glushko and others. These curators operate through memoir-type publications known as 'memoirs of contemporaries' (*vospominania sovremennikov*), which

themselves represent a centuries-long genre in Russian history and literature that has been a vehicle for tribute, reflection and reminiscence.³⁶ A typical example of the 'contemporaries' genre includes dozens of short essays by the associates of a single and late heroic figure, compiled and edited by a single person, usually the legacy curator of a person or an institution. In the 1990s, curators on behalf of the major deceased participants of the former Soviet space programme devoted their livelihoods to publishing collections of essays about their 'patron' individual. In Korolev's case, the curators of his memorial home and his daughter have published a wealth of material, including essay collections by contemporaries eulogising the man and reducing the role of Glushko and Chelomei.³⁷ For the late Glushko, a host of admirers, including a son, continue to publish uncritical hagiographies that reject Korolev's dominance of the Soviet space programme.³⁸ Similarly, Chelomei has curators who defend and promote his legacy against what they consider to be unfair slander from others.³⁹

What do these deep-rooted conflicts over history mean in a climate characterised by privatised memory? In the new market of memory, these contradictory narratives are first and foremost struggles to valorise particular narratives over others. In a national context where the state no longer imbues space history with a master narrative, the private curators of space history have become the primary actors in a contentious market that may never reach equilibrium. Hostile to the notion of multiple and contradictory narratives of the history of the Soviet space programme, the new curators of memory are, in their own way, nostalgic to return to a single master narrative of the space history, i.e. a narrative that elevated their own patron over others, a narrative that in fact remains as far from the real history of the Soviet space programme as the 'official' version was during the Cold War.⁴⁰ Memoirs represent a new and growing force in the politics of memory of the Soviet space programme, one that is caught between nostalgia for an imaginary past and hope for an impossible future.

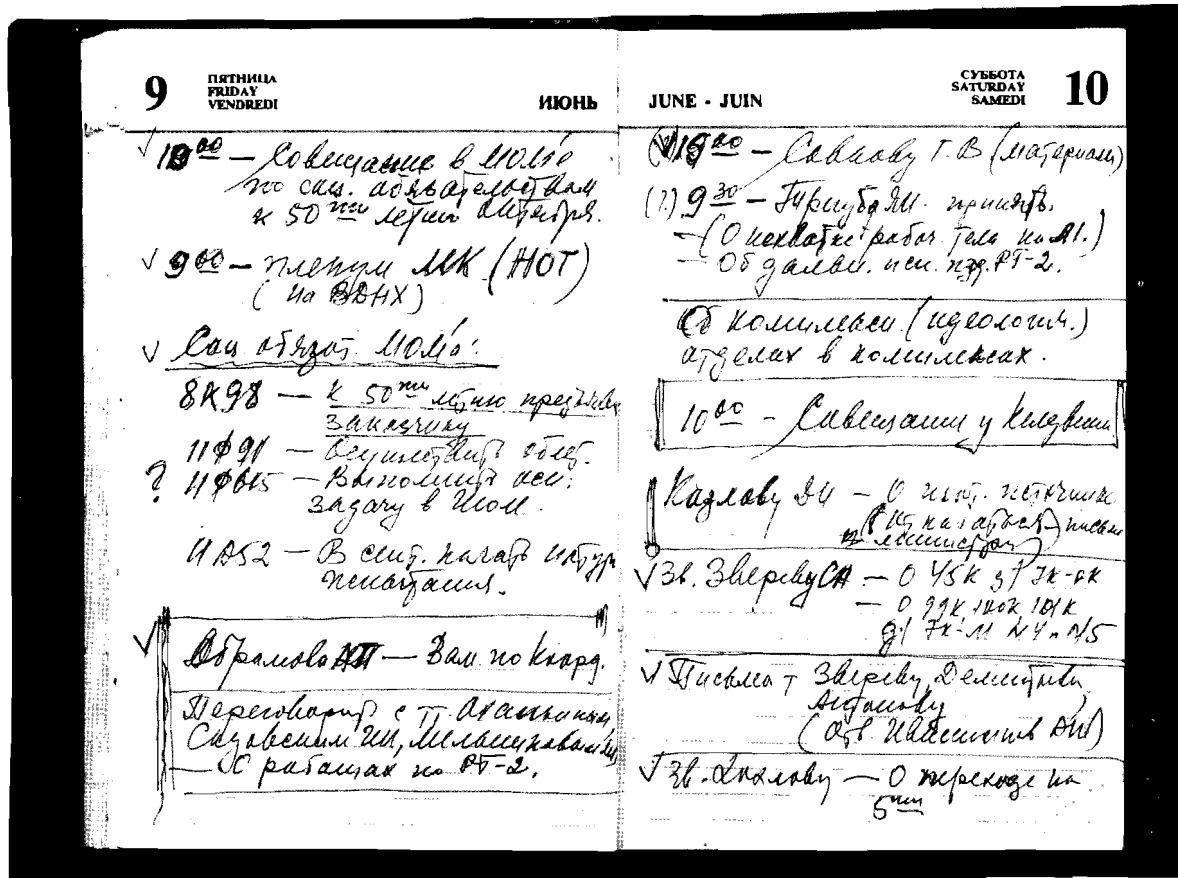
Diaries

Historians have long used diaries as historical sources. Their unique value in Russian history and literature has been the subject of much debate.⁴¹ Historians of technology have used diaries to explore the act of invention and innovation; diaries and notebooks have been especially important to supplement purely artefact-driven explorations of invention, particularly for studying the eighteenth and nineteenth centuries.⁴² In the historiography of the Soviet space programme – at the intersection of Russian history and the history of technology – the diary represents a tool that was impossible to use during the Soviet era. In the post-1991 landscape, however, published diaries of prominent personalities have become important evidential bases for interpreting history.⁴³

Like the many artefacts of the Soviet space programme that have been bought and sold at various international auctions, *unpublished* diaries from participants in the former Soviet space programme have also changed hands.⁴⁴ Probably the most important diaries were those of Korolev's successor, Vasili Mishin; the strange and remarkable trajectory of his diaries provides a window into the complex negotiations over ownership in the privatised market of memory of the former Soviet space programme. Mishin originally wrote daily notes of his work activities in at least 31 notebooks covering the period 1960 to 1974. Because of his senior position in the Soviet space programme, first as Korolev's principal deputy and then as successor to Korolev, these diaries were considered extremely important for future historians. When Mishin put his diaries on sale at Sotheby's in 1993, one expert observer noted that 'any attempt at telling the history of the space race without the materials in these notebooks will be second-rate'.⁴⁵

Mishin enjoyed a peculiar place in the history of the Soviet space programme, since he was one of the few figures universally reviled and blamed for the failure of the Soviets to send a cosmonaut to the Moon in the 1960s. Contemporaries blamed him for all manner of shortcomings (including a weakness for alcohol), while younger Russian historians now mention him sparingly, if at all. His diaries represent a type of counter narrative or 'counter artefact' of the Soviet space programme, since it is unlike all of the multiple-victory narratives of Korolev, Glushko, Chelomei *et al.* that at their core represent celebrations over success rather than recordings of failure.

At Sotheby's, the Perot Foundation (funded by Ross Perot) purchased the whole set of Mishin's diaries for a reputed price of \$190,000.⁴⁶ Perot took the diaries, along with a vast array of other purchased artefacts from the Soviet space programme, back to his corporate headquarters in Texas. After a prominent American novelist hired by Perot failed to distil Mishin's story into a popular entertainment novel, Perot decided to donate a few pages of the diaries to the Smithsonian Institution's National Air and Space Museum to display as part of their 'Space Race' exhibition, which opened in 1997 (Figure 2). The displayed entries from the diaries illuminated aspects of the failed Soviet Moon programme that Mishin oversaw in the late 1960s.⁴⁷ The museum was the first in the world to devote attention, however cursorily, to the Soviet side of the Moon race. The entire set of diaries, meanwhile, remained inaccessible to historians until 2004, when the Perot Foundation donated a full set of copies to the National Aeronautics and Space Administration (NASA) in the hope that their History Division would find something useful to do with the manuscripts. In early 2005, NASA formally issued a 'request for a proposal' for a contract to translate, edit and then publish portions



of the Mishin diaries as part of its NASA History Series issued by the US Government Printing Office. The agency allocated \$85,000 for the project.⁴⁸

Mishin’s diaries are an example of a new liminal artefact in the world of privatised memory of the former Soviet space programme. Since their creation as personal diaries they have repeatedly crossed over lines of ownership, definition and categorisation. The memoir was written by a former employee of the Soviet state; it was sold as the personal property of a Russian individual; it is physically owned by a private American individual; it has been on display as an artefact of the Soviet space programme in an American exhibition whose purpose is to celebrate American victory in the space race of the 1960s; here, it was ‘read’ as both a written source of history and as an artefact of history; soon, it will be published by an agency of the US government. In the privatised market of memory, Mishin’s diaries fall between categorisations: they are part written memoir, part displayed artefact; they are part Soviet, part Russian, part American; they are part public and part private. In a period when memory has been privatised and can be bought and sold, all of these claims for ownership will remain

Figure 2 Pages from the diaries of Vasili Mishin, a former senior manager of the Soviet space programme, which are now on display at the National Air and Space Museum in Washington DC, as part of an exhibition devoted to the Cold War space race. Mishin’s diaries were purchased at Sotheby’s in 1993 by the wealthy American Ross Perot. (Smithsonian National Air and Space Museum)

deeply embedded in Mishin's words, inseparable from the history that they communicate.

Conclusions

Throughout the first 30 years of the space age, i.e. during the Soviet era, Soviet space history comprised a single master narrative of technocratic progress, social harmony and national enlightenment. This 'consensus narrative' fractured into multiple competing narratives at the break-up of the Soviet Union in 1991. In this milieu, as the beginnings of capitalism took hold in the Russian economy, formerly-secret artefacts of the former Soviet space programme were openly displayed at private corporate museums in Russia or dispersed all over the West in privately-held collections. This 'privatisation of memory' created a market for history where memory was bought, sold and traded in a process that was primarily about claims of ownership of history.

The conflicting claims of ownership of the space programme were reinforced by the multiple, fractious and contradictory narratives propagated by the dozens of memoirs from former participants of the Soviet space programme that appeared in the 1990s. Published by private publishers and written by private individuals in the deregulated space left vacant by the withdrawal of state discourses, these memoirs joined the market of memory as a critical commodity. In the new privatised universe, memoirs played an important function in the market, by imprinting personalities and ascribing value to traded artefacts from the history of the Soviet space programme. By doing so, they also valorised competing narratives in the new market of memory. Memoirs represent a new kind of 'private' artefact in the era of privatised memory, i.e. they are liminal objects of memorialisation that complicate claims of ownership. By crossing borders and categories in the privatised market of memory, memoirs and diaries – and the artefacts they valorise – have rendered the question 'If the Soviet Union no longer exists, who owns the Soviet space programme?' all but irrelevant.

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Notes and references

- 1 With the caveat that shared historical myths are not characteristic of only repressive state regimes, see Sherlock, T D, 'Myth and history in transitions from nondemocratic rule: the role of historical *glasnost* in the collapse of the Soviet Union', PhD dissertation, Columbia University, 1994.

- 2 Voskhod(-1) and Voskhod-2, launched in 1964–65, were two of the most spectacular Soviet space missions of the 1960s. The first carried three cosmonauts into orbit for the first time in a single spaceship. During the second, cosmonaut Aleksei Leonov performed the world's first 'spacewalk' by leaving his space capsule. The first photographs of the Voskhod spaceship were published in 1980. Keldysh, M V (ed.), *Tvorcheskoe nasledie Akademika Sergeia Pavlovicha Koroleva: izbrannye trudy i dokumenty* (Moscow: Nauka, 1980), pp470–6.
- 3 For historiographical overviews of Russian/Soviet space history, see Siddiqi, A A, *Challenge to Apollo: The Soviet Union and the Space Race, 1945–1974* (Washington DC: NASA, 2000), pp861–70; Siddiqi, A A, 'Series introduction', in Chertok, B, Siddiqi, A A (ed.), *Rockets and People* (Washington DC: NASA, 2005), ppix–xix.
- 4 For descriptions, see Belova, N G, '3 oktiabria – 10 let so dnia otrkrytia gosudarstvennogo muzeia istori kosmonavtiki imeni K. E. Tsiolkovskogo (1967 g.)', *Iz istori aviatsii i kosmonavtiki*, 33 (1978), pp148–52. For Tsiolkovski's home museum, see Kostin, A V, '19 sentiabria – 40 let so dnia otkrytia doma-muzeia K. E. Tsiolkovskogo (1936 g.)', *Iz istori aviatsii i kosmonavtiki*, 29 (1977), pp118–19.
- 5 During the Soviet era, the only major flown item on display at the Tsiolkovski Museum was the Vostok-5 descent module. Replicas included another Vostok, a Soyuz descent module and robotic spacecraft such as Luna-9, Luna-10, Luna-16, Mars-3 and a Molnia-1 satellite.
- 6 Kuzin, E N, 'Dvadtsat' piat' let gosudarstvennomu muzeiu istori kosmonavtiki imeni K. E. Tsiolkovskogo', in *Trudy XXVII chteni, posviashchennykh razrabotke nauchnogo nasledia i razvitiu idey K. E. Tsiolkovskogo (Kaluga, 15–18 Sentiabria 1992 g.): Seksia 'Issledovanie nauchnogo tvorchestva K. E. Tsiolkovskogo i istoria aviatsii i kosmonavtika'* (Moscow: IET AN SSSR, 1994), pp103–11
- 7 'Flown' objects at the museum included the Korabl Sputnik-2 ejection seat, the Soyuz-37 descent module and the spacesuit that cosmonaut Oleg Makarov used on Soyuz T-3.
- 8 The museum was opened on the estate where Korolev had lived in complete anonymity from 1959 until his death in 1966.
- 9 The three earliest biographies of Korolev appeared in 1969, but these were superseded by seven more, published between 1971 and 1976. See Romanov, A P, *Konstruktor kosmicheskikh korablei*, 2nd edn (Moscow: Politizdat, 1971), plus 3rd edn (1972), 4th edn (1976); Astashenkov, P T, *Orbity glavnogo konstruktora*, 2nd edn (Moscow: DOSAAF, 1973); Golovanov, Ya K, *Korolev* (Moscow: Nauka, 1973); Starostin, A S, *Admiral vselennoi* (Moscow: Molodaia gvardia, 1973); Astashenkov, P T, *Glavnyi konstruktor: o S. P. Koroleve* (Moscow: Voenizdat, 1975).
- 10 Kostrikina, Z I, 'O rabote memorial'nogo doma-muzeia Akademika Sergeia Pavlovicha Koroleva', *Iz istori aviatsii i kosmonavtiki*, 34 (1978), pp61–7
- 11 The VDNKh traced its origins back to the All-Union Agricultural Exhibition (VSKhV), which opened in 1939. In 1954, the original complex was expanded to 80 pavilions spread over nearly 600 acres to highlight all Soviet economic achievements.
- 12 Raushenbakh, B V and Vetrov, G S (eds), *S. P. Korolev i ego delo: svet i teni v istori kosmonavtiki: izbrannye trudy i dokumenty* (Moscow: Nauka, 1998), pp676, 678
- 13 'O pokaze na vystavke dostizheni narodnogo khoziaistva sssr i na zarubezhnykh vystavakh po osvoeniu kosmicheskogo prostranstva v sssr novykh eksponatov' ('On displaying new exhibits on the mastery of cosmic space by the USSR at the VDNKh and foreign exhibitions'), 9 June 1964, Russian State Archive of the Economy (RGAE), f. 29, op. 1, d. 3443, ll. 1-2. With this letter, Ustinov and several leading Soviet space-industry managers petitioned the Central Committee for permission to display models of the Vostok, the Vostok descent module, the Vostok ejection seat, the mission profile of Vostok and the Elektron-1 and -2 satellites. As a result of these decisions, the first Vostok vehicles were shown in the Soviet Union and abroad in 1965–67.
- 14 Kuzin, E N, note 6, p106; Savkin, K and Davydova, V, 'Muzeiu kosmosa v Kaluge – 30 let', *Novosti kosmonavtiki*, 12 (1998), p48

- 15 For the ways in which constituencies debated post-Soviet identity through memorials and museums, see Forest, B and Johnson, J, 'Unraveling the threads of history: Soviet-era monuments and post-Soviet national identity in Moscow', *Annals of American Geographers*, 92/3 (2002), pp524–47.
- 16 Kuzin, E N, note 6, p110
- 17 Flown artefacts on display included Vostok(-1), Vostok-6, Voskhod(-1), Voskhod-2, Soyuz-3 and Zond-5.
- 18 For pictorial surveys, see Pirard, T, 'The space museum at RKK Energia', *Spaceflight*, 42 (2000), pp247–52 and the *Novosti kosmonavtiki* Website, http://www.novosti-kosmonavtiki.ru/content/photogallery/gallery_017/index.shtml. For the museum's Website, see <http://www.energia.ru/energia/history/museum/museum.html> (both accessed 5 May 2005).
- 19 Vetrov, G, 'S. P. Korolev i razvitie muzeev po kosmonavtike', in note 6, pp195–200
- 20 Chernyi, I, 'Muzei RKK "Energia"', *Novosti kosmonavtiki*, 5 (1999), p59; Nikulin, A, 'Muzei RKK "Energia"', *Novosti kosmonavtiki*, 4 (2005), pp70–72
- 21 Other museums included that of the S A Lavochkin Scientific-Production Association (NPO Lavochkin), which built all of the Soviet Union's latter-day deep-space probes. Founded in 1965, the Lavochkin museum opened to the public in the 1990s. See Kopik, A, 'Muzei NPO im. S. A. Lavochkina', *Novosti kosmonavtiki*, 5 (2005), pp70–72; <http://www.laspace.ru/rus/museum.php> (accessed 5 May 2005). The Gagarin Cosmonaut Training Centre, officially subordinate to the Russian Air Force, also opened its own museum at Zvezdnyi gorodok ('Star City') outside Moscow. See <http://www.museum.ru/M491> (accessed 5 May 2005).
- 22 Kuzin, E N, note 6, p108
- 23 Martin, D, 'Space artifacts of Soviets soar at \$7 million', *New York Times* (12 December 1993), p47. For catalogues of the two Sotheby's auctions, see *Russian Space History, Sale 6516: Property of the Industries, Cosmonauts and Engineers of the Russian Space Program* (New York: Sotheby's, 1993); *Russian Space History, Sale 6753* (New York: Sotheby's, 1996).
- 24 Higgins, A, 'Why a spaceship landed in Bahrain and never departed', *Wall Street Journal* (11 April 2005), p1; Dolgov, A, 'Gagarin diary sold for \$170,000 "stolen from Russia"', *Foreign News* (11 May 2001), p16. A small portion of the artefacts on sale at these various auctions were purchased by the billionaire Ross Perot's Perot Foundation and then loaned to the National Air and Space Museum in Washington DC. See Burchard, H, 'Splashdown of Soviet artifacts', *Washington Post* (23 May 1997), pN55.
- 25 Holmgren, B (ed.), 'Introduction', in *The Russian Memoir: History and Literature* (Evanston, IL: Northwestern University Press, 2003)
- 26 Prokhorov, A, 'Accommodating consumers' desires: El'dar Riazanov's memoirs in Soviet and post-Soviet Russia', in Holmgren, B, note 25, p73
- 27 Chertok, B E, *Rakety i liudi* (Moscow: Mashinostroenie, 1994); *Rakety i liudi: Fili Podlipki Tiuratam* (Moscow: Mashinostroenie, 1996); *Rakety i liudi: goriachie dni kholodnoi voiny* (Moscow: Mashinostroenie, 1997); *Rakety i liudi: lunnaia gonka* (Moscow: Mashinostroenie, 1999)
- 28 Chertok wrote openly for the first time in the journal *Aviatsia i kosmonavtika* (*Aviation and Cosmonautics*) in 1988. In 1992, *Izvestia* correspondent Boris Kononov prepared a series of publications based on interviews with Chertok, which had the general title 'U Sovetskikh raketnykh triumfov bylo nemetskoe nachalo' ('Soviet rocket triumphs had German origins'). See *Izvestia* (4 March 1992), p5; (5 March 1992), p5; (6 March 1992), p5; (7 March 1992), p5; (9 March 1992), p3.
- 29 For only a small sampling of recent space-programme memoirs, see Filin, V M, *Vospominania o lunnom korable* (Moscow: Kultura, 1992); Khrushchev, S, *Nikita Khrushchev: krizisy i rakety: vzgliad iznutri: tom 1 i 2* (Moscow: Novosti, 1994); Kerimov, K, *Dorogi v kosmos (zapiski predsedatelia Gosudarstvennoi komissi)* (Baku: Azerbaijan, 1995); Filin, V M, *Put' k 'Energi'* (Moscow: GRAAL, 1996); Zakharov, A G, *Kak eto*

- bylo: *vospominania nachal'nika kosmodroma Baikonur* (Moscow: A G Zakharov, 1996); Mishin, V P, *Ot sozdania ballisticheskikh raket k raketno-kosmicheskomu mashinostroeniui* (Moscow: Inform-Znanie, 1998); Eliseev, A S, *Zhizn' – kaplia v more* (Moscow: Aviatsia i kosmonavtika, 1998); Zavalishin, A P, *Baikonurskie universitety: zapiski veterana-ispytatelia* (Moscow: Mashinostroenie, 1999); Feoktistov, K, *Traektoria zhizni: mezhdru vchera i zavtra* (Moscow: Vagrius, 2000); Kulaga, E S, *Ot samoletov k raketam i kosmicheskim korabljam* (Moscow: Vozdushni Transport, 2002); Ponomareva, V, *Zhenskoe litsu kosmosa* (Moscow: Gelios, 2002); Syromiatnikov, V S, *100 Rasskazov o stykovke i o drugikh priklucheniakh v kosmose i na Zemle: chast' 1: 20 let nazad* (Moscow: Logos, 2003).
- 30 Chertok's memoirs also remain one of the few Russian-language works on the Soviet space programme to be translated into English. Chertok, B, *Rockets and People*, note 3.
- 31 Trofimov, V F, *Osushchestvlenie mechty* (Moscow: Mashinostroenie 'Polet', 2001); Evteev, I, *Operezhaia vremia: ocherki* (Moscow: Bioinformservis, 1999)
- 32 Siddiqi, A A, 'The rockets' red glare: technology, conflict, and terror in the Soviet Union', *Technology and Culture*, 44/3 (2003), pp470–501
- 33 Vetrov, G, 'S. P. Korolev i razvitie muzeev po kosmonavtike', in note 6, p199. Some of the original artefacts were returned after the secretary of the local Moscow Communist Party (*obkom*), V I Konotop, expressed displeasure over the changes.
- 34 For a critical look at Glushko's revisionism, see Nazarov, G, 'You cannot paper space with roubles: how to save billions' (in Russian), *Molodaia gvardia*, 4 (1990), pp192–207.
- 35 Rakhmanin, V F and Sterpin, L E (eds), *Odnazhdy i navsegda...: dokumenty i liudi o sozdatele raketnykh dvigatelei i kosmicheskikh sistem akademike Valentine Petroviche Glushko* (Moscow: Mashinostroenie, 1998), pp103, 174–6
- 36 For a historical look at the 'contemporaries' genre, see Walker, B, 'On reading Soviet memoirs: a history of the "contemporaries" genre as an institution of Russian intelligentsia culture from the 1790s to the 1970s', *Russian Review*, 59 (2000), pp327–52.
- 37 See, for example, Ishlinski, A Yu (ed.), *Akademik S. P. Korolev: ucheni, inzhener, chelovek* (Moscow: Nauka, 1986); Filina, L A (ed.), *Byl veku nuzhen Korolev': Po stranitsam arkhiva Memorial'nogo doma-muzeia akademika S. P. Koroleva* (Moscow: MDMA Koroleva, 2002). Korolev's daughter Natalia Koroleva has also published a two-volume biographical work on her father. See *Otets: kniga pervaiia* (Moscow: Nauka, 2001) and *Otets: kniga vtoraiia* (Moscow: Nauka, 2002).
- 38 For the massive 'memoirs of contemporaries' collection dedicated to Glushko, see Rakhmanin, V F and Sterpin L E, note 35. Glushko's son Aleksandr Glushko has published numerous pieces in the journal *Novosti kosmonavtiki* (*Journal of Cosmonautics*) deifying Glushko and all the personalities connected to his legacy.
- 39 See, for example, Evteev, I, note 31; Evteev, I, *Zolotoi fonda akademika Chelomeia: dokumental'nyi ocherki* (Moscow: Bioinformservis, 2004); Khrapovitski, D (ed.), *General'nyi Konstruktor Akademik V. N. Chelomei* (Moscow: Vozdushni Transport, 1990).
- 40 For a look at nostalgia for Communism, see Efimova, A, 'Communist nostalgia: on Soviet aesthetics and post-Soviet memory', PhD dissertation, University of Rochester, 1998.
- 41 See, for example, Paperno, I, 'What can be done with diaries?', *Russian Review*, 63 (2004), pp561–73; Hellbeck, J, 'The diary between literature and history: a historian's critical response', *Russian Review*, 63 (2004), pp621–9.
- 42 See many of the essays in McGaw, J A (ed.), *Early American Technology: Doing and Making Things from the Colonial Era to 1850* (Chapel Hill, NC: University of North Carolina Press, 1994). The use of diaries has been particularly important for explorations of gender and technology. See, for example, Maines, R P, *The Technology of Orgasm: 'Hysteria', the Vibrator, and Women's Sexual Satisfaction* (Baltimore, MD: Johns Hopkins University Press, 1999). For methodological considerations, see Asner, G, 'Researching the history of technology at the Hagley Museum and Library', *Technology and Culture*, 44/4 (2003), pp762–77.

- 43 Particularly noteworthy are the diaries of Nikolai Kamanin, who managed cosmonaut training from 1960 to 1971. With the sponsorship of private publishers, his son published four volumes: *Skrytyi kosmos: kniga pervaiia, 1960–1963gg.* (Moscow: Infortekst IF, 1995); *Skrytyi kosmos: kniga vtoraiia, 1964–1966gg.* (Moscow: Infortekst IF, 1997); *Skrytyi kosmos: kniga tret'ia, 1967–1968gg.* (Moscow: Novosti kosmonavtiki, 1999); *Skrytyi kosmos: kniga chetvertaia, 1969–1978gg.* (Moscow: Novosti kosmonavtiki, 2001).
- 44 Notable collections include those of engineers Boris Chertok, Konstantin Feoktistov and Oleg Ivanovski, all of whom worked for Sergei Korolev.
- 45 James Oberg quoted in *Russian Space History, Sale 6516*, note 23, description for Lot 29.
- 46 Wilford, J N, 'Soviet space papers going on sale', *New York Times* (5 December 1993), p36; Martin, D, note 23
- 47 The relevant exhibit can be seen at <http://www.nasm.si.edu/exhibitions/gal114/SpaceRace/sec300/sec360.htm> (accessed 9 May 2005).
- 48 For details of the 'request for proposal', see <http://prod.nais.nasa.gov/cgi-bin/eps/synopsis.cgi?acqid=115760> (accessed 7 June 2005). The project also encompasses translating two notebooks of another senior engineer from the Soviet space programme, Konstantin Feoktistov.