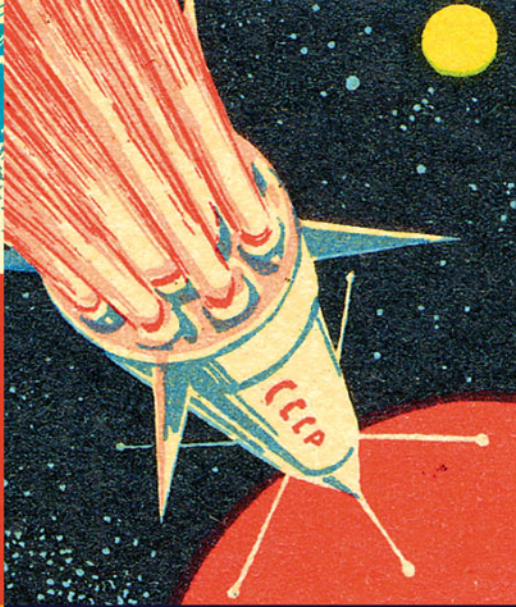

SOVIET SPACE CULTURE

COSMIC ENTHUSIASM IN SOCIALIST SOCIETIES

EDITED BY EVA MAURER, JULIA RICHERS, MONICA RÜTHERS & CARMEN SCHEIDE

Soviet Space Culture

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Edited by
Eva Maurer
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and
Carmen Scheide

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Preface

Earlier versions of most of the contributions collected in this volume were first presented at the conference *Cosmic Enthusiasm: The Cultural Impact of Soviet Space Exploration since the 1950s* held in Basel, Switzerland in January 2009 (for details of the conference programme, see www.spacecultures.net). We would like to thank the institutions who made the conference possible: the Swiss National Science Foundation, the Swiss Academy of Humanities and Social Sciences, the Freie Akademische Gesellschaft Basel, the cogito foundation and the Hotel Krafft. We are also indebted to the Gerold und Niklaus Schnitter-Fonds für Technikgeschichte for their support of this publication. Many thanks to all of those who contributed to the making of the conference and this volume, especially to Anna K. Liesch, to Ruth Ireland and Keith Povey of Palgrave Macmillan, to our translators Elizabeth Schlüssel, Rosie Tweddle, Michael Dobbins and to all authors and conference participants.

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atheist education and socialist rituals that follows two distinct, yet overlapping, life-cycles: that of Marxist-Leninist scientific atheism, as it attempted to transform religiosity and fill the space that had been occupied by religion with a distinctly Soviet spiritual content; and that of Soviet citizens, whose lives were ordered and made meaningful by Soviet beliefs and rituals. Research interests include: everyday life, ritual culture, religion and secularism, and the cultural history of Soviet social sciences. She can be emailed at vsmolkin@wesleyan.edu

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1
Introduction
What Does 'Space Culture' Mean in Soviet Society?

Eva Maurer, Julia Richers, Monica Rüthers and Carmen Scheide

In December 2009, an official Russian organizing committee met to discuss the celebrations planned for the year 2011, which – in honour of Iurii (Yuri) Gagarin's spaceflight – had been declared the 'Year of Russian Cosmonautics'.[1] In his address to the committee, Russian Prime Minister Vladimir Putin expressed his concerns about the 'falsification' of history. Even in Russian shops, he argued, you could buy books 'without a word either on the first *Sputnik* of the earth or about Gagarin's take-off'. The 50th anniversary of the latter achievement would provide a good opportunity to point out 'to the world public the key role of Russia in the conquest of the cosmos'.[2] Only a few months later, a Russian-made 3D animation movie entitled 'Star Dogs: Belka and Strelka' was first shown in cinemas across the country.[3] The state-of-the art animation technique used in the film, however, did not meet the taste of one blog commentator who thought that there was no need to imitate Hollywood, as this was, he said, '*our* animation film about our, and only *our*, history'.[4] Thus, in different ways, Russian politicians and ordinary people remember the Soviet 'space age' as an important and memorable part of their own history and culture. In different cultures of memory various stories about the Soviet space exploration programme are told and its protagonists, be they animals, objects or people, are still remembered today (see Figure 1.1).

Beep, dog, man, woman: a brief introduction to the major events

Between the mid-1950s and the mid-1960s, the Soviet Union took off into outer space with a whole series of so-called 'space firsts' (see Figure 1.2) – spectacular milestones in the conquest of outer space. It all started on

Figure 1.1 Matchbox label. These labels featuring space heritage were glued on matchboxes and sold in sets, and date from the 1960s and 1970s. Rüthers bought a small collection at a Moscow flea market in 2003. One series concentrates on the Tsiolkovskii museum in Kaluga, others feature the space dogs and the heroes of manned space travel. The collection includes some cards of a larger size as well.
Source: M. Rüthers private collection.

4 October 1957 when the first man-made object orbited the globe. The Soviet satellite *Sputnik* ('companion') was twice the size of a football, weighed 84 kg, and had four backwards-pointed antennae, making it look vaguely like a comet. Its chirp or beeping sound was heard on short-wave radio all over the world; the *Sputnik* itself could even be seen with the naked eye in twilight: the Space age had begun. Only a month later, on 3 November, *Sputnik II* carrying the dog Laika was launched on the occasion of the 40th anniversary of the October Revolution. Laika travelled without a return ticket, because after a few days she was to be given poisoned food. In fact, she died even earlier after a few hours of flight from stress and overheating, but this was kept secret until the collapse of the Soviet Union. To the public, Laika's mission was presented as a complete success. Two other dogs, Belka and Strelka, who flew into space in 1960, were much luckier and came back safe and sound, the first living creatures to so do. The next breakthrough was the first manned space flight with the cosmonaut Iurii Gagarin on 12 April 1961. Two years later, on 16 June 1963, Valentina Tereshkova was the first woman in the world to fly into outer space – another Soviet 'first'.

This series of successes could not go on forever. In 1966, Sergei Korolev, the charismatic and omnipresent chief designer of the Soviet space programme, died suddenly and left an almost insurmountable gap.

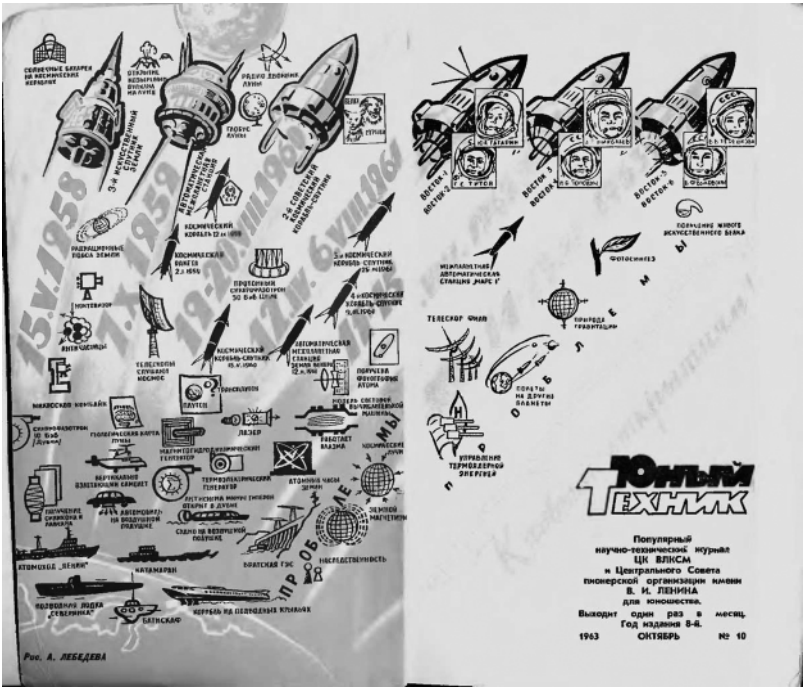

Figure 1.2 A series of 'space firsts'
Source: Iunyi Tekhnik 10, 1963.

Two years later, in 1968, Iurii Gagarin passed away after a plane crash, and the United States finally triumphed by sending the first men to the moon in 1969. Arguably, these three events marked the end of Soviet supremacy in space. However, that decade had seen human space exploration become a reality and at the same time, as evident from the quotes above, had left a lasting impact on Soviet society.

While *Sputnik* was not a military threat in the first place, but rather a symbol of the technological achievements of the Soviet Union, its impact on US politics and policies are still aptly summarized by the well-known term 'Sputnik shock'. This scientific and technological instrument not only suggested the potential Soviet superiority in science and technology, but it also implicitly seemed to legitimize the political system through its success. Since the development of spaceflight technology had always been closely linked to the complex of rocketry and warfare, a technological success was not just humiliating but potentially threatening in a military sense as well. Thus, *Sputnik* marked

the beginning of the so-called 'space race' in which the Americans scored an important victory in 1969. Arguably with less public enthusiasm, space exploration continued on both sides of the Iron Curtain. In the 1980s, more public attention was probably directed towards the strategic arms race, whose connection to spaceflight and rocketry was by then obvious in projects such as the Strategic Defense Initiative (SDI, sometimes called 'Star Wars') and in the development of long-range intercontinental ballistic missiles (ICBM), armed not with dogs or people, but with nuclear bombs.[5]

This volume returns to the heyday of what we call 'cosmic enthusiasm': to the Soviet society of the 1950s and 1960s and its reactions to the space successes (and the few known failures). As the contributions collected here show, the influence of *Sputnik* and Gagarin went far beyond political leaders and military circles. The fascination with space travel in the USSR and the US neither developed at the same rate, nor can it be considered only from the perspective of the Cold War and the arms race. The contributions in this volume set out to look at Soviet space exploration as a cultural phenomenon, one which is inextricably linked to the history of Russia and the Soviet Union both at its conception and throughout its evolution. We also demonstrate how this phenomenon was influenced by specific traditions in Russian and Soviet history and how it was reflected in ideology, imagination and everyday life.

The 'cosmic era': The Soviet 1960s

In their book about the Soviet 1960s, Peter Vail' and Aleksandr Genis dedicate an entire chapter to the *kosmos*. For them, spaceflight has to be regarded in the context of the other changes of this era:

> For the Soviet person, the cosmos was also the symbol of total liberation. Stalin had been unmasked, Solzhenitsyn had been printed, transistor radios were finally available, there was talk about initiative and critique. Travelling to the cosmos seemed the logical conclusion of the process of liberation and the beginning of a period of freedom.[6]

The leap into space was, indeed, the perfect symbol for a nation in a phase of transition. The launch of *Sputnik* can be seen as an integral part of the so-called 're-launch of socialism' under Nikita Khrushchev (First Secretary of the Communist party from 1953 to 1964). The Soviet Union had emerged officially victorious, yet was in many ways still seriously

affected by World War II. People's hopes for more freedom and openness which had been nurtured during the war were disappointed, once again, in the later years of Stalinism. While mass repressions like those of the 1930s did not return in the post-war years, there were numerous political trials and 'witch hunts' often directed at anything foreign, testifying to the xenophobic and claustrophobic political climate of stagnation. At the onset of the Cold War, living conditions for most Soviet citizens were still extremely harsh. With Stalin's death in March 1953, an era ended which had catapulted a mostly agrarian society into the industrial age, but at the price of severe hardship for most Soviet citizens – who accordingly had lost much enthusiasm for the socialist project. The subsequent process of de-Stalinization[7] brought about changes in many different fields. In the process of 'unmasking' Stalin's crimes, political amnesties allowed hundreds of thousands to return from the Gulag to the cities, where the victims of the Stalinist repressions encountered those who had profited from the regime.

Khrushchev set out to improve living conditions by promoting large-scale urban housing construction; at the same time, more emphasis was placed on the long-neglected light industry, especially on much demanded consumer goods. The *Sputnik*, in itself a symbol of 'modernity through technology', fitted in with the urban, Western-oriented lifestyle of a younger generation, which was spared the experiences of the revolution, the civil war or the terror of the 1930s. At the same time, it stood for much more. It refuelled utopian hopes, became a symbol and part of the re-launch of socialism and in turn shaped Soviet history, culture, media and lifestyles for the next generation – a generation which, as Khrushchev promised in July 1961, would live to see communism in practice.[8]

On a political level, the Soviet Union at the same time promoted the concept of 'peaceful coexistence'. Khrushchev attempted to soften the threat scenario which had arisen (not only) from the Soviet advancement in technology in his public speeches both in and outside the USSR by means of a persistent rhetoric of peace. Especially after Gagarin's legendary flight in 1961, 'peaceful coexistence', 'peace and happiness of the people' and the emergence of man into endless freedom and boundlessness were frequently evoked. However, at the same time the construction of the Berlin Wall was underway, and in the Caribbean, the Cuban crisis almost led to a nuclear war. Similarly, while many foreigners may have admired *Sputnik* in 1957, the violent Soviet reaction towards the uprisings in Berlin (1953), Poland and Hungary (1956) was still very present. Since both the competition with the United States and

the project of 'peaceful coexistence' were linked to space exploration, cosmonauts could appear as 'ambassadors of peace' and, at the same time, as representatives of a potentially aggressive superpower.

Approaches to cosmic enthusiasm

Vail' and Genis are not alone in affirming that the Soviet space programme indeed boosted the morale of many Soviet citizens, even given that this kind of optimism – under the still popular Stalinist slogan 'Higher, further, better' – was somewhat mandatory or at least expected in public.[9] A significant proportion of the population, regardless of age and gender, took interest in space travel either briefly or for a longer period of time. Space exploration and the *kosmos* as a motif were taken up and reflected upon in many areas of life, from arts and literature to the everyday world of Soviet consumers. The essays collected here show the scope of 'cosmic enthusiasm' as well as the disillusionment that followed in the course of time. They are arranged in four thematically grouped sections: the spiritual and transcendental dimensions of the Soviet space programme (Part I), the social and cultural practices of remembering *kosmos* and constructing heroes in Soviet and post-Soviet times (Part II), how various means of communication and the media were used to reflect space travel (Part III), and finally, how space was popularized in socialist culture (Part IV). However, many of the essays in fact touch on several themes and recurrent motifs that make the multifaceted character of space exploration and its cohesive force between different areas of life particularly clear.

The prominent use of the Soviet space programme as political propaganda and a vehicle of cultural diplomacy is taken up by several authors: *Sputnik* became the centrepiece of the Soviet Union's self-representation at the World Fair in Brussels in 1958. Lewis Siegelbaum shows in detail how this exhibition and the reactions it caused were monitored by the Soviet authorities. In domestic politics, space exploration was also used in a revived campaign against religious beliefs, often propagated by cosmonauts as ambassadors of a scientific worldview. Victoria Smolkin-Rothrock's contribution focuses on how the planetarium became an important instrument in shaping Soviet citizens' views of the universe, creation and their own place within it. Cosmonauts were regularly sent as informal ambassadors to Eastern European countries where they conveyed a more likeable image of the Soviet Union than politicians, soldiers and tanks. However, in Yugoslavia, which was not subject to the Soviet bloc, they competed with the American astronauts, a story that Radina Vučetić's chapter explores.

Heroes and heroines were constructed and reconstructed by different groups, by authorities and followers, in personal stories and through modern mass media. The latter were crucial in propagating the space exploration programme, rendering people into heroes and stories into myths. That visual representations occupy a particularly important place is demonstrated in Iina Kohonen's chapter, where she analyzes photographs of cosmonauts depicting the 'heroic' and the 'ordinary'. She also takes a look at gender roles that were an important aspect in the public construction of heroic figures: Valentina Tereshkova, the first woman in space, not only initiated a heated gender debate in the East and West about the role and equality of women, but also became a Soviet fashion icon.[10] At the same time, these examples show that the everyday form of an extended consumer culture and a new aesthetic sensibility were part of the 'cosmic era'.[11] More prominent than the women were, however, the male figures in the pantheon of space heroes. Michael Hagemeister explores the life and thinking of Konstantin Tsiolkovskii, who in Soviet times, posthumously, became the father of Soviet space travel. The myth-making around that generation is analyzed exemplarily by Slava Gerovitch's chapter on Sergei Korolev. Here, myth and memories were constructed and reconstructed over time by different groups, and different narratives competed with one another.

Children and young adults were ardent in their enthusiasm for the cosmos and space travel. This topic is explored both by Monica Rüthers and Roshanna Sylvester.[12] By targeting children and teenagers, a discursive connection between communism and its renewal was made explicit, and a trajectory towards the future was established. At the same time, the association of cosmonautics with childhood and youth helped to connote space exploration with a certain innocence and playfulness, emphasizing the adventurous spirit of discovery and attempting to hide associations with warfare and the world of grown-up political power games and *Realpolitik*.

Despite the cosmos' connections to consumer culture, Soviet man did not live 'on bread alone',[13] as stated in the title of Vladimir Dudintsev's 1957 novel – a story about an individualist engineer who placed human truthfulness above opportunistic thinking and failed. In a letter to Il'ia Erenburg (Ilya Ehrenburg), whose novel *The Thaw*[14] lent its name to the epoch, a student asked him about the place of poetry in this beautiful new world of limitless possibilities and about the 'lily branch in the cosmos'.[15] The 1960s were the years of the cultural thaw: while the Soviets conquered space, many people turned to their private spheres, to questions about the meaning of life, justice, freedom and beauty.

Thus, in literature and art the motif of the cosmos was also prominent: it promised to bridge the gap between the 'two opposing cultures', the romantic and the scientific, dream and technology.

Some of the fascination for outer space stems from its subversive and escapist potential: *Kosmos* had the potential of a world beyond terrestrial limitations and everyday reality. Its ongoing popularity was certainly owed to its multifaceted, open character that lent itself to many different ways of adapting it. This becomes clear both in Matthias Schwartz's contribution, which traces the early enthusiasm for outer space in popular scientific journals, and in Thomas Grob's chapter, which looks at the representations and meanings of outer space in Eastern European science fiction. Similarly, Anneli Porri shows how, at the border of the Soviet empire, in Soviet Estonia, artists took up the cosmos motif to experiment with new and otherwise possibly inacceptable art forms, while in post-Soviet Estonian art the same iconography acquired a different meaning.

Different groups not only adopted, 'used' and remembered the cosmos in different ways, they also did so on different time scales. Thus, for example, the space volunteer organizations in the Russian regions that are exemplarily explored by Anna Eremeeva and Vladimir Sadym had their heyday after the decade of Soviet successes, still fuelled by the initial, but now more 'down-to-earth' enthusiasm that was closely linked to regional politics, the intelligentsia and the education system. Andrei Rogatchevski's analysis of two central forms of popular culture – songs and movies – shows not only substantial differences between American and Soviet adaptations of the space exploration theme, but also a shift from an optimistic stance to rather disillusioned counter-narratives of the space fever in post-Soviet times. Indeed, over time, cosmic enthusiasm evolved into something else that Asif Siddiqi calls 'nostalgia for the future'. His contribution traces this change in depth and forms an epilogue to this volume.

Notes

1. See *Ukaz prezidenta RF N 1157, 31.7.2008 (O prazdnovanii 50-letija poleta v kosmos Iu. A. Gagarina)*. Available online: http://www.roscosmos.ru/main.php?id=91 (last visited May 5, 2010).
2. Gazeta.ru, December 22, 2009, see http://www.gazeta.ru/news/lenta/2009/12/22/n_1438460.shtml (last visited May 6, 2010).
3. *Zvezdnye sobaki: Belka i Strelka*. 2010; Directors: Sviatoslav Ushakov and Inna Evlannikova. See http://www.belka-i-strelka.ru/ (last visited May 6, 2010).
4. Commentary by Sallinger, April 5, 2010, see: http://www.kinopoisk.ru/level/1/film/395691 (last visited May 6, 2010; emphasis ours).

5. The impact of the early Soviet successes in space on international political and military history is well-documented and acknowledged; for a detailed overview, see Julia Richers' review in this volume.
6. Petr Vail', Aleksandr Genis, *60-e. Mir sovetskogo cheloveka*, 3rd edn, Moskva: Novoe literaturnoe obozrenie, 2001, p. 25 (translation Eva Maurer).
7. See *The Dilemmas of De-Stalinization: Negotiating Cultural and Social Change in the Khrushchev Era*, ed. Polly Jones, London and New York: Routledge, 2006.
8. On this topic see Vail'/Genis, *60-e*, pp. 12–18.
9. Peter Nisbet, 'The Response to Science and Technology in the Visual Arts', *Science and the Soviet Social Order*, ed. Loren R. Graham, Cambridge, MA: Harvard UP, 1990, pp. 341–58; here 350.
10. See *Women in the Khrushchev Era*, ed. Melanie Ilič, Susan E. Reid and Lynne Attwood, Basingstoke: Palgrave Macmillan, 2004; Julia Richers: 'Die erste Kosmonautin: Valentina Tereškova und der transkontinentale Geschlechterkampf im Kalten Krieg', *Gender in Trans-it. Transkulturelle und transnationale Perspektiven*, ed. Anja Rathmann-Lutz, Anna Liesch, Simon Wenger and Martina Ineichen, Zürich: Chronos, 2009, pp. 235–45.
11. See Iurii Gerchuk, 'The Aesthetics of Everyday Life in the Khrushchev Thaw in the USSR (1954-64)', *Style and Socialism: Modernity and Material Culture in Post-War Eastern Europe*, ed. Susan E. Reid and David Crowley, Oxford: Berg, 2000, pp. 81–99.
12. See Monica Rüthers, 'Kindheit, Kosmos und Konsum in sowjetischen Bildwelten der sechziger Jahre. Zur Herstellung von Zukunftsoptimismus', *Historische Anthropologie* 17, 2009, no.1, pp. 56–74.
13. The novel by Vladimir D. Dudintsev, *Ne khlebom edinym* (*Not by bread alone*) first appeared in the magazine *Novy Mir* No. 8–10, 1957.
14. Il'ia Erenburg, *Ottepel'*. The novel was published in 1954 in the magazine *Znamja*.
15. Harald Hamrin, *Zwei Semester Moskau*, Frankfurt am Main: Fischer, 1962, pp. 36–45.

2

Space is the Place! Writing About Soviet Space Exploration

Julia Richers

In historical research on Soviet space exploration particular attention has been paid to the aspects of competition between the United States and the Soviet Union, the associated (nuclear) arms race during the Cold War and the technological history of space travel. However, the societal impact, the utopian aspects and the cosmic enthusiasm of the populace about the Soviet successes in space have, to a large extent, gone unnoticed. Yet in some socialist countries, such as the USSR or the GDR, a real cosmos and space fever broke out. A powerful utopia, capable of exciting the masses, developed out of this phenomenon – perhaps because it provided an escape and an alternative to the burdensome and colourless daily life. Research on the history of Soviet space exploration took three main directions: (i) a *history of science and technology*; (ii) a *political history* of the Cold War in which the space race is seen as a sub-chapter of the military arms race and the competition between the superpowers, the US and the USSR; and (iii) as part of the *social and cultural history* of Russia and the Soviet Union.

History of science and technology

In the past 50 years, most studies have been published on the scientific and technological aspects of the Soviet space programme, despite the fact that the majority of relevant archive documents were not open to the public until the 1980s, and some even until today. The early years of Russian rocket design form a research area of its own. An analysis of the publications released reveals that there are two clearly distinct narratives: one states that the origins of the Soviet space programme can be traced back to Konstantin E. Tsiolkovskii, who is still widely held to be the founding 'father' or 'grandfather' of Soviet space travel and is

even today celebrated and admired as a national hero. Around 1900, Tsiolkovskii constructed Russia's first wind tunnel for aerodynamic studies in the small provincial town of Kaluga and developed the famous 'Tsiolkovskii rocket equation'. Most studies about him were written in the Soviet era and, for the most part, resemble hagiographies.[1] Recently, a compact study titled *K. E. Tsiolkovskii, Grandfather of Soviet Rocketry* was published by the American historian James T. Andrews. Supported by various archival findings, he highlights Tsiolkovskii's biography and his technical achievements. However, he does not discuss Tsiolkovskii's downright eccentric utopian philosophical thinking, which strongly influenced his cosmic enthusiasm.[2]

The second narrative identifies the origins of the Soviet space programme with the Soviet seizure and appropriation of German National Socialist rocket technology and specialists in the spring of 1945. In these studies, the historical beginnings of Soviet rocketry are not located in Russia, but rather in the further development of Nazi ballistic missile technology, especially the German 'vengeance weapon' V-2.[3] Both narratives, the myth of the Russian origin dating back to Tsiolkovskii and the National Socialist contribution to the Soviet space programme, pay too little attention to the fact that in the 1920s and 1930s there were extremely active, independent research groups within Russia. For instance, relatively little has been published on the group GIRD founded in Moscow in 1931. GIRD stands for *Gruppa izucheniia reaktivnogo dvizheniia* (Group for the Study of Reactive Motion) whose central figures were Fridrikh A. Tsander (1887–1933) and Sergei P. Korolev (1906–1966). Tsander had also been involved in founding the first space advocacy society in Moscow in 1924. As early as 1921, a military research laboratory for weapon systems and rocket technology had been established first in Moscow and then in Leningrad, where it merged with GIRD in 1933 to become a new research institution, the 'Reactive Scientific-Research Institute' (RNII).[4]

Besides the studies on the early history of Soviet rocket and spacecraft technology, the emphasis of most publications is on the 'real' space age, that is, on 1957, the year of *Sputnik*, and the following two decades. Among the almost countless publications on the scientific and technological aspects of the subject only a few standard reference works will be mentioned here. One of the first comprehensive studies on the Soviet space programme was James E. Oberg's *Red Star in Orbit* published in 1981.[5] His monograph used to be one of the best-informed Western surveys of Russian cosmonautics. Another standard work that placed special emphasis on the history of technology is Christian Lardier's

L'Astronautique Soviétique published in 1992.[6] There are also several German experts who published extensively on the technological history of the Soviet space age.[7] However, the unsurpassed standard work on the history of Soviet space exploration is *Challenge to Apollo: The Soviet Union and the Space Race, 1945–1974* by Asif A. Siddiqi published in 2000.[8] Siddiqi's monumental work is based on years of research in Russian and American archives and is the starting point for any study on Soviet space history.

Russian historians, of course, had much easier access to archives and historical documents than most Western historians. For that reason, some Russian publications containing fundamentally new insights into the history of Soviet space travel appeared from the mid-1990s onwards. Among these are also collections of formerly inaccessible archival documents.[9] Important Russian journals that published new aspects of space history are: *Novosti kosmonavtiki* (*News on Cosmonautics*), *Iz istorii aviatsii i kosmonavtiki* (*History of Aviation and Cosmonautics*), *Nauka i zhizn'* (*Science and Life*). Important Western journals are: *Quest. The Journal of Spaceflight History* and the journal *Spaceflight* published by the British Interplanetary Society.

Studies published by former leading employees of the Soviet space programme form a category of their own. The most well-known among them are publications about Sergei Korolev, who is considered to be the 'father' of Soviet space travel in the family tree of space genealogy. James Harford's historical biography on Korolev published in 1997 is the first non-hagiographic study about the chief designer of the Soviet space programme whose identity had remained long undisclosed. A few years later, the Russian science journalist Iaroslav Golovanov presented the most detailed study on Korolev to date titled *Korolev: fakty i mify* (*Korolev: Facts and Myths*).[10]

There are also several detailed portrayals of former space engineers and technicians. In this context one source that has hardly been analyzed until now is that of autobiographical accounts: diaries, notebooks and memoirs of leading scientists. The most important sources are the several volumes of the highly revealing memoirs of the prominent space engineer Boris E. Chertok which were published under the title *Rakety i liudi* (*Rockets and People*).[11] Also of great significance are the diaries of the space engineer and cosmonaut Konstantin P. Feoktistov;[12] the diaries of the head of cosmonaut training Nikolai P. Kamanin;[13] the personal accounts of Valentina L. Ponomareva,[14] back-up for the first female cosmonaut; and the autobiography of cosmonaut Aleksei Leonov.[15]

Political history

A glance at those previously mentioned testimonies of leading protagonists of the Soviet space programme reveals that the borders between a history of technology and a political history are blurred in the case of Soviet cosmonautics. The development of ever more potent missile and spacecraft technologies was heavily influenced by the competition between the two superpowers, the US and the USSR. In some historical studies about the time after 1945, the history of space exploration appears solely as part of the Cold War, of the East–West conflict and the associated military arms race. For they argue that it was only after the development and design of intercontinental ballistic missiles (ICBM) and nuclear warheads – as the two most significant geopolitical technological breakthroughs of the 20th century – that the Cold War space race became so intense.

Outer space was considered to be another potential battlefield of the two superpowers and the race to the Moon was often seen as the definitive vanishing point of all endeavours in this 'substitute war' in space.[16] The growing neo-colonial desires of the superpowers had to be regulated by the international Outer Space Treaty of 1967. From then on, no nation could claim ownership of outer space, for example the Moon or other celestial bodies such as Mars. In addition to the construction of a realistic military threat scenario, the 'astropolitics' on both sides of the Iron Curtain were part of a competition between different world views and about intellectual, scientific and technological innovations.

In most historical accounts, the starting point for the great space race of the superpowers was the launch of the first artificial satellite *Sputnik* in October 1957.[17] The beeping metal ball which flew over American living rooms once every hour not only led to the so-called 'Sputnik shock', in many ways it also indicated a fundamental turning point in military technology, espionage, media, communications and cultural history.[18]

In view of the vast number of historical and popular science publications on the space race during the Cold War, this chapter mentions only a small selection of reference works dealing with the Soviet side of the space race. The monograph by the American historian Walter A. McDougall titled *The Heavens and the Earth. A Political History of the Space Age* was published in 1985 and is still one of the most important introductions to the topic, despite the fact that the political rhetoric of the Cold War left some traces in his writing.[19] Another renowned work is William E. Burrows' *This New Ocean: The Story of the First Space Age*

published in 1998.[20] Two classics are Leonid Vladimirov's *The Russian Space Bluff: The Inside Story of the Soviet Drive to the Moon*[21] and Nicholas Daniloff's *The Kremlin and the Cosmos* which both focus on the political ambitions of the Soviet leadership.[22] Just as relevant, but not yet thoroughly analyzed, is the book *Nikita Khrushchev – Krizisy i rakety* (*Nikita Khrushchev – Crises and Rockets*) which was published in the mid-1990s by Sergei N. Khrushchev, the son of the ex-Soviet head of state Nikita S. Khrushchev.[23]

Viewing Soviet space history solely as a part of political history poses two distinct problems: first, by presenting space travel as a child 'born of the Cold War'[24] and perceiving its emergence as inseparably linked to the East–West conflict, independent developments of Soviet (and American) space aspirations in earlier decades are generally ignored. Second, this approach, which adheres to the traditional thinking in blocs, ignores possible contact zones and transnational interactions between East and West. Thus further research needs to be conducted on the issue of 'cooperation despite confrontation'.[25]

Social and cultural history

The cultural history approach to the study of space travel is a new and innovative field of historiography. Even today, we still know little about the profound cultural and social dimensions of spaceflight and cosmic enthusiasm. The theme of Soviet space exploration received much attention in Russian science fiction literature which is called *nauchnaia fantastika* – 'scientific fantasy' – in Russian.[26] Among the early classics of Russian space literature are Aleksandr A. Bogdanov's *Red Star* (*Krasnaia zvezda*, 1908) and *Engineer Menni* (*Inzhener Menni*, 1912), as well as Konstantin Tsiolkovskii's *Outside the Earth* (*Vne zemli*, 1920). Evgenii Zamiatin's *We* (*My*, 1920) also belongs to the category of cosmos-related science fiction. The 'real' space age produced another bulk of cosmos novels in the 1950s and 1960s. Among the best-known novels of the time are Ivan A. Efremov's *Andromeda Nebula* (*Tumannost' Andromedy*, 1957) and the many stories by the brothers Arkadii and Boris Strugatskii.[27] Apart from the specific genre of science fiction, there exist other literary accounts of the cosmos theme. These include, for example, Chingiz Aitmatov's *The Day Lasts More Than a Hundred Years* (*I dol'she veka dlitsia* den', 1980) and, in the post-Soviet era, Viktor Pelevin's *Omon Ra* (1993) and Vladimir Sorokin's story *Incident on the Road* (*Dorozhnoe proisshestvie*, 1991) as well as his trilogy *Ice* (*Led*, 2002), *Bro's Way* (*Put' Bro*, 2004) and *23000* (2005). Matthias Schwartz' scholarly study titled

Die Erfindung des Kosmos on the Soviet 'invention of the cosmos' and his PhD thesis on popular Soviet science fiction from the 1920s to the 1960s are particularly ground-breaking in the establishment of an interdisciplinary interface between literary studies and history.[28]

The numerous science fiction films on space travel produced in various film studios across Eastern Europe have attracted much less attention. To date, no systematic analysis of socialist space travel films exists. There are only studies on individual productions, for instance, on the very first space travel films from early Soviet times such as the film adaptation of Aleksei N. Tolstoi's Mars novel *Aelita* (1924) as well as the short film *Mezhplanetnaia revoliuciia* (*Interplanetary Revolution*), also first shown in 1924. Other movies worthwhile studying in depth are, for instance, *Kosmicheskii reis* (*Cosmos Flight*, 1935), *Nebo zovet* (*The Sky is Calling*, 1959) and *Planeta bur'* (*Planet of Storms*, 1961). In 2005, the film *Pervye na lune* (*First on the Moon*) was the first so-called 'mockumentary' on the Soviet space age.[29] Science fiction novels and films are generally considered to belong to *popular culture*. They were widespread among the Russian population and sometimes offered more freedom to ruminate on utopias and dystopias than other strictly censored media, due to their blurring of borders between Soviet reality and futuristic fiction.

Space travel not only spurred the imagination of writers and filmmakers, artists and architects, but also appeared in intellectual discourses, philosophical texts and utopian thinking throughout the Soviet period. Particularly, the October Revolution in 1917 triggered a wave of far-flung 'cosmic' utopias. Richard Stites' *Revolutionary Dreams. Utopian Vision and Experimental Life in the Russian Revolution* published in 1989 is still an uncontested standard reference work, providing invaluable insights into such fantastical utopias.[30] Just as important is the *Histoire de l'utopie en Russie* published in 1995, a detailed analysis by Leonid Heller and Michel Niqueux spanning several epochs.[31] One of the most distinguished German-speaking experts on the utopian aspects of Russian space travel ambitions is the historian Michael Hagemeister. In his doctoral thesis on Nikolai Fedorov he analyzed various intellectual groups such as the *biokosmisty* (biocosmists) who propagated Russia's advance into the cosmos. Hagemeister's studies show that the Russian dream of 'storming the heavens' (*shturm neba*) was neither born of the Cold War, nor was it limited to Soviet times, but was deeply rooted in Russia's history of ideas.[32] He also points out that the celebrated 'grandfather' of Soviet cosmonautics, Konstantin Tsiolkovskii, was not just a hard-headed rocket scientist but also promoted a 'cosmic doctrine of salvation' the radical nature of which (e.g. the extinction of inferior life, the resurrection of the

dead, the transformation of humans into cosmic radiation) by no means lagged behind other extremist biopolitical utopias of the 20th century. The Soviet Union's fascination with cybernetics, automation and the interplay between man and machine in the age of space travel has been one of Slava Gerovitch's central fields of research.[33]

Studies on aviation and the Russian and Soviet 'dream of flying' tend to deal with far less explosive utopian aspects of the history of space travel. Robert Kluge's work *Der sowjetische Traum vom Fliegen. Analyseversuch eines gesellschaftlichen Phänomens* (*The Soviet Dream of Flying. An Attempt at Analysing a Societal Phenomenon*) was groundbreaking in this particular area.[34] He highlights the historical continuity between the aviation culture of the Stalin era and the post-Stalinist cult of spaceflight. In their carefully researched book *Marsfieber* (*Mars Fever*), Rainer Eisfeld and Wolfgang Jeschke examine the age-old dream of settling on other planets and the fascination with extraterrestrial life.[35]

However, many aspects of the cosmic enthusiasm that captivated considerable parts of the Soviet populace during the 1950s and 1960s have remained largely unexplored. Surprisingly, even serious scholarly biographies of the most famous cosmonauts, for example, Iurii Gagarin[36] or Valentina Tereshkova, are still lacking. Further research is necessary with regard to the impact of the Soviet cosmos fever and the cultural heritage of space travel. What images and hopes did space travel evoke among Soviet citizens? Which cultural artefacts did it spawn? What societal attitudes and memories has the space age left behind? Until the present day, the humanities have hardly paid any attention to these questions. However, this research gap is not just a specific feature of Eastern European Studies, there is a similar gap in American space history. An anthology on the *Societal Impact of Spaceflight* was not published in the US until 2007.[37] In the same year, the first international conference on the cultural heritage of the first artificial satellite was held on the occasion of the 50th anniversary of the *Sputnik* flight.[38] In 2008, another conference named *Imagining Outer Space* dealt with the cultural reception of the cosmos in (Western) Europe.[39] The doctoral thesis *Public and Material Culture of Early Human Spaceflight in the U.S.S.R.*, submitted in 2008, made Cathleen Lewis the first researcher to look at the great material legacy of the Soviet space age. She examined in detail such unusual sources as stamps, lapel pins (*znachki*), films, monuments and museum concepts.[40] Finally, in 2010 Asif A. Siddiqi's pathbreaking monograph *The Red Rockets' Glare: Spaceflight and the Soviet Imagination, 1857–1957* was published.[41] It is the first academic study that examines one hundred years of cosmic enthusiasm in

Russia and the complex social, cultural and technological origins of Soviet spaceflight and *Sputnik*. He is also presently editing with James T. Andrews the volume *Into the Cosmos: Space Exploration and Soviet Culture in the Post-Stalin Era*.[42]

In addition to these publications, there are several research projects currently dealing with the cultural impact of Soviet space exploration. Monica Rüthers and Roshanna Sylvester, for instance, are both working on the role of the cosmos theme with regard to Soviet children, their education and their role as messengers of a better future.[43] Presently, I am preparing a study on the cultural history of the Soviet enthusiasm for space travel, focusing on social utopia, the link between communism and cosmos as well as the populace's reception and remembrances of the space age. This short and fragmentary introduction to the historiography of Soviet spaceflight shows that 'space is the place' for innovative research on Russian social and cultural history.[44]

Notes

1. See Arkadii A. Kosmodemianskii, *Konstantin Tsiolkovsky: His Life and Work*. Moscow: Foreign Languages Publishing House, 1956; Michail S. Arlazorov, *Tsiolkovskii*, Moskva: Molodaia gvardiia, 1962; Valerii Demin, *Tsiolkovskii. Zhizn' zamechatel'nykh liudei*, Moskva: Molodaia gvardiia, 2005.
2. James T. Andrews, *Red Cosmos: K. E. Tsiolkovskii, Grandfather of Soviet Rocketry*, College Station, TX: Texas A & M University Press, 2009. For further literature on Tsiolkovskii see Chapter 4 this volume.
3. On the further development of the German V-2 rocket and the role of German scientists in the Soviet space program see Christoph Mick, *Forschen für Stalin. Deutsche Fachleute in der sowjetischen Rüstungsindustrie 1945–1958*, München: Oldenbourg, 2000; Matthias Uhl, *Stalins V-2. Der Technologietransfer der deutschen Fernlenkwaffentechnik in die UdSSR und der Aufbau der sowjetischen Raketenindustrie 1945 bis 1959*, Bonn: Bernard & Graefe, 2001.
4. On the first space advocacy society in the world see Asif A. Siddiqi, 'Making Spaceflight Modern: A Cultural History of the World's First Space Advocacy Group', *Societal Impact of Spaceflight*, ed. Steven J. Dick and Roger D. Launius, Washington: NASA, 2007, pp. 513–37. In the West, similar space societies were founded somewhat later – in Austria in 1926, in Germany in 1927, in Great Britain and the US in 1930. See Frank H. Winter, *Prelude to the Space Age: The Rocket Societies: 1924–1940*, Washington, DC: Smithsonian Institution Press, 1983.
5. James E. Oberg, *Red Star in Orbit*, New York: Random House, 1981.
6. Christian Lardier, *L'Astronautique Soviétique*, Paris: A. Colin, 1992.
7. Rudolf Hofstätter, *Sowjet-Raumfahrt*, Basel: Birkhäuser, 1989; Rolf Engel, *Russlands Vorstoß ins All. Geschichte der sowjetischen Raumfahrt*, Stuttgart: Bonn Aktuell, 1988; Peter Stache, *Sowjetische Raketen im Dienst von Wissenschaft und Verteidigung,* Berlin: Militärverlag der DDR, 1987.

8. Asif A. Siddiqi, *Challenge to Apollo: The Soviet Union and the Space Race, 1945–1974*, Washington, DC: NASA, 2000, later in two volumes: idem, *Sputnik and the Soviet Space Challenge* (vol. I). Gainesville, FL: University of Florida Press, 2003 and idem, *The Soviet Space Race with Apollo* (vol. II). Gainesville, FL: University of Florida Press, 2003.
9. *Raketno-kosmicheskaia korporatsiia 'Energiia' imeni S. P. Koroleva*, ed. Anatolii P. Aleksandrov, Korolev: Raket.-kosm. korporatsiia 'Energiia', 1996; Oleg G. Ivanovskii, *Rakety i kosmos v SSSR. Zapiski sekretnogo konstruktora*, Moskva: Molodaia Gvardiia, 2005; Anatolii P. Aleksandrov, *Put' k zvezdam. Iz istorii sovetskoi kosmonavtiki*, Moskva: Veche, 2006; Sergeii Belotserkovskii, *Pervoprokhodtsy Vselennoi. Zemlia – kosmos – zemlia*, Moskva: Mashinostroenie, 1997.
10. James Harford, *Korolev: How One Man Masterminded the Soviet Drive to Beat America to the Moon*, New York: Wiley, 1997; Iaroslav Golovanov, *Korolev: fakty i mify*, 2 vols, Moskva: Nauka, 2007. On Korolev and myth-making see also Chapter 8 this volume.
11. Boris E. Chertok, *Rakety i liudi*, 4 vols, Moskva: Mashinostroenie, 1994–1999. To date, three of the four volumes have also been translated into English and published under the title *Rockets and People* in the NASA History Series.
12 Konstantin Feoktistov, *Traektoriia zhizni: mezhdu vchera i zavtra*, Moskva: Agraf, 2000.
13. Nikolai P. Kamanin, *Skrytyi kosmos, 1: 1960–1963 gg*, Moskva: Infortekst, 1995 / *2: 1964–1966 gg.*, loc. cit. 1997; *3: 1967–1968 gg.*, loc. cit. 1999 / *4: 1969–1978 gg.*, loc. cit. 2001.
14. Valentina L. Ponomareva, *Zhenskoe litso kosmosa*, Moskva: Gelios, 2002.
15. Alexei Leonow, David Scott, *Two Sides of the Moon. Our Story of the Cold War Space Race*, London: Simon & Schuster, 2004.
16. Karsten Werth, *Ersatzkrieg im Weltraum. Das US-Raumfahrtprogramm in der Öffentlichkeit der 1960er Jahre*, Frankfurt, New York: Campus, 2006.
17. Paul Dickson, *Sputnik. The Shock of the Century*. New York: Walker Publishing, 2001; *Reconsidering Sputnik: Forty Years Since the Soviet Satellite*, ed. Roger D. Launius, John M. Logsdon and Robert W. Smith, Amsterdam: Harwood Academic Publishers, 2000; Robert A. Divine, *The Sputnik Challenge. Eisenhower's Response to the Soviet Satellite*, New York: Oxford University Press, 1993.
18. See on this topic the introduction to Part III in this volume.
19. Walter A. McDougall, *The Heavens and the Earth. A Political History of the Space Age*, New York: Basic Books, 1985.
20. William E. Burrows, *This New Ocean: The Story of the First Space Age*, New York: Random House, 1998.
21. Leonid Vladimirov, *The Russian Space Bluff: The Inside Story of the Soviet Drive to the Moon*, New York: Dial Press, 1973.
22. Nicholas Daniloff, *The Kremlin and the Cosmos*, New York: Knopf, 1972.
23. Sergei N. Khrushchev, *Nikita Khrushchev – Krizisy i rakety*. Moskva: Novosti, 1994 et seq. Engl. *Nikita Khrushchev and the Creation of a Superpower*, University Park, PA: Pennsylvania State University, 2000.
24. Werth, *Ersatzkrieg*, p. 9.
25. See the recent special issue of the German history journal *Osteuropa* by the same title: "Kooperation trotz Konfrontation", *Osteuropa*, 59, 2009, no. 10.
26. See for example Anatolii F. Britikov, *Russkii sovetskii nauchno-fantasticheskii roman*, Leningrad: Nauka, 1970; Boris V. Liapunov, *V mire fantastiki. Obzor*

nauchno-fantasticheskoi i fantasticheskoi literatury, Moskva: Kniga, 1975; Darko Suvin, *Russian Science Fiction 1956–1974*, Elizabethtown, NY: Dragon Press, 1976; Léonid Heller, *De la science-fiction soviétique*, Genève: L'Age d'Homme, 1979; Rustam S. Kats, *Istorija sovetskoj fantastiki*, Saratov: Saratovskogo universiteta, 1993. For the post-Soviet fascination with the cosmos, see Birgit Menzel, 'Russian Science Fiction and Fantasy Literature', *Reading for Entertainment in Contemporary Russia: Post-Soviet Popular Literature in Historical Perspective,* ed. Stephen Lovell and Birgit Menzel, München: Sagner, 2005, pp. 117–50.

27. On the Strugatskii brothers, see Chapter 5 this volume.
28. Matthias Schwartz, *Die Erfindung des Kosmos. Zur sowjetischen Science Fiction und populärwissenschaftlichen Publizistik vom Sputnikflug bis zum Ende der Tauwetterzeit*, Frankfurt am Main: Lang, 2003. See also Matthias Schwartz' contribution to this volume.
29. See Birgit Menzel, 'Der sowjetische Raumfahrtmythos als Parodie: Aleksej Fedorčenkos Film *Die Ersten auf dem Mond* als russisches Mokumentary', *Die Spur des Sputnik. Kulturhistorische Expeditionen ins kosmische Zeitalter*, ed. Igor J. Polianski and Matthias Schwartz, Frankfurt, New York: Campus, 2009, pp. 229–48.
30. Richard Stites, *Revolutionary Dreams. Utopian Vision and Experimental Life in the Russian Revolution*, New York: Oxford UP, 1989. See also Paul R. Josephson, *Would Trotsky Wear a Bluetooth? Technological Utopianism under Socialism, 1917–1989*, Baltimore, MD: Johns Hopkins UP, 2010.
31. Leonid Heller, Michel Niqueux, *Histoire de l'Utopie en Russie*, Paris: PUF, 1995.
32. Michael Hagemeister, *Nikolaj Fedorov. Studien zu Leben, Werk und Wirkung*, München: Sagner, 1989. See also Michael Hagemeister, 'Die Eroberung des Raums und die Beherrschung der Zeit: Utopische, apokalyptische und magisch-okkulte Elemente in den Zukunftsentwürfen der Sowjetzeit', *Die Musen der Macht. Medien in der sowjetischen Kultur der 20er und 30er Jahre*, ed. Jurij Murašov and Georg Witte, München: Fink, 2003, pp. 257–86; Michael Hagemeister, 'Russian Cosmism in the 1920s and Today', *The Occult in Russian and Soviet Culture*, ed. Bernice Glatzer Rosenthal, Ithaca, NY: Cornell University Press, 1997, pp. 185–202, and *Die Neue Menschheit. Biopolitische Utopien in Russland zu Beginn des 20. Jahrhunderts*, ed. Boris Groys and Michael Hagemeister, Frankfurt am Main: Suhrkamp, 2005.
33. See Slava Gerovitch, 'Die Beherrschung der Welt. Die Kybernetik im Kalten Krieg', *Osteuropa*, 59, 2009, no. 10, pp. 43–56; Slava Gerovitch, *From Newspeak to Cyberspeak: A History of Soviet Cybernetics*, Cambridge, MA: MIT Press, 2002. He is currently finishing a book on *Designing a Cosmonaut: The Technopolitics of Automation in the Soviet Human Space Program*.
34. Robert Kluge, *Der sowjetische Traum vom Fliegen. Analyseversuch eines gesellschaftlichen Phänomens*, München: Sagner, 1997. See also Scott W. Palmer, *Dictatorship of the Air. Aviation Culture and the Fate of Modern Russia*, Cambridge: Cambridge University Press, 2006.
35. Rainer Eisfeld, Wolfgang Jeschke, *Marsfieber. Aufbruch zum Roten Planeten. Phantasie und Wirklichkeit*, München: Droemer Knaur, 2003.
36. First studies include Gerhard Kowalski, *Die Gagarin-Story. Die Wahrheit über den Flug des ersten Kosmonauten der Welt*, Berlin: Schwarzkopf & Schwarzkopf, 1999; Klaus Gestwa, 'Kolumbus des Kosmos. Der Kult um Jurij Gagarin',

Osteuropa, 59, 2009, no. 10, pp. 121–51. The historian Andrew Jenks is currently working on a book on Iurii Gagarin.

37. *Societal Impact of Spaceflight*, ed. Steven J. Dick and Roger D. Launius, Washington, DC: NASA, 2007.
38. *Die Spur des Sputnik. Kulturhistorische Expeditionen ins kosmische Zeitalter*, ed. Igor J. Polianski and Matthias Schwartz, Frankfurt, New York: Campus, 2009. A recent collection of personal accounts takes the *Sputnik* as a starting point to investigate the life of Soviet citizens in the "cosmic era": Donald J. Raleigh, *Russia's Sputnik Generation. Soviet Baby Boomers Talk about their Lives*, Bloomington, IN: Indiana UP, 2006.
39. The conference proceedings will be published in *Imagining Outer Space. European Astroculture in the Twentieth Century*, ed. Alexander C.T. Geppert, Basingstoke, New York: Palgrave Macmillan, forthcoming 2011.
40. Cathleen S. Lewis, *The Red Stuff: A History of the Public and Material Culture of Early Human Spaceflight in the U.S.S.R.*, PhD, George Washington University, 2008.
41. Asif A. Siddiqi, *The Red Rockets' Glare: Spaceflight and the Soviet Imagination, 1857–1957*, Cambridge: Cambridge University Press, 2010.
42. *Into the Cosmos: Space Exploration and Soviet Culture in the Post-Stalin Era*, eds. James T. Andrews and Asif A. Siddiqi, Pittsburgh, PA: University of Pittsburgh Press, forthcoming 2011.
43. See Chapters 10 and 16 in this volume.
44. Credit for the title of this article goes to the late jazz band leader and pioneer of a cosmic "afrofuturism" Sun Ra (1914–1993) who titled a song, album and film "Space is the Place". See also Brian Durrans, 'Space is the Place', *Showcasing Space*, ed. Martin Collins and Douglas Millard, London: Science Museum, 2005, pp. 169–79.

Part I
Spirituality, Transcendence and Soviet Utopianism

Figure PI.1 'To the stars!' (Matchbox label)
Source: M. Rüthers private collection.

3
Introduction to Part I

Julia Richers and Eva Maurer

'What shall we say of the outburst of frenzy when the *Sputnik* went into orbit? What of the poems of the Soviets, the metaphysical affirmations of the French, the speculations on the conquest of the universe? What of the identification of this artificial satellite with the sun, or of its invention with the creation of the Earth?' The French philosopher and theologian Jacques Ellul (1912–1994) who posed these questions in his 1964 English edition of *The Technological Society* believed that technology had destroyed the realm of mystery, of the transcendental. But because 'man cannot live without the sacred', he predicted the transformation of the 'sense of the sacred to the very thing which has destroyed its former object: to technique itself'.[1] One does not necessarily have to share Ellul's (rather pessimistic) view on the impact of technology – but undoubtedly, man's venture into what had been known as the realm of God(s) raised questions about the relationship between technology and transcendence as well as about the place and role of spirituality. Ellul had clearly recognized the significance of *Sputnik* as a symbol – a token of modern technology and its promises.

At the same time, dreams and discussions about technological progress and the cosmos had a long cultural tradition in Russia and the Soviet Union which were revived under the influence of *Sputnik*. Some origins of the Soviet 'cosmos fever' went as far back as the late 19th century. However, utopian projects and visions of spaceflight culminated in the Russian Revolution and the civil war years. A global or 'planetarian' perspective was already noticeable in the famous slogan 'Proletarians of all nations, unite!' The Russian Revolution and the passionate hope for a better and fairer society were meant to reach out beyond Russia, to cause a world revolution, a 'red world storm' which would, at the end, transform the whole earth into a 'red planet'. In this future 'new world' man would free himself of any repression. He would finally leave

behind the 'Kingdom of Necessity' and would enter into the communist 'Kingdom of Freedom' (Marx/Engels).[2] As a logical consequence, Soviet 'new man' would no longer be bound to his earthly life, but would at last also conquer space. The world revolution was to initiate not only a socialist, but also a 'cosmic' era. The cosmos symbolized the space of the future, of perfection, and paradise. Those heavenly visions were also intended to make the contemporary deprivations on earth more bearable.[3]

The Russian term *shturm neba* – the (titanic) 'storming of heaven' – played a central role in this context. The demystification of heaven mirrored the contemporary atheist discourse. Particularly, the figure of Titan Prometheus became a symbol for the unreserved worship of science and technology and the creative, godlike power of man[4] who would be capable of subjugating and transforming nature, space and time.[5] Even physical laws such as gravity were to be curbed in order to pave the way to self-perfection and self-deification.

With the end of the 1920s and the beginnings of Stalinism, the overtly utopian visions and futurist flights of fancy of the early Soviet period disappeared, at least initially. Stalin, in fact, declared that utopia had become reality – the present was the 'anticipated future'.[6] As a result, the 'storming of heaven' of the Stalin era was far more down-to-earth and primarily concentrated on aviation and the cult surrounding the new (long-distance) pilots. Nevertheless, the ever-present Stalinist motto 'always higher and higher' that was used in all possible areas of life paved the way for the future conquest of the higher spheres.

After the impressive successes of the Soviet space programme, Nikita Khrushchev proclaimed a 'new cosmic era of man'. According to his first public speech after Gagarin's flight into the cosmos, the Soviet 'new man' had become a 'ruler over nature' and a 'creator of new life'.[7] With this rhetoric, Khrushchev and the whole new party programme accepted by the Congress of the Communist Party of 1961 referred to the earlier utopias of the Russian Revolution. They mentioned again the 'formation of a new man' and the impending 'Kingdom of Freedom' because Marxism-Leninism had led man – like a *Sputnik* – 'to the right, correctly calculated historical path which leads to the bright communist future'.[8]

The first part of this volume is dedicated to this ostensibly bright future and to the desire of self-deification. Michael Hagemeister's chapter about Konstantin Tsiolkovskii shows that the roots of the Russian fascination with the cosmos dated back to pre-Soviet times. Tsiolkovskii was the founding 'father' of Soviet space travel, raised to the level of a mythological figure – in Soviet times and even nowadays. The phobic radicality

in Tsiolkovskii's theories is striking – and in particular its closeness to the utopian-Bolshevist designs for order in the spirit of modernity. In the search for Utopia, in the quest for perfection and a total dissolution of boundaries, everything unsuitable was to be ultimately wiped out – an annihilation of the 'unfit' which should lead, eventually, to the atomization of the present, imperfect world. Not only these fantasies of purity but also Tsiolkovskii's explicit light imagery remind us of the eschatological ideas of early Soviet Russia as described, for example, by Igal Halfin.[9]

It is no coincidence that, in the realm of spirituality and religion, the 'Thaw' was to a far lesser extent a period of liberalization than in other areas of cultural life, as, for example, in literature and art. The antireligious campaign of the Soviet leadership which intensified in 1954 implicitly recognized the fact that Heaven had been 'conquered' but not yet fully 'Sovietized'. In this sense, the cosmonauts were referred to as the new 'conquerors' or even 'sons' of Heaven. The celestial sphere was connotated differently, but again: spiritually – through the presence of these new 'Titans', these new 'gods' of the cosmos.

During this time, many churches in the country were turned into planetaria in which people would be informed about the 'real' composition of the heavens above and the achievements of modern science, as Victoria Smolkin-Rothrock describes in her chapter. This was seemingly an ideal vehicle to transport atheist ideas. However, what devoted communists viewed as irreconcilable – faith and science, technology and myth – was amalgamated with ease into a different, individual cosmology by many Soviet citizens: no ideological absolutism, but rather a bricolage-style cosmology that combined various attempts at explaining and understanding the universe.

The relationship between man and technology, the dualism of finiteness and infinity form the topic of Thomas Grob's chapter on the works of the East European 'grandmasters' of science fiction, the brothers Strugatskii and Stanisław Lem. Science fiction (*nauchnaia fantastika*) had become enormously popular in the Soviet Union. At first glance, its rationalistic, scientific focus seemed to offer little potential for finding 'truth' and 'meaning' which many Soviet citizens were looking for during the Thaw, above all in literature and art. However, as the portrayals of cosmonauts analyzed by Anneli Porri or the popular scientific literature examined by Matthias Schwartz show (see Part IV), scientific fantasy offered a special sphere for speculation and further questions. Thus, the protagonists analyzed by Grob do not fit into the socialist-realist pattern of a hero: Stalker is an outcast who seeks redemption in a counter world. Pirx's efficient pragmatism is, in contrast, so pronounced that he

emerges as the sheer antithesis to ideology and socialist bureaucracy. The vastness of the cosmos appears as a limitless space against which all human activities, ideologies and regimes seem pale and empty of meaning. Infinity cannot be fully placed in the service of an ideology, but rather demonstrates the limits of human power: the cosmos puts everything into relation, even communism.

Notes

1. Jacques Ellul, *The Autonomy of Technology*. Originally published in: *The Technological Society*, New York: Knopf, 1964. Reprinted in: *Technology and Values: Essential Readings*, ed. Craig Hanks, Chichester: Wiley-Blackwell, 2010, pp. 73–4.
2. Friedrich Engels expressed his view on the communist 'Kingdom of Freedom' in his famous 'Anti-Dühring'. *See* Friedrich Engels, 'Herrn Eugen Dühring's Umwälzung der Wissenschaft', Karl Marx, Friedrich Engels, *Werke*, vol. 20, Berlin: Dietz, 1962, pp. 1–303; particularly pp. 264–5.
3. Karl Schlögel, 'Utopie als Notstandsdenken – einige Überlegungen zur Diskussion über Utopie und Sowjetkommunismus', *Utopie und politische Herrschaft im Europa der Zwischenkriegszeit*, ed. Wolfgang Hardtwig, München: Oldenbourg, 2003, pp. 77–96.
4. On the figure of Prometheus in Russian cultural history see Petra Hesse, *Die Welt erkennen oder verändern? Prometheus in der russischen Literatur von den Anfängen der Mythos-Rezeption bis M. Gor'kij* (Basler Studien zur Kulturgeschichte Osteuropas; 2), Zürich: Pano (forthcoming).
5. The author Maksim Gor'kii (1868–1936) gave the following summary of the future abilities of the Socialist *Übermensch* in a speech in March 1920: 'Labour and knowledge conquer everything … It is undoubtable that a time will come in which man will be the conqueror over nature and can perform such wonders that there will be no obstacles left for him to overcome. He may even conquer interplanetary space.' Maksim Gor'kii quoted in Michael Hagemeister, '"Unser Körper muss unser Werk sein." Beherrschung der Natur und Überwindung des Todes in russischen Projekten des frühen 20. Jahrhunderts', *Die Neue Menschheit. Biopolitische Utopien in Russland zu Beginn des 20. Jahrhunderts*, ed. Boris Groys and Michael Hagemeister, Frankfurt am Main: Suhrkamp, 2005, pp. 19–67; here p. 20.
6. Carsten Goehrke, 'Die Gegenwart als vorweggenommene Zukunft', *Russischer Alltag. Eine Geschichte in neun Zeitbildern vom Frühmittelalter bis zur Gegenwart*, 3 vols, Zürich: Chronos, 2005, vol. 3, pp. 186–7.
7. Nikita Khrushchev, 'Speech at the rally of Moscow's workers in honour of the first cosmic flight in the world (14 April 1961)', *Kommunismus – Frieden und Glück der Völker*, Berlin: Dietz, 1963, pp. 68–76; here pp. 70, 76.
8. Nikita Khrushchev, 'Speech at the 22nd Congress of the Communist Party of the Soviet Union (18 October 1961)', *Kommunismus – Frieden und Glück der Völker*, Berlin: Dietz, 1963, pp. 411–544; here pp. 496, 498, 502.
9. Igal Halfin, *From Darkness to Light: Class, Consciousness, and Salvation in Revolutionary Russia*, Pittsburgh, PA: Pittsburgh University Press, 2000.

4

The Conquest of Space and the Bliss of the Atoms: Konstantin Tsiolkovskii

Michael Hagemeister

Konstantin Eduardovich Tsiolkovskii (1857–1935), a half-deaf physics and mathematics teacher in the then obscure provincial town of Kaluga, is considered to be the 'father' or even 'grandfather' of Soviet space travel. At the end of his life, the shy 'eccentric from Kaluga' (*kaluzhskii chudak*, as he was called) had been made into a hero by Soviet propaganda. However, it was the era of space travel that truly made Tsiolkovskii a cult figure. He was celebrated as 'one of the greatest Russian scientists', 'a brilliant son of the people' and 'a prophet of a new era'. A huge monument was built in Moscow in front of the Hotel *Kosmos* in his honour; his modest wooden house in Kaluga was turned into a museum; his portrait was on stamps, medals, matchboxes (see Figure 4.1) and postcards; streets, schools and a large crater on the far side of the moon were named after him; and the story of his life became the basis of a film, with the poet Evgenii Evtushenko playing the lead role.

Strangely, the cult surrounding Tsiolkovskii and the legends of Soviet space travel has not yet been studied in depth[1] – unlike, for example, the myth surrounding aviation. To the present day there has been no reliable critical treatment, in any language, of Tsiolkovskii's life and work.[2] Russian biographies, intended for popular consumption, create a highly idealized picture,[3] whereas any attempt at a critical study hits a wall of resistance in his home country.[4] Who was this man and how did he become the 'founding father of space travel'?

Konstantin Tsiolkovskii was born on 5 September (old style) 1857 in the village of Izhevskoe in the governmental district of Riazan', where his father, Eduard Ignatievich, a Polish man from Volhynia, worked as a forester. The mother, Mariia Ivanovna, née Iumasheva, had Tatar ancestors. The family had many children and lived in poor conditions. At the age of 10 the boy almost completely lost his hearing due to scarlet fever. His deafness led

Figure 4.1 K. E. Tsiolkovskii (Matchbox card)
Source: M. Rüthers private collection.

him into social isolation; he felt despised and avoided contact with others. As he did not finish his schooling, he educated himself. At the age of 16, he went to Moscow, where he tried to complete his education in the local libraries and started experimenting with chemicals.

After he passed his teacher's exam as an external student, he was offered a humble job as a maths teacher in 1880 in Borovsk, a small city near Moscow. In 1892, he moved to the government administration city of Kaluga, where he taught arithmetic and geometry at a secondary school and later, in 1898, he also taught physics at a church-run girl's school. Tsiolkovskii died in Kaluga on 19 September 1935.

Tsiolkovskii's private life was grey and monotonous.[5] He described his choice of wife, Varvara Evgrafovna Sokolova, the daughter of a priest, as 'unfortunate' (*neudachno*) and their offspring as 'deplorable' (*pechal'nye*). The children were sick and two sons committed suicide.[6] Tsiolkovskii fled from the depressing confinement, the feeling of humiliation and material worries into his world of inventions and creations and into the dreams of flying and eternal human happiness. On the other hand, he was indifferent towards his family, as long as they did not disturb his work. In his youth, he already regarded himself as a genius ('I am such a great man as has never been before, nor will ever be').[7] Time and time again, however, he found out that his purported discoveries were already scientific commonplace.

Nevertheless, Tsiolkovskii developed a series of ground-breaking ideas. In the 1880s, he had already dealt with the idea of a kick-back engine for aircraft; he designed a steerable full-metal dirigible, and wrote

a study on the 'Aeroplane or the bird-like flying machine'. As part of his aerodynamic research, he built the first wind tunnel in Russia in 1897. For his work on experimental aerodynamics, he was also given material support from the Academy of Sciences in 1899.

Flying was thus, for Tsiolkovskii, only a preliminary step towards exploring space. Starting at the end of the 1870s, he searched for ways for people to overcome gravity and penetrate into what he called 'free space'. First, he thought about using centrifugal forces. He built a centrifuge to test the effects of rapidly increased gravitational acceleration on living organisms (cockroaches and chicks). In 1896, he recognized that only an aircraft with a reactive engine was suitable for penetrating space. During the same year, he proposed initiating contact with the inhabitants of other planets. Among Tsiolkovskii's ground-breaking space ideas were the designs for multiple-stage rockets with liquid fuel (described by him as 'cosmic rocket trains'), and the plans for manned space stations along with a description of survival conditions in spacecraft.

In order to spread his ideas, Tsiolkovskii wrote a series of fanciful narratives and novels: *On the Moon* (*Na Lune*, 1893); *Dreams of Earth and Sky* (*Grezy o Zemle i nebe*, 1895); and *Outside the Earth* (*Vne Zemli*, 1918). In 1903 (and much expanded in 1911–1912 and 1926), Tsiolkovskii's classic work was published – *The Exploration of Cosmic Spaces by Reactive Devices* (*Issledovanie mirovych prostranstv reaktivnymi priborami*) – in which he called on humans to leave the Earth by using rockets and to colonize the solar system.

After the Bolshevik revolution, as claimed in Soviet historiography, Tsiolkovskii – as an underestimated genius with proletarian roots – finally received the recognition and support he deserved from the new ruling class. He was invited to become a member of the Socialist Academy in 1918, but was expelled again the following year and even detained for two weeks in the Lubianka as an alleged counter-revolutionary spy. In November 1921, while the luminaries of 'bourgeois science' were starving or driven out of the country, the Council of People's Commissars granted him a lifelong honorary pension on the basis of a resolution, which also bore the signature of Lenin. In reality, though, the material and institutional support from the state was insignificant. Tsiolkovskii still lived in poverty and obscurity. He was ignored by the academic scientific community, and denied access to the research facilities and to current literature. He financed his research and publications from his own pocket, and aimed to publicize them with his broad self-created network of space enthusiasts and science writers.[8]

Only in his later years was Tsiolkovskii given the official recognition for which he yearned. For his 75th birthday, in 1932, he was

awarded the distinction of the Order of the Red Banner of Labour. State publication houses began to print Tsiolkovskii's scientific and science-fiction works in order to secure his priority in the field of rocket engineering. His name now appeared frequently in the press and he was heralded as a Soviet hero. Apparently, Tsiolkovskii was deeply moved, and wrote to Stalin just before his death, bequeathing all his 'work on aviation, rocket travel, and interplanetary communications' to the party of Bolsheviks and to the Soviet authorities.[9]

At that time it was hardly known that Tsiolkovskii had developed a unique 'cosmic philosophy' and that all his cosmonautic calculations, his designs and constructive innovations, which made him famous, emanated from this philosophy. As concerns the meaning of his philosophy, Tsiolkovskii regarded it as the work of a genius and did not shy away from comparisons with Jesus Christ (or as he always, collegially, called him: the 'Teacher from Galilee'). Of the approximately 700 preserved works of Tsiolkovskii, more than about one-third is dedicated to philosophical, religious and social matters. Some of these works Tsiolkovskii published himself in the form of small brochures between 1914 and 1931 in Kaluga. Having only small print-runs, they soon became bibliographic rarities, although they were never forbidden.[10] Only upon the emergence of the so-called 'Russian cosmism' (*russkii kosmizm*) in the 1970s – a hybrid ideological concept, of which Tsiolkovskii was later recognized as one of its founders (along with philosopher Nikolai Fedorov, geochemist Vladimir Vernadskii, and heliobiogist Aleksandr Chizherskii)[11] – did his 'cosmic philosophy' attract greater attention.[12] It made it clear that space exploration for Tsiolkovskii was ultimately only a *means* – a technical instrument for the self-perfection of humanity and the achievement of 'eternal bliss' (*vechnoe blazhenstvo*).[13]

Initially, Tsiolkovskii regarded the emancipation from Earth and the expansion into outer space as a matter of securing the further existence of humanity. Since, in his view, life on Earth was endangered by overpopulation and by geological and cosmic catastrophes (explosion of the inner core of the Earth, impact of an asteroid, extinction of the sun), humans must leave the Earth and emigrate to space in order to save their species. The 'reactive vehicle' will ensure the 'salvation of the human species'.[14] Tsiolkovskii's aphorism from 1911 became famous and was frequently quoted: 'The planet is the cradle of reason, but one cannot live in a cradle forever.'[15] In the same year, Tsiolkovskii wrote in a letter:

> Mankind will not live on Earth forever. Instead, in its desire for light and vastness it will first tentatively surpass the boundary of

> the atmosphere, before it then conquers the entire space of the sun system.[16]

According to Tsiolkovskii, by conquering the interplanetary and intergalactic spheres, man could overcome the damaging cosmic conditions, discover new habitats and sources of energy, and become indestructible in space. However, the emancipation from Earth would not only secure man's survival, but also create the necessary prerequisites for the self-perfection of mankind. The controlled selection of the best[17] and their artificial reproduction would, in Tsiolkovskii's view, give rise to a species of super-humans, which would be so far physically, morally and aesthetically superior to contemporary humans as contemporary humans distinguish themselves from lower forms of life.[18] Tsiolkovskii condemned sexual reproduction as 'humiliating', as it is based on 'low animal passions', which only lead to decay.[19] According to him, it should be replaced by controlled reproduction by means of parthenogenesis. The biblical 'legend' of the birth of Jesus from the Virgin Mary was also interpreted by Tsiolkovskii as an 'ideal of the future woman, who will provide children, but will not be subject to animal passions'.[20]

In the further course of cosmic evolution humanity would lose its physical 'shell', turn into some kind of energy or radiation and thus become 'immortal in time and infinite in space'.[21] Tsiolkovskii already wrote in 1911: 'There is no end, neither for life nor for the intelligence and the refinement of man. It will eternally advance. And if that is the case, there also can be no doubt about its achieving immortality.'[22]

However, Tsiolkovskii's belief in progress had terrible consequences: since every atom carries in itself the quest for perfection and bliss, the 'ethics of the cosmos' demands that there should not be one single trace of disease, suffering and irrationality 'anywhere in the entire universe'.[23] It is the task of man to act in harmony with this universal quest and to eliminate all imperfect, useless and harmful forms of life – that is, all victims and sources of suffering – among which Tsiolkovskii defines all animals (he was a vegetarian himself) and most plants, as well as physically and morally impaired humans:

> This would terminate not only the suffering of man, but also the suffering of animals, which no longer would exist. Isolation and the disinfection of their habitats would have completely eradicated them. The harmful bacteria would even be removed from the blood and bodies of humans. All that would remain are useful plants. The animal kingdom, even those that are seemingly useful, must wither away

> and vanish. There is an end to the slaughtering of higher forms of life and to their suffering.[24]

'The basis of our laws', as Tsiolkovskii already demanded around 1917, 'must be the perfection of man and the eradication of all incomplete forms of life'.[25] In contrast to Nikolai Fedorov's grand project of the 'common cause', which aimed for the perfecting of mankind *in its entirety* and included all deceased persons as well,[26] Tsiolkovskii was solely concerned with breeding a future super-humanity while eradicating all inferior beings. In a piece entitled 'Ethics or the Natural Principles of Morality', finished in 1918, he wrote:

> I do not desire to live the life of the lowest races, the life of a Negro or an Indian. Therefore, the benefit of any atom, even the atom of a Papuan, requires the extinction of the lowest races of humanity, at least of the most imperfect individuals in the races.[27]

He was referring to 'violent criminals, the crippled, ill, ament, and imbeciles, etc.'. By no means should they be able to have offspring; they should be 'extinguished painlessly with greatest possible satisfaction'.[28] On Earth there should also be 'no living beings without a conscience (*nesoznatel'nye zhivotnye*)'. They should also not be killed, but rather prevented from reproduction by means of isolation and other measures.[29] Humans as the 'manifestation of the will of the universe' had been granted the task of liberating the entire universe from all forms of inferior life and populating the planets with their perfected race:[30]

> The power of the perfected would span across every planet and every habitat and everywhere else. Without causing suffering, it will eradicate all imperfect roots of life and populate these areas with its own mature species. It is as if a gardener were to destroy all the useless weeds and only allow the best vegetables to grow![31]

Here, Tsiolkovskii's gardening metaphors very overtly draw on the language of totalitarian utopias. To terminate the work of nature through breeding and refinement as well as through eradication and destruction, and violently to accelerate the 'dying off' of the 'imperfect' and the 'outlived' in order to clear the way for the New Man – that is a fundamental principle of totalitarian thought in the 20th century.[32] Even Nietzsche linked the vision of the higher breed of the human species with the demand for the simultaneous 'annihilation of millions

of failures' who 'have no right to existence, but are a misfortune to higher man'.[33]

Time and time again, Tsiolkovskii delightfully indulges himself in pedantic descriptions of the planned isolation, 'weeding out' and utter annihilation of all useless and harmful forms of life by means of tightly organized working armies during the transformation of the universe into a cosmic paradise of 'eternal bliss'.[34] Among Tsiolkovskii's monstrous projects are global disinfection measures to destroy all bacteria, fungi and insects – which he obsessively feared – the deforestation of tropical forests, the draining of the seas and the industrial processing of the Earth's atmosphere. In the end, the Earth was only to serve as a source of energy and raw materials for the inhabitants of the sky, who had left their 'cradle' a long time ago, and now were supposed, ultimately, to dismantle it vigorously.[35]

However, Tsiolkovskii's world-redeeming 'cosmic philosophy' is not based exclusively on a belief in unfettered progress. It also is based on an eclectic selection and a bizarre mixture of the most diverse philosophical, para-scientific and occult elements.[36] Tsiolkovskii called himself a 'biocosmist' and 'panpsychist' as he believed – apparently drawing on Ernst Haeckel's monism and hylozoism,[37] and maybe also influenced by contemporary Russian secular panpsychism[38] – that matter lives and has a soul, and he spoke of 'lively and happy atoms-spirits' (*zhivye i shchastlivye atomy-dukhi*). In anorganic bonds the atom sleeps – dreamlessly and timelessly, as if in state of deep unconsciousness. If it enters a plant or animal, it takes on the ability to feel or sense (*chuvstvitel'nost'*). It lives the life of the organism and feels suffering or pleasure. In the brain of a highly developed form of life, the atom becomes conscious,[39] and in the brain of the most highly developed being it ultimately turns into an 'irreversible form of a special energy, which has a cosmic and telepathic conscience'.[40]

Man is also nothing more than a temporary 'realm' (*gosudarstvo*) or 'common home' (*obshchezhitie*) of immortal 'atoms-spirits', which are scattered at death only to be reconfigured, according to the cosmic law of evolution and the quest for happiness, into more perfect, blissful 'realms':

> Death is one of the illusions of the weak human mind. Death does not exist … The universe is constructed in such a way that not only itself is immortal, but also all of its parts, in the form of living, blessed beings. There is no beginning and no end to the universe, and thus no beginning and no end to life and to bliss.[41]

Tsiolkovskii described the universe – which was created by an almighty and benevolent, but for humans incomprehensible, 'cause' (*prichina*) – as a 'living being' (*zhivotnoe*), as a 'living organism', whose rationality and 'absolute will' also defined the actions of mankind and its quest for happiness and reason-driven perfection. He believed in the existence of immortal beings, who were much more developed than humans and almost incorporeal, 'etherous' and therefore hardly visible to humans. He also believed that these alien beings – which are similar to angels or ghosts in his description – constructively intervene in the lives of humans, read their thoughts and send them messages through 'heavenly signs', and he assured that he had seen such signs himself several times.[42]

The influence of Gnostic, theosophical and spiritualist teachings on the philosophical work of Tsiolkovski has received little research attention up to now because it was to a large extent a taboo in the Soviet Union. The provincial town of Kaluga, in which Tsiolkovski lived, was the centre of the Russian theosophical movement at the beginning of the 20th century.[43] It can now be regarded as certain that Tsiolkovskii knew the writings of the theosophists, many of whom were published in the Kaluga 'Lotos Publishing House', and incorporated several of their ideas and formulas – such as 'cosmic thought', 'cosmic consciousness', 'citizen of the universe' or the description of the 'heavenly worlds and their inhabitants' into his 'cosmic philosophy' (see Figure 4.2).[44]

Tsiolkovskii's notion that part of humanity would become highly developed and ultimately turn into luminous rays is a central motive of the Gnostic myth as it was popularized in Russia through the 'secret doctrines' of the theosophists and, later, the anthroposophists. According to these teachings, it is the goal of the earthly process to liberate the bright and divine part of the human soul from the dark and suffering earthly body and let it rise to the heavenly realm of light, and to repress and eradicate the inferior degenerates of the world – such as animals, in particular.[45]

Particularly striking also are the appeals to the cosmic-spiritualist philosophy of Carl du Prel, whose works were widespread in Russian translation around the turn of the 20th century. In his *Philosophy of Mysticism* (1885),[46] the Bavarian private scholar outlined a peculiar synthesis of Darwinism and occultism in an attempt to determine the 'status of humans in the universe' and their cosmic tasks. Faced with the end of the Earth, he forecast a 'cosmic expansion' of the history of mankind.[47] According to him, 'cosmic traffic' opens up the possibility that even after the cold death of the Earth 'the achievements of the earthly culture can be preserved'.[48] By applying the principle of evolution and selection to the cosmic sphere, du Prel – as well as Tsiolkovskii – believed it was

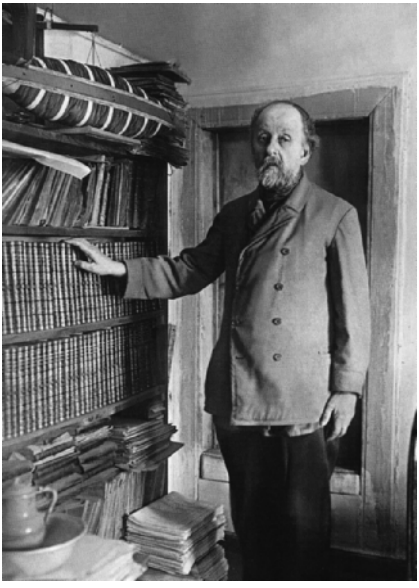

Figure 4.2 Konstantin Tsiolkovskii, pointing to the 86 volumes of the Brokgauz and Efron Encyclopedia, a major source for his philosophical writings
Source: Valerii Demin (2005) *Tsiolkovskii,* Moscow: Molodaia gvardiia, after p. 224.

not only possible 'that on Earth itself man could be replaced by an even higher form of organization', but also 'that the initiative to start cosmic history was triggered by inhabitants of another star'.[49]

It is quite remarkable, and fully deserves further investigation, that it was the esoteric teachings of redemption from this world which motivated Tsiolkovskii in his concrete research and technical developments.[50] These, in turn, formed the basis of the Soviet space travel programme and its propagation – a programme that was supposed to open the cosmic way to the transfiguration and perfection of humanity, and finally to immortality and eternal bliss.[51] In reality, as we know today, this 'rebellion against death' multiplied the deaths by millions, and the 'liberation from the prison of nature' was accompanied by the construction of possibly the largest prison on Earth.

A magical-esoteric understanding of science and technology is still prevalent in today's Russia. This can be seen by the previously mentioned 'Russian cosmism'. Feted by its advocates as a 'philosophy of the future', capable of solving the urgent problems of humanity by paving the path toward the 'divine stage of human development',[52] and denounced by

its opponents as 'science mysticism', 'gnosticism', 'technocratic pseudo-religion'[53] and the 'occult shadow ideology' of Soviet Marxism,[54] 'Russian cosmism' elaborates an image of humanity which spreads its 'noocratic rule' over the universe, whence it can fulfil the 'universal cosmic plan' of turning itself into an almighty immortal organism, thus attaining the status of God. Tsiolkovskii's fantasies appeared at the beginning of a century in which such doctrines of universal salvation made their way to power.

Notes

1. For preliminary studies based on fundamentally new archival research, see the articles by Asif A. Siddiqi. His announced large monograph *The Red Rockets' Glare: Spaceflight and the Soviet Imagination 1857–1957*, should close the mentioned gap. Unfortunately it was not yet available at the time of completion of this work.
2. This also applies to the recently published monograph by J. T. Andrews, *Red Cosmos: K. E. Tsiolkovskii, Grandfather of Soviet Rocketry*, College Station, TX: Texas A&M University Press, 2009. The description remains rather superficial and conventional, draws on outdated literature and ignores more recent research; awkward and disputed themes are neglected and Tsiolkovskii's cosmic philosophy is not even mentioned.
3. See most recently V. Demin, *Tsiolkovskii,* Moskva: Molodaia gvardiia, 2005.
4. One of the very few who dared to question the myths about Tsiolkovskii was the historian of science, Gelii Salakhutdinov. His books, *The Splendours and Miseries of Tsiolkovskii* (*Blesk i nishcheta Tsiolkovskogo*) and *Myths about K. E. Tsiolkovskii's Work* (*Mify o tvorchestve K. Ė. Tsiolkovskogo*), published in 2000 and 2003, caused a storm of indignation despite a circulation of only 100 copies. In the meantime they have been made available on the web: http://astronaut.ru/bookcase/books/salah08/salah08.htm and http://astronaut.ru/bookcase/books/salah07/salah07.htm (last accessed 20 January 2010).
5. See ''Strannye sovpadeniia ili daty moei zhizni…' K.Ė. Tsiolkovskii. Neizvestnye avtobiografii', *Otechestvennye arkhivy*, 2001, no. 2, pp. 44–55. Tsiolkovskii's partially intimate autobiographical recordings, which are located in the archive of the Academy of Sciences, as well as a personality study, written in 1937 by the famous neurologist Samuil Blinkov, have only been published in excerpts until now.
6. See, S. Blinkov, 'Tsiolkovskii: tvorets i lichnost'', *Nauka i religiia*, 1988, no. 10, pp. 32–6, here p. 33. Demin, *Tsiolkovskii*, p. 79.
7. K. Tsiolkovskii, 'Cherty iz moei zhizni', *K. Ė. Tsiolkovskii. Sbornik Aėroflota*, Moskva: Aėroflot, 1939, pp. 15–42, here p. 26.
8. For greater details A. Siddiki [Siddiqi], 'Nauka za stenami akademii: K. Ė. Tsiolkovskii i ego al'ternativnaia set' neformal'noi nauchnoi kommunikatsii', V*oprosy istorii estestvoznaniia i tekhniki*, 2005, no. 4, pp. 137–54.
9. K. Tsiolkovskii – TsK VKP (b) vozhdu naroda tovarishchu STALINU, in *K. Ė. Tsiolkovskii. Sbornik Aėroflota*, p. 6. Tsiolkovskii's much-quoted letter to Stalin, according to more recent research, probably came about without his involvement. He only added his signature to it.

10. The copies supplied by Tsiolkovskii's heirs were auctioned for maximum prices at the famous auctions for the history of Russian space travel, which Sotheby's organized in 1993 and 1996 in New York.
11. 'Russian cosmism' is a typical case of the invention of tradition. The concept which emerged has fed into a nationalist discourse in post-Soviet Russia. See M. Hagemeister, 'Der ‚russische Kosmismus' – ein Anachronismus oder die, Philosophie der Zukunft'?', *Im Zeichen-Raum. Festschrift für Karl Eimermacher zum 60. Geburtstag*, ed. A. Hartmann and Ch. Veldhues, Dortmund: Projekt, 1998, pp. 169–201; N. Gavriushin, 'A byl li, russkii kosmizm?', *Voprosy istorii estestvoznaniia i tekhniki*, 1993, no. 3, pp. 10–45.
12. Tsiolkovskii's cosmic philosophy was already presented and discussed early at the Tsiolkovskii Lectures (*Tsiolkovskie Chteniia*), which have taken place annually in Kaluga since 1966 and during Soviet times served as a meeting point and platform for non-conforming thinkers and mystics. Since the mid-1980s Tsiolkovskii's philosophical and social-utopian writings have been published together with previously unknown works from the archive; Tsiolkovskii himself was declared an 'apostle of cosmic consciousness' (Leonid Golovanov). Over the past years collections of Tsiolkovskii's 'theological' writings have been released, including the extensive comments on the four Gospels (1918–1924) and a demythologizing description of the life of Jesus (K. Tsiolkovskii, *Evangelie ot Kupaly*, Moskva: Samoobrazovanie, 2003; idem, *'Shchit nauchnoi very'. Sbornik statei*, Moskva: Samoobrazovanie, 2007). However, numerous writings of Tsiolkovskii, in particular those dealing with religious themes as well as extensive correspondences, are still unpublished (Demin, *Tsiolkovskii*, p. 9).
13. For a competent and critical view of Tsiolkovskii's philosophy, N. Gaviushin, 'Kosmicheskii put' k ‚vechnomu blazhenstvu'. (K. Ė. Tsiolkovskii i mifologiia tekhnokratii)', *Voprosy filosofii*, 1992, no.6, pp. 125–31 (also in English N. Gavriushin, 'The Cosmic Route to "Eternal Bliss"'. K. E. Tsiolkovskii and the Mythology of Technocracy', *Russian Studies in Philosophy*, 1995, no. 34, pp. 36–47); idem, 'Prozreniia i illiuzii russkogo kosmizma', *Filosofiia russkogo kosmizma*, ed. A. Ogurtsov and L. Fesenkova, Moskva: Novoe tysiacheletie, 1996, pp. 96–107; G. Salakhutdinov, *Blesk i nishcheta K. Ė. Tsiolkovskogo*, Moskva: AMI, 2000, pp. 193–205; a thorough overview, albeit apologetic V. Kaziutinskii, 'Kosmicheskaia filosofiia K. Ė. Tsiolkovskogo', in *Filosofiia russkogo kosmizma*, pp. 108–32; Demin, *Tsiolkovskii*, pp. 166–282; V. Alekseeva, 'Religioznye sochineniia Tsiolkovskogo', in Tsiolkovskii, *Evangelie ot Kupaly*, pp. 223–48.
14. K. Tsiolkovskii, *Issledovanie mirovykh prostranstv reaktivnymi priborami*, Moskva: Mashinostroenie, 1967, pp. 98–100. The theories about the extinction of the sun that emerged in the middle of the 19th century or the permanent growth of entropy, that is, the inevitable 'death' from 'freezing' or 'heat', devastated the prevailing belief in progress in Russia as well and created a sense of doom. Tsiolkovskii took a strong stance against the second law of thermodynamics and the idea of heat death and insisted on the 'eternal youth of the universe'.
15. Ibid., p. 86. There is a version of this statement that has been frequently quoted since the late 1950s, but of which there is no evidence: 'The Earth is the cradle of humanity, but we cannot remain forever in a cradle'.

16. Ibid., p. 328. Letter to Boris Vorob'ev, 12 August 1911. This quote also decorates the obelisk above Tsiolkovskii's grave in Kaluga.
17. The procedure is described in detail in the treatise *Grief and Genius* (*Gore i genii*, Kaluga 1916). In it, Tsiolkovskii refers to Plato; one is also reminded of Campanella's totalitarian City of the Sun. Campanella's description of an ideal society was well-known in Russia and highly admired by Lenin.
18. As an attempt to realize Tsiolkovskii's breeding project and to produce a superior race of cosmonauts, Ivaylo Ditchev points to the allegedly state-dictated marriage between Valentina Tereshkova and Andrian Nikolaev. I. Ditchev, 'Fusées, immortalité, communisme', *Les Temps Modernes*, 48 (1992), juillet-août, pp. 161–80, here p. 171.
19. K. Tsiolkovskii, *Prichina kosmosa. (Konspekt. Avgust 1925g.)*, Kaluga: izd. avtora, 1925, pp. 14–15; idem, *Monizm Vselennoj*, Kaluga: izd. avtora, 1931, p. 21. Tsiolkovskii admitted in an autobiographical note published in 1919 to have suffered with his sex drive, and that he always attempted to engage in abstinence (*tselomudrie*). K. Tsiolkovskii, 'Fatum, sud'ba, rok', *Otechestvennye arkhivy*, 2001, no. 2, pp. 47–51, here p. 49. The relationship between sexuality and mortality (or chastity and immortality) was emphasized by Russian thinkers time and time again, for example by Vladimir Solov'ev (*The Meaning of Love*): 'It is definitely clear that man, as long as he reproduces like animals, will also die like an animal.' V. Solov'ev, 'Smysl liubvi', idem, *Sochineniia v dvukh tomakh*, vol. 2, Moskva: Mysl', 1988, pp. 493–547, here p. 522.
20. Tsiolkovskii, *Evangelie ot Kupaly*, p. 23.
21. A. Chizhevskii, 'Teoriia kosmicheskikh ér', idem, *Aériony i zhizn'. Besedy s Tsiolkovskim*, Moskva: Mysl', 1999, pp. 659–678, here pp. 667, 677 (first published with substantial differences in *Khimiia i zhizn'*, 1977, no. 1, pp. 23–32. In September 1992 I took part in the 27th Tsiolkovskii Lectures, which took place in the large plenary hall of the provincial council in Kaluga. One discussed with striking passion the characteristics of the 'radiant super-humanity' (*luchistoe sverkhchelovechestvo*) predicted by Tsiolkovskii.
22. K. Tsiolkovskii, *Issledovanie mirovykh prostranstv reaktivnymi priborami*, Moskva: Mashinostroenie, 1967, p. 100.
23. Idem, *Nauchnaia ėtika*, Kaluga: izd. avtora, 1930, pp. 19, 44.
24. 'Zhivaia Vselennaia' [probably 1918], *Voprosy filosofii*, 1992, no. 6, pp. 135–58, here p. 151.
25. A. Khorunzhii, *Problemy organizatsii obshchestva v tvorchestve K. Ė. Tsiolkovskogo. Avtoreferat dissertatsii*, Moskva, 1992, p. 15.
26. Tsiolkovskii has often been called a disciple of Fedorov; see for example, M. Holquist, 'Tsiolkovsky as a Moment in the Prehistory of the Avant-Garde', *Laboratory of Dreams: The Russian Avant-Garde and Cultural Experiment*, eds. J. E. Bowlt and O. Matich, Stanford, CA: Stanford University Press, 1996, pp. 100–17, and, most recently, A. Guseinov, V. Lektorskii, 'Filosofiia v Rossii: proshloe i nastoiashchee', *Rossiiskaia postsovetskaia filosofiia: opyt samoanaliza*, ed. M. Soboleva, München: Sagner, 2009, pp. 13–39, here p. 17. This, however, raises serious questions. Tsiolkovskii did indeed meet Fedorov at the age of sixteen when he was studying in the Chertkov Library in Moscow, but we do not know whether Fedorov discussed his ideas with him. In any case Tsiolkovskii's space projects were more likely inspired by Jules Verne and Camille Flammarion, and do not reveal any direct influence of Fedorov.

27. K. Tsiolkovskii, 'Ėtika ili estestvennye osnovy nravstvennosti', idem, *Kosmicheskaia filosofiia*, eds. T. Zhelnina and V. Mapel'man, Moskva: URSS, 2001, pp. 37–95, here p. 82.
28. K. Tsiolkovskii, *Liubov' k samomu sebe, ili istinnoe sebialiubie*, Kaluga: izd. avtora, 1928, pp. 36–7.
29. Ibid., p. 37.
30. K. Tsiolkovskii, *Volia Vselennoi. Neizvestnye razumnye sily*, Kaluga: izd. avtora, 1928, pp. 2–4.
31. Idem, *Nauchnaia ėtika*, p. 45; cf. idem, *Volia Vselennoi*, p. 5.
32. This philosophy also influenced – in Tsiolkovskii's lifetime – the campaign of leading American eugenicists to abolish all human inferiority and breed a perfect race by forced segregation, castration, sterilization and extermination of 'human waste' and 'human weeds'. See the impressive description in E. Black, *War against the Weak. Eugenics and America's Campaign to Create a Master Race*, New York, London: Four Walls Eight Windows, 2003. For the gardener metaphor see also Z. Bauman, *Modernity and Ambivalence*, Cambridge: Polity Press, 1991, pp. 26–39.
33. F. Nietzsche, *Werke. Kritische Gesamtausgabe*, eds. Giorgio Colli and Mazzino Montinari, vol. VII/2, Berlin: de Gruyter, 1974, pp. 94, 98. Breeding and destruction fantasies also can of course be found in all of Nietzsche's work; For example in *Der Antichrist* he writes: 'The weak and the botched shall perish: first principle of *our* love of man. And one should help them to it'. Idem, vol. VI/3, Berlin: de Gruyter, 1969, p. 168. Whether Tsiolkovskii, who only seldom mentions his sources, read Nietzsche is uncertain. However what Bernice Rosenthal said about Nietzsche's influence in Russia also applies here: 'One did not have to read Nietzsche to be influenced by him.' B. Rosenthal, *New Myth, New World: From Nietzsche to Stalinism*, University Park, PA: Pennsylvania State University Press, 2002, p. 2.
34. See K. Tsiolkovskii, *Budushchee Zemli i chelovechestva,* Kaluga: izd. avtora, 1928, pp. 6–8, 16.
35. See idem, *Promyshlennoe osvoenie kosmosa,* Moskva: Mashinostroenie, 1989, p. 240.
36. See also M. Hagemeister on the following, 'Russian Cosmism in the 1920s and Today', in B. Rosenthal, ed., *The Occult in Russian and Soviet Culture*, Ithaca, London: Cornell University Press, 1997, pp. 185–202, here pp. 196–8. Idem, 'Die Eroberung des Raums und die Beherrschung der Zeit: Utopische, apokalyptische und magisch-okkulte Elemente in den Zukunftsentwürfen der Sowjetzeit', *Die Musen der Macht. Medien in der sowjetischen Kultur der 20er und 30er Jahre*, ed. Ju. Murašov and G. Witte, München: Fink, 2003, pp. 270–84, here pp. 275–83.
37. Haeckel's 'unique and exciting mixture of science and philosophy' had, according to Alexander Vucinich, 'an inordinately wide circulation' in Russia. A. Vucinich, *Darwin in Russian Thought*, Berkeley, CA: University of California Press, 1988, p. 195. Tsiolkovskii owned Haeckel's *The Riddle of the Universe* (Die Welträtsel) and *Lectures on Science and Philosophy* in the Russian editions of 1906 and 1913.
38. Represented by Aleksei Kozlov (1831–1901), Lev Lopatin (1855–1920), and Nikolai Losskii (1870–1965), Russian panpsychism regarded all being in the universe as psychic and conscious. Individual psychic substances were

seen as parts of a cosmic system striving towards perfection and harmony. Kozlov – like Tsiolkovskii – was concerned with the improvement of the human breed and 'argued that "mediocre" people may be used as "manure" to promote the flowering of great men'. See, J. P. Scanlan, 'Russian Panpsychism: Kozlov, Lopatin, Losskii', *A History of Russian Philosophy 1830–1930: Faith, Reason, and the Defense of Human Dignity*, ed. G.M. Hamburg and R. A. Poole, Cambridge: Cambridge University Press, 2010, pp. 150–68, quotation p. 156.

39. K. Tsiolkovskii, *Monizm Vselennoi (Konspekt. Mart 1925g.)*, Kaluga: izd. avtora, 1925, p. 9.
40. Chizhevskii, 'Teoriia kosmicheskikh ėr', p. 677.
41. Tsiolkovskii, *Volia Vselennoi*, p. 7; see also idem, *Nauchnaia ėtika*, pp. 24–32. Tsiolkovskii's conception comes close to the idea – developed by some of the theosophists – of the 'permanent atom', which passes from one incarnation to another. For Tsiolkovskii's atomism see also N. Gavriushin, 'Mistik-tekhnokrat (K. Ė. Tsiolkovskii)', *Filosofiia ne konchaetsia. Iz istorii otechestvennoi filosofii. XX vek*, ed. V. Lektorskii, Moskva: ROSSPĖN, 1998, pp. 702–17.
42. Tsiolkovskii *Volia Vselennoi*, pp. 9, 22–3; idem, *Nauchnaia ėtika*, pp. 37, 39–43; idem 'Fatum, sud'ba, rok', pp. 47–51, here p. 50. See also, B. Finney, V. Lytkin, 'Tsiolkovsky and Extraterrestrial Intelligence', *Acta Astronautica*, 46 (2000), no. 10–12, pp. 745–9. Viktor Shklovskii reports of a conversation with Tsiolkovskii in the 1930s, in which he admitted to him that he frequently talks to angels. V. Shklovskii, 'Konstantin Ėduardovich Tsiolkovskii', idem, *Zhili-byli*, Moskva: Sovetskii pisatel' 1966, pp. 519–28, here p. 525.
43. See, M. Carlson, '*No Religion Higher Than Truth*'. *A History of the Theosophical Movement in Russia, 1875–1922,* Princeton, NJ: Princeton University Press, 1993, pp. 62–5.
44. Gavriushin, 'Kosmicheskii put'', pp. 127–9; Demin, *Tsiolkovskii*, pp. 118–22, 254–55. The 'cosmic' attribute can be found in the works of mystics and occultists since the late 19th century (Max Théon, Elena Blavatskaia, Annie Besant, Petr Uspenskii) as well as in Anglo-American evolution philosophy (John Fiske, *Outlines of Cosmic Philosophy*, 1874; Richard M. Bucke, *Cosmic Consciousness. A Study in the Evolution of the Human Mind*, 1901).
45. Nowadays such ideas are resurfacing in the post-humanist visions of the liberation of the spirit from the natural and thus decrepit body and a perfect virtual and potentially immortal existence in cyberspace. See for example, H. Moravec, *Mind Children. The Future of Robot and Human Intelligence*, Cambridge, MA: Harvard University Press, 1988; F. J. Tipler, *The Physics of Immortality. Modern Cosmology, God, and the Resurrection of the Dead*, New York: Doubleday, 1994.
46. In Russian: *Filosofiia mistiki, ili dvoistvennost' chelovecheskogo sushchestva*, S.-Peterburg 1895. See also the bibliography of the Russian versions of the works of du Prel in Carlson, '*No Religion Higher Than Truth*', p. 260.
47. C. du Prel, *Die Philosophie der Mystik,* Leipzig: Günther, 1885, p. 509.
48. Ibid., p. 511.
49. Ibid.
50. The most prominent German rocket pioneers, the engineers Hermann Ganswindt (1856–1934), Hermann Oberth (1894–1989), and Max Valier (1895–1930) were also engaged in extensive metaphysical and occult speculation, and were fascinated by paranormal phenomena. Valier not only

developed powerful rocket engines but also followed the pseudoscientific cosmic ice theory (*Welteislehre*) and published an extensive *Occult Doctrine of the Universe* in 1922 (*Okkulte Weltallslehre*, München), in which he – like Tsiolkovskii – described the universe as well as the atom as a 'living and besouled organism', in accordance with the Hermetic doctrine of the analogy between microcosm and macrocosm. The eminent rocket pioneer John Whiteside Parsons (1914–1952), whose research was central to the United States rocket programme in the 1930s and 1940s and who – again, like Tsiolkovskii – has a crater on the far side of the moon named in his honour, was also an avid practitioner of the occult sciences, and for several years, the leader of the US branch of Aleister Crowley's Ordo Templi Orientis (OTO).

51. Asif Siddiqi refers to the link between technological utopianism and the Russian mystical occult tradition in the Soviet dream of spaceflight in the 1920s, see 'Imagining the Cosmos: Utopians, Mystics, and the Popular Culture of Spaceflight in Revolutionary Russia', *Intelligentsia Science: The Russian Century, 1860–1960*, ed. M. D. Gordin *et al*., Chicago, IL: University of Chicago Press, 2008, pp. 260–88 (= Osiris, 23).
52. A. Gulyga, 'Wir leben im Zeitalter des Kosmismus', *Deutsche Zeitschrift für Philosophie*, 40 (1992), pp. 870–81, here pp. 873–4.
53. Gavriushin, 'Kosmicheskii put', p. 125.
54. A. Douguine [Dugin], 'Le complot idéologique du cosmisme russe', *Politica hermetica*, 6 (1992), pp. 80–9; S. Žižek, *In Defence of Lost Causes*, London, New York: Verso, 2008, p. 186.

5

Into the Void: Philosophical Fantasy and Fantastic Philosophy in the Works of Stanisław Lem and the Strugatskii Brothers

Thomas Grob

Stanisław Lem's *Cyberiad* (*Cyberiada*) is a collection of philosophical 'robot fables' about the constructors Trurl and Klapaucius. One of these tales is called *Jak ocalał świat*, or *How the world was saved*. The ingenious Trurl builds a machine that is capable of producing all objects beginning with the letter 'n'. His somewhat envious colleague Klapaucius wants to test it and instructs it to manufacture 'science' (*nauka*), upon which it brings forth a horde of bickering scientists. The instruction to create '*nice*' – that is, negatives – has the machine producing antiprotons, antielectrons and antineutrons; asked to make 'nothing', it comes to a halt. Not even the demand for 'Nothingness' can faze it – it begins irrevocably removing things from the world. The constructors are aghast; the machine has to be stopped. However, the things it has eliminated are gone forever. The sky has particularly suffered – it is completely devoid of anything bar a few stars. The world, the machine sadly affirms, is simply full of black holes of Nothingness and, thus, the world has remained punctured with holes of Nothingness to this day.

The great Polish science fiction writer Stanisław Lem knows what he is talking about when it comes to outer space, and it is of programmatic significance that he later used this story to open his *Cyberiad*. Nothingness, emptiness, and also negation are among his most perennial motifs and approaches. Something similar can be said of Arkadii and Boris Strugatskii, the Russians often mentioned in the same sentence as Lem. As in Lem's oeuvre, 'nothing' and 'nothingness' also appear in many different guises throughout their work. As nothingness has a particularly intimate connection to the absolute, this recurrent theme lends itself to reflection on the theoretical context in which it is embedded.

1

Let us begin with a few preliminary thoughts on the genre of science fiction. It is relevant here only insofar as it converges with so-called 'highbrow' literature. Lem and the Strugatskii brothers see themselves most decidedly as an alternative to the mainstream US-dominated science fiction, frequently and deliberately baffling this readership's expectations.

It is not easy to define science fiction as distinct from conventional fantastic literature. Fantasy theorists are largely agreed that classical science fiction does not belong to this category. Fantasy theory's most influential work, Tzvetan Todorov's *Introduction à la littérature fantastique*, defines the fantastic as the border between the *merveilleux* (the marvellous) and the *étrange* (the uncanny), as an undecided zone, a zone of *hésitation* with regard to the nature of the imagined reality.[1] This excludes the clearly supernatural as well as the purely poetic or allegorically marvellous. The greatest structural difference between science fiction and traditional fantasy is, in effect, the fact that we are dealing with a *single* self-contained reality, however enigmatic this reality may be. For Todorov, the fantastic is contingent on doubt about the degree to which the imagined world corresponds with reality. Indeed, science fiction is not about double realities or about whether something is 'real' or not. Analogously, the fairy tale is not generally considered fantastic, and neither are its modern forms – in particular, fantasy fiction. Lem himself believed that science fiction had inherited much from fairy tales, but he criticized the use of elements that defied any possible explanation; he disliked 'fantasy'.[2]

However, Lem was opposed to the exclusion of science fiction from the category of fantastic literature. He pointed out that while 'scientific fantasy' – as science fiction is called in both Poland and Russia – followed scientific paradigms, it could produce the likes of fantastic theology, historiography or philosophy, which could certainly be categorized as fantastic.[3] He cites Jorge Luis Borges,[4] who Todorov does not even mention; he could just as easily have referred to Jules Verne or Herbert Welles, who Todorov likewise ignores.

Lem, who loves to play with intertextuality,[5] makes frequent reference to the fantastic tradition in his writing. The Strugatskii brothers do this even more so. In their novel *Ponedel'nik nachinaetsja v subbotu* (*Monday begins on Saturday*, 1965), they bring together all the elements of the literary fantastic tradition in a futuristic 'research institute', resulting in an acerbic satire on science. The institute bears the name '*Nauchno-issledovatel'skii institut charodeistva i volshebstva*' (roughly, 'Scientific Research Institute of Sorcery and Wizardry'), which is abbreviated as *NIIChAVO* – a subtle play on the word *nichevo* – 'nothing'.

Science fiction's indefinite classification may have contributed to its niche existence in scholarship and in the literary scene. There are, however, also more profound reasons for this. In the passage quoted, Stanisław Lem writes that science fiction and fantasy are particularly prone to 'kitsch', for the reason that it is easy to dream up completely arbitrary worlds.[6] He also comments on the development of the genre, particularly in the US, where science fiction evolved very early on as unchallenging popular fiction and literature for young adults. Both Lem and the Strugatskii brothers see themselves unequivocally as part of a movement presenting an alternative to this mainstream.[7] This lends their works a certain 'negative' character, in the sense that they define themselves by dissociation. They frequently baffle the expectations of readers of this genre. A number of the factors described in the following sections are also due to this negative approach.

2

These three authors belong to a single generation. Stanisław Lem was born in 1921, Arkadii Strugatskii in 1922 (he died in 1991), and his brother Boris in 1933. Lem was born to a Polish-Jewish family and spent much of his youth in Lviv during the Soviet and German occupations. The policy of 'repatriation' saw his family move to Kraków, where he remained throughout the communist decades; it was only in the 1980s that he lived for a time in Vienna. The Strugatskiis survived the Blockade of Leningrad; their father, a Bolshevik who had fallen into disrepute, did not. There are striking parallels between the first literary forays of the Pole and those of the two Russians. Although Lem began in the 1940s and the Strugatskiis did not start until the late 1950s, they all began with the same gung-ho communist belief in a bright new future, in irreversible technical and social progress, and in the ideality of a future world. However, both Lem and the Strugatskiis departed from this model around 1960 or earlier, and only then did their works, that are still read today, emerge. These works are consequently characterized by a two-pronged negation – that of mass literature and that of the official optimism about the future.

This complicated their reception during the cosmos-crazy 1960s;[8] in the case of the Strugatskiis, it also led to massive conflicts with the censors. As we know, it was during these years that the cult of the cosmonaut and a zeal for technology came to be the showpieces and hallmark of the communist societies. After the Stalin era, it became officially possible to write science fiction, once the pioneering efforts of Ivan Efremov had cleared the way for it. As the enthusiasm about a bright new future spread, Lem and the Strugatskiis tirelessly demonstrated in their stories that technical progress is by no means automatically coupled to social and human progress.[9]

3

In the 1960s, Stanisław Lem published a series of short stories about the pilot Pirx. These *Tales of Pirx the Pilot*[10] describe a space pilot completing his training and making his first test flight (which turns out, in the end, to be simulated). Later, he pilots a merchant spaceship, leads the hunt for a deranged robot, and helps to explain various accidents. Finally, now the commander of a spaceship, he is charged with the difficult task of testing a crew that partly consists of perfectly anthropomorphic robots. Pirx initially appears not to be particularly intellectual, but he is utterly reliable, independent, and unerring in judgement. These qualities place him in continual conflict with the bureaucrats. He shows great instinct in solving the puzzles with which he is faced, and this gains him respect.

The Pirx stories read like an introduction to the space flight of the future. It has become normal, the sense of adventure only a memory; it serves chiefly economic ends, and not even discoveries hold much relevance any more. Here, Lem adheres fairly consistently to conceivable physical laws and technical possibilities. In sharp contrast to the science fiction of its time, which describes strange worlds and great adventures, the emptiness of space is a constant theme here. Indeed, this calls to mind the story of Trurl that I mentioned at the beginning, where space is riddled with holes. This theme is present, for instance, in *Patrol* (*On Patrol*). Pirx goes on patrol flights. These are highly unpopular, because they are so infinitely boring. Space, Lem writes, was 'truly empty, no old comet orbits, no cosmic dust clouds – nothing'. Pirx is travelling in a rocket no bigger in relation to the sector he is to patrol than a single atom to the entire world. He suddenly finds a spot of light on the radar screen that he is unable to locate. He sets out in hot pursuit of the source, resorting to increasingly drastic methods – until he suspends all operations just before catastrophe strikes, having realized that the light must be caused by a defect in his own equipment.

Pirx's forte lies in his approach to the void and his ability to boil problems down to self-referential loops. A mirror hangs in front of him in the spaceship for no particular reason. Pirx sees himself in it as a distorted monster during the course of his furious manoeuvres. This mirror symbolizes the quality of self-referentiality that proves to be Pirx's salvation. The confrontation with the void is also always a confrontation with oneself, something that is vividly illustrated in the tale of the cosmonaut trainees' final test.[11] They are made to lie in a tank that reduces all physical sensations of their surroundings to zero. The 'loony dip' (*wariacka ka̲piel*), as it is also known, is an experience of nothingness – Pirx

believes he has ceased to exist. This becomes a confrontation with the self – and with fear. Pirx's self appears to disintegrate: 'He would vanish for a while, then return to life, not singly but in multiple versions; have his brain eaten completely away … [the] leitmotif was a conscious and ineradicable terror transcending time and space.'[12] Nowhere is the intrinsic link between the void, the confrontation with nothingness and hence with oneself, and the annihilation and 'multiplication' of the self clearer than here.

As a matter of fact, these stories include just one encounter with an actual 'other', and precisely this one is told in the style of a classical tale in the fantastic tradition.[13] The entire crew is either drunk or asleep, Pirx does not trust his senses, the recording equipment is not working. Suddenly he sees an enormous spaceship pass by, a total wreck, perhaps billions of years old. Pirx himself is the narrator here, and he begins by telling us that he only likes the 'untrue' fantastic stories because the authentic stories about cosmonautics tell only of the terrible immobility of the stars, of the silence, of a place where there is nothing but 'emptiness in space and time'.[14]

4

The Pirx stories conceal their disenchanting theme of emptiness behind the extraordinarily likeable protagonist and his crime-solving skills. There are also a number of quite different narrative models in Stanisław Lem's work, such as the theoretical-metafictional shenanigans of the 'robot fables' or the hilarious adventures of Ijon Tichy, which were recently adapted to slapstick-style short films for German television. None of this is found in the Strugatskiis' work. They particularly resemble Lem in the 'classic' question of genre, that is, of extraterrestrial cultures and 'contact' with them. Here, they place particular emphasis on the experiment of placing humans in fantastically alien surroundings. The Strugatskiis are thus clearly rooted in the satirical tradition beginning with Gogol' and Saltykov-Shchedrin and, in particular, Mikhail Bulgakov, whom they greatly admired.

The Strugatskiis' characters have to survive in a jungle of natural and human pandemonium. This is evoked by the 'forest' in the novel *Ulitka na sklone* (*The Snail on the Slope*),[15] an impenetrable landscape in which ever new, mysterious phenomena materialize. The counter-environment, the city, is dominated by a bureaucracy that keeps the residents in a state of anonymous dependence (Kafka clearly provided a model here). The people in the city think about the forest constantly, just as those in the forest think about the city. However, none of them has the slightest verifiable knowledge about the others; the thought of the inhabitants of both environments has been completely assimilated

into their surroundings. As is usual with the Strugatskiis, the story ends abruptly without the mystery being solved.

At times, however, the all-embracing void becomes vividly apparent in the work of the Strugatskiis, too. In the novel *Malysh* (*The Kid*; English title: *Space Mowgli*), a team of scientists arrives on a planet in the 22nd century. Outwardly, the planet appears much like Earth – the atmosphere is suitable for breathing and water is present in the form of an ocean. Yet, there is no sign of any living being: 'There was nothing on the planet except the ocean, cliffs, and dwarf trees'.[16] Everything is filled with 'silence and emptiness' – the title of the first chapter – and so the cybertechnician and narrator is not surprised when, after a number of days, he suddenly seems to be experiencing hallucinations. He hears strange noises: a fly, a child's whimpering, a woman speaking. The team find the wreckage of a rocket that had crashed a number of years ago with a couple on board. They use what is known as 'contact theory' to probe possible explanations for the planet and the crash.

A young boy turns up and is looked after by the team's xenopsychologist. He learns how to speak in just four hours, but his expressions and movements are strangely contorted. It turns out that he can mimic sounds perfectly – the supposed hallucinations were noises made by him. The team suspects he may be the child of the crash victims, but it is unclear how he could have survived the crash himself. A camera with which the boy has been secretly equipped leads into an underground cave. What they see are 'many people, many black figures, absolutely identical … it was the Kid, repeated in countless mirrors, a countless number of times'.[17] In the face of this and the strange phenomenon of giant antennae rising over the mountains from time to time, the scientists become convinced that the planet must be inhabited by some kind of beings. There is no prospect, however, of establishing contact. For all their sensational discoveries, all they have really found is a copy of themselves, and the observer is at most one who is himself observed. The expedition fails.

So, despite the adventurous subject matter, the place of the 'other' remains vacant, and this emptiness reflects all human ruminations back onto themselves. It is interesting that this is often combined with the motif of the copy, the multiplication of human beings, who thereby cease to be human. As well as denying contact with the other, this also signifies a negation of the individual. This corresponds, of course, within the genre of science fiction, to themes such as biotechnology and cloning (which to my knowledge first appears in literary form in 1932, in Huxley's *Brave New World*), to the boundary between human beings

and artificial robots, which was also a constant interest of Lem's. Just as the confrontation with nothingness leads to confrontation with oneself, it also threatens one's individuality.

5

Let us consider what are probably our authors' two best-known novels, *Solaris* by Lem and *Piknik na obochine* (*Roadside Picnic*) by Arkadii and Boris Strugatskii. Both were filmed in the 1970s by Andrei Tarkovskii. The script for *Solaris* was written by Tarkovskii and Fridrich Gorenshtein, while the screenplay for *Stalker* was composed by the Strugatskiis themselves in cooperation with the director.

Lem's *Solaris*, written in 1961, is about the exploration of a mysterious planet, or rather of the ocean of this planet, which is believed to be a kind of living being. There is a long tradition of Solarist studies on earth, and a great deal of the book is given over to rather satirical descriptions of these efforts. The psychologist Kris Kelvin arrives on the research station that circles above the planet. He finds it in a state of collapse. His two colleagues have visitors, strange beings in human form, that they try to conceal. Kelvin, too, suddenly finds himself in the company of his ex-wife who had committed suicide a number of years earlier. These visitors are not made up of normal atoms, their clothing cannot be undone, and they have no memory; with time, however, they learn more and increasingly resemble 'human beings'. The ocean is evidently capable of materializing and replicating man's most powerful and hidden fantasies. It has been doing this ever since it was bombarded with aggressive x-rays, and it ceases when Kelvin's encephalogram is beamed onto it for several days.

Here, too, we have a situation of contact or non-contact, and here, too, the mysteries remain unresolved; the 'guests' allegorically reflect the observer, who is left with no one but himself to turn to. The enigma of the other and the lack of communication are accompanied, in turn, by the duplication of the self. Conversation at the station revolves around what this ocean is, and, in particular, how its mysterious behaviour is to be interpreted. The crew is undecided as to whether it bespeaks aggression, a friendly attempt at communication, or simply playful indifference. The scientists use every strategy in their helpless attempts to arrive at an interpretation – violence, for one, or withdrawal.

Kelvin, the psychologist, who is best able to deal with the situation – even falling in love with the copy of his former wife – provides a surprising conclusion. He travels to the very edge of the planet's ocean, where a small wave of this gigantic formation appears to play with his hand; he experiences the 'changeless silence' of this colossus and, in the words of the novel, 'identifies himself' with it. Despite his lack of

comprehension, Kelvin has a sense of expectation and the 'faith that the time of cruel miracles was not past'.[18]

Incidentally, this passage has a counterbalance in the conclusion of Lem's last great novel, the 1986 *Fiasko* (*Fiasco*). Here, the protagonist visits the planet Quinta, which does not seem to be interested in any kind of communication. The explorer seems to be able to make out the planet's inhabitants in the form of strange formations. However, he is unable to prevent the destruction of the entire planet by his own colleagues – in the absence of communication, his commander turns to annihilation as the final military option. Lem's last novel is technically optimistic, but ends apocalyptically.

The Strugatskiis' 1972 novel *Roadside Picnic* is set not in a distant future but in one of six sites that has been visited by aliens. Nothing is known about these intruders, and they have never been seen. The 'guests' have left enigmatic artefacts behind that defy the laws of earthly physics. These 'Zones' are highly dangerous and have been sealed off by the military. There is, however, a thriving black market for the mysterious objects, and people known as 'stalkers' (the word was a neologism in Russia at the time) make illegal expeditions into the Zone, at constant risk to their own lives, in order to recover these items.

One such 'stalker' is the protagonist Shukhart, who is familiar with all the ways and dangers of the Zone. He has inwardly embraced the Zone and developed his own mythology, a veritable religion of this place. The profession of stalker has almost died out by the latter part of the eight years spanned by the novel. The work is carried out instead by robots; the region depends on the Zone commercially. The story ends abruptly when Shukhart finds the 'golden sphere'. The most valuable object in the Zone, it is said to fulfil the wishes of the person who finds it. The book ends with a certain pathos, with a monologue repeated like a 'litany'. The stalker has only one heartfelt desire: 'Happiness for everybody, free, and no one will go away unsatisfied!'[19] Lem, incidentally, criticized this somewhat fairytale ending.

The motif of emptiness is here, too; the very first artefact described is a so-called 'empty' (*pustyshki*): 'mysterious and maybe even incomprehensible', consisting of two inseparable copper disks, with 'absolutely nothing, just empty space' between them.[20] The question as to the possible meaning of the Visitation likewise draws a blank.

The Zone itself is a non-place; it fulfils the criteria for a 'heterotopia' in the sense of Foucault's notion of '*espaces autres*':[21] closed to the outside; a place where normality is suspended, neutralized and reversed; a place, too, where time stands still. Shukhart's subjectively refracted

consciousness, whose way of thinking is neither intellectual nor scientific, is typical of the Strugatskiis. Then there is the professor who holds 'xenology' for pseudoscience. Instead, he says, one should consider what human reason actually is. His definition also appears almost verbatim in Lem's writing. The ability to be wrong, he says, is human: 'reason is the ability of a living creature to perform unreasonable or unnatural acts'.[22] There is also a sentence here that is found all over Russian discussion forums debating the religious in the Strugatskiis' work: 'The hypothesis of God, for instance, gives an incomparably absolute opportunity to understand everything and know absolutely nothing'.[23]

It is worthwhile at this juncture to take a look at Tarkovskii's film versions. They clearly accentuate the theme of emptiness. This is done with long shots and, particularly in *Solaris*, with images of nature – water, currents and mists. The images have their origins on earth; there is nothing visually fantastical about the ocean. In *Stalker,* we see water and traces of nature among abandoned industrial ruins – again in long tracking shots. The slowness of these images frustrates any expectations of the exoticism and drama so typical of the genre – Tarkovskii saw these films, in part, as a counterbalance to Stanley Kubrick's *2001: A Space Odyssey*. The director Aleksandr Sokurov later did something similar in his filming of the Strugatskii novel *Za milliard let do kontsa sveta* (English title: *Definitely Maybe*). He transferred the action, shot largely in colourless sepia tones, to the steppe-like landscape of Central Asia, and mainly filmed nothing happening.

In contrast to the novels, the epistemologically-founded emptiness is, as it were, replenished in Tarkovskii's films. This is done in *Solaris* with a psychologization coupled with the question of responsibility, and with an obscure Christian mysticism in *Stalker*. In the latter film, the script – written in cooperation with Tarkovskii himself – is adapted and augmented with quotations from the *Apocalypse* and other material.[24] However, there is nothing 'marvellous' in the Todorovian sense here – it exists only in the imagination of the stalker himself. So, as suggested also by the bleak landscape, the film comes close to a theology of '*credo quia absurdum*'. Tarkovskii's 'stalker' has a kind of Cynic philosophy with a deep ethos of suffering: 'Yes, you're right, I'm a louse. I haven't done any good in this world, and I can't do any … So all that's mine is here … My happiness, my freedom, my self-respect, it's all here!'[25] The heterotopia of the empty space is transformed in Tarkovskii's film into a place of infinite abundance.

6

It is astonishing how readily these motifs in the work of Lem and the Strugatskiis lead into an almost theological discourse; this takes the form

of an exclusively *negative* theology. It would be easy to associate Pirx's experience in the tank with *horror vacui*, with the 'metaphysical horror' around which Leszek Kołakowski (who, incidentally, was not on good terms with Lem[26]) develops models of negative concepts of God and the notions of nothingness they entail in his book of the same name.[27]

The authors describe themselves as atheists (Lem) or agnostics (Boris Strugatskii). Lem takes a predominantly theoretical/empirical stance, while that of the Strugatskiis is critical/ethical in nature – the one does not exclude the other. However, both the Pole and the Russians return repeatedly to religious and biblical models; the Strugatskiis, in particular, do so consistently throughout their body of work. Their frequent use of images from an apparently satanic world has often led them to be identified as Gnostics.[28] How are we to interpret the fact that, in his final novel, Lem includes a monk on the flight, who turns out to be the final arbiter of ethics within the group? Certainly not as any sign of attraction to Catholicism on Lem's part.

The stalker in the film hopes for a miracle at the end, even though his authors explicitly reject any such faith for themselves. In the same way, we are dealing here with models linked to psychological states, and in particular to specific circumstances. Thus, 'God' is indeed a 'hypothesis', as in the citation given above. This model-based thought is related, for instance, to Lem's cybernetic tales, despite all of the obvious structural differences.

Behind these fictional worlds lies, indeed, if not a religion, then at least a kind of ideology. We do not have to look far to identify it. In the *Cyberiada* it is part of the title, and it is present in the shape of a cybernetician on probably every space flight from Lem's 1951 *Astronauci* onwards: cybernetics.

The concept of cybernetics was introduced by Norbert Wiener in 1948. It was a communication theory that dealt with every kind of information control system and saw itself as a kind of metascience whose models could be applied to many different fields, including the social and political. In his book *Science and Philosophy in the Soviet Union*, Loren Graham contends that cybernetics enjoyed greater prestige in the Soviet Union than anywhere else in the world.[29] The cybernetic storm that began in the late 1950s was linked to the desire to find a scientific basis for increasingly complex economic planning processes.

There was vigorous debate over whether or not cybernetics was a materialist theory *per se*. Another key question was the definition of life, that is, whether it was possible for technical creations to possess

a 'life' of their own – a frequent theme throughout the work of Lem, in particular.[30]

Of our authors, Lem can most unequivocally be called a cybernetician[31] – this is also clear from his theoretical writings. He began to explore these theories very early in his career. Lem prided himself on being conversant with very diverse scientific fields. This does not so much correspond to the old idea of the Renaissance man as reflect the cross-discipline, metascientific approach of cybernetics. Lem played out all the basic elements of cybernetic thought. He particularly loved circular reasoning, self-referentiality and reflexivity, exaggerated reflexive structures that he frequently follows through to their paradoxical conclusion. Pirx, the instinctive master of reflexive thought, embodies this aspect of cybernetic information theory.

Of the Strugatskiis, the astronomer Arkadii at least was familiar with cybernetic theories. The brothers place particular emphasis on the problem of entropy, which had entered information theory via Elwood Shannon and Wiener. If, in analogy to the second law of thermodynamics, systems have a tendency towards maximum entropy – put simply, towards optimum energy distribution – and consequently an increasing loss of structure, information was seen as a counteracting force that was able to feed energy into a system, developing and stabilizing it. In cybernetics, the term 'homoeostasis' was used to describe these stable conditions in control systems.[32] In the Strugatskiis' *Definitely Maybe*, the protagonist Vecherovskii develops a kind of global theory of homoeostasis. He sees it as a law of equilibrium, with the law of entropy constituting just one part of this.[33] What may often seem a 'gnostic' view of the world in the Strugatskiis' work may be more correctly understood as a way of approaching problems of social entropy – in this, they follow in the tradition of Evgenii Zamiatin.[34]

In 1961, the CPSU declared cybernetics a key instrument in the building of a communist society, and sought to associate it ideologically with Soviet Marxist dialectical materialism and represent it as an instrument of control.[35] One of the most important cybernetic paradigms, however, is self-regulation – the notion that systems evolve and transform themselves and that this evolution is unpredictable. (This was to be developed much later in what came to be known as 'chaos theory'.) The latter is precisely what interested Lem and the Strugatskiis: not the 'plannability' of complex systems, but rather their unpredictability. This is the key component with which Lem and the Strugatskiis construct their experimental literary model worlds. From a cybernetic perspective, they could only view as naïve a universal dynamic according to which

the world would automatically become better and better. One of the first great novels in this vein is the Strugatskiis' *Trudno byt' bogom* (*Hard to be a God*). Here, people living in a brutal feudal society in a future, near-ideal world on another planet want to provide social development assistance and fail miserably. If science and art appear in the novel as great evolutionary forces, this is due not to a belief in the inexorable advance of human reason, but rather to parallels to the cybernetic concept of information: culture and education as a form of social information that counters the constant threat of entropic disintegration. However, information is only information when it is formulated in the language of the system itself. The great sage in this brutal world, whose name is 'Budach', knows this: he rejects the idea of arranging everything perfectly in one fell swoop.

Interestingly, both Lem and the Strugatskii's highlight elements that reappear later in the field of complex dynamics – the successor, as it were, to cybernetics. In stressing the unpredictability, the non-linearity of processes, the 'chaos' that emerges from reflexivity, their novels foreshadow a number of things that became famous in the 1980s as 'chaos theory'. There have even been sporadic attempts to read Lem in the light of chaos theory.[36] Both Lem and the Strugatskiis use cybernetic reasoning to dispel overriding 'truths' in favour of local systems, as cybernetic truth is always model-specific. In this respect, there is a certain affinity to the Radical Constructivism of Ernst von Glasersfeld, who himself began his career as a cybernetician. Glasersfeld understands cybernetics as the analysis of the self-regulation, autonomy and inner hierarchy of 'organisms'; he describes it as a metadisciplinary and not an interdisciplinary field.[37] From here, there are, in turn, parallels to the Chilean biologist Maturana, who, incidentally, is almost the same age as Lem and Arkadii Strugatskii would have been. Niklas Luhmann was influenced by Maturana's notion of autopoiesis, a concept which describes the reflexive self-producing and self-preserving processes of systems. Autopoietic systems are isolated from the outside world insofar as it cannot be translated into the inner world; but precisely this is one of the fundamental ideas of the cultural anthropology presented in the novels of Lem and the Strugatskiis.

Viewed in this light, the quasi-religious models in our novels present themselves as simulation exercises, as an invariably relative way of looking at the world, as an exploration of the cultural limits of the comprehensible. The fascination with negativity and emptiness is more than just a criticism of the prevailing ideology of progress. Cybernetics has a virtually existentialist dimension, in that communication is always

problematic in cybernetic models and systems, and the all-embracing totality is negated – thus God, too, is always a hypothesis.

Cybernetics probably became less important as time went on. In Lem's early novels, the cybernetician is *the* superior character – in *Eden*, written in 1959, he easily establishes communication with a non-human being. In his final novel, *Fiasko*, he is replaced by the powerless cleric I spoke of earlier. This reflects a growing pessimism that is also found in the Strugatskiis' work; they all share a scepticism of human beings' ability to evolve.

Lem and the Strugatskiis are very different thinkers and belong to different literary traditions. If there are a great many parallels between their works, this is not least due to their related theoretical context. Lem's and the Strugatskiis' literary works are often allegorical, but they are never simply illustrations of theorems. Rather, they are real models that give rise to dynamics, problems and semantics of their own. In their best works, both Lem and the Strugatskiis demonstrate a specific quality of the experiment in fictional narrative that, paradoxically, often touches on profound questions: nothingness and the absolute, the future, the human 'self', man's double and the unattainable Other. Our human perception is shown to be a dynamic but ultimately closed system – the representations of nothingness, of the void, demonstrate over and over again the limits of our capacity for understanding. Boris Strugatskii once explained that he disliked the traditional genre of science fiction because it was escapist.[38] Indeed, the novels of both Lem and the Strugatskiis do everything to prevent us from escaping this world.

Notes

1. Tzvetan Todorov, *Introduction à la littérature fantastique*, Paris: Editions du Seuil, 1970, esp. Ch. 3.
2. See a number of passages including S. Lem, 'Todorov's Fantastic Theory of Literature'(1934), idem *Essays*, Frankfurt am Main: Insel, 1981, pp. 9–34, here p. 29.
3. Lem, 'Todorov's Fantastic Theory of Literature', p. 27.
4. Ibid.
5. Cf. Jerzy Jarzębski, *Wszechświat Lema*, Kraków: Wyd. Literackie, 2003, pp. 103ff.
6. Lem, 'Todorov's Fantastic Theory of Literature', p. 29.
7. This, to a large extent, is the implicit subject of especially the second volume of S. Lem's *Fantastyka i futurologia* (1970). Cf. statements such as: 'Science fiction has progressed … from the hobby of self-important, chattering engineers, naïve utopian attempts, and the schematism of cosmically inflated American career myths, to today's fairy tale scribblings consisting of anachronistic and

childishly brutalised delusions of grandeur' (Lem *Essays*, op. cit., p. 46). Lem frequently complains that the American reading public is incapable of comprehending him (for instance in *Rozmowy z Lemem*, as cited by *Lem über Lem. Gespräche mit Stanisław Bereś*, Frankfurt am Main: Suhrkamp, 1989, p. 71).

8. On the cosmos craze as it relates to the genre of science fiction that emerged from 1957 onwards, see Matthias Schwartz, *Die Erfindung des Kosmos. Zur sowjetischen Science Fiction und populärwissenschaftlichen Publizistik vom Sputnikflug bis zum Ende der Tauwetterzeit*, Frankfurt am Main: Peter Lang, 2003.
9. On Soviet science fiction and its exploration of utopian models, cf. Leonid Heller, *De la science-fiction soviétique. Par delà le dogme, un univers*, Trad. du russe par A. Coldefy, Lausanne: L'Age d'homme, 1979; on the Strugatskiis, see esp. Ch. 7; Mariusz, Les, *Stanisław Lem wobec utopii*, Białystok: Wyd. Tow. im A. Mickiewicza, 1998.
10. Stanisław Lem, *Opowieści o pilocie Pirxie* [1968], Posłowie Jerzy Jarzębski, Kraków: Wydawnictwo Literackie, 2006.
11. 'Odruch warunkowy' [The Conditional Reflex], in *Opowieści o pilocie Pirxie*, op. cit., pp. 101–157.
12. Ibid., p. 108.
13. 'Opowiadanie Pirxa' [Pirx's Tale], *Opowieści o pilocie Pirxie*, pp. 211–25.
14. Ibid., p. 213.
15. The works of Arkadii and Boris Strugatski can be accessed in the original online together with extensive other material (unpaginated) at http://www.rusf.ru/abs/ (last accessed 1 February 2011). Older editions may be distorted by censorship. In the absence of page numbers, I cite the Russian passages from these texts in the following (also all last accessed 1 February 2011).
16. 'Ничего здесь нет, на этой планете, кроме океана, скал и карликовых деревьев. Неинтересно здесь нарушать инструкцию' (http://www.rusf.ru/abs/books/m01.htm).
17. 'Много людей, множество черных фигурок, абсолютно одинаковых … это был Малыш, повторенный, как в бесчисленных зеркалах, бесчисленное множество раз.'
18. 'Nie wiedziałem nic, trwając w niewzruszonej wierze, że nie minął czas okrutnych cudów' – this is the novel's final sentence.
19. 'Счастье для всех, даром, и пусть никто не уйдет обиженный!' (capitalized throughout in the original).
20. 'То есть совсем ничего, пусто.'
21. Michel Foucault, 'Des espaces autres' [1967], idem, *Dits et écrits 1954–1988*, IV, Paris: Gallimard, 1994, pp. 752–62.
22. '… разум есть способность живого существа совершать нецелесообразные или неестественные поступки.'
23. 'Гипотеза о Боге, например, дает ни с чем не сравнимую возможность абсолютно все понять, абсолютно ничего не узнавая…'.
24. See http://www.rusf.ru/abs/books/stalker.htm.
25. 'Да, вы правы, я - гнида, я ничего не сделал в этом мире и ничего не могу здесь сделать … Все мое - здесь. … Счастье мое, свобода моя, достоинство - все здесь!'
26. Cf. Stanisław Lem, *Die Vergangenheit der Zukunft*, Frankfurt am Main and Leipzig: Insel, 1992, pp. 10ff.

27. Leszek Kolakowski, *Metaphysical Horror*, Oxford and New York: Blackwell, 1988.
28. As for instance in Yvonne Howell, *Apocalyptic Realism. The Science Fiction of Arkady and Boris Strugatski*, New York: Peter Lang, 1994. In a way, this view is fostered by the authors themselves. For instance, Boris Strugatskii said in an interview: 'Literature is always negation. This is understandable, because our world is a world of evil. Our life is a battle with evil. Always!' See Andrei Stoliarov, Andrei Rodosskii. Pejzazh posle bitvy. Beseda s Borisom Strugatskim. Radio interview from 17 February 1994 (http://www.rusf.ru/abs/int/bns_pict.htm). Accessed 1 February 2011.
29. Loren Graham, *Science and Philosophy in the Soviet Union*, New York: Vintage, 1974, p. 324.
30. On the problem of cybernetics as a common language between humans and machines, see Slava Gerovitch, *From Newspeak to Cyberspeak. A History of Soviet Cybernetics*, Cambridge, MA-London: MIT Press, 2002, pp. 51ff.
31. On a number of connections between Lem's fictional worlds and Norbert Wiener, see Robert M. Philmus, 'The Cybernetic Paradigms of Stanislaw Lem', *Hard Science Fiction*, ed. George E. Slusser and Eric S. Rabkin, Carbondale-Edwardsville, IL: Southern Illinois UP, 1986, pp. 177–213.
32. 'Homoeostasis' was actually a concept applied to organic (biological) systems. See for instance Georg Klaus (ed.), *Wörterbuch der Kybernetik,* vol. 1, Frankfurt am Main: Fischer, 1969, p. 254. Klaus was himself a pioneer of cybernetics in the GDR. His dictionary was first published in 1967 and was used in the Soviet Union by various bodies, including representatives of the Moscow-Tartu school. He published two cybernetic monographs in Russian in 1963 and 1967.
33. For a more detailed analysis, albeit a somewhat simplistic reading, see Yvonne Howell, *Apocalyptic Realism*, pp. 117ff.
34. Cf. Rainer Goldt, *Thermodynamik als Textem. Der Entropiesatz als poetologische Chiffre bei E. I. Zamjatin*, Mainz: Liber, 1995.
35. Graham, *Science and Philosophy*, pp. 327ff.
36. N. Katherine Halyes, 'Stanislaw Lem and the Space of Writing', idem, *Chaos Bound. Orderly Disorder in Contemporary Literature and Science*, Ithaca-London: Cornell University Press, 1990, pp. 115–40; Gerhard van der Linde, 'Rationality and Knowledge in Complex Systems. The Case of Stanislaw Lem', *Journal of Literary Studies*, vol. 12 (1996), pp. 275–96.
37. Ernst von Glasersfeld, *Radikaler Konstruktivismus. Ideen, Ergebnisse, Probleme*, Frankfurt am Main: Suhrkamp, p. 239. (English edn: *Radical Constructivism. A Way of Knowing and Learning*, London: Falmer Press, 1995.
38. Cf. the interview with B. N. Strugatskii in *Vokrug sveta*, no. 4 (2811), April 2008 http://www.vokrugsveta.ru/vs/article/6222 (last accessed 1 February 2011).

6

The Contested Skies

The Battle of Science and Religion in the Soviet Planetarium[1]

Victoria Smolkin-Rothrock

> 'The sky! The sky is becoming desolate. It is no longer that epoch, that slice of time. Now the angels want to come down to earth, where it is nice, where there are municipal services, where there is a planetarium in which one can look at the stars while listening to an antireligious lecture.' (Ostap Bender)[2]

The proletarian theatre of scientific enlightenment

At the end of the 1920s, during the height of the Soviet atheist campaign, the Commissariat of Enlightenment proposed the construction of 'a new type of enlightenment institution' in Moscow: a planetarium.[3] Designed by the Constructivist architects M. Barshch and M. Siniavskii, the Moscow Planetarium was conceived as a monument to technology and scientific materialism, but it was also envisioned as a space that would redeem Soviet citizens from the darkness of religion by lifting the veil from the cosmos with the light of science. Indeed, considering the dire material conditions of the USSR in the 1920s, the mobilization of resources for the construction of a planetarium is a testament to the Soviet faith in scientific enlightenment. The Moscow Planetarium's location, next to the Moscow Zoo, was emblematic of this didactic vision: under the guidance of an educational lecture, a visitor could follow the path of evolution and uncover the material nature of the universe. Designed according to the most progressive principles in Soviet construction and city planning and armed with the most sophisticated German equipment, the Moscow Planetarium concentrated the hopes of the Soviet enlightenment project and the individuals whose task it was to make it reality.[4]

Underscoring the ideological significance and transformative potential of the planetarium, the Constructivist Aleksei Gan described it as 'an optical scientific theater' the primary function of which was to 'foster a love for science in the viewer.'[5] Gan saw the theatre in general as a conservative force, 'a building in which religious services are held' the main function of which was to satisfy a primitive instinct for spectacle, but he envisioned the planetarium as a means to redirect this unenlightened impulse. The desire for spectacle, Gan wrote, will persist 'until society grows to the level of a scientific understanding [of the world] and the instinctual need for spectacle comes up against the real phenomena of the world and technology'. The planetarium, meanwhile, would channel this instinct 'from servicing religion to servicing science'. This new type of theatre would reveal the workings of the universe to the masses: everything would be 'mechanized' and people would no longer be playing make-believe, but 'directing one of the world's most technologically complicated machines'. As a result, the planetarium would 'help [the visitor] forge within himself a scientific understanding of the world and rid himself of the fetishism of a savage, of priestly prejudices, and of the civilized Europeans' pseudo-scientific worldview'.[6]

When the first Soviet planetarium opened its doors in Moscow, in November 1929, the confidence that the light of science would defeat the darkness of religion was paramount. In the years before World War II, the planetarium hosted over 18,000 lectures and eight million visitors. It organized a young astronomer's circle (*kruzhok*); a 'star theatre' comprised of Moscow actors that put on plays about Galileo, Giordano Bruno and Copernicus; and a 'stratospheric committee' that studied the atmosphere and reactive motion, and could count among its members the mechanical engineer and 'tireless space crusader' Fridrikh Tsander, as well as the 'father' of the Soviet space programme, Sergei Korolev.[7] The main question that worried atheists was not *if* their 'storm of the heavens' – the assault of scientific materialism on religious mentalities – would ultimately be victorious, but rather when and through what means victory would finally be achieved.

Cosmic utopianism and scientific atheism in the Khrushchev era

Despite auspicious beginnings, Stalin's reign did not turn out to be a fortuitous time for the new theatre of scientific enlightenment, and Moscow's planetarium remained the only planetarium in the Soviet

Union for nearly 20 years. Indeed, it was not until after Stalin's death and Nikita Khrushchev's subsequent ascent to power that the enthusiasm for the planetarium as an institution of vital enlightment re-emerged in Soviet public life. The great expectations of the Khrushchev era – fuelled by hopes of political liberalization, ambitious policies focusing on social welfare and material well-being, and optimistic predictions about the imminent arrival of communism – were nowhere more evident than in the wave of popular enthusiasm for Soviet space achievements. In the context of the Cold War, space victories were proof of what, for Soviet citizens, had just recently existed in the realm of hope and possibility. Cosmonauts, meanwhile, were the incarnation of utopian promises – a confirmation of Soviet political, economic, technological and even spiritual supremacy.[8]

The ideological capital of cosmic exploration reached beyond the material – a fact that quickly became apparent to Soviet ideologists in general, and atheists in particular, as they renewed their struggle against religion. Khrushchev's confident assertions, noted above, were accompanied with alarm within the Party ranks. Despite more than 40 years of Soviet power, 'survivals' of the former bourgeois worldview, marred by the darkness of religion, continued to 'hold sway over the minds of living creatures … long after the economic conditions which gave them birth have vanished'.[9] The Marxist schema whereby religion would die out when its social and economic roots had been eliminated needed revision, and Soviet ideologists acknowledged that it was not enough to develop socialism's material-technical base; in order to build communism, the 'spiritual world' of Soviet society had to be transformed. Among the other ideological functions of cosmic exploration, then, Soviet space achievements were mobilized to affirm the correctness of the 'scientific materialist worldview'. The philosophical significance of man's new ability to leave the Earth – the cosmonauts' literal 'storming of the heavens' – was portrayed as the final blow to religion, which, against Marxist predictions, continued to frame the cosmologies of many Soviet citizens. In the wave of enthusiasm for the cosmos during the Khrushchev era, the planetarium again became a tool in the Soviet cultural enlightenment project and in the regime's revived campaign against religion.

The Soviet system and its Marxist-Leninist ideology have often been likened to a religion, yet scholarship applying the conceptual frameworks of religious studies to the analysis of ideological regimes has generally ignored the role of atheism in Marxism-Leninism. In the historiography of religion and atheism in the Soviet Union, the consensus

has been that Soviet attempts to replace religion with scientific atheism were a failure. Most often, analysis has focused on the crude, repressive and often incompetent administrative efforts of Soviet officials, and on the reasons why atheism was not (and could not be) attractive to its intended audience. Soviet atheists, meanwhile, have been portrayed as naïve at best – and certainly ineffective, as even with the support and resources of the state, they failed to achieve their own 'religious monopoly'.[10]

Despite the prominence of the analogy between Soviet ideology and religion, as well as of the centrality of the antireligious campaign in the regime's politics, no one has examined how atheists in the late Soviet period actually envisioned and understood their project – how they assessed former and present successes and failures, the measures they took to address them, and how all of this fits into the broader cosmology of Soviet ideology. In rejecting the religious cosmos, Soviet atheists were left to see whether scientific materialism – which laid bare the constitution of the natural world – could mobilize the belief and emotion that had for ages been cultivated and harnessed by religions. While communists generally saw Marxism-Leninism as a science that repudiated metaphysics, the questions Soviet ideologists inherited from religion were as much philosophical and spiritual as they were scientific. Did belief in the communist project unequivocally demand religious unbelief (and vice versa)? Could scientific materialism be infused with a spiritual component and remain scientific and materialist?

When taken in concert, the proclamation of the path that human space travel opened to the future, and the inherent admission that tradition – in the form of religious 'survivals' – still exercised a hold over the minds of Soviet people, produced a contradictory picture. However, while the overlap of the Soviet space age with the revival of the campaign against religion during the 'Thaw' of the Khrushchev era were no coincidence, the precise nature of the relationship between these discrete phenomena – how they influenced, reinforced and undermined each other – has not been examined. By investigating the use of space conquest and cosmonauts in the practical application of atheist education, this chapter examines Soviet attempts to create and inculcate a scientific atheist cosmology, especially as these took place inside the planetarium. It also analyzes the obstacles Soviet atheists encountered when they attempted to turn the planetarium into a temple to science and space achievements, and to turn atheism into its opposite – a set of positive beliefs and practices with a coherent spiritual centre.

A planetarium for believers

On 12 April 1961 – four years after the Soviet Union launched *Sputnik*, the first artificial satellite of the Earth – Soviet cosmonaut Number One, Iurii Gagarin, completed the first manned space flight. A year later, after subsequent manned launches, the Soviet popular journal *Science and Religion* published a lengthy editorial taking stock of the 'first Cosmic Five-Year Plan'.[11] 'Five Years of Storming the Heavens' addressed the question that had been haunting the imagination of both East and West: How did it come to be that the Soviet Union managed to do what 'tsarist Russia could not even dream about' – namely, 'the accomplishment of such heroic feats in the fight for progress, the competition with more technologically and economically developed countries'?[12] Why was it that it was *Soviet* cosmonauts who managed to fulfil the long-cherished dream of man, when he 'ceased to envy the bird' and flew, 'relying not on the power of his muscles, but on the power of his reason'?[13] And finally, what did it mean that the first man who 'stormed the heavens' was 'Gagarin – steel worker, son of a steel worker, from a peasant family, Russian, Soviet, communist, [and] "godless"'?[14]

In the ideological opposition of two world systems that defined the Cold War, Gagarin's alleged 'godlessness', and the godlessness of cosmonauts in general, was not insignificant. Soviet supremacy in space was presented as having a direct connection to the system's 'scientific, materialist, and therefore … atheist worldview', indeed, that this was 'the logic of modern history'. Material objects 'created by the sinful hands of the godless' broke through to the celestial spheres, and 'man, whose insignificance the clergy has reiterated for centuries, is accomplishing space flights, creating and controlling artificial planets, and conquering the cosmos'.[15] This teleological narrative left little room for interpretation or doubt – it called for believers to abandon their 'dark superstitions' and it urged atheists to combat religion, which remained an obstacle in the path to the enlightened society of the communist future.

When Soviet atheist education was revived in the mid-1950s, after a long hiatus that lasted most of Stalin's reign, atheists were working with two conceptions about the nature of religion, both of which were inherited from the early Soviet period.[16] The first held that religion was a product of poverty, misery, and the fear engendered by life's unpredictability. Religion provided solace, an 'opiate' for people afflicted by war, acts of nature or personal trauma. For this vision of religion, the proposed antidote was continued economic growth and

material well-being promised by the construction of Communism. As people's material lives improved, this theory held, they would experience less need for the solace provided by religion, and religion would eventually 'die out'. The second theory – related to, yet distinct from, the first – presented religion as the product of ignorance about the mysterious forces that govern nature. Overcoming a religion envisioned in this way required active effort on the part of the ideological establishment – an effort largely concentrated in scientific enlightenment. These understandings of religion, and the faith in scientific enlightenment as the central component of atheist education, were so deeply rooted in Soviet atheist thought that they never stopped guiding atheist approaches.

This is not to say that Soviet atheism did not evolve. On the contrary, the Khrushchev era is marked by a growing awareness of the ways in which atheist work fell short, and an increased scrutiny of atheist theory and practice. Broadly, the Party relied on two kinds of measures – 'positive' and 'negative' – to combat religion during the 1950s. In practice, more emphasis was initially placed on negative measures: administrative and legal regulation of religious organizations and individual believers.[17] Positive measures, which grew in importance by the late 1950s, entailed a mass enlightenment campaign. In practice, this meant a calling to arms of the 'Knowledge' Society (*Obshchestvo 'Znanie'*) – the primary Soviet institution charged with the development of the new communist citizen on the ground.[18]

Party cadres and enlightenment enthusiasts formed local-level organizations that brought together believers and unbelievers with atheist film screenings, hosted debates and question-and-answer sessions; staged secular holidays and created socialist rituals to compete with their religious equivalents; and – in what was the most frequently employed form of atheist education – organized lectures by members of the 'Knowledge' Society.[19] In 1959, the Society also received a new journal, *Science and Religion* (*Nauka i religiia*), that covered religious history and the Party's evolving position on religion and atheism; popularized scientific achievements and the materialist worldview; and, under the rubric 'Man: Master of Nature', discussed philosophical and theological questions raised by space exploration.[20] The importance of cosmic enthusiasm in Soviet atheist work was made evident on the inside cover of the first issue, which proudly displayed the blueprint for the monument to Soviet space achievements planned for construction at Moscow's Exhibition of National Economic Achievements (*VDNKh*).[21] At the turn of the decade, the Society was given the brand new Moscow House of Scientific Atheism, as well as the administration of the Moscow Planetarium, which was conceived as a

coordinating centre for Soviet atheist work and became a critical site for linking cosmic enlightenment with antireligious thought.[22]

During the Khrushchev era, the planetarium was widely considered to be one of the most effective spaces in which to conduct atheist education. It was admired for its aesthetically pleasing and intellectually engaging methodology that emphasized the experiential component of education; and with the renewal of the antireligious campaign, both the number of planetaria and the scope of their activities were expanded. In the light of the regime's revival of the battle against religion, the 13 planetaria that existed in the Soviet Union in the 1950s were considered insufficient, and prominent proponants of scientific enlightenment called for a planetarium in every major Soviet city.[23] These requests were not without results – by 1973, the country had more than 70 planetaria, most of which were constructed in the post-war period.[24]

A significant number of the planetaria constructed after the war – in Gorkii (Nizhnyi Novgorod), Kiev, Riga, Barnaul – occupied former church spaces, a fact that had both practical and ideological significance.[25] Church buildings provided convenient raw material, as the church cupola could be transformed into a 'star theatre' without much difficulty, but they also made material and explicit the state's antireligious position by occupying and re-appropriating sacred spaces. Conceived as explicitly atheist spaces, planetaria hosted educational and enlightenment events, such as films and lectures, as well as youth astronomy and cosmonaut clubs.[26] Audiences were drawn in with technologically advanced equipment and, most of all, with the opportunity to hear about what cosmonauts encountered in their celestial journeys.[27] Indeed, the planetarium was the perfect place to mobilize Soviet space enthusiasm and the most popular lecturers were, of course, Soviet cosmonauts.

Planetaria were also attractive because they not only invited the audience to attend events, but could also bring the planetarium to believers. The 'mobile planetarium' (see Figure 6.1) – typically a bus fitted out with a telescope, loudspeakers and audio-visual aids for presentation, and, of course, attended by planetarium workers – could organize lectures and exhibits beyond the confines of urban planetarium locations, and bring the 'star theatre' to Houses of Culture, pioneer camps, pensioners' homes, military complexes, student dorms, schools, libraries, red corners, parks of leisure and culture, factories and even local housing administration offices. Using planetarium 'agit-buses', lecturers also made expeditions to collective farms in a mass populist drive to educate the rural population. They attracted audiences by providing the chance to use a telescope, learn about the most recent achievements of Soviet cosmonauts

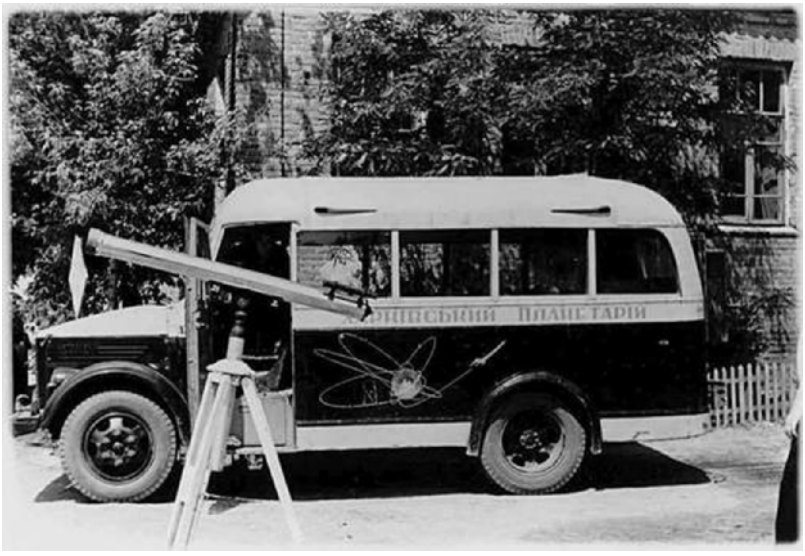

Figure 6.1 'Mobile planetarium' bus used for rural lectures, Ukraine (Kharkov region)
Source: Kharkov Planetarium (imeni Iu. A. Gagarina), 1960s.

and giving workers the opportunity to take a break from farm work to the sound of festive music coming from the loudspeakers of the mobile planetarium. Often, the night concluded with a dance party.

Bibles for cosmonauts

Over the course of the Khrushchev era, the Moscow Planetarium reported that atheist agitation left an effect on the audience.[28] Visitors responded that 'in the planetarium one truly understands the absurdity and inadequacy of religious fairy tales', 'having visited the planetarium, one can successfully conduct an argument with believers', 'it is necessary to attract more and more believers to the planetarium, it is a truly great school for dethroning God' and that 'the planetarium had an enormous effect on our consciousness and helped us make sense of many unclear issues; the knowledge we received in the planetarium has definitively convinced us that God did not, does not, and cannot exist'.[29]

Yet, atheist work in the planetarium was not without problems. Atheist cadres were criticized for reading lectures on the natural sciences that did not explicitly draw atheist conclusions, as well as for avoiding

Figure 6.2 Demonstration of telescope in village, Ukraine (Kharkov region)
Source: Kharkov Planetarium (imeni Iu. A. Gagarina), 1960s.

'worldview' issues.[30] As early as 1955, B. L. Laptev, a prominent member of the 'Knowledge' Society, highlighted the importance of making clear the *atheist* significance of scientific enlightenment lectures, pointing out that, 'We conducted [scientific enlightenment] lectures for years, and it still took a Central Committee decree to reveal to us that we do not conduct scientific-atheist propaganda'.[31] Criticism of this nature was aimed especially at professional scientists, who, in offering their knowledge in the service of mass enlightenment, were often unwilling to agitate against religion.[32] To illustrate the repercussions of avoiding direct battle against religion, Laptev described an astronomy lecture on a collective farm (see Figures 6.2 and 6.3). When he asked his audience whether they liked the lecture, his listeners informed him that, 'We liked how gloriously God constructed the universe'.[33]

Indeed, across the Soviet Union, atheists encountered obstacles in their crusade to overcome religious belief. A lecturer from the Tambov region reported that, while their mobile planetarium attracted visitors

Figure 6.3 'Mobile planetarium' lecture on a collective farm, Ukraine (Kharkov region)
Source: Kharkov Planetarium (imeni Iu. A. Gagarina), 1960s.

of all ages, he still had reservations about proclaiming success because the atheist message often did not come across. He described a man aged 95 who 'could not be removed from the apparatus for 30 minutes' because, as the old man explained, 'I'm going to die soon, and I refuse to go to the other world until I see what's there'.[34] Another lecturer reported that their mobile planetarium was especially popular with collective farm workers who belonged to evangelical confessions, or, in Soviet terminology, 'sects'. Yet, during planetarium visits, sectarians would try to 'corner the lecturer', in which case, 'If they [got] the last word, they consider[ed] it a victory'.[35] These reactions brought to light a phenomenon that Soviet atheists should perhaps not have found so surprising – namely, that the cosmological connection between space exploration and atheism was neither necessary nor entirely obvious. The history of science provided numerous examples where the elegant construction of the universe was, indeed, taken to prove the existence of an all-powerful creator, rather than his absence.

The unexpected results of the atheist campaign brought to light the degree to which agitators were missing a clear sense of their audience. Indeed, one of the most frequent criticisms of atheist propaganda was that energy and resources were spent preaching to a choir

of unbelievers.[36] As atheists began to work out new programmes, they became aware that they needed to acquire concrete knowledge about Soviet religiosity. At a Central Committee conference, Aleksandr Aleksandrovich Osipov – a former Professor of Theology at Leningrad Theological Academy who had publicly broken with religion and became one of the most famous atheists of the Khrushchev era – highlighted that the difficulty of atheist work was finding the appropriate tone for an audience spread across a broad spectrum of education: 'It befalls every propagandist to encounter both [types of] persons … Three days ago in Kiev, [I] simultaneously [received] two notes [from the audience]: 'What do you think about Feuerbach's theory of atheism?' And next to it [another note], 'So tell me, former priest, do witches exist in the world?' Laughter could be heard in the hall. 'So that', Osipov concluded, 'is our range'.[37]

Speaking at the same Party conference, the cosmonaut German Titov concurred that atheist agitators were unprepared to conduct effective propaganda. Even cosmonauts, Titov admitted, had not done everything to ensure that the results of their flights were productive for ideological purposes. When cosmonauts were asked whether they had encountered God, Titov realized that their assertion that they had not remained unconvincing, especially to believers. Yet, Titov pointed out, cosmonauts did not have the tools to give their assertion more force, because of their fundamental ignorance about religion:

> I do not know even one prayer and have never even heard one, because I, like all of my cosmonaut friends, grew up in our socialist reality and studied in our Soviet schools. Later, when I was getting higher education, and now at the Academy, no one ever spoke to me about this religion – and it seems to me that the situation is similar in all educational institutions.
>
> And if by chance I came across some books, then, with rare exception … these books were so boring that, unless there was a real necessity, one doesn't really want to read them.
>
> (Laughter in the hall, applause.)
>
> We consulted with our boys, the cosmonauts … and we realized we had to petition the Ideological department to help us acquire bibles (Laughter.) Now we have received them, and I have a bible in my library, because when I speak in public, especially abroad, we find ourselves in difficult situations. This is why we discussed whether cosmonauts, in the course of their studies and training, should somehow be informed a little about all this God and religion business.[38]

In a brilliant inversion, Titov's request for Bibles for cosmonauts underscored the basic fact that atheist education could not be conducted without a fundamental familiarity with religious history and dogma, as well as with the transformations taking place in religion in modern times.

As an accurate understanding of their audience was vital to the success of their work, atheists believed it was imperative to learn about the quantity and quality of the population's religiosity. For these purposes, statistics and episodic reports told only part of the story. Beginning in the late 1950s, a massive effort was coordinated to educate atheist educators. Publications on religion and atheism increased exponentially. The journal *Science and Religion* concentrated its efforts on providing the material on the history of religion and atheism, as well as methodological recommendations for effective propaganda. Regular workshops, conferences and seminars for training atheist cadres began to be held in both central and local-level enlightenment organizations and party organs. Finally, cultural enlightenment workers, folklorists, ethnographers and sociologists 'went to the people' on expeditions, the primary purpose of which was to study the role of religion in everyday life.[39]

The Party's ideological interest in the religiosity of Soviet citizens precipitated a 'reanimation' of the sociology of religion – a field that had been practically dormant since the mid-1930s.[40] The need to gather accurate information in the practical absence of a generation of sociologists specializing in religion required both a new cohort of trained cadres and a revived discussion of sociological methodology. Councils, sectors and groups for the study of religion and atheism were formed in the Institute of History, the Institute of Philosophy, and the Institute of Ethnography of the Academy of Sciences and their republic-level equivalents. Sociological research of religion and atheism was given priority on the agenda of the Academy of Social Sciences of the Central Committee of the Communist Party (AON), the Party's top institution for training ideological cadres, which eventually formed a separate Institute of Scientific Atheism in 1964. Ethnographic and sociological expeditions lasted anywhere from several days to several weeks, and usually consisted of researchers being placed with families that had been identified as believers in order to observe their everyday lives and interview individual members. Researchers were occupied with several fundamental questions: What was the worldview of believers, their understandings of the origins of nature, the social world and man's role in it? What were the worldviews of former believers and what brought about their break with religion? Finally, what kept believers tied to

religion despite the mounting scientific evidence against religious conceptions of the world, of which space exploration constituted such an essential part?

Cosmic contradictions: religion and atheism transformed

Beyond widely disseminated atheist conversion narratives, Soviet atheists discovered that the effect of space achievements on everyday cosmologies was considerably less linear than they had expected. Indeed, many reported frustration at the stubborn superstition they encountered on the ground. One local Party worker relayed a conversation with a woman in Irkutsk, who, when told that a rocket was being launched to the moon, replied: 'This never happened and will never happen. God will not allow a foreign body to come to the moon.' When asked whether she would abandon her belief if a rocket actually went to the moon, she only replied: 'This never happened and will never happen, because it is impossible.'[41]

Sociological research on religious cosmologies conducted in the village Tretie Levye Lamki revealed that, in those rare instances where believers considered the opposition of science and religion at all, most saw no contradiction between Soviet space achievements and their faith. A typical example is one Anna Ivanovna Dobrysheva, aged 52, who, even after repeated explanations, did not see the difference between a religious and a scientific worldview. As the researcher described, Dobrysheva 'believes in space flights, but cannot seem to understand why [atheists] do not believe in God and why they oppose science and religion'.[42] In her view, 'If we [believers] believe you all [atheists], then you need to believe us as well.'[43]

One of the more 'unbelieving' interview subjects, Petr Alekseevich Meshukov, was described as 'not belonging to a religion although he keeps icons [in his home]', and in his understanding of the natural sciences is said to 'fully support Darwin's theories about the origins of man, which, when he is in an unsober state, provokes him to call people who offend him "a degenerate product of simian genealogy"'.[44] With regards to the natural world, he 'has some vague notions, although is certain that "God has as much connection to them as the tale of a crocodile does to a person"'.[45] Overall, the position of the villagers was best summed up by one Matrena Petrovna Arkhipova, who stated that, 'Communists are good in every way, except that they don't believe in God, that's bad'.[46] In what became a perennial thorn in the side of Soviet atheists, believers managed to reconcile Soviet space achievements with their religious

worldview. In effect, what Soviet researchers encountered was a popular belief that allowed for contradictory positions to coexist alongside one another. The problem was that Soviet atheists – because of their limited training, which was itself guided by Marxist-Leninist dogma – did not have the vocabulary to understand popular religiosity.

German Titov encountered this when he was expected to clarify the contents of the cosmos to waiting audiences:

> The fact that ordinary inhabitants of earth have been to the skies, the holy of holies of all religions, the space of God, has an enormous effect on believers, does not leave any one of them indifferent, and forces them to deeply think about their views and convictions. And many believers are struck by the fact that God did not manifest in response to the fact that ordinary mortals intruded into his estate.
>
> I would also like to cite one letter which a 67-year-old inhabitant of Kazan wrote to us. He sent it simply to the address 'Cosmonaut.' He writes this: 'I am already 67 years old, I am illiterate, and yet I nonetheless would like to be taken on a cosmic flight. I understand that I can contribute nothing from the point of view of science, so to speak. But yet, it is said, that there is no God. I believe that there is no God, but all the same, as the years wear on, I would like to make certain that God doesn't exist.' (*Animation and laughter in the hall*.)
>
> L. F. Il'ichev: Trust, but verify.[47]

No one could argue, Titov concluded, that Soviet scientific achievements had been amply and correctly highlighted in enlightenment work, but the atheist significance of space exploration had yet to be fully explained. It seemed that even when believers were enthralled with Soviet space exploration, they did not always draw the correct philosophical conclusions. Problematically, from the point of view of atheist agitators, neither did the Church.[48]

Atheists emphasized the danger of religion's 'accommodation' of science, technology and modernity in general. Shortly before the USSR launched *Sputnik*, M. B. Mitin, the chairman of the all-union 'Knowledge' Society, stressed that the battle with religion was no longer (primarily) political, but ideological. Mitin warned agitators to be vigilant to the evolving tactics of religious organizations that 'prefer not to openly speak out against science, [and] to present themselves as "friends" of science, striving to "prove" the connections between science and religion, the possibility of unifying the two, based on mutual

respect and "non-interference!" … and seek to prove that science and religion are not opposed to each other, but on the contrary, need one another.'[49] In response, atheist agitators were urged to stress the irreconcilability of science and religion, and critique religious conceptions that privileged the spiritual over the material.[50] Once it was taken as fact that the cosmos followed the same laws as the Earth and were composed of the same material, the Estonian astronomer G. Naan put forth, 'nothing heavenly really remained in the "heavens"'.[51]

Yet, sociological studies suggested that the transformations that took place within the mind of a believer did not necessarily follow this same logic. Research on sermons in Vladimir province described clergy who either dismissed the relevance of space achievements to religion, or, worse yet, presented them in a religious context. Archpriest L. A. Taranovskii was purported to proclaim that:

> Flights to space are new proof of God's great power, and the idea that cosmonauts did not notice God, well, it is not as if he sits in one place. One cannot see God, he is a spirit. And if life on other planets is discovered, then their existence also involved the participation of God, he is all-powerful. Even if God walked on the shores of the river Kliazma, people still would not believe that this is God.[52]

Many agitators complained that religion managed to co-opt technological progress and paint it as a manifestation of God's will, wherein God performed his work through unbelievers, and 'the unbelieving Gagarin flew to space because it was advantageous to our God'.[53] Yet, what worried Soviet atheists even more was that, in responding to scientific progress, religion would claim a 'monopoly' over the moral and spiritual world.[54]

The results of atheist efforts in the Khrushchev era undermined many of the assumptions about the nature of religion and the reasons for its continued survival under socialism – theories about different rates of development of the base and superstructure, the inherently conservative nature of the everyday sphere [*byt*], the belief that so-called 'survivals' were primarily located in retrograde groups, or the theory that religion could be eradicated through scientific enlightenment. Appeals to space achievements made this especially clear: the ability to believe in both God and cosmonauts revealed that enlightenment campaigns that appealed to reason – by explaining the mysteries of nature, the cosmos, and human life from a materialist perspective – did not, and would not, necessarily produce disbelief. These unexpected and contradictory reactions

forced atheists to question their understandings of religion and their predictions about its future in modern society. They also forced them to reconsider their belief that science was the most powerful weapon in atheist work, and turn their hopes to philosophy to cultivate the communist worldview of the future.

The atheist campaign of the Krushchev era produced two distinct, yet related, results. On the one hand, atheism's trials and errors precipitated a reconsideration of Marxist-Leninist understandings about the nature and future of religion. The failure of religion to 'wither away' – even under the seemingly conclusive blow of scientific progress in general and Soviet space achievements in particular – needed both a better explanation and a more effective methodology. While the beginning of the atheist campaign was driven by a view of religion as a set of unenlightened beliefs and primitive practices that persisted as a result of historical inertia, Soviet atheists soon realized that the very essence and dynamics of religious belief had transformed and that their own rather primitive theories and methods needed to be modernized to keep pace.

Conclusion: the dystopian cosmos

If, as Oscar Wilde said, a man is half of what he is and half of what he wants to be, wrote the Russian writer Viktor Pelevin, 'then the Soviet children of the Sixties and Seventies were all half-cosmonauts'.[55] Soviet citizens living through the space age had 'one foot in the cosmos', their everyday realities being 'a tent camp, in which people lived temporarily, until the Sun City was built'.[56] Yet, while the leadership sought to present Soviet space achievements as material proof of the great strides the country was making towards communist modernity, their new attention to 'survivals', as well as the efforts to exorcize these with more and better atheist education, cast light on the distance that separated the 'new Soviet person' paraded on the world stage from the ordinary Soviet people in the audience. Indeed, reconciling the ambitions of the utopianism of the Khrushchev era with this unsettling portrait of the revolution's 'human material' required an audacious leap of faith. The communist project required nothing less than a spiritual transformation within each individual separately, and all individuals collectively – a reformation of social behaviour and relations, morals and values, without which the collective utopia remained unattainable.

Soviet atheism sought to offer its own epistemological and moral positions, and saw the real and symbolic force of Soviet space achievements as the most powerful weapon in antireligious propaganda and

atheist education. In this ideological context, cosmonauts – perhaps uniquely – bridged the distance between the scientific and the philosophical, the real and the ideal. Their fearlessness and positive, life-affirming attitude made them icons of the limitless human potential that Marxism-Leninism promised to all Soviet citizens. Their voyages, both in life and to space, were put forth as a counter-example to the fear and weakness that atheists claimed were cultivated by religion.

Yet, when Soviet atheists attempted to fight faith with fact, they encountered a population that seemed untroubled by the contradictions they so ardently tried to unmask. Indeed, the worldviews Soviet atheists discovered reconciled scientific and religious cosmologies in unexpected ways. New attempts to reconcile the paradox of modern belief continued to occupy atheists until the end of the Soviet period as various hypotheses for the persistence of religion in the modern world were tried and disproved, and atheist methods tested without producing desired results.

Further, new theories about the nature of religion led to new methods in atheist propaganda so that, over the course of the 1960s, atheism's main weapon was increasingly seen to be philosophy rather than science. This shift in atheist theories and practices significantly transformed the landscape of Soviet belief, both religious and atheist. Finally, it also made Soviet atheists aware of the philosophical and spiritual void that opened up when religious cosmologies were contested by atheist propaganda, although few articulated the implications that this void, if taken to its logical conclusion, might have for Marxism-Leninism. The immense effort to invest a reverence for scientific enlightenment and technological progress points to the awareness of this danger. In this project, cosmonauts became the consecrated objects of popular devotion; through their charisma, an ordinary Soviet person could access the ideological enthusiasm that was habitually required in Soviet citizens, and be converted by the experience. Cosmonauts occupied the space between utopia and reality, and became a vehicle for the management of the desire, longing and faith generated by religious, ideological and cosmological utopias.

The story of the conquest of the cosmos in Soviet atheism also lays bare the paradox of the attempt to invest scientific materialism with a spiritual centre. Not only did Soviet space achievements fail to produce mass religious disbelief, they also revealed the ideological pitfalls of the utopia promised by Marxism-Leninism. As ideological models, cosmonauts remained removed from the Soviet masses by an impenetrable curtain. The path to the heavens was available to the few, not to

the many, and ultimately the vast majority of Soviet citizens remained, at best, only 'half-cosmonauts'.

Notes

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1. Parts of this chapter are also published in 'Cosmic Enlightenment: Scientific Atheism and the Soviet Conquest of Space' in *Into the Cosmos: Space Exploration and Soviet Culture in Post-Stalinist Russia*, ed. James T. Andrews and Asif A. Siddiqi, Pittsburgh, PA: University of Pittsburgh, 2011.
2. Il'ia Ilf and Evgenii Petrov, *Dvenadtsat' stul'ev. Zolotoi telenok*, Moskva: Eksmo, 2006, p. 458. All translations are mine, unless otherwise indicated.
3. *Sovremennaia arkhitektura*, 1927, no. 3, p. 79.
4. Catherine Cooke points out that the planetarium not only performed inherently modern functions, but by default relied on advanced foreign technology and required new equipment and methods of construction that progressive Soviet architects hoped would finally jump-start bureaucratic inertia to promote more rational Soviet construction practices and herald a new era of progressive city planning. See Catherine Cooke, *Russian avant-garde: theories of art, architecture, and the city*, London: Academy Editions, 1995, pp. 133–5. Technological equipment for the first Soviet planetarium was purchased in Germany for gold.
5. Aleksei Gan, 'Novomu teatru – novoe zdanie', *Sovremennaia arkhitektura,* 1927, No. 3, pp. 80–1.
6. Gan, p. 81.
7. B. A. Vorontsov-Veliaminov, *Astronomicheskaia Moskva v 20e gody – Istoriko-astronomicheskie issledovaniia*, vyp. XVIII, Moskva: Nauka, 1986; V. N. Komarov and K. A. Portsevskii, *Moskovskii planetarii*, Moskva: Moskovskii rabochii, 1979. On Tsander's propaganda of space travel and activities in early scientific societies see Siddiqi.

8. Numerous accounts exist on the political and technological dimensions of the space race in the context of the Cold War. See Matthew Brzezinski, *Red Moon Rising: Sputnik and the Hidden Rivalries that Ignited the Space Age*, New York: Times Books, 2007; Nicholas Daniloff, *The Kremlin and the Cosmos*, New York: Alfred A. Knopf, 1972; Walter A. McDougall, *The Heavens and the Earth: A Political History of the Space Age*, New York: Basic Books, 1985; and Asif A. Siddiqi, *Sputnik and the Soviet Space Challenge*, Gainesville, FL: University Press of Florida, 2003. Von Hardesty and Gene Eisman, *Epic Rivalry: The Inside Story of the Soviet and American Space Race*, Washington, DC: National Geographic Society, 2007.
9. Ibid.
10. See Paul Froese, 'Forced Secularization in Soviet Russia: Why an Atheistic Monopoly Failed,' *Journal for the Scientific Study of Religion,* 43, 1, 2004, pp. 35–50 and Paul Froese, *The Plot to Kill God*, 2008; John Anderson, *Religion, State, and Politics in the Soviet Union and Successor States*, New York: Cambridge University Press, 1994.
11. 'Piat' let shturmu kosmosa,' *Nauka i religiia*, October 1962, no. 10, pp. 3–8.
12. 'Address of the Central Committee of the KPSS, the Presidium of the Supreme Soviet and the government of the Soviet Union', *Komsomol'skaia Pravda*, 13 April 1961.
13. 'Estafeta pokolenii', *Nauka i religiia*, September 1962, no. 9, p. 4.
14. 'Piat' let shturmu kosmosa,' *Nauka i religiia*, October 1962, no. 10, p. 5.
15. Ibid., pp. 5–6.
16. The consolidation of the Stalinist regime in the mid-1930s was accompanied by the rejection of early ideological utopianism in favour of a more conservative, traditionalist position and more immediate priorities: industrialization and the inculcation of Soviet patriotism. Stalin's need to mobilize the population for war, and later, to re-establish control in formerly occupied areas precipitated a re-evaluation of the Soviet state's relationship with the Russian Orthodox Church, with the expected ramifications for atheist propaganda. As a result, Soviet atheism was marginalized over the course of the 1930s and 1940s. On the reversal of the Soviet position towards the Russian Orthodox Church during World War II, see M. V. Shkarovskii, *Russkaia pravoslavnaia tserkov' i sovetskoe gosudarstvo v 1943–1964 godakh: ot 'premiriia' k novoi voine*, St. Petersburg: DEAN + ADIA-M, 1995; S. Merritt Miner, *Stalin's Holy War: Religion, Nationalism and Alliance Politics 1941–1945*, Chapel Hill, NC: University of North Carolina Press, 2003; Nathaniel Davis, *The Long Walk to Church: A Contemporary History of Russian Orthodoxy*, Boulder, CO: Westview Press, 2003.
17. The Council on the Affairs of the Russian Orthodox Church (CAROC) and the Council on the Affairs of Religious Cults (CARC) (later united into the Council on Religious Affairs (CRA)) and their local representatives closed down churches, registered and unregistered religious communities, kept statistics on church attendance and ritual observance, and generally controlled the increasingly strict legal and semi-legal measures propagated against religious institutions and believers. For a thorough discussion of Soviet antireligious measures, see Tatiana A. Chumachenko, *Church and State in Soviet Russia: Russian Orthodoxy from World War II to the Khrushchev Years*, translated and edited by Edward E. Roslof, Armonk, NY: M. E. Sharpe, 2002;

David E. Powell, *Antireligious Propaganda in the Soviet Union: A Study of Mass Persuasion*, Cambridge, MA: The MIT Press, 1975; and the works of Dimitry V. Pospielovsky, especially *A History of Marxist-Leninist Atheism and Soviet Antireligious Policies,* New York: St Martin's Press, 1987, and *Totalitarizm i veroispovedanie*, Moscow: Bibleisko-bogoslovskii in-t sv. Apostola Andreia, 2003.

18. The 'Knowledge' Society had an expansive institutional structure, headed by the all-union 'Knowledge' Society and extending down to the republic, regional, and local level. Typically, local party committees exercised control over corresponding branches of the 'Knowledge' Society. GARF, f. 9547, op. 1, d. 1048, p. 5.
19. These organizations included atheist clubs, Houses of Atheism, atheist departments in educational institutions, and atheist sections in local Party organs, among others. The Party's renewed interest in atheist education was also made evident by the re-introduction of 'Foundations of Scientific Atheism' [*Osnovy nauchnogo ateizma*] in higher education. See Michael Froggatt, 'Renouncing dogma, teaching utopia: Science in schools under Khrushchev', *The Dilemmas of De-Stalinization: Negotiating cultural and social change in the Khrushchev era*, ed. Polly Jones, New York: Routledge, 2006, pp. 250–67.
20. See, for example, the Estonian astronomer G. Naan's article 'Chelovek, bog i kosmos', *Nauka i religiia,* 1961, No. 2, pp. 5–10; 'Veril li Tsiolkovskii v boga?', *Nauka i religiia*, 1962, No. 3, p. 25; the Ukrainian astronomer S. Vsekhsviatskii's 'Tainy nebesnykh stranits', *Nauka i religiia*, 1963, No. 1, pp.1: 8–13; and 'Mogli li kosmonavty videt' boga?' *Nauka i religiia*, 1963, No. 1. A number of articles authored by cosmonauts themselves were also published, such as Iu. Gagarin, 'Na poroge griadushchikh shturmov', *Nauka i religiia*, 1964, No. 4, p. 10 and K. Feoktistov's 'Neskol'ko slov o bessmertii', *Nauka i religiia*, 1966, No. 4. The journal also dedicated an entire issue to space exploration and cosmology. See 'Kosmos, kosmogoniia, kosmologiia (Podborka statei i interview)', *Nauka i religiia*, 1968, No. 12.
21. See inside cover of *Nauka i religiia,* 1959, No. 1.
22. With its transfer from the RSFSR Ministry of Culture to the RSFSR branch of the 'Knowledge' Society, the Moscow Planetarium became the coordinating centre of propaganda work in planetaria across the Soviet Union, as well as a central institution for atheist propaganda among the masses. On the transfer of the Moscow Planetarium, see GARF, f. 9547, op. 1, d. 1429 and TsAGM, f. 709, op. 1, d. 177.
23. GARF, f. A-561, op. 1, d. 492.
24. In 1974, planetaria across the USSR hosted 3,586,000 science lectures, and 897,000 lectures on atheism in particular. These were conducted both in central planetaria, and in the 'mobile planetaria' that connected urban planteraria with the countryside. See Iu. K. Fishevskii, 'Obshchestvo 'Znanie' i propaganda nauchnogo mirovozzrenia', *Voprosy nauchnogo ateizma*, 19, 1974, p. 76.
25. Some prominent examples include the The Gorkii/Nizhnyi Novgorod Planetarium opened in 1948 in the space of the Alekseevskaia Church of the Blagoveshchenskii Monastery; the Barnaul Planetarium, constructed in the space of the Krestovozdvizhenskaia Church and opened in 1950; and the Kiev Planetarium, the oldest in Ukraine, which was opened in 1952 in the former Aleksandrovskii Catholic Cathedral.

26. Lectures included such topics such as: 'Why I broke with religion', 'Sects and their reactionary essence', 'Man, the cosmos, and God', 'Science and Religion on the Universe', 'How religion adapts to science', 'The atheist significance of space flights', 'Space flights and religion' and 'The sky and religious holidays'. These lectures were conducted by permanent employees of the Moscow Planetarium such as V. N. Komarov, a prolific author on the uses of astronomy and the planetarium in atheist education. Planetaria also provided a convenient and captivating forum for visiting lecturers like A. B. Chertkov, a former priest, and one of the most active atheist agitators in the Khrushchev period. GARF f. 9547, op. 1, d. 1324, ll. 53–4.
27. In 1963, the cosmonauts A. G. Nikolaev and G. S. Titov lectured at the Moscow Planetarium. GARF, f. 9547, op. 1, d. 1324, l. 9.
28. By 1963, the Moscow Planetarium was selling almost 280,000 tickets annually to its lectures, question and answer meetings, and visits to the observatory. Its field trips outside the main planetarium space increased attendance rates to 278,000 listeners for mass lectures and 517,083 for educational lectures. Over the course of 1963, the Moscow Planetarium dedicated 53 evenings to atheism specifically, which made up 18.8% of all planetarium lectures, an increase from 14.4% in 1962. GARF, f. 9547, op. 1, d. 1324, ll. 28–31.
29. GARF, f. 9547, op. 1, d. 1324, ll. 16.
30. GARF, f. 9547, op. 1, d. 1048, l. 14.
31. GARF, f. 9547, op. 1, d. 1048, l. 14.
32. Based on my archival research, as well as anecdotal evidence, this unwillingness of scientists to agitate against religion was evidently widespread. See GARF, f. 9547, op. 1, d. 1324, ll. 26–7.
33. GARF, f. 9547, op. 1, d. 1048, l. 15.
34. GARF, A-561, op. 1, d. 492, ll. 25–8.
35. Ibid., 36–9.
36. GARF, f. 9547, op. 1, d. 1048, l. 22.
37. RGANI, f. 71, op. 1, d. 15, l. 171.
38. Ibid., 151–3.
39. The first expeditions to study religiosity were conducted in the late 1950s by the Institute of History of the Soviet Academy of Sciences (under the guidance of the historian Aleksandr Il'ich Klibanov), and the Department of Atheism at Moscow State University.
40. For a succinct discussion of the development of the sociology of religion in the post-Stalin period, see Mikhail Smirnov, 'Sovremennaia rossiiskaia sotsiologiia religii: otkuda i zachem?', *Religiovedenie: Nauchno-teoreticheskii zhurnal*, 2, 2007; and M. M. Shakhnovich, 'Otechestvennoe religiovedenie 20–80kh godov XX veka: Ot kakogo nasledstva my otkazyvaemsia', in *Ocherki po istorii religiovedeniia*, ed. M. M. Shakhnovich, SPb: Izdatel'stvo SPBGU, 2006.
41. RGASPI, f. 606, op. 4, d. 37, l. 31.
42. RGASPI, f. 606, op. 4, d. 156, l. 29.
43. Ibid.
44. Ibid., 47.
45. Ibid., 48.
46. Ibid., 139.
47. RGANI, f. 72, op. 1, d. 15, ll. 1513.

48. M. B. Mitin, 'O soderzhanii i zadachakh nauchno-ateisticheskoi propagandy v sovremennykh usloviiakh', *Nauka i religiia: Sbornik stenogramm lektsii, prochitannykh na Vsesoiuznom soveshchanii-seminare po nauchno-ateisticheskim voprosam*, Moskva: Znanie, 1958, pp. 7–27.
49. Ibid., 17.
50. For instance, atheists were urged to stress that while the religious worldview proclaimed the finite nature of the universe, scientific materialism revealed its infinity in both space and time. G. Naan, 'Chelovek, bog i kosmos', *Nauka i religiia*,1961, 2: 6.
51. Naan, 1961, p. 7.
52. RGASPI, f. 606, op. 4, d. 126, ll. 33–4.
53. RGASPI: f. 606, op. 4, d. 37, l. 85.
54. See, for example, V. N. Komarov and V. V. Kaziutinskii, eds., 'Mogli li kosmonavty videt' boga?', *Nauka i religiia*, 1; and V. N. Komarov and V. V. Kaziutinskii (eds.) (1974) *Voprosy mirovozzreniia v lektsiiakh po astronomii: Sbornik*, Moskva: Znanie, 1963, p. 4.
55. Viktor Pelevin, 'The Code of the World' ['Kod mira']. Originally published in *Frankfurter Allgemeine Zeitung*, 2001, 28 February, http://pelevin.nov.ru/rass/pe-kod/1.html (last accessed 10 August 2009).
56. Ibid. On the material culture of the Soviet space programme, see Cathleen Lewis, *The Red Stuff: A History of the Public and Material Culture of Early Human Spaceflight in the U.S.S.R.*, unpublished PhD dissertation, George Washington University, 2008.

Part II
Remembering Space, Constructing Heroes

Figure PII.1 Cosmonaut Iu. Gagarin (Matchbox label)
Source: M. Rüthers private collection.

Figure PII.2 Cosmonaut G. S. Titov (Matchbox label)
Source: M. Rüthers private collection.

Figure PII.3 Cosmonauts A. G. Nikolaev and P. R. Popovich (Matchbox label)
Source: M. Rüthers private collection.

7
Introduction to Part II

Carmen Scheide and Monica Rüthers

To this day, the myth of Soviet space travel is kept alive by ritualized remembrance in the form of monuments, museums, films, in societies, academic conferences, or in the mass media. These narratives about the 'storming of heaven' create meaning, offer orientation and a feeling of social belonging. They form a cultural framework, some sort of a collective memory. The chapters in this part all focus on the means, ways and places of remembrance, and on the making of Promethean space heroes. They unravel the different strands of a culture of memory and its transmission, be it in publications, archives or institutions.

Slava Gerovitch argues that, depending on the group belonging, memories followed specific narratives. This held true for engineers as well as for cosmonauts. Engineers who had to pledge secrecy cultivated their own group traditions. Cosmonauts had to play their role in the glaring lights of publicity. They had to contribute to official propaganda purposes. One obvious line of separation in this field of cosmic remembrance ran along the gender divide: space travel as a success story was represented almost exclusively by men in the popular culture of memory. Famous women in Soviet aviation and space travel only played a marginal role in representations and memories. The construction of the generation order as a succession of space heroes from Fedorov to Tsiolkovskii to Korolev to Gagarin, as Slava Gerovitch demonstrates, is exemplary for the gender aspect of the cultural history of space travel: technological advancement, the overcoming of limits and pioneering achievements are encoded as masculine undertakings.

The first female cosmonaut, Valentina Tereshkova, is therefore an interesting exception in this masculine world. Her achievements in space are often interpreted as a success of the Soviet policy of equality of the sexes. Her symbolic placement within Soviet culture was, however,

a different one. The first woman cosmonaut's public representations were strictly gendered: whereas Iurii Gagarin was celebrated as a military hero in uniform, Valentina Tereshkova always appeared with properly dressed hair and perfect make-up in fashionable suits or dresses. As opposed to the military pilot Gagarin, Tereshkova embodied the civilian, pacifistic aspect of space travel. Valentina Tereshkova's moment of fame was followed by an existence as a wife and mother.[1] Nonetheless, her achievement encouraged many girls to choose technical professions. Roshanna Sylvester demonstrates in her chapter how the enthusiasm for the cosmos that Tereshkova raised in these girls was actually disappointed in the end.

The tensions between traditional notions of femininity and the seemingly universal, yet implicitly masculine, character of Soviet heroes had already been discernible in the official politics of remembrance of World War II. Over one million women served in the Red Army during the War – not only in medical care or in communications, but also as snipers or bomber pilots. However, after 1945, these roles were played down or concealed in historiography as wartime exceptions. Thus, there was no line of tradition which could have connected the famous pilots of the 1930s and the legendary 'night witches' in World War II with the 'space striker' Valentina Tereshkova. Such a tradition might easily have been used for propaganda purposes in view of the fact that the female pilots had a famous history. In September 1938, at the height of the aviation craze of the 1930s, Valentina Grizodubova, Polina Osipenko and Marina Raskova flew the almost 6000 km from Moscow to the Sea of Okhotsk in an aeroplane named *Rodina* (*Homeland*). Just before reaching their destination their fuel ran out, and Raskova had to follow the order of her commander and parachute over the Taiga. Only after walking for 10 days did she get help. All three women pilots survived and were awarded the title 'Hero of the Soviet Union'. Their record-breaking achievement and the happy-ending to their emergency landing provided the topic for many books. Marina Raskova became the idol and role model of girls and young women who turned to flying themselves.

When the war broke out in 1941, many young women volunteered to serve in the Red Army. Upon the recommendation of Marina Raskova, Stalin personally gave the order to form female flying regiments. One of those formations, the 588th Night Bomber Regiment was given special honours for its excellent achievements in 1943. Some of the members were actively involved in *Komsomol* after the war and, from 1956, in the C*ommittee of Soviet Women*, which Tereshkova later chaired. Thus, the connection between pilot and cosmonaut, which was not officially discussed, was endorsed through the internal group culture of memory.

The heroine inside the machine as a Soviet propaganda figure points to an interesting parallel between Valentina Tereshkova and the tractor driver Pasha Angelina, who was a propaganda icon of the Stakhanov movement in the mid-1930s.[2] Both women represented Soviet progress. Their propaganda value was reinforced by the underlying notion of female backwardness: technology was seen as men's domain, whereas women were tied to nature. Thus, the apparent contradiction of a woman on a tractor or in a rocket proved the omnipotence of the Soviet State and its ability to overcome 'the laws of nature'. Connecting woman to advancement and technology therefore functioned as a propagandistic superlative, but in doing so stipulated the implicit backwardness and inferiority of women.

Pasha Angelina is not the only link to the work ethos of the Stakhanovites and to a Soviet tradition of images of work. Iina Kohonen describes how the cosmonauts are portrayed as tired workers, smoking, in their vests – following the tradition of the photo reports about the mine worker Nikita Izotov.[3] Interestingly, while many Stalinist showcase projects and their protagonists went underground (not only in the great mining project, but also, for example, in the construction of the Moscow metro), the cosmonauts left these earthly spheres behind, but were still represented in the tradition of the socialist model hero established during Stalinism. In these visual representations of heroic Soviet masculinity, the worker-hero who struggles for communism under the earth was joined by the conqueror of heaven.

Anna Eremeeva and Vladimir Sadym follow the path of Soviet mass culture of the cosmos to the periphery. Close links to certain regions were established through local heroes and through cooperation between local institutions (for instance, agricultural organizations) with space missions, which suggested to Soviet citizens that 'they – the cosmonauts – are flying for us', 'they are looking down and waving to us'. School museums were founded and space associations undertook excursions to the monuments of Soviet space history.

From the chapters in this part, it seems that enthusiasm for the cosmos displays and events had already begun to wane in the main centres of population towards the end of the 1960s. However, during the 1970s and 1980s, it travelled in a somewhat downsized version to the provinces and flourished in many formal and informal ways, celebrating smaller, but local heroes. The great narratives of the 'space firsts' came back to life with Soviet nostalgia in the mid-1990s, as Slava Gerovitch's chapter makes clear. In today's Russia, with its shifting and conflicting attitude towards the Soviet past, Korolev is still revered – and Gagarin

has remained the 'number one', 'we were the first', hero of all times, among the Pantheon of heroes of Russian national history, deconstructed and reconstructed since *Perestroika*.

Notes

1. Julia Richers, 'Die erste Kosmonautin. Valentina Tereškova und der transkontinentale Geschlechterkampf im Kalten Krieg', *Gender in Trans-it. Transkulturelle und transnationale Perspektiven*, ed. Martina Ineichen, Anna K. Liesch, Anja Rathmann-Lutz and Simon Wenger, Zürich: Chronos, 2009, pp. 235–45.
2. Mary Buckley, *Mobilizing Soviet Peasants. Heroines and Heroes of Stalin's Fields*, Lanham, MD: Rowman & Littlefield, 2006; Monika Gibas, '"Venus vom Sternenstädtchen": Walentina Tereschkowa, Heldin der Moderne in der DDR', *Sozialistische Helden. Eine Kulturgeschichte von Propagandafiguren in Osteuropa und der DDR*, ed. Silke Satjukow and Rainer Gries, Berlin: Christoph Links, 2002, pp. 147–57; Evgenii Khaldei, 'First Woman Tractor Driver' (1935), *Propaganda & Dreams: Photographing the 1930s in the USSR and the US*, ed. Leah Bendavid-Val, Zurich and New York: Stemmle Publishers GmbH, 1999.
3. Mark Markov-Grinberg, 'Portrait of [Shockworker] Nikita Izotov' (1934), *Propaganda & Dreams: Photographing the 1930s in the USSR and the US*, ed. Leah Bendavid-Val, Zurich and New York: Stemmle Publishers GmbH, 1999.

8

Memories of Space and Spaces of Memory

Remembering Sergei Korolev

Slava Gerovitch

Memories of the space age occupy a prominent place in contemporary Russian culture. In the year 2007 alone, the Russians celebrated the 150th anniversary of the space visionary Konstantin Tsiolkovskii, the 120th anniversary of the Soviet rocketry pioneer Fridrikh Tsander, and the 50th anniversaries of the first intercontinental ballistic missile (R-7) and of the *Sputnik* launch on top of the same rocket. However, the most spectacular were the celebrations of the centennial of the legendary Chief Designer Sergei Korolev, whose historical persona tied together all the other commemorations: Tsiolkovskii (see Figure 8.1)

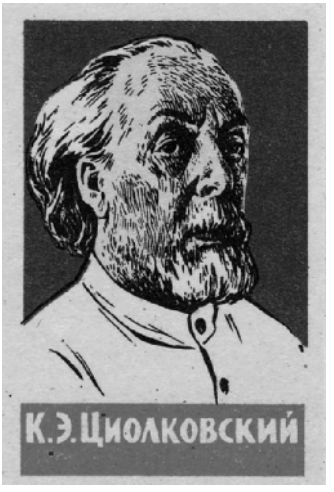

Figure 8.1 K. E. Tsiolkovskii (Matchbox label)
Source: M. Rüthers private collection.

Figure 8.2 F. A. Tsander (Matchbox label)
Source: M. Rüthers private collection.

was remembered largely as someone who inspired Korolev, Tsander (see Figure 8.2) was remembered as Korolev's mentor: the R-7 missile was designed by Korolev, and Korolev was also responsible for the launch of *Sputnik* and of all the first Soviet cosmonauts from 1961 to 1965. Korolev has been the main protagonist of almost any historical narrative of the Soviet space programme.

The cultural trope of the 'founding father', as the historian Asif Siddiqi has pointed out, still dominates the Russian cultural perceptions of the space age.[1] In January and February 2007, the 31st annual Korolev conference was held in Moscow, commemorating Korolev's centennial. The conference had 1650 participants; over 1000 papers were submitted, and 420 were selected for presentation at the conference in 20 sections running in parallel over four days.[2] The general mood at the conference was celebratory: veteran cosmonauts wore their ceremonial uniform, dancers in ethnic Russian costumes provided a suitable patriotic background, and Korolev's wall-size portrait dominated the stage. During the conference, a new monument to Korolev was unveiled at the conference site, the Bauman State Engineering University in Moscow. The participants discussed both contemporary problems of space exploration and historical issues; many space veterans shared their reminiscences about Korolev. In its seamless blending of history and memory, the conference provided a suitable setting for hero-worship, rather than

critical analysis. The historical persona of Korolev served as a source of light rather than an object of study at which light should be directed.

Giant portraits and imposing larger-than-life monuments serve as symbolic beacons for cultural representations of the past. After his untimely death in early 1966, Korolev's image in cultural memory acquired truly mythological proportions. He was publicly glorified as a legendary 'Chief Designer', who single-handedly conceived and implemented an ambitious space programme. Informally circulating stories of Korolev's suffering in the Gulag and of his clashes with government bureaucrats and plotting rivals reinforced his heroic image. His tragic death at the age of 59 was evoked to explain the failure of Soviet aspirations to land on the moon. The Soviet space programme owed all its successes to Korolev; if he were alive, he would have prevented all subsequent failures. While this story combines elements of truth and fiction, what makes it a myth is its power to shape cultural memory. The Korolev myth became the centrepiece of a larger mythology of Soviet space history. This chapter attempts to trace the origins of the Korolev myth within a broader framework of cultural memory about the Soviet space programme.[3]

The notion of *collective memory*, introduced by the French sociologist Maurice Halbwachs, stresses that individual memories are grounded in social interaction. The metaphor of society as a remembering subject, however, may be misleading, as it obscures the active role of individuals in selecting, modifying, and combining various representations of the past, and the dependence of these representations on the concerns and conflicts of the present. James Wertsch suggests the notion of *collective remembering* to refer to both narratives and non-verbal practices of commemoration.[4] To contrast 'living, embodied', autobiographical memory with culturally sanctioned remembrance, mediated by texts, symbols, and performances, Aleida and Jan Assmann distinguish between *communicative memory* and *cultural memory*.[5]

Cultural historians have increasingly focused on the interplay of private and public remembrance practices. The institutionalization of memory by nation states – the establishment of national archives, the public celebrations of various anniversaries, and the dissemination of official historical narratives – often serves the political purpose of reinforcing national identity and marginalizes private memories. Pierre Nora has drawn attention to the isolated 'sites of memory' (*lieux de mémoire*), which were created as analytic historical accounts pushed living memory aside.[6] Communicative memory constantly interacts with cultural memory.[7] Communicative memory reinterprets and devalues

certain aspects of organized and ceremonial remembering practices, while private memories become 'contaminated by national projects of remembrance'.[8]

Cultural myths should not be seen merely as distorted memories. These 'distortions' are cultural adaptations and appropriations of symbols, which give cultures their individuality, their unique character and distinct perspective. Just as one's personal memories reveal more about one's current identity than about one's past, historical myths provide a valuable insight into the culture that produces them. The space age produced both vivid memories and engaging stories. Individual retelling of these stories and official propaganda projects of remembrance gradually turned historical events into mythological epics, shaping the identity of generations. In order to remember, we have to create our memories. We create them out of the myths and symbols of our culture. By shifting the focus from debunking myths to examining their origins and their constructive role in culture, we can understand memory as a dynamic cultural force, not a static snapshot of the past.

In this chapter, I will examine a wide range of cultural practices of remembering – from published reminiscences of public rituals to official histories. I argue that in the Soviet context, despite the stereotypical picture of a top-down control of historical discourse, the boundaries between different forms of cultural memory were highly permeable, and multiple actors with diverse methods and goals participated in myth-making. In the semi-private spaces of the highly secretive space industry, the communicative memory of veterans' stories mixed with the symbolism of public rituals formed the cultural memory of the space engineers and the cosmonauts. In these intermediate memory spaces – between the private and the public, between the informal and the official, and between technology and politics – memories hidden from the outside world were widely shared. In these spaces rose the images of Korolev – the wise leader of the engineering effort and the spiritual father of the cosmonauts – that shaped the group identities of engineers and cosmonauts.

Korolev's self-fashioning

The Korolev myth started with his own self-fashioning as a disciple of Tsiolkovskii. If Korolev has traditionally been portrayed as the 'founding father' of Soviet cosmonautics, Tsiolkovskii might be christened its 'founding grandfather'. A deaf schoolteacher in the provincial town of Kaluga, Tsiolkovskii was a self-taught theorist of rocketry and space

travel. During the 1910s to the 1930s, his writings circulated widely in the growing Russian community of space travel enthusiasts. In the 1930s, the Stalin propaganda machine made him into a national hero, a 'poster boy' for national technological superiority. In the post-war period, Soviet rocket engineers and the space enthusiasts' community put the government-constructed myth to their own use. In the late 1940s, the name of the late Tsiolkovskii was regularly evoked amid a Party-sponsored nationalist campaign asserting the priority of Russian-born scientists and engineers.[9]

Establishing a symbolic link with Tsiolkovskii helped Korolev legitimize his space-exploration proposals in the eyes of government officials. On 17 September 1947, on the 90th anniversary of Tsiolkovskii's birth, Korolev gave a speech at the commemorative meeting at the Central Hall of the Soviet Army. In that speech, he drew attention to Tsiolkovskii's ideas about space travel, casting him not merely as a talented rocket scientist, but as an inspiring visionary who charted the path of the future.[10] Private memories were skilfully employed to further a public agenda. Suddenly, Korolev and other rocket engineers interested in space exploration began to recall their pre-war meetings with Tsiolkovskii and to present their space projects as 'encouraged' by Tsiolkovskii. Pilgrimages to Kaluga to meet with the great man, canonized by the Soviet state, came to be seen retrospectively as a 'rite of passage' for any major figure among the rocket engineers. In 1952–1953, in autobiographical materials, accompanying his applications for membership in the Communist Party and in the Academy of Sciences, Korolev wrote about his personal meeting with the late visionary as a starting point for his interest in rocketry. Even though he had met Tsiolkovskii only once, during Tsiolkovskii's 1932 visit to Moscow, the story later became embellished to the point of Korolev's vivid recollection of a visit to Tsiolkovskii's house in Kaluga – a visit, which evidently never happened.[11] Privately, Korolev admitted that he barely remembered Tsiolkovskii, and that the main source of his recollections was his own 'fantasy'.[12] Yet, the official canonization of Tsiolkovskii and the resurrection of his legacy played a crucial role in legitimizing the idea of space exploration in the post-war Soviet Union. By reshaping personal memory to fit a government-sponsored myth, Korolev managed to present his space projects as a matter of national prestige and, eventually, to secure permission to launch *Sputnik* shortly after the centennial of Tsiolkovskii's birth.[13]

Korolev was acutely aware of the historical significance of his space projects, but his vision of history reflected a desire to improve on reality

to meet an ideal, to create an inspiring myth in place of the messy reality. Early Soviet discourse constantly oscillated between 'what is' and 'what ought to be' – what the literary scholar Katerina Clark has labelled a 'modal schizophrenia'.[14] The blurring of this boundary and the desire to replace 'what is' with 'what ought to be' was characteristic of the later space-related discourse as well. 'What is' was just a messy, error-prone draft, while the history's hall of fame deserved a clean, showcase version of 'what ought to be'. Korolev did not admit any journalists to the launch site on the day of Iurii Gagarin's pioneering flight, 12 April 1961.[15] Later, however, he sat down in his office for a filming session, pretending to communicate with the cosmonaut in orbit.[16] As Korolev's identity was still a state secret, the film was not, of course, publicly released at the time. This film was made for internal consumption – for the insiders who knew about Korolev and his role in the space programme – and for future generations as a 'clean' version of historical events.

Korolev strongly encouraged extensive photo and video recording of the ceremonial meetings of the state flight commission, as well as other pre-flight rituals. Only heavily censored excerpts were released for public view; the rest was preserved and used in documentaries made for screening at closed organizations of the rocket and space industry. The use of photography and film underscored the historic significance of the events. Korolev ingeniously employed these technologies of memory to motivate and inspire his engineers, whose contributions, like his own, remained anonymous for the Soviet public.[17]

Korolev fully appreciated the symbolic meaning of space artefacts. Before the launch of *Sputnik*, two copies of the satellite were made: one for the flight and one for ground tests and simulations. For engineering reasons – to maximize reflection of solar light in order to avoid possible overheating – the surface of the flight copy had to be polished. Korolev insisted that the test copy be polished as well: 'It will be displayed in museums!' He admired the aesthetic appeal of the ball-shaped *Sputnik*, telling his associates that the *Sputnik* must look sufficiently 'proper' to be a symbol of human entry into space.[18]

Korolev constantly fought secrecy restrictions to gain opportunities to display his achievements publicly. Soon after Gagarin's flight, Korolev suggested displaying a mock-up of Gagarin's space capsule at an aviation show at the Tushino airfield in Moscow in July 1961. Since Gagarin's Vostok spacecraft was still classified, Korolev had to advise his subordinates to 'unleash their fantasy'.[19] The display included no actual spacecraft, only the last stage of the carrier rocket and the shroud

Figure 8.3 This matchbox label, part of a series, features Iurii Gagarin laying the foundation stone of the new Tsiolkovskii museum in Kaluga
Source: M. Rüthers private collection.

covering the *Vostok*. Perhaps to make the shroud look 'proper', Korolev's engineers attached an annular aerodynamic fin to the back of the mock-up. The result looked impressive but revealed little about Gagarin's actual spacecraft.[20]

Wielding his considerable influence, Korolev actively promoted projects commemorating the contributions of the pioneers of Soviet cosmonautics, Tsiolkovskii and Tsander. He helped renovate Tsiolkovskii's museum in Kaluga, and even ordered that carpets be brought from his own office to furnish the museum (see Figure 8.3). On Korolev's orders, his subordinates found Tsander's grave in Kislovodsk and installed a memorial. In 1954, the Soviet Academy of Sciences established the Tsiolkovskii Gold Medal for outstanding contributions in the field of interplanetary communications; the first medal was awarded to Korolev in 1958.[21] Korolev himself helped establish the commemorative traditions that were later followed to memorialize his contributions to cosmonautics.

From an anonymous 'chief designer' to a public icon

Korolev's name was surrounded by official secrecy during his lifetime, which facilitated the growth of his myth. The Soviet leadership kept

the identity of Korolev and other leading rocket engineers secret, on the pretext that all of them were involved in top secret missile work, even though the names of the leading aviation designers and of the head of the nuclear weapons programme, Igor' Kurchatov, were well-known.[22] Korolev was designated in the press as 'the Chief Designer', published articles under the pseudonym 'Sergeev', and remained anonymous until his death in 1966. The spotlight focused squarely on the young, photogenic, smiling cosmonauts, while the Chief Designer was prominently absent from public ceremonies. Other individuals, often not involved in the space programme at all, travelled abroad, gave speeches and received honours. In September 1963, well after *Sputnik* and Gagarin's flight, Korolev was holidaying on the Black Sea and decided to attend a public lecture about Soviet triumphs in space. Nobody in the audience, including the lecturer, had any idea who he was.[23] Even the prospect of receiving the Nobel Prize for *Sputnik* and later for Gagarin's flight did not move the Soviet leadership to reveal Korolev's identity. In response to an inquiry from the Nobel Committee, Khrushchev reportedly said that 'the creator of *Sputnik* is the Soviet people'.[24] Once, Korolev privately complained, 'We are mineworkers; we sit underground, and nobody ever sees us.'[25] On another occasion, he bitterly remarked to an old friend, 'I have no public identity. And will probably never have one.'[26]

After his death in January 1966, Korolev's name and his role in the space programme were no longer a state secret. His ashes were publicly buried in the Kremlin wall, and the top Soviet leadership signed an obituary published in central newspapers. In February 1966, the Party Central Committee and the Council of Ministers adopted a joint secret resolution 'On the Commemoration of the Memory of Academician S. P. Korolev'. The document ordered the erection of three monuments and the installation of two memorial plaques. Korolev's name was given to the Kuibyshev Aviation Institute and to the street in Moscow where he lived. At the last moment, the question of turning Korolev's house in Moscow into a museum was raised. The resolution did not specify that the museum be created but only called for further discussion of this issue.[27] The museum was finally established in 1975.

While the scale of government-sponsored commemoration was fairly modest, the leadership of the Soviet space programme and local officials seized the opportunity to turn Korolev into an emblem of Soviet space achievements. In April 1966, just three months after Korolev's death, a memorial plaque was installed at his birthplace in Zhitomir, Ukraine; the house where he spent the first two years of his life was later

turned into a museum. In 1967, Korolev's cottage at Baikonur became a museum. Monuments to Korolev were subsequently erected in Moscow, in Zhitomir, in Kiev, at Baikonur, on the Kapustin Iar launch site, and at Korolev's design bureau. The town of Kaliningrad (previously named Podlipki), where the bureau was located, was renamed Korolev, and another Korolev monument was erected on its central square. Streets in Moscow, Kiev, Zhitomir, Kaluga, Vinnitsa, Magadan, and at Baikonur, an oceanic ship, and a mountain were named after Korolev.[28] The Soviet space myth began to shift from the hagiography of cosmonauts to the sanctification of engineers. Korolev now stood for thousands of unnamed space engineers, symbolizing their contributions to the Soviet space fame.

As Korolev was gradually turning into a symbol, his image noticeably changed. The mythological Korolev rose above all human frailties and became a visionary. His personal enthusiasm for human spaceflight signified unchained aspiration for the technological and social progress of the entire nation. Although prior to their flights most cosmonauts met with Korolev only a couple of times, their biographies invariably depicted him as their spiritual father.[29] As sites of memory shifted from photographs to monuments, the mythological Korolev further and further departed from his historical prototype.

Mythologization is literally visible in the 1975 dual monument to Korolev and Gagarin by the sculptor Oleg Komov, later installed in Taganrog. The monument is modelled on a historic 1961 photograph, but the monument subtly deviates from the original image.[30] In the photo, Korolev and Gagarin are smiling, looking at each other, and are engaged in a lively conversation. On the monument, their faces are sombre; they look away from each other and are apparently engrossed in day-dreaming about space exploration. Korolev no longer speaks to Gagarin; he speaks 'to posterity'.[31] Korolev and Gagarin have lost their individuality; they have become ceremonial symbols of an important national programme.

The 1972 feature movie *Taming of the Fire* became a staple of the Korolev mythology. For the first time, a Soviet movie showed space engineers at work and featured impressive shots of actual rocket launches, filmed at Baikonur. Lofty aspirations for exploring space nicely intertwined with a romantic story line.[32] The director Daniil Khrabrovitskii invited Korolev's deputy Boris Chertok to serve as a consultant for the film, but it quickly turned out that Chertok's role was to flag up technical errors, not to help reconstruct the actual story. Chertok's timid attempts to discuss real events and complex interpersonal relations were

quickly rebuffed. 'I used to say, "This never happened this way" or "This did not take place"', recalled Chertok. 'Khrabrovitskii replied that it had to be this way; otherwise, the film would not be released.'[33] No mention was made in the movie of Korolev's imprisonment in the Gulag and his subsequent work in a *sharashka*, a prison design bureau, in the 1940s.

The myth-making was not entirely imposed from above. Khrabrovitskii was consciously creating a myth. He explained to Chertok that his goal was not to show history as it happened, but as it ought to have happened:

> I do not have to venerate the actual character traits and biographical facts about the protagonists. The characters in the movie are mine, not yours, and the viewers will believe me because they will love these characters. I deliberately idealize these people, because I want them to be like that. These do not have to be glossy idealizations, but the viewers must love every one of my characters … I admire all of you [space engineers – S.G.] the way you are, but I want to make you even better.[34]

Khrabrovitskii made Bashkirtsev and Ognev – the characters portraying Korolev and the chief rocket engine designer Valentin Glushko in the film – close friends, without giving a hint of the actual feud between the two chief designers. 'There can be no rivalry between the true friends, Bashkirtsev and Ognev. There must be no such trait in their characters', explained Khrabrovitskii.[35] He argued that the viewers must see the protagonists as sensitive, sympathetic, highly-cultured individuals, not cold technocrats.

Taming of the Fire paid its due to ideological stereotypes and censorship restrictions. Bashkirtsev in the movie exclaimed, 'I learned from [the Soviet rocket pioneers] Tsiolkovskii and Kondratiuk. There is nothing I can learn from [the German-American rocket designer] von Braun!' In fact, Korolev's first post-war rocket, R-1, had been an exact copy of von Braun's V-2. While the cosmodrome personnel were largely military, the movie depicted them in civilian clothes, conforming to the propaganda image of a peaceful space programme. Since any footage of real launch failures was classified, Khrabrovitskii had to use footage of foreign rocket failures. The movie thus depicted the launch of one rocket and the explosion of another.

Taming of the Fire was a great artistic success, but many who knew Korolev were disappointed by the lack of depth in portraying his life and character. The leading space journalist and Korolev's biographer

Iaroslav Golovanov wrote: 'The prototypes are real, but few movies are as saturated with pretty lies as *Taming of the Fire*.'[36] Official Soviet critics did not find any fault in myth-making. On the contrary, they touted the movie as an excellent illustration of the Socialist-realist analytical concept of 'artistic truth' (*khudozhestvennaia pravda*).[37] Just as its director intended, *Taming of the Fire* became a pivotal myth of Soviet space history for generations of viewers. In 1972, when the movie was released, it was seen by nearly 28 million viewers, and the popular Soviet movie magazine readers named the actor who played Bashkirtsev the best actor of the year. Subsequently, Soviet and then Russian television showed *Taming of the Fire* every year on April 12th, Cosmonautics Day. In the eyes of the public, the romanticized Bashkirtsev took the place of Korolev. When remembering Korolev, one recalled Bashkirtsev.

The first challenge to the Korolev myth came from inside the space programme – from some of Korolev's former rivals. In 1974, the chief designer of rocket engines, Valentin Glushko, Korolev's long-time opponent, was appointed head of Korolev's former design bureau. For 15 years, as Glushko ruled this central asset of the Soviet space programme, he made a determined effort to rewrite Soviet space history by emphasizing his own contributions and downplaying Korolev's. He even ordered the removal of spacecraft designed by Korolev from the bureau's internal museum and their replacement with rocket engines of his own design.[38]

Several popular biographies of Korolev came out, none of them touching on any controversial aspects of his life, such as the imprisonment in the Gulag or his personal disagreements with Glushko and other leaders of the space programme.[39] In 1968, Iaroslav Golovanov, who personally knew Korolev, started writing a biography based on numerous interviews and archival materials. In 1973, he published the first part, covering the early years (1906–1934), before Korolev's arrest.[40] In the second part, Golovanov told the Gulag story, repelled the myth of Korolev's visit to Kaluga to meet Tsiolkovskii, and revealed the complexity of Korolev's relations with other chief designers and the Soviet leadership. Golovanov fully realized the difficulties he would face attempting to publish this account. In a 1975 entry in his private diary, Golovanov wrote, 'If I don't bring *Korolev* to completion, I won't suffer as much as other people, unknown to me, who honestly desire to know the truth but have to trust lies.' He envied future historians who 'would not be constrained by censorship and editorial needs', and he bitterly remarked that he 'sought the truth in an age that did not need

it'.[41] Golovanov was able to publish a complete biography only after the collapse of the Soviet Union, entitling it *Korolev: Facts and Myths*.[42]

The tensions that brewed over decades under the lid of official Soviet space history eventually came to surface as the policy of *glasnost* during Gorbachev's *perestroika* gave voice to the suppressed counter memories. Some archival documents came to light, private diaries became available, participants began to speak out, and a totally new picture of the Soviet space programme emerged, like a giant iceberg suddenly lifted out of the water. The old mode of hero-worshipping history did not change, however; only now one witnessed clashes between the followers of different space hero cults. Soviet space history itself was full of acrimonious disputes, including the famous falling out between Korolev and the chief rocket engine designer Valentin Glushko, or the equally famous and equally bitter rivalry between Korolev and his main domestic competitor in the space race, the chief designer of cruise missiles Vladimir Chelomei. A loyal team of followers gathered around each of these historical figures, and they constructed their own versions of history, trying to invalidate their opponents' accounts. Korolev's defenders accused Glushko of refusing to build rocket engines for Korolev's lunar rockets, and blamed Chelomei for siphoning off a large part of resources of the lunar programme, all this resulting in Soviet loss in the lunar race. However, the rivals had their own stories to tell. From their perspective, Korolev was often portrayed as a ruthless competitor and a clever political operator. For example, Khrushchev's son Sergei, who had worked for Chelomei, suggested that Korolev had 'focused his energy on what he did best – the elimination of his rivals'.[43]

The post-Soviet resurrection of the myth

After the collapse of the Soviet Union and the ensuing public revelations about Soviet history, media popularly portrayed it as an endless cycle of crime and suffering. The Soviet space programme and its personification – Sergei Korolev – remained a rare source of pride in Russian historical memory. On 12 January 2007, speaking at a ceremony at the Grand Kremlin Palace commemorating Korolev's centennial, President Putin called Korolev 'a scientist genius', 'a true pioneer' and 'the creator of the first brilliant victories of cosmonautics'. Putin stressed that Korolev's efforts led to the creation of an outstanding rocket and space industry, which now assures Russia's stable position in the world and serves as a powerful resource of national development and a source of national pride.[44]

The post-Soviet movie industry generated its own Korolev myth. The movie *Korolev*, directed by Iurii Kara, premiered on Cosmonautics Day, 12 April 2007. The very next day, the chairman of the Federation Council, the upper chamber of the Russian parliament, formally presented the film director and the lead actors with awards for a 'large contribution to the propaganda of the achievements of domestic cosmonautics and to the patriotic upbringing of the youth'; after the ceremony, the movie was screened to the members of the Council.[45] While the parliamentarians had a political agenda in mind, space industry leaders harboured their own motives to remind the public about the great achievements of the domestic space programme. Korolev's former design bureau, now the Energia Rocket and Space Corporation, invested 12 million roubles in the movie and provided special effects.[46] Perhaps space managers hoped that, by evoking past glory and emphasizing the historic roots of today's projects, they might shore up public and government support for the space industry.

The creators of *Korolev* self-consciously set out to build a larger-than-life image of Korolev. Kara publicly announced that 'an artist has the right to have his own idea of the protagonist'.[47] The movie was loosely based on the memoirs of the cosmonaut Aleksei Leonov, who claimed that Korolev had confided unknown aspects of his biography to him. Evoking an earlier image of Korolev as a father figure for the cosmonauts, Leonov upped the stakes by claiming that Korolev was 'more than a father for us. He was our God'. The actress who played Korolev's mother echoed the sentiment, confessing that, in her opinion, 'Korolev's story is akin to the story of Christ.'[48]

The movie depicts Korolev as a flawless hero: a handsome, intelligent, brave man and an exemplary husband and father. The film makes Korolev into an early space enthusiast, while historical evidence suggests that his interest in space exploration developed only after the war.[49] The script focuses on those aspects of Korolev's biography that were omitted from *Taming of the Fire*, particularly, on Korolev's arrest and imprisonment in the Gulag. His arrest is presented as a punishment for his passion for space exploration, while the actual reasons had to do with disputes over the design of military rockets.[50] Korolev's mythical meeting with Tsiolkovskii in Kaluga is prominently featured in the movie as a turning point in Korolev's life. Korolev emerges in the movie as a titanic figure single-handedly battling the system to implement his vision of space exploration.

The public reaction to *Korolev* proved disappointing. Critics uniformly condemned the lack of historical authenticity: "Some scenes are so

obviously false and made-up that they cause laughter."[51] Mythologizing by itself, however, was not viewed as a big sin. One critic noted, for example, that the meeting with Tsiolkovskii probably did not take place, but since he was played by a very good actor, it was 'worth forgoing the historical truth' for the sake of a 'brilliant scene'.[52] The movie's focus on Korolev's trials and tribulations, rather than triumphs, however, aroused public consternation. One reviewer explicitly commented how this portrayal of Korolev's biography caused discomfort, evoking painful memories: 'This tragedy of one twenty-year-old romantic, this tragedy of a country destroying its best citizens – this is our terrifying history. You remember and shudder …'[53] Internet forums were filled with denunciations of *Korolev* for the denigration of Soviet history. 'This movie is helping not us but our enemies, who intend to defile our glorious past', read a typical review.[54] If the movie authors had a patriotic message in mind, it apparently did not get through. The audience became so distrustful of post-Soviet mythologizing that even some fact-based scenes in the movie were met with incredulity as possible inventions.[55]

Post-Soviet audiences feel nostalgia for Soviet-era myths, finding them comforting and inspirational. The movie *Taming of the Fire* is often recalled with fondness by critics of *Korolev*, even though they are fully aware of the mythologization of Korolev in *Taming of the Fire*. 'Historical authenticity is not important here; the outstanding artistic qualities and technical authenticity are enough', remarks one commentator. 'Watching this movie fills me with pride for the country – for the country we have lost', writes another.[56] '*Taming of the Fire*, despite its untruth, is a thousand times better [than *Korolev*], because I want to live and work after watching it', confesses the third viewer.[57] 'Every time I watch it … tears block my eyes and a lump rises in my throat. This is a true moment of glory for the Motherland, a breath of fresh air in the stuffy atmosphere of triumphant capitalism', writes the fourth. 'The biography of Bashkirtsev differs from Korolev's biography in many ways, but this is the way we wanted him to be and the way we saw him.'[58] The Korolev myth is culturally resonant in today's Russia, for it provides a mental refuge from the present-day attacks on Soviet-era values.

Conclusion

Who created the Korolev myth? Multiple authors contributed: Korolev himself added a few embellishments to his biography; the Soviet propaganda machine created an aura around the mysterious 'Chief Designer'; the cosmonauts paid tribute to the conventions by depicting him as

a fatherly figure; writers and filmmakers reshaped his image in pursuit of their own artistic goals; politicians exploited him as a symbol of national glory; space industry leaders used him to boost the prestige of their programmes; and the public endowed him with their own joys, frustrations and hopes.

The story of the Korolev myth suggests a more complicated picture than mere suppression of informal communicative memory by the state-sponsored cultural memory. While the official history of the Soviet space programme presented a mythologized version of events, space engineers and cosmonauts who cultivated counter-memories produced their own myths. Jan Assmann lists identity-shaping as the first function of cultural memory,[59] and the state-sponsored space mythology was, indeed, aimed at cementing the identity of 'the Soviet people'. Yet, communicative memory – the counter-memories of the closed groups of cosmonauts and space engineers – simultaneously shaped their professional identities. Ironically, often the same people – cosmonauts that had flown and space industry managers – propagated both types of myths, but in different spaces of memory: the former publicly, the latter privately.

One can hardly separate the creators of the Korolev myth from its consumers. Space programme participants fitted their memories to propaganda clichés; journalists moulded Korolev's public image, based on these distorted memories; and the public selectively chose the myths closest to their hearts. After the collapse of the Soviet Union, partial accounts from personal narratives began to influence revisionist history, while the nationalist pride of state-sponsored propaganda coloured individual memories. Multiple layers of symbolism thoroughly covered original memories, and remembrance and myth-making seamlessly merged. In the post-Soviet cultural swirl, as former idols were dethroned and former outcasts canonized, the neat analytic distinctions between public and private discourses, between communicative and cultural memory, and even between memory and history became blurred. The choice is no longer between history and memory, but rather between different versions of the myth.

Notes

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9

The Heroic and the Ordinary

Photographic Representations of Soviet Cosmonauts in the Early 1960s[1]

Iina Kohonen

Introduction

My point of departure is a short scene in a film; a sequence just a few minutes long in a film called *The First Journey towards the Stars* (*Pervyii reis k zvezdam*).[2] This popular film tells a propagandist story of the Soviet victories in space exploration. It was released in 1962, a year after the first manned spaceflight. In this scene, the cosmonaut Iurii Gagarin arrives at Vnukovo airport, near Moscow (see Figure 9.1). I had seen this moment in a myriad of photographs before, but never on film. It is a scene of historic significance – a ritual homecoming of the hero cosmonaut, about to be embraced by the ruling power. The cosmonaut is walking along the red carpet towards Nikita Khrushchev. Just at this moment something catches my attention, a minor detail, yet very startling: the poor hero has his bootlace open! How could such an embarrassing detail get published in a society which controls its media so strictly? The highly centralized publishing and censorship machinery ensured that very rarely, if ever, such a banality could become and remain public *by mistake*.[3]

To understand my amazement, it is necessary to set this film scene in context: in the beginning of the 1960s, cosmonauts were seen as utopian heroes who symbolized the Soviet Union's victory in one of the most important battles of the Cold War, the space race. In the media, this victory opened a path to a new age, the space age. The future ahead was bright. Having one's bootlaces open is not anything you would expect from such a heroic figure – and somebody made the choice to leave this scene in the film. Hence, I suppose that this detail carries some kind of statement.[4]

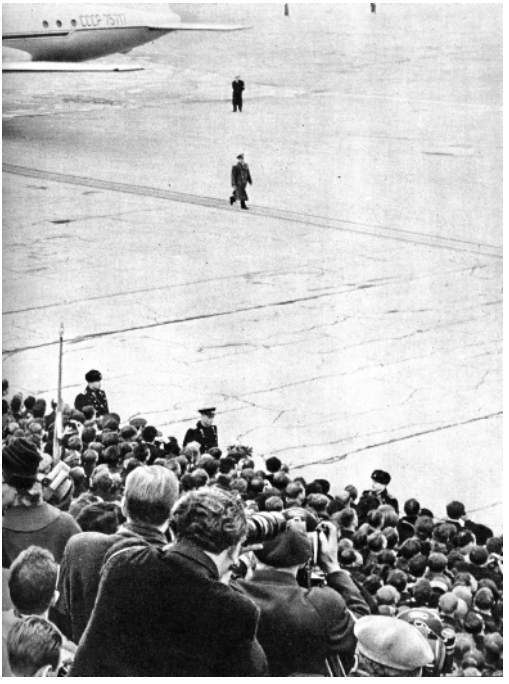

Figure 9.1 Iurii Gagarin walking towards Nikita Khrushchev on the red carpet. Note that the untied shoelaces are retouched from this photograph.
Source: Unidentified photographer, published in *Utro kosmicheskoi ery,* Moskva: GosPolitIzdat, 1961.

The enthusiasm with regard to space was promoted and skilfully taken advantage of by the propaganda machine of the party state. The role of photography in this process was prominent. Visual propaganda was a significant determinant of Soviet utopian thinking and concepts of the future, but this might be a more complex phenomenon than has hitherto been understood.[5] The main purpose of the study is to promote understanding of the inner logic of this rich visual discourse and of potential inner contradictions as elementary parts of it.

In this chapter, I will introduce and weigh up some possible explanations for the open bootlace. I am following a piece of advice from an old authority – with bootlaces, I'm not alone. It was Sherlock Holmes himself that advised Watson as follows: 'I can never bring you to realize the importance of sleeves … or the great importance that may hang from a bootlace',[6] thus emphasizing the importance of even the smallest

detail. My starting point is an insignificant detail – from which I tell a story. One of the premises for this chapter is that images are capable of carrying information beyond – and sometimes against – the verbal rhetoric, or apparent discourse. Can a detail this small lead us somewhere?

Visual representations of space

The new programme of the Communist Party of the Soviet Union that had evolved during 1958–1961 laid the foundation for the official Khrushchevian utopia. It heralded the construction of communism, and the central argument of this programme was that communism would be achieved by the year 1980, so that 'this generation will live under it'.[7] Technological progress was closely linked with construction of the communist society. In the Soviet Union, this techno-utopia was manifested particularly in one theme above all: in the space programme. In the late 1950s and early 1960s, the concept of space flight was visible everywhere; science fiction novels and films were extremely popular, while pictures of *Sputniki* and space dogs could be found on every possible product from cigarette boxes to tea cups – the Soviets clearly knew how to 'merchandise' these early achievements in space travel. Visually, the Soviet Union was a society living in the space age. In my study, I am concentrating on photographic representations of this space programme in the first decade of the so-called 'space age'. In this chapter, I will juxtapose the photographs of space against the promises of the Third Party Programme.

Research material

Ogonek

The empirical material for the study is divided into two parts. The first area of interest is the material that was published in the Soviet Union during the years 1957–1969 – that is, from the first *Sputnik* launch to the Apollo moon landing. From the plethora of published photographs, I obviously had to choose an adequate collection for analysis. For this I have chosen a popular, widely distributed periodical: 13 annual volumes of *Ogonek* (*Flame*), a weekly illustrated magazine. Published since 1923,[8] *Ogonek* was established as a truly national publication. The magazine was produced in Moscow, took 10 days to print and up to one month to reach the far eastern regions of the Soviet Union. It was ideologically soft, available at hairdressers, clinics and airports and, perhaps partly owing to its crossword and full-colour reproductions of art works,

attracted a general readership.[9] One of the main features characterizing *Ogonek* was its photojournalistic ambition and many prominent photographers were included at the magazine's photographic branch. During the *glasnost* and under enthusiastic new editor Vitalyi Korotich, the substance and aim of the magazine changed dramatically; from 1986 it was hailed as one of the flagships of *perestroika*.[10]

As I studied the pages of *Ogonek* one thing became apparent quite quickly: uniqueness was not the essential value when cosmonauts were depicted. Photographs representing these heroes were very similar to one another. This repetition of postures, actions, gestures and motives was so striking that it conjured up the image of a *ritual*. The question arising from this material is: Was there some inner logic or motivation behind this repetition?

The archive

The repetitive substance of *Ogonek* made me consider alternative sources: was it possible to find different kinds of representations of cosmonauts, more exact or original, perhaps? These considerations eventually took me to Moscow. *Ogonek*'s own photographic archive has vanished, but I managed to trace some of the photographs. The other part of my study consists of archival material from the *Russian State Archive of Scientific and Technical Documents*.[11] This archive holds substantial amounts of documents related to the Soviet space programme, and includes 'not only technical documentation, but also films, photographs and audio recordings of the historic achievements in rocket design and space travel' – as they themselves put it.

One thing was apparent immediately after arriving at the archive: I had been yearning for an original, true picture of a cosmonaut, some sort of antithesis of the retouched, happy images of *Ogonek*. In this sense, the archive was not a disappointment. Boris Groys has commented that Soviet civilization was the first modern civilization the death of which we have witnessed, and there are more to come[12] and, indeed, these photographs brought to mind the remains of a lost civilization. The archive's photo section was a strange collection; it showed a sort of demise of the Soviet Union: relics of past glory, fragments from a lost utopia, recalling the artistic work of Ilia Kabakov or Andrei Roiter. The image of the cosmos struck as startlingly earthly, as if the photographs revealed some unremarkable and ordinary human dimension behind the Soviet cosmic empire.[13]

On the other hand, the archive was very different than I had imagined. Many of the photographs were as staged, retouched, cropped and manipulated as the ones that were published in *Ogonek*.[14] One can, with

a considerable degree of certainty, say that the material found in this archive has been filtered through a certain level of censorship. It became clear to me that an effort to find objective *truth* behind these photographs was an attempt destined to fail. The power of these photographs lay elsewhere. Eventually, I collected approximately 4000 photographs from the period 1957–1969 from this archive. Taken out of their original contexts, the original, intended meaning of these illustrations is blurred and unclear. They are strange, almost incomprehensible.

These photographs were made to be seen, to be emotive and had a highly political overtone. The reference to the reality of these selected, manipulated and censored images was confusing, even at the time they were published. Most of these photographs were taken for the use of the Soviet propaganda machinery. My supposition is that the majority of the archival photographs were also taken to be published. There are multiple reasons for them to have ended up in this particular archive and not all of them ever were public, but the original intention was publicity. They represent what, in his contribution to this volume, Slava Gerovitch calls 'public remembrance practices'. Gerovitch addresses the institutionalization of *memory* by nation states. By this, he means practices that reinforce national identity at the expense of private memories. An archive (as an institution) has a crucial role in this reinforcement process: an official archive preserves one 'true' version of the past; it holds the official photographs and records of a given event. So, in a sense, an archive becomes an arena of 'showing' rather than hiding.[15]

The photographs from this archive are laden with clues and hints of stories to be told, but the community that could easily understand this ideological language no longer exists. At some level, they remain silent to the outside viewer. Perhaps it is in this obscurity that photography's potential to express something new lies. Following Alan Trachtenberg: 'What empowers an image to represent history is not just what it shows but the struggle for meaning we undergo before it, a struggle similar to the historian's effort to shape an intelligible and usable past.'[16]

Research methods and theory

The study lies at the intersection of several disciplines: cultural history and anthropology, the theory of visual culture, and the history and theory of art and photography. By using content analysis, iconography and detail-oriented close-reading, my aim is to trace the extinct meanings invested in these photographs and make them visible again. The relation between propagandistic images and society is seen as

dialectical: the history they show is inseparable from the history they enact. I am reading the images in their broader cultural context and my theoretical framework – following, for example, John Tagg or Allan Sekula – is that photographs cannot exist outside social discourses: there is not one neutral ground or one essential *true* meaning of a photograph. Thus, the meaning of any individual photograph can be determined by its relationship to other social practices.[17]

By considering photography within a framework of cultural processes, it can be possible to understand the significance of the medium within the late 1950s and early 1960s Soviet Union.[18] The fact that these photographs were used for propaganda is taken as axiomatic, and there is no intention to reveal the real, objective truth behind them. Rather than isolated photographs, my interest lies in this 'cosmic imagery' in its entirety, and more willingly than *objective* truth, this study will seek the discursive construction of *narrative* truth, in which coherence serves as a criterion for the production of intelligible and appealing narratives.[19] What was the story behind the open bootlace?

The idea is rather to look for new critical ways of understanding photographs as historical documents by investigating how images communicate – the means by which they convey their message, the devices employed, the appeals they make, the conventions they reinforce – and treating them not merely as pictures or as documents, but as cultural *texts*. The greatest historical interest might occur less in what the photograph literally depicts than in the way it relates to and makes visible the culture of which it once was a part.[20] Given the material it comprises – widely published and celebrated popular images of space and classified, perhaps publicly unheeded photographs concealed in archives – the study as a whole questions the general conception of 'historical event' and how it is translated in photographs and histories.

Photography in the 1960s

The cult of scientific and technological progress and modernization, elements so evident in the era of Khrushchev, created a favourable climate for a re-birth of photography in the Soviet Union. In the early 1960s, photography was promoted as a modern technological medium and was widely used as propaganda for the success of Soviet science (notably the space programme). Photography was seen, above all, as a medium proving that the Soviet utopian project was being put into practice. Dynamic industrial photography played a vital role in the propaganda of the Promethean[21] campaigns of the period, which aimed to tie together the fundamental

rule of nature to serve mankind. The Prometheanism of the Seven Year Plan of the late 1950s and early 1960s recalled the spirit of optimism in the unlimited power of man to bend nature to his will. Photography was presented as the most popular and accessible of the arts, an art which was both comprehensible to the masses and a modern technological medium through which a worker could, as an amateur, actively participate in the production of future society. The increase of photographic 'literacy' was identified with progress itself.[22] The camera was a speedy recording tool, reflecting Soviet reality in the most instantaneous way.

Improvements in typographic technology allowed more and better-printed photographic illustrations to provide a means for refreshing the printed page and giving visual evidence for the text.[23] Photography was also considered to possess scientific accuracy or eyewitness authenticity – this concern with 'truth' was obviously a reaction against the 'fallacies' of the Stalin cult and characterizes the period as a whole.[24] Photojournalism emphasized 'truthful reflections of life', but high artistic quality was essential.[25]

The general liberation of the press in the 1950s was visible in photojournalism as well. Press reforms in 1953 and 1956 increased the use of photographs, pictures and political cartoons, and a broader range of views could now be published – within the limits of the fundamental principles of Socialist realism.[26] These principles had been unquestioned during the general liberation of the Thaw. Official photography was still to serve the requirements of Soviet mythography; unofficial photography was obscured from the public. Soviet mass media's mythologizing mechanism was to keep its imagery strictly positive, and 'to avoid empty aesthetics or formalism'.[27]

Utopian heroes

On 12 April 1961, Major Iurii Gagarin flew into space, the first person in the world to so do. This was something that had been anticipated, yet no one could have even dreamed of the impact and propaganda value his face would have. The flight also aroused enormous attention in the West. This is how the leading Finnish newspaper *Helsingin Sanomat* described him immediately after the flight: 'His smile is good and honest. There is no need to add that this man who was the first to have the courage to fly into outer space, to greet the stars, a man who has been the first to look down on our Earth, has a truly dignified character. This is seen in his smile, in his intelligent eyes.'[28] After that date, this smile was seen everywhere. There is a myriad of photographs of Iurii Gagarin.

Soon, he was accompanied by other heavenly heroes as the list of firsts lengthened: the first day-long space mission in August 1961 by German Titov; the first long-duration space flight in August 1962, when the cosmonaut Andrian Nikolaev spent four days in space; the first woman in space, Valentina Tereshkova in June 1963; the first multi-person mission in October 1964, carrying cosmonauts Komarov, Egorov and Feoktistov; and the first spacewalk, by Aleksei Leonov in March 1965.[29]

The year 1961 was also a watershed in political ideology: three months after Gagarin's flight, on 30 July, *Pravda* published the Third Party Programme.[30] The Programme was adopted at the 22nd Party Congress in October 1961. This was not a minor event – publicly, it was celebrated as a major ideological turning point. The Programme defined plans for the internal development of the Soviet Union for the next 20 years. In particular, there were detailed plans for the technological and economic development of the Soviet Union. According to the Third Party Programme, there were two stages involved in the building of communism in the Soviet Union. In the first decade (1961–1970), the Soviet Union was supposed to surpass the United States in production. The welfare of the population would be greatly improved: the Programme envisaged progress in housing conditions, an increase in the production of consumer goods and a reduction of working hours to the lowest in the world. During the second stage (1971–1980), the material and technical base for communism would be built and Soviet society would approach the communist goal of a distribution of goods according to one's needs.[31]

In this context, photographs from the cosmos can be seen as manifestations of an official but publicly embraced cult of science that viewed technology as the solution to all social and economic problems. The significance of the space flights was not only technological, but also social.[32] Never before had a utopian dream had such a tight schedule, such a precise point of achievement in the future.

Never before had utopian ideologists had such concrete evidence that this really was the dawn of a new era: images of space – such as the popular and widely published photographs of cosmonauts and spacecraft, and the first visions of the dark side of the moon and the Earth from space – gave a sense of reality to these otherwise abstract political and intellectual concepts of the future, global utopia and phantasm.

Creation of a new (ordinary) man

One of the main tasks of the Third Party Programme was the creation of the New Man, *Novyi chelovek*; the perfect communist society was to be

occupied by perfect new men and women.[33] The Programme quite explicitly defined how these New Men should behave. The so-called 'Moral Code of the Builder of Communism' outlined acceptable manners as follows:

> Devotion to the cause of communism, love of the socialist Motherland and of the socialist countries; conscientious labor for the good of society: he, who does not work, neither shall he eat; concern on the part of everyone for the preservation and growth of public property; high sense of public duty; intolerance of actions harmful to the public interest; collectivism and comradely mutual assistance: one for all and all for one; humane relations and mutual respect between individuals: man is to man a friend, a comrade, and a brother; honesty and truthfulness, moral purity, unpretentiousness and modesty in social and private life; mutual respect in the family, concern for the upbringing of children; irreconcilability towards injustice, parasitism, dishonesty, careerism, and profiteering; friendship and brotherhood among all peoples of the USSR, intolerance of national and racial hatred; intolerance towards the enemies of communism, peace, and freedom of nations; fraternal solidarity with the working people of all countries, and with all peoples.[34]

It was the cosmonauts in particular who had the role of the new, quintessentially utopian heroes. Self-evidently, they followed the 12 rules of the Moral Code in their public behaviour – and photographs showed that they did so privately, too.[35]

Taking a closer look at the photographs in *Ogonek*, we can see that it was not as simple as that. If we study the photographs in more detail, we realize that, in fact, the depicted Soviet future is not as smooth and glossy as was verbally illustrated in the Third Party Programme. Actually, it was quite worn out, ordinary and disordered. Even the moral discipline was not as strict in *Ogonek* as in the Programme: for example, when Gagarin was asked about his attitude to vodka, his answer was probably a relief to those who dreamt about becoming a cosmonaut: 'Systematically it is forbidden. But isn't it a Russian custom to toast on celebrations?'[36]

Furthermore, what is interesting is the fact that the cosmonaut is struggling hard to become the *novyi chelovek*: triumph does not come easily. Representing this struggle was, at that time, happening in photojournalism as a whole. As one photojournalist put it in *Sovetskoe Foto* (the monthly mouthpiece of photojournalists and amateur photographers): 'the more daring and rich we depict the battle over the difficulties, the more impressive and convincing the future achievements and victories come out to be'.[37] This 'battle over the difficulties' is portrayed in many ways and the body of the new hero emerges central in the visual representations: the cosmonaut is portrayed striving for

perfection in his/her performance, or in anguish and distress over some medical or physical test (see Figure 9.2).[38]

The ordinariness of the figure on the other hand, is emphasized in different ways: the surprise at one's sudden success is a common theme: a cosmonaut is gazing at his/her photograph on the first page of *Pravda*, discomfited at the new status; or a cosmonaut is portrayed spending leisure time fishing or cooking, playing chess or reading.[39] I believe that this was neither a mistake, nor a minor detail. By showing ordinary Soviet men who had accomplished heroic deeds, the future was drawn into the present. Could it be that it is in this *ordinariness* that lays the 'narrative truth', the story behind the undone shoelace? It is as if all these photographs were proclaiming that the heavenly creatures were already living among ordinary people. The present and the future had become indistinguishable.

This immediate equation of 'is' and 'will be' was built into the inner logic of Socialist realism, and thus was nothing new to the viewers.[40] The present had been a permanent progression towards the future since the 1930s, but now the future was something that was comprehensible to all. Perhaps the predictions of the Third Party Programme

Figure 9.2 German Titov in the silent chamber, a sound-insulated room. The room, in which he spent days, was monitored by psychologists.
Source: Unidentified photographer, published in *Ogonek,* 32, 1962.

became more plausible, when the depicted actors bore a resemblance to real, living people? The photographs promise that the Soviet utopia was truly coming into being and was right around the corner. This would, however, make the disillusionment to follow perhaps even more bitter.

Domesticated hero

In their interesting analysis of the cultural representations of the space exploration, Mette Bryld and Nina Lykke define cosmonauts (and astronauts) as prototypical superheroes, embodying 'the quintessence of legendary masculinity'.[41] Contrary to that, the visual material discussed here seems to suggest that the heroism invested in the cosmonauts was not so straightforward. My thesis is that the photographs of space illustrated the utopia foreseen in the Third Party Programme. Indeed, in photographs we can see cosmonauts leading a happy and trouble-free life in their beautiful homes, spending quality time with their happy and sophisticated spouses and children (see Figures 9.3 and 9.4).[42] This

Figure 9.3 Cosmonaut German Titov at home with his wife Tamara
Source: Unidentified photographer, reproduced by courtesy of RGANTD.

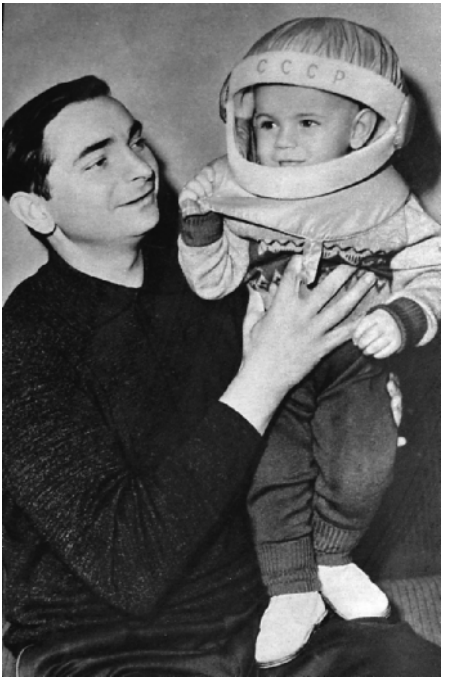

Figure 9.4 Cosmonaut Valerii Bykovskii with his son Valerii
Source: Photograph: V. Cheredintsev, published in *Ogonek,* 13, 1964.

was in line with Khrushchev's ongoing large-scale housing production. According to Anna Temkina and Elena Zdravomyslova, the emergence of these one-family-apartments – the so-called 'Khrushchovkas' – in the 1950s highlighted the rise of the nuclear family as an autonomous unit.[43] In line with this, the role of a cosmonaut as a member of his (or her, in the case of Valentina Tereshkova) nuclear family became essential in the photographic representations. Particularly, the male cosmonaut as a representative of his *gender* can be seen as having more latitude than men in general had previously had in Soviet media.[44] He was both a father *and* a champion. Besides many of illustrations of cosmonauts embracing their children, we can find a domesticated hero who even helps to clean up the room and wash the dishes.

Utopia and disenchantment

The beginning of the space age renewed interest in utopianism. This spirit is hard to imagine in our age of scepticism, since utopianism is so

unreasonable. How could anyone have seriously believed in a radiant future, totally different from the chaotic past and miserable present? The problem of understanding this dream is all the greater because of the distance between the utopian vision and actual Soviet reality. It is tempting to dismiss the vision as simply deception and camouflage. It cannot be fully disregarded, however, since it was part of most people's everyday experience in the 1960s. The Soviet citizen might or might not have believed in this utopia, but could not have been ignorant of the fact that it was promised.

The new utopia was soon to disappear. The inability of the Communist Party to fulfil its promises became apparent almost immediately following the adoption of the Programme. It failed in almost every respect.[45] The world witnessed the US victory in the race to the moon in 1969, but the disillusionment in the Soviet Union became obvious years before that. Khrushchev was removed from power three years after Gagarin's flight and all utopian references gradually vanished from the political rhetoric, as the bright utopian future gave way to an era of stagnation. The new Soviet society turned into its past achievements, foremost among them the victory in what in Russia is termed the Great Patriotic War. As a motif, the conquest of space did not disappear, but the achievable heaven-on-earth, which had been promised by the first space flights a decade earlier, transformed into a more or less abstract notion of the utopia, manifested, for example, in science fiction literature. The cosmonauts continued to appear in the media, but the depiction of their performance was not seen as a foretaste of the near future paradise anymore. As Matthew Cullerne Bown put it: 'the socialist utopia, as it existed in the Soviet Union *circa* 1970, was in fact the only utopia anyone should count on seeing.'[46] The brilliant future promised in the CPSU Third Party Programme disappeared from sight. The photographs that I have studied are pictures from this forgotten future, the remains of a failed utopian project. There is a sense of melancholy in them that comes from this disillusionment. They are photographs of the past, not the way it was, but of a past the way it *could have been*.

Conclusion

The Soviet achievements in the field of space exploration resonated in numerous areas of Soviet political, mythological and popular culture. The Soviet propaganda machinery eloquently mixed cosmic utopianism with patriotic sentiments. Space was an influential emblem of modernization, the Promethean victory of man over nature, freedom from

gravity and from past horrors, and the promise of a bright, shimmering future. Widely published photographs showed cosmonauts who had already travelled beyond the horizon, to the bright future. However, in the midst of Cold War policies and technological utopianism so closely attached to the space race, the photographs that I have studied clearly show that, visually, it was not the *machine* that was celebrated. It was the man who had broken the barriers of Earth's gravity and had survived, the cosmonaut, utopian hero and modern man.

This cosmonaut was a new kind of hero in Soviet history. There had been heroes who had commented on the future throughout Soviet history, but the materials examined here clearly show that the heroic cosmonaut was a more complex figure than meets the eye; and that it was specifically through visual representations that this complexity was heralded. The emphasis on the commonplace, everyday qualities of the heroes' lives was in line with the new official humanism, which labelled the Khrushchevian art scene in general from the end of the 1950s. Even though socialist realism remained by definition optimistic, romantic, patriotic and heroic, the Thaw gave more latitude to representations portraying these ultimate socialist values. The romantic, sentimental and heroic genre that was typical of Stalinist painting gave way to depictions of everyday life. More humanity in the presentation of the subject was allowed. Sympathy and understanding of human fallibility became possible motifs, albeit that the core of these images did not question the essential idea of the bright future promised. The transcendent quality of the hero, his capacity to *see* the bright future, was not questioned, not to mention the advent of the luminous future itself.[47]

What about the bootlace then? At first sight, it certainly seems surprising. Through visual representations of the time, we can discover a true hero with all the utopian qualifications needed for the future. To use Reinhart Koselleck's phrase, the images of space were 'pregnant with the future'.[48] However, after examining the materials more closely, we can find glimpses of cosmonauts in the middle of not so heroic deeds – smoking cigarettes, tired and, indeed, with their shoelaces undone.[49] My premise is that these little hints were not mistakes – they were instruments used to keep the myth alive. Without the man who now and then tramples on his shoelaces, the story would have been monotonous and uninteresting. Which was exactly what happened in the following decades: as Svetlana Boym has pointed out, by the end of Brezhnev's era, the Soviet Union had enormous difficulty sustaining its commitment to space travel, not only because it lacked the necessary resources, but also because the intimate connection between technological

development, state ideology and the utopian myth had been broken.[50] Cosmonauts, those daredevils of space, gradually fossilized into political monuments. The scientific optimism of the early 1960s, describing a utopian vision of a future Earth, stands in poignant contrast to the disillusionment of later decades.

The photographs I have studied do not offer the satisfaction of a single narrative, but leave open a maze of narrative possibilities and hints of probable histories. The currency of photography does not seem to be stable – as much as photographs seem to fix the truth of the past, they can disturb the certainty of history and render it more contestable.[51] The study of this kind of material might be useful for an alternative history that includes conjectures and contradictory visions and possibilities. The symbolic use of space exploration was equally as powerful as the scientific one.

Raphael Samuel has challenged the use of historical photographs as 'eyes of history', referring to them as 'more or less change residues of the past'.[52] However, as James R. Ryan puts it: 'it is precisely this change residue of the past preserved in photographs … that give[s] them their singular power as historical artefacts'.[53] Even a single photograph – or, as in our case, a little scene in a film – can provoke multilayered insights into the ethos of an age, culture or ideology. The bootlace was not just a minor mistake; it stood as a symbol of a hero that was frail, imperfect and flawed. As a trampling everyman, he was a true Khrushchevian champion.

Notes

1. This chapter is part of an ongoing doctoral dissertation project. In my doctoral thesis I am studying how the Khrushchevian ideological utopia was manifested in photographic representations in the Soviet Union in the late 1950s and early 1960s. The thesis is part of a larger ongoing research project '*Conflict and community: Transatlantic relations in the 'long' twentieth century*' (Academy of Finland, project number: 1118372)
2. G. Bogolepov, G. Kopalin, E. Kosenko, R. Kublitskii, *Pervyii reis k zvezdam*, Soviet Union, 1962.
3. On censorship and publishing in the post-Stalin Soviet Union see: Boris I. Gorokhoff *Publishing in the U.S.S.R.*, Gravenhage: Mouton, 1959.
4. During the second half of the 1960s, the scene was re-edited – not because of the untied bootlaces (they remained in the scene) but to remove Khrushchev, who by then was considered a *persona non grata*.
5. *Propaganda and Dreams. Photographing the 1930s in the USSR and in the US*, ed. Leah Bendavid-Val, Zürich: Edition Stemmle 1999; Victoria E. Bonnell, *Iconography of Power. Soviet Political Posters under Lenin and Stalin*, Berkeley, CA: University of California Press, 1997; Peter Kenez, *The Birth of the Propaganda*

State. Soviet Methods of Mass Mobilization 1917–1929, Cambridge: Cambridge University Press 1985; Richard Stites, *Revolutionary Dreams: Utopian Vision and Experimental Life in the Russian Revolution*. New York. Oxford University Press, 1989; See also Iina Kohonen, 'The Space Race and Soviet Utopian Thinking', *Space Travel and Culture. From Apollo to Space Tourism,* ed. David Bell and Martin Parker, Oxford: Wiley-Blackwell, 2009, pp. 114–31.

6. Holmes to Watson in Arthur Conan Doyle's *A Case of Identity* ref. Peter Burke *Eyewitnessing. The Uses of Images as Historical Evidence*, London: Reaktion Books 2007, p. 81.
7. *Programma KPSS 1961,* Moskva: Pravda, p. 142 and *passim*. See also Peter Vail' Aleksandr Genis. *60-ye: Mir sovetskogo cheloveka,* Ann Arbor, MI: Ardis 1988, pp. 3–12; Jukka Renkama, *Ideology and Challenges of Political Liberalisation in the USSR 1957–1961*, Helsinki: Suomalaisen Kirjallisuuden Seura 2006, pp. 284–332.
8. To be exact, *Ogonek* was first issued in 1899, but it was re-established in 1923.
9. Cathy Porter, 'Introduction', *The Best of Ogonyok. The New Journalism of Glasnost*, ed. Vitaly Korotich *et al*., London: Heinenman 1990, p. 3.
10. Stephen Lovell, '"Ogonek': the Crisis of a Genre', *Europe-Asia Studies 48*, Sept. 1996, nr pp. 989–1006.
11. Rossiiskii Gosudarstvennyi Arkhiv Nauchno-Tekhnicheskoi Dokumentatsii (RGANTD).
12. Ref. Svetlana Boym on Ilya Kabakov: 'The Soviet Toilet and the Palace of Utopias', http://www.artmargins.com, 30 December 1999 (last accessed 4 April 2010).
13. Ibid. See e.g. RGANTD 0-160, 0-877, 0-874.
14. For example, RGANTD 0-391, 0-2548, 1-16694.
15. See also Allan Sekula, 'Reading an Archive. Photography between labour and capital', *Photography Reader*, ed. Liz Wells, London: Routledge, 2003, pp. 443–52; John Tagg, *The Burden of Representation: Essays on Photographies and Histories*, London: Macmillan 1988.
16. Alan Trachtenberg, *Reading American Photographs: Images as History. Mathew Brady to Walker Evans*, New York: Hill & Wang 1989, p. xvii.
17. Sekula, 'Reading an Archive'; Tagg, *The Burden of Representation.*
18. James R. Ryan, *Picturing Empire: Photography and the Visualization of the British Empire*, London: Reaktion Books, 1997, p. 13.
19. Johanna Sumiala-Seppänen, 'Father of the nation or arch-terrorist? Media ritual and images of the death of Yasser Arafat', *Media, culture & society*. Vol. 29, 2007, no. 2, pp. 336–43.
20. Caroline Brothers, *War and Photography. A Cultural History*, London: Routledge, 1997, p. 28; Trachtenberg, *Reading American Photographs*, p. xv.
21. The myth of Prometheus was often used to celebrate Soviet victories in all fields of science. See for example, *Ogonek* 41, 1958, p. 7.
22. Susan Emily Reid, 'Photography in the Thaw', *The Art Journal* 53, 1994, No. 2, pp. 33–9 (Contemporary Russian Art Photography).
23. Susan E. Reid, 'Photography in the Thaw', 1994.
24. Bytshkov, 'Oshibka fotoreportera' *Sovetskoe Foto*, 1957, 2: 31–2; B. Fedorov, 'Komu nuzhny takie snimki?' *Sovetskoe Foto* 8, 1957, p. 22.

25. Iu. Korolev, 'Za fotocherk bez instsenirovki', *Sovetskoe Foto* 2, 1957, pp. 19–23. By definition photography was not considered as art, though. Institutionally photographers belonged to the Photographic section within the USSR Union of Journalists, not in the Artists Union. Photographers got their education in Moscow State University's faculty of Journalism (*Sovetskoe Foto* 1, 1963).
26. Anthony Buzek, *How the Communist Press Works*, London: Pall Mall Press, 1964, p. 48.
27. L. Dyko, 'O traditsiiakh i novatorstve' *Sovetskoe Foto* 1, 1963, pp. 7–8; S. Morozov, 'V labirinte bessmyslitsy' *Sovetskoe Foto* 2, 1963.
28. Trabenikov, *Helsingin Sanomat* 13.4.1961.
29. *Reconsidering Sputnik. Forty Years since the Soviet Satellite,* ed. Roger D. Launius, Amsterdam: Harwood Academic Publishers, 2000, pp. xi–xii; see also Kohonen, 'The Space race and Soviet utopian thinking'.
30. Vail' Genis, 60-*ye: Mir sovetskogo cheloveka*, pp. 3–12; Renkama, *Ideology and Challenges*, pp. 284–332.
31. *Programma KPSS*, pp. 65–66.
32. Paul R. Josephson, 'Rockets, reactors, and Soviet culture', *Science and Soviet Social Order*, ed., Loren R. Graham, London: Harvard University Press, 1990, pp. 169–77.
33. *Programma KPSS*, pp. 117–32.
34. *Programma KPSS*, pp. 119–20.
35. For example, *Ogonek*, 43, 1964. See also Slava Gerovitch, '"New Soviet Man" Inside Machine: Human Engineering, Spacecraft Design, and the Construction of Communism', *Osiris* 2007, 22, pp. 135–57.
36. Golikov, I. Smirnov 'Start', *Ogonek*, 16, 1961, pp. 6–7. Translation by the author.
37. Korolev, '*Za fotootsherk bez instsenirovki*', pp. 22–23, Translation by the author.
38. For example, RGANTD 1-2211, 1-14923, 1-2209; *Ogonek*, 31/61, 32/62; 34/62, 43/64.
39. For example, *Ogonek*, 26, 1961; *Ogonek*, 27, 1961.
40. Sheila Fitzpatrick, *Everyday Stalinism. Ordinary Life in Extraordinary Times: Soviet Russia in the 1930s*, New York: Oxford University Press, 1999, pp. 9–67; Wolfgang Holz, 'Allegory and Iconography in Socialist Realist Painting', *Art of the Soviets. Painting, sculpture and architecture in a one-party state 1917–1992,* ed. Matthew Cullerne Bown, Manchester: Manchester University Press, pp. 73–85.
41. Mette Bryld and Lykke Nina, *Cosmodolphins. Feminist Cultural Studies of Technology, Animals and the Sacred*, London, New York: Zed Books, 2000, p. 87.
42. For example, *Ogonek* 34, 1962, *Ogonek*, 43 1964; RGANTD 1-15266, 1-15268, 2–413.
43. Elena Zdravomyslova and Anna Temkina, 'Sovetskii etakraticheskii gendernyi poriadok', in *Rossijskii gendernyi porjadok. Sotsiologicheskii podkhod*, eds. Elena Zdravomyslova, Anna Temkina, Sankt-Peterburg: Evropeiskii universitet, 2007, pp. 96–137.
44. Not only in photographs representing cosmonauts: the same motif was very popular in the visual arts in general. See, for example, magazine *Khudozhnik*, Soiuz khudozhnikov Rossii, 1965, *passim*.
45. William Taubman, *Khrushchev. The Man and His Era*, London: Simon & Schuster, pp. 519–23.

46. Matthew Cullerne Bown, *Socialist Realist Painting,* New Haven, CT: Yale University Press: , 1998, p. 414.
47. Bown, *Socialist Realist Painting,* pp. 305–410.
48. Reinhart Koselleck, *Futures Past: On Semantics of Historical Time*, Cambridge, MA: MIT Press 1985, p. 75. See also Kohonen, 'Gagarinin kengännauhat ja muita reittejä neuvostotodellisuuteen', *Synteesi* 4, pp. 38–49.
49. For example, RGANTD 0-716.
50. Svetlana Boym, Adam Bartos, *Kosmos: Remembrances of the Future*, Princeton, NJ: Architectural Press, 2001, p. 84.
51. Ryan, *Picturing Empire*, p. 225.
52. Raphael Samuel, *Theatres of Memory: Past and Present in Contemporary Culture*, London: Verso, 1999.
53. Ryan, *Picturing Empire*, pp. 16–17.

10

'Let's Find Out Where the Cosmonaut School Is'

Soviet Girls and Cosmic Visions in the Aftermath of Tereshkova[1]

Roshanna P. Sylvester

On 16 June 1963, Valentina Vladimirovna Tereshkova, a 26-year-old Soviet 'everywoman', blasted off aboard *Vostok 6* to become the first woman in space.[2] A Cold War variant on the new Soviet woman, Tereshkova burst into public life as an instant celebrity, presented to the world as both a master of technology and a feminine flower in the garden of cosmonauts. A flurry of articles, speeches and decrees hailed her as a 'hero of the cosmos, a hero of the people' and 'a model for Soviet youth'.[3] Clearly, many admired her accomplishment, but what did Tereshkova's celestial journey mean to the generation of Soviet school girls who saw her venture into the cosmos? How deeply were they affected by the cosmic craze?

As other chapters in this volume attest, the early successes of the Soviet space programme generated a wave of popular enthusiasm in the USSR and beyond. It stands to reason that children, in particular, would be susceptible to the euphoria and the imaginative possibilities it inspired. Drawing on her own recollections, Svetlana Boym asserts that 'Soviet children of the 1960s did not dream of becoming doctors and lawyers, but cosmonauts (or, if worse came to worst, geologists).'[4] Children's letters to Iurii Gagarin confirm that girls as well as boys envisioned themselves as future space travellers.[5] However, it was the flight of the 'seagull' (as Tereshkova came to be known) that fanned girls' desires into full flame. In the heat of the Tereshkova moment, girls were surrounded by media representations openly encouraging them to compete with their male peers and set their sights on the stars (see Figure 10. 1).[6]

Another Tereshkova-inspired cartoon in the same issue portrayed a young girl clutching her cosmonaut doll while standing with a smaller boy outside the door of a primary school (see Figure 10.2).

Figure 10.1 Cover illustration of the weekly humour magazine *Krokodil*. The caption reads, 'Where's your advantage in the cosmos now?'
Source: Krokodil, 30 June 1963.

Representations such as these, and others in the same vein, suggested strongly that a girl's path to the heavens was through education. Did the Soviet school system and career opportunity structure provide real avenues for girls to translate cosmic dreams into reality? Given the obvious fact that not all children could grow up to be cosmonauts, is there evidence that adults in positions of influence attempted to harness girls' enthusiasm for science and technology by directing it into less ambitious but related educational and career paths? Did policy makers, planners and the scholars who advised them understand and nurture girls' potential to contribute in meaningful ways to the USSR's much vaunted scientific and technological revolution?

Academic studies, educational reports, census figures and other data suggest that the decade following Tereshkova's entry into space was the high water mark for girls and young women in terms of female aspiration and accomplishment in science and technology. However, as

Figure 10.2 Illustration in *Krokodil*. The caption reads: 'There is nothing interesting here... Let's find out where the cosmonaut school is!'
Source: Krokodil, 30 June 1963.

this chapter demonstrates, there is little evidence to suggest that anyone in a position of influence in political or academic circles paid any attention to these developments. There were no concerted efforts to encourage girls, in particular, to strive for higher level accomplishment in mathematics, physics, engineering or applied technology. That said, generalized efforts in the 1960s to promote science to the young did not discriminate against girls in any obvious way. The fact was that, in the eyes of political leaders, policy makers, educators and planners, girls as a group were all but invisible. That did not stop girls on an individual level from making real strides forward in the realms of science and technology. What constellation of factors enabled them to do so?

In considering possible explanations, it is useful to review the results of recent research by scholars in America and internationally who have been studying the question of why females in our own time choose to pursue educational and career opportunities in science, engineering and technology (SET). The factors cited most commonly in that literature are the influence of parents, teachers and peers on occupational choice; the shaping power of stereotypes promulgated at home, school and in the broader socio-cultural environment, especially through mass culture; the quality of science teaching in schools; the overall image

of science and scientists in society; and the presence of positive role models who demonstrate that a SET career can lead to success and happiness.[7] While this chapter does not examine the relative influence of each of these variables, the evidence considered here suggests that a number of positive factors were in place in the Soviet 1960s serving to nurture girls' desires to reach for the stars.

Studying Soviet childhood

Before considering the evidence in more depth, it is crucial to point out that scholars studying childhood confront formidable theoretical and methodological challenges. To begin with, the whole question of how to define 'childhood' or even 'the child' is open to debate. In keeping with recent research, I take as a given that both terms are socio-cultural constructs; as Martin Woodhead remarked, essentialized ideas about 'the child' or 'childhood' vary considerably 'in relation to time and place, age, gender, ethnicity', social class, and so on.[8] Scholars in childhood studies also note that such constructs invariably are the products of adult minds and sensibilities and, even among theoreticians and practitioners of the 'hard' sciences, are surrounded by complex layers of myth. In part, then, the historian's task is to determine how various groups of adults at the time and in the place under study defined childhood and explained its meanings, both in ideological terms and in everyday life.

In that respect, this chapter contributes to a growing body of literature that examines the institutions and cultural forces that most influenced children's lives in the USSR. So far, the period from the revolution through to the mid-1950s has generated the most interest, with Lisa Kirschenbaum's study of Soviet kindergartens, E. Thomas Ewing's research on gender and education in the Stalin years and Ann Livschiz's work on children's institutions all advancing the understanding of the complex relationships between children, parents, peer groups, teachers and the state. Their studies also offer compelling evidence of the great extent to which the state-controlled mass media, public organizations and political ideology worked to shape children's attitudes towards self and society.[9]

Catriona Kelly's recent book furthers the discussion, offering the most comprehensive survey to date of how notions of childhood were constructed and altered over time by state and party officials, educators, intellectuals, literary writers, filmmakers and others from the late tsarist period through to the collapse of the Communist system.

In summing up her findings, Kelly concludes in part that, while there were considerable variations in children's experiences, she could identify 'some underlying generalizations' that remained viable for the whole of the 20th century. Most importantly, she described 'a central tension between a view of childhood as joyful and sacrosanct, of the child's world as a psychological domain of innocence and wonder, to be preserved intact as long as possible; and a view of childhood as the material of future adulthood, to be disciplined and shaped as early as might be practicable'. Further, she points to a 'general tradition in Russia … to regard the child as relatively "adult" by as early as seven or eight', the age at which a young person normally started school.[10]

In this chapter, I propose that, to a certain extent, the advent of the space age enabled resolution of that central tension. The 1960s saw adults in various positions of influence – from political leaders, propagandists and policy makers to the academics who advised them – seeking to channel children's space age wonder into concrete career paths meant to further the ambitious agenda of the scientific-technological revolution. As Monica Rüthers argues, those in authority combined motifs of childhood and cosmos to promote state interests and shore up their own legitimacy. In doing so, however, they also embraced utopian dreams of a brighter tomorrow and mythologized versions of a happy childhood.[11] What did not figure into any of these equations, however, was children's own agency.

As childhood studies experts remind us, studying adult constructions of childhood in and of themselves is not enough. Instead, scholars must seek to ascertain the degree to which children functioned as active agents in the creation of their own cultural worlds, within the parameters of their own distinctive socio-cultural contexts.[12] Historians attempting to recover young people's lived experiences in the past must carefully sift through primary materials that, while perhaps created by children themselves, were nonetheless prompted, gathered, used, and preserved by adults for their own purposes. The larger study of which this chapter is a part will engage more directly in the project of restoring girls' voices, experiences and choices to the historical record of the late Khrushchev and Brezhnev periods. For the time being, though, I begin with a phenomenon – a spike in girls' interest and success in science and technology in the decade after Tereshkova – then peel back the layers of adult influences in hope of discovering some hints of children's agency. The first step of that operation involves looking at how those at the very top of the Soviet political order articulated goals for children

in the early years of the space age and whether girls in particular were factored into their calculations.

'The most highly educated society in the world'

In his opening speech to the 22nd Congress of the Communist Party of the Soviet Union on 17 October 1961, Soviet Premier Nikita Khrushchev proudly asserted that the peoples of the USSR had 'become the most highly educated society in the world and that Soviet science holds leading positions in the more important spheres of knowledge'.[13] Citing space accomplishments in particular, Khrushchev bragged about the 'flourishing of Soviet science' and the rapid expansion of the Soviet Union's corps of scientific workers, which he claimed numbered 'more than 350,000'.[14] Khrushchev's celebratory Red Square speech to honour Tereshkova on 22 June 1963 further valourized the accomplishments of Soviet science, singling out for special praise the contributions of the rising generation: 'the spaceships, the engines for them, and the fuel were developed mainly by young people' who laboured 'side by side with the experienced workers, scientists, engineers and technicians' to make the future happen now.[15]

Such remarks leave little doubt that, in the early years of the space race, Soviet science and its practitioners were held in high esteem. From the perspective of political leaders, policy makers and ideologues, much was riding on the ability of the USSR's expanding corps of intellectual workers to expand and use scientific and technological knowledge effectively. The 'scientific-technological revolution' would stimulate and optimize the Soviet economy, erase social differences, fulfil the ideological promises of communism, and promote the country's (and the Communist Party's) prestige at home and abroad.[16] Thanks to the scientific-technological revolution, the gulf separating the rural dweller from the urban one would disappear, theoreticians proclaimed.[17] Closed, too, would be the divide between 'mental and physical labor', the boundaries separating the intelligentsia and the working class withering away.[18]

What about social and status differences between males and females? Would the scientific-technological revolution finally succeed in bringing long promised equality of the sexes to the USSR? Significantly, no one in the higher reaches of the Communist Party or their compatriots in academia seemed to be asking those questions in the late 1950s and early 1960s. That said, a 1958 issue of *Kommunist* did remind its politically active readers that 'the development of science under socialism is the vital concern of all the people. After all, every new scientific or

technological achievement is used for the benefit of the people, and any success of science in our country is regarded by every Soviet citizen as his own personal success'.[19] Although, as that example shows, such discourse was heavily skewed to the male voice, it offered tacit acknowledgement that female members of Soviet society could consider themselves important to the success of the overall project.[20]

Tereshkova's flight five years later promised to settle the matter once and for all. 'A Soviet woman has stormed outer space', the triumphant cosmonaut proclaimed to a rhapsodic Red Square crowd. Heaping praise on her communist sisters, Tereshkova celebrated female accomplishment in all realms of Soviet society: '[Women] are participating actively in state management, in the social and political affairs of the country, they are working enthusiastically in the economy, science, culture, education and upbringing of the younger generation.' She was equally full of praise for the scientists, engineers and technicians who made Soviet space flight possible, expressing heartfelt thanks to 'all who took part in the development of our wonderful rockets and spaceships, all who equipped and prepared us for our complex journey into space, who ensured our successful fulfilment of this responsible assignment'.[21]

The emphasis on the accomplishments of young scientists and technicians, including female ones, was echoed in children's media and school rooms across the land.[22] However, enthusiasm alone could not guarantee that the USSR maintained its presumed lead in science and technology. Under pressure from above, it fell to the ranks of Soviet teachers to ensure that children were prepared to assume their appointed positions in the scientific-technological workforce. Writing in the early 1960s, Ministry of Education officials in the Russian republic emphasized that it was crucial for all of the country's children to attain 'a good knowledge of the fundamentals of science'[23] and 'a knowledge of mathematics, [which] is essential for training specialists in any branch of science and technology'.[24] Such views translated into a standard school curriculum that saw Soviet girls and boys from first grade onwards spending more than half their time studying science and mathematics.[25]

However, even long hours in the classroom could not guarantee that Soviet children would become able scientists. As became increasingly clear during the course of the 1960s, pupils in elementary and secondary schools were not performing as well as they might. Teachers were especially worried about flagging achievement in mathematics and physics, the two fields widely acknowledged as being the most crucial to the USSR's scientific and technological progress. In 1965, a member of the Scientific Research Institute of Psychology of the Academy of

Pedagogical Sciences of the RSFSR expressed his alarm. Even though 'the rapid development of technology and the task of creating the material-technological basis for communism in our country advance the science of mathematics to one of the primary places among the leading branches of natural science', he complained 'prominent scientists have increasingly been expressing the thought that this need is not being satisfied at all, and that "mathematicians have become scarce"'.[26] Meanwhile, specialists analyzing the performance of some two million students on the annual mathematics exams in the RSFSR repeatedly raised concerns that pupils were acquiring 'formal' knowledge of mathematical concepts without really understanding them. In other words, as one commentator pointed out, pupils could memorize particular problems for the exams but could not explain 'the meaning of different mathematical statements on the basis of concrete examples'.[27]

Apprehension about 'formalism' and other worrisome trends in student performance compelled teachers and other specialists to debate subject content, pedagogical methods and the overall system of Soviet education.[28] Mathematics and science educators were quite public in their discussions of how to improve the teaching of their disciplines, with numerous articles on the topic appearing in professional journals such as *Sovetskaia pedagogika*.[29] As the 1960s progressed, their conclusions gave rise to subject-area reforms, particularly in mathematics education.[30] However, what leaders in the field insisted upon most of all were improvements in the quality of instruction. A teacher with a creative approach 'can involve any class in mathematical science, and can provide his pupils with lasting knowledge and genuine mathematics education', emphasized I. Petrakov, a distinguished pedagogical expert.[31] 'The teacher who can excite interest in mathematics and physics will have students who will learn these subjects enthusiastically', seconded Iu. Sharov, the chair of the Department of Pedagogy and Psychology at the Novosibirsk Pedagogical Institute.[32]

A related point on which there was general agreement was that, in the context of the scientific-technological revolution, classroom teachers should and must play pivotal roles as talent scouts and mentors. Teachers were duty bound to 'single out and help pupils who are especially interested in mathematics', Petrakov pointed out. They should establish mathematics circles, hold regular academic Olympiads, and channel students with outstanding abilities into mathematics-intensive secondary schools. '[F]uture scientists, designers, engineers and other specialists who will advance science and technology should be sought out, nurtured and educated', he concluded.[33]

Such sentiments were firm endorsements of the notion that teachers exercised considerable influence in terms of spotting and guiding talented students into appropriate career paths. What is notable, though, it that almost none of the participants in the numerous discussions and debates that took place in educational circles in the 1960s made any reference to differences in boys' and girls' achievements or aspirations in scientific and technical fields. Studies at the local, regional and all-union levels compared students' abilities in terms of age, ethnicity and socio-economic background, with particular attention paid to the achievement in rural versus urban schools. However, even high-level statistical compilations published by the USSR's Ministry of Education and Central Statistical Administration failed to include tables that identified the Soviet student body in primary and secondary schools by sex. Further, the Ministry-generated forms that school officials used to report student demographic and statistical data did not ask specifically about female participation by academic subject or field of specialty.[34] Likewise, and somewhat amazingly, this blindness to gender was also present in academic studies of the period, such as a 1965 *Sovetskaia pedagogika* article on 'Developmental Physiology and Problems of Pedagogy' and another report that same year on 'Some Psychological Features of the Adolescent Personality'.[35]

What explains this analytical oversight? Highly placed academics and those in positions of power in the Ministry of Education were obviously concerned with the quality of mathematics and science education, and students' flagging academic performance overall. Yet, they apparently did not concern themselves with discovering whether there were any significant differences between girls' and boys' levels of interest or achievement in these vital subject areas. Given the paucity of archival evidence on this question, one is left to speculate. As unlikely as it seems, it may be the case that it never occurred to the statisticians who constructed Ministry of Education reporting forms to ask the gender question at all. One might also conjecture that the statistics, had they been collected, could have been embarrassing, especially if they revealed that girls as a group were outperforming boys at the primary and secondary school levels. Certain sociological reports from the period lend credence to such an inference. For instance, a 1968 study of the academic performance of male and female students at a medical school in Rostov-on-Don found that women's grades were significantly higher than men's. The researchers asserted that part of the explanation for the difference was that female students were better prepared for higher study than their male counterparts and that they applied themselves to their work with greater vigour.[36]

Unfortunately, the lack of statistics makes it difficult to ascertain the exact level of proficiency that girls as a group may have achieved in science and mathematics in the years of the space race. However, there is other evidence to suggest that the era of cosmic enthusiasm was a fruitful one for would-be girl-scientists. Journal articles recorded that girls in primary school participated in science and technology activities and Young Pioneer clubs.[37] Girls also filled slots in elite secondary school programmes. For instance, a 1965 report about the success of 'a specialized physics and mathematics boarding school' associated with Moscow State University mentioned in passing that girls were in attendance.[38] A similar piece about the physics-mathematics school in Novosibirsk likewise stated that the student body included female members, this despite a reference to the fact that the group of students who had been admitted were 'almost to a man … well trained in mathematics and grasp things quickly'.[39]

While such evidence is anecdotal, it demonstrates that some girls in the Soviet Union were achieving at a high level and catching the eye of individual mentors. However, did girls themselves, in larger numbers, believe that careers in science and technology would be available to them as adults? Researchers in Novosibirsk were among the first in the USSR to seriously consider that question, factoring gender into a major study of young people's educational and career choices. Their motivation arose from top-level calls for educators to figure out what students wanted to do with their lives, then carefully guide them into occupations that were both socially useful and appropriate to their intellectual abilities. As Iu. Sharov explained, 'in Siberia a whole group of scientists – psychologists and educators – are conducting research among children of different ages in the dynamics of the development of these interests and the search for the ways and means of influencing the process of their formation'.[40]

Leading the way was V.N. Shubkin and his research group at Novosibirsk State University, whose ground-breaking work served as a model for others in the burgeoning field of Soviet sociology. The group, which formed in 1962, surveyed some 3000 recent secondary school graduates in Novosibirsk to ascertain their attitudes towards a variety of occupations. When calculating the 'attractiveness' ratings and rank-ordering of occupations, the researchers paid attention to the sex of the respondents as well as whether they hailed from urban or rural districts in the Novosibirsk area. Shubkin's group also considered young people's inclinations in terms of their parents' occupations, family income and social status.[41] Moreover, because the research team

continued the study for more than a decade, the Novosibirsk data allow for examination of how the attitudes of successive cohorts of Soviet youth changed.[42]

Shubkin's survey concluded that, in the 1960s, both girls and boys in their mid to late teens had positive attitudes towards careers in science and technology. When asked to consider the 'attractiveness' of particular 'branches of science' (a term which, in the Soviet context, referred to all academic disciplines, including those in the humanities and social sciences), female respondents ranked mathematics as the most prestigious field, followed in rank order by medicine, chemistry, physics and geology.[43] When asked to rank the attractiveness of specific occupations, the girls' top 10 were medical scientist, physician, pilot, literary and art personnel, mathematician, physicist, chemist, teacher in higher education, radio technician and engineer in the chemical industry.[44]

Overall, what the findings suggest is that girls were impressed by higher level science and technology occupations, and thought they were important. Shubkin's study also yielded other important results. First, it showed that both male and female respondents gave high marks to careers that involved intellectual work, a finding that indicated increasing expectations among the young for access to the 'good life'. Second, within that broad category, it suggested that girls afforded high status to 'caretaking' professions, particularly those involving medicine and education, which had for many years been dominated by women. That result works both to confirm the gender status quo and to acknowledge professional areas in which women's intellectual work was valued. However, another result suggests that the rising female generation was poised to challenge prevailing trends, in that six of the occupations ranked in their top 10 were traditionally 'male' positions in science and technology (pilot, mathematician, physicist, chemist, radio technician and chemical engineer).

What can one make of these findings? In designing his study, Shubkin was well aware that parents exercised considerable influence over their children when it came to occupational choice. With that in mind, he correlated the relationship between young people's stated preferences and later career choices against their parents' occupations and levels of education. What he discovered was that both parents were powerful role models for girls. Daughters were most likely to be guided by their mothers in terms of educational aspiration and level of achievement. However, when it came to occupational choice, the study showed that 51% of girls whose fathers worked in physics, mathematics and technology-oriented fields chose to pursue careers in those areas.[45]

Other statistics reveal that girls coming of age in the 1960s continued to have positive attitudes towards careers in science and technology, and that some of them successfully attained higher degrees and professional employment in the sciences. The 1970 all-union census reported that more Soviet women than ever before were engineering-technical workers, their number more than doubling in 10 years from 1.63 to 3.75 million.[46] Women's influence in science and technology was evidenced, too, by increases in the number of higher degrees they earned in science, engineering and technology fields. Official statistics published in 1975 confirmed that the number of female researchers among science personnel in the USSR had increased dramatically in the post-war period, from 59,000 in 1950 to just shy of 129,000 in 1960 to nearly 465,000 in 1974.[47] That said, a 1971 study that identified female accomplishment by branch of science showed that women in physics and mathematics still lagged considerably behind men in the attainment of advanced degrees.[48] Yet, it is significant to note that three out of four doctoral degrees awarded to women candidates in the period 1971–1973 were in the natural and applied sciences.[49]

Conclusion

Statistics offer compelling evidence about female desire and ability to advance in the realms of Soviet science and technology. They also demonstrate that something positive occurred in the Soviet 1960s that enabled girls to move ahead in their pursuit of scientific knowledge and associated careers. Analysis of pedagogical journals suggests that girls' quest for advancement in the 1960s was aided by the USSR's standard school curriculum, which privileged the study of mathematics and the hard sciences. There are also hints that girls benefited from generalized efforts by science and mathematics educators to identify and mentor talented students, as well as to improve the overall quality of instruction in those fields. As far as influences beyond the school room, sociological studies, particularly those conducted by Shubkin's group, offer support to the notion that parents played key roles in shaping daughters' aspirations. Those results also suggest that girls' ideas about occupational prestige both reflected contemporary stereotypes about 'women's work' and offered challenges to the male domination in science and technology fields.

What was the relationship between Tereshkova's flight and girls' ambitions? What, if anything, did cosmic enthusiasm have to do with the choices girls made in terms of their educational and occupational paths? It would be a mistake to overlook the indisputable fact that Soviet girls

in the 1960s were the only ones on the planet who had seen a woman of their own go into space. Even a cynical observer has to concede that the celebration of her triumph sent empowering signals to girls, reinforcing the notion that women living in the era of developed socialism really could do it all. It is also essential to recognize that girls growing up in the USSR in the early years of the space age lived in a society that espoused great optimism about the future, venerated science and scientists, and, for a time, enjoyed real success on the technological front. The evidence presented here indicates that this potent constellation of factors not only heightened girls' expectations for themselves and their society, but also served as a catalyst for their ambitions.

As it turned out, few in the rising generation ever found their way to the cosmonaut school. That outcome alone should not overshadow the notion that Tereshkova was, indeed, an inspiring role model for girls. Further study is needed to understand fully the relative impact of the set of influences at play in the 1960s. However, for the moment it is enough to recognize that, for a variety of reasons, girls responded with vigour to generalized calls for Soviet children to participate personally in (and share in the glory of) the USSR's scientific-technological revolution.

Notes

1. Funding for this research has been provided by the Spencer Foundation, the American Philosophical Society, and DePaul University.
2. There have been a number of popular biographies of Tereshkova, but few scholarly investigations of her moment in Soviet history. Recent work by historians has begun to fill the gap. These include Sue Bridger, 'The Cold War and the Cosmos: Valentina Tereshkova and the First Woman's Space Flight', *Women in the Khrushchev Era,* ed. Melanie Ilič *et al.*, New York: Palgrave Macmillan, 2004, pp. 222–37; Cathleen Susan Lewis, *The Red Stuff: A History of the Public and Material Culture of Early Human Space Flight in the U.S.S.R.*, PhD. Dissertation, George Washington University, 2008; Erica L. Fraser, *Masculinities in the Motherland: Gender and Authority in the Soviet Union during the Cold War, 1945–1968*, PhD Dissertation, University of Illinois at Urbana-Champaign, 2009. Historians interested in female participation in the American and Soviet space programmes and the Cold War 'space race' more generally also mention Tereshkova. See Bettyann Holtzmann Kevles, *Almost Heaven: The Story of Women in Space,* New York: Basic Books, 2003; Margaret A. Weitekamp, *Right Stuff, Wrong Sex: America's First Women in Space Program,* Baltimore, MD: Johns Hopkins University Press, 2004; and others.
3. This language was ubiquitous in the press coverage of Tereshkova. See, for example, the extensive coverage of Tereshkova's flight in *Literaturnaia gazeta*, 18 June 1963.
4. Svetlana Boym, 'Kosmos: Rememberances of the Future,' in *Kosmos: A Portrait of the Russian Space Age*, Princeton, NJ: Princeton Architectural Press, 2001, p. 83.

5. See, for example, letters from girls of school age to Iurii Gagarin found in *Rossiiskii gosudarstvennyi arkhiv ekonomiki* (RGAE), f. 9453, op. 1, ed. khr. 37, pp. 4, 62–3, 91, and others. For an excellent example of girls' pre-Tereshkova cosmic enthusiasm as represented in mass-circulation periodicals, see *Ogonek*, No. 15, April 1963, 17.
6. For fuller discussion of the press coverage in child- and family-oriented periodicals immediately following Tereshkova's flight, see Roshanna P. Sylvester, 'She Orbits Over the Sex Barrier: Soviet Girls and the Tereshkova Moment', *Into the Cosmos: Space Exploration and Soviet Culture in the Post-Stalin Era*, eds. James T. Andrews and Asif Siddiqi, Pittsburgh: University of Pittsburgh Press (forthcoming).
7. For a recent example see Organization for Economic Co-operation and Development Global Science Forum 'Evolution of Student Interest in Science and Technology Studies: Policy Report', May 2006, http://www.oecd.org/dataoecd/16/30/36645825.pdf (last accessed 18 January 2011).
8. Martin Woodhead, 'Forward,' *An Introduction to Childhood Studies*, ed. Mary Jane Kehily, Maidenhead: Open University Press, 2004, xi.
9. Lisa A. Kirschenbaum, *Small Comrades: Revolutionizing Childhood in Soviet Russia, 1917–1932*, New York: Routledge Falmer, 2001; E. Thomas Ewing, *The Teachers of Stalinism: Policy, Practice, and Power in Soviet Schools of the 1930s*, New York: Peter Lang Publishing, 2002, and his more recent articles 'Ethnicity at School: Educating the "Non-Russian" Children of the Soviet Union, 1928–1939', *History of Education* (UK) 35, July September 2006, No. 4/5, pp. 499–519; 'The Repudiation of Single-Sex Schooling: Boys' Schools in the Soviet Union, 1943–1954', *American Educational Research Journal* 43, Winter 2006, No. 4, pp. 621–50; and 'If the Teacher was a Man: Masculinity and Power in Stalinist Schools', *Gender & History* 21, April 2009, No. 1, pp. 107–29; Ann Livschiz, *Growing Up Soviet: Childhood in the Soviet Union, 1918–1958*, PhD. Dissertation, Stanford University, 2007, and her article, 'De-Stalinizing Soviet Childhood: The Quest for Moral Rebirth, 1953–1958,' *The Dilemmas of De-Stalinization : Negotiating Cultural and Social Change in the Khrushchev Era*, ed. Polly Jones, New York: Routledge, 2006, pp. 117–34. Literary scholars have also begun to investigate various aspects of Russian children's culture. Particularly relevant is Anindita Banerjee, 'Between Sputnik and Gagarin: Space Flight, Children's Periodicals, and the Circle of Imagination,' in *Russian Children's Literature and Culture*, eds. Marina Balina and Larissa Rudova, New York: Routledge, 2008, pp. 67–89.
10. Catriona Kelly, *Children's World: Growing Up in Russia 1890–1991*, New Haven, CT: Yale UP, 2007, p. 570.
11. See Monica Rüthers (Chapter 16, this volume).
12. Mary Jane Kehily, 'Understanding Childhood: An Introduction to Some Key Themes and Issues', *An Introduction to Childhood Studies*, p. 8–9.
13. Nikita S. Khrushchev, 'Report of the Central Committee of the CPSU to the 22nd Congress of the Communist Party of the Soviet Union', *Documents of the 22nd Congress of the CPSU*, Vol. I, NY: Crosscurrents Press, 1961, p. 121.
14. Ibid, p. 123.
15. *Moscow News*, 22 June 1963.
16. Dozens of scholarly works examining the scientific-technological revolution and its impact on Soviet society appeared in the 1960s and 1970s.

One of the earliest general works was V.G. Marakhov, Iu. S. Meleshchenko, 'Sovremennaia nauchno-tekhnicheskaia revoliutsiia i ee sotsial'nye posledstviia v usloviiakh sotsializma', *Voprosy filosofii*, 1966, No. 3, pp. 129–40. More specialized studies that focused on youth and education were particularly prominent in the early 1970s. See especially *Molodezh', obrazovanie i nauchno-tekhnicheskii progress*, Novosibirsk, [no publisher indicated], 1971.

17. V.V. Mshvenieradze, G.V. Osipov, 'The Principal Trends and Subject Matter of Concrete Sociological Research,' *Sotsiologiia v SSSR* (Moscow, 1965).
18. E.L. Manevich, 'Abolition of the Differences between Mental and Physical Labor in the Period of Full-Scale Construction of Communism', *Voprosy filosofii*, 1961, No. 9; translated in *Soviet Sociology*, Vol. I, No. 3, pp. 11–21.
19. D. Panov, 'Nauka i sotsializm', *Kommunist*, 1958, No. 1, pp. 11–25.
20. For another example of the skew towards the male voice, see Manevich, p. 21, which states, 'Under communism each member of society will be thorough master of some specialty of which he is fond', a commentator noted. 'Without thorough, long and all-round study … it will be impossible either to master the work or, even less, to introduce anything new in the further improvement of production, the development of science and technology'.
21. Tereshkova's Red Square speech as well as speeches by Soviet Premier Nikita Khrushchev, official state and Communist Party decrees, and transcripts of official conversations associated with her accomplishment were widely reprinted in the Soviet Union's major newspapers. Here I quote the official English language translation in *Moscow News*, 23 June 1963, 6.
22. Sylvester, 'She Orbits Over the Sex Barrier' (forthcoming).
23. Report of the RSFSR Minister of Education E.I. Afanasenko *Uchitel'skaia gazeta*, 26 July 1962.
24. Report of an expert on mathematics pedagogy at the RSFSR Ministry of Education's Curriculum-Methodology Administration, I. Petrakov, 'Better Teaching of Mathematics,' *Narodnoe obrazovanie*, 1962, No. 8; translated in *Soviet Education*, Vol. V, No. 1, pp. 37–42.
25. From first until ninth grades, pupils studied mathematics for six hours a week. Children in second, third, and fourth grades spent two additional hours on the natural sciences. By fifth grade, Soviet pupils added two hours a week of biology. Physics and chemistry entered the picture in sixth and seventh grades then quickly increased in time taught. In tenth grade, Soviet 16-year-olds had 5 hours of mathematics, 5 hours of physics, 3 hours of chemistry, 2 hours of biology, and 1 hour of astronomy weekly. This meant that 16 of 30 of their compulsory lesson hours were in mathematics and science. Sarah White, ed. *Guide to Science and Technology in the USSR*, Guernsey: Francis Hodgson, 1971, p. 64. For a table comparing how the 10-year general school curriculum evolved in terms of hours of instruction in each subject area from the late Stalin era to the end of the Brezhnev period, see Mervyn Matthews, *Education in the Soviet Union: Policies and Institutions since Stalin*, London: George Allen & Unwin, 1982, p. 19.
26. V.A. Krutetskii, 'Age Peculiarities in the Development of Mathematical Abilities in Students', *Sovetskaia pedagogika*, 1965, No. 11; translated in *Soviet Education*, Vol. VIII, No. 5, pp. 15–27.
27. I.S. Petrakov, 'Results of the Year', *Matematika v shkole*, 1963, No. 6; translated in *Soviet Education*, Vol VI, No. 9, pp. 17–23. See also A.V. Sokolova,

'Test Results for the 1964/65 School Year', *Matematika v shkole*, 1966, No. 1; translated in *Soviet Education*, Vol. VIII, No. 9, pp. 47–50.

28. A 1965 article by B.V. Gnedenko in *Matematika v shkole* (originally presented as a paper the preceding year at a symposium of the Academy of Pedagogical Sciences of the RSFSR) blamed the decline on the current 'system of school upbringing,' which he believed tended to push 'the scientific interests of the rising generation … into the background'. In particular Gnedenko took issue with the time spent in school on physical education. While 'it is very important that the rising generation be well developed physically', he noted, 'enthusiasm for soccer and other sports must not hide from our youth the fact that the future of our country, like their own future, does not depend on whether some soccer player does or does not kick a goal, but upon how profoundly they master the fundamentals of scientific knowledge'. B.V. Gnedenko, 'The Outlook for Mathematics Education', *Matematika v shkole*, 1965, No. 6; translated in *Soviet Education*, Vol VIII, No. 5, pp. 3–14.
29. See especially the discussions included in 'Science and the School Subject', *Sovetskaia pedagogika*, 1965, No. 7; translated in *Soviet Education*, Vol. VIII, No. 1, pp. 3–24. The issues of subject content and pedagogical methods were already on the radar in 1962 when V.V. Davydov bemoaned the fact that Soviet children were underprepared in mathematics, laying the blame on the antiquated methods of teachers who 'have been paying very little attention to the content of elementary mathematics.' In Davydov's view, the heart of the problem was that 'the arithmetic program in elementary school (1st to 4th grades) took shape in its main aspects some 50 or 60 years ago and naturally reflects the system of mathematical, methodological and psychological conceptions of that time'. Text translated in V.V. Davydov, 'An Experiment in Introducing Elements of Algebra in Elementary School', *Soviet Education*, November 1962, Vol. V, No. 1, pp. 28.
30. An important set of articles from the mid-1960s that demonstrated continued concern with the content of math education at all levels can be found in translation in a special issue of *Soviet Education*, Vol. IX, No., 11. The volume also includes drafts of the new mathematics programmes for primary and secondary schools.
31. I. Petrakov, 'Better Teaching of Mathematics', *Narodnoe obrazovanie*, 1962, No. 8; translated in *Soviet Education*, Vol. V., No. 1, pp. 37–42.
32. Iu. Sharov, 'Forming the Spiritual Needs of Schoolchildren', *Narodnoe obrazovanie*, 1966, No. 10; translated in *Soviet Education*, Vol. IX, No. 6, pp. 11–23.
33. I. Petrakov, 'Better Teaching of Mathematics', *Narodnoe obrazovanie*, 1962, No. 8; translated in *Soviet Education*, Vol. V., No. 1: 37–42.
34. See for example, *Narodnoe khoziaistvo SSSR v 1964 gg*, Moscow: Gosstatizdat, 1965. It should be noted that this collection of statistics does include a table showing the number of women teachers in the education workforce, but does not provide a break down by subject taught. The volume does include statistics reporting the number of female students in higher educational institutions, however, as well as a table showing the number of women employed in the 'scientific' workforce.
35. A.A. Markosian, 'Developmental Physiology and Problems of Pedagogy', *Sovetskaia pedagogika,* 1965, No. 5; translated in *Soviet Education*, Vol. VII, No. 10, pp. 28–36. T.V. Dragunova and D.B. El'konin, 'Some Psychological

Features of the Adolescent Personality', *Sovietskaia pedagogika*, 1965, No. 6; translated in *Soviet Education*, Vol. VIII, No. 2, pp. 28–37.

36. A.S. Gromov, L.B. Gorikova, I.V. Krymskaia, O.E. Chernetskii, 'Razlichie v uspenvaemosti muzhin I zhenshchin studentov Rostovskogo-na-Donu Meditsinskogo Instituta', *Sovetskoe zdravookhranenie*, 1968, No. 3, pp. 21–4.
37. See for example V.A. Sukhomlinskii, 'Developing Individual Abilities and Inclinations in Schoolchildren', *Sovetskaia pedagogika*, 1962, No. 12; translated in *Soviet Education*, Vol. VI, No. 2, pp. 44–54; and M. Kashin, 'The School and the Young Pioneer Organization', *Narodnoe obrazovanie*, 1963, No. 4; translated in *Soviet Education*, Vol. VI, No. 4, pp. 35–46.
38. A.V. Zosimovskii, 'An Interesting Experiment (Experience in Instruction in Specialized School)', *Sovetskaia pedagogika,* 1965, No. 6; translated in *Soviet Education*, Vol. VIII, No. 2, pp. 38–48. Specific references to girls appeared on pages 43 and 45 of the translated version.
39. A.N. Kolmogorov, 'A Physics-Mathematics School', *Uchitel'skaia gazeta*, 11 February 1964; translated in *Soviet Education*, Vol. VI, No. 12, pp. 22–5.
40. Iu. Sharov, 'Forming the Spiritual Needs of Schoolchildren', *Narodnoe obrazovanie*, 1966, No. 10; translated in *Soviet Education*, Vol. IX, No. 6, pp. 11–23.
41. The fullest discussion of the study's methodology is in V.N. Shubkin, V.I. Artemov, N.P. Moskalenko, N.V. Buzukova, V.A. Kalmyk, *Kolichestvennye metody v sotsiologii*, Moscow: Nauka, 1966. Excerpts from that study were translated as V.N. Subkin *et al.*, 'Quantitative Methods in Sociological Studies of Problems of Job Placement and Choice of Occupation', Part I, *Soviet Sociology*, Vol. VII, No. 1, pp. 3–24; and Part II, *Soviet Sociology*, Vol. VII, No. 2, pp. 3–31.
42. As the research project continued, Shubkin's group compared surveys of Soviet young people with those of students in Hungary, East Germany, Poland, Bulgaria, and Czechoslovakia. See T.A. Babushkina and V.N. Shubkin, 'Prestizh professii v statike i dinamike (po materialam sravnitel'nogo mezhdunarodnogo issledovaniia 'Zhiznennye puti molodezhi v sotsialisticheskom obshchestve')', *Rabochii klass i sovremennyi mir*, 1980, No. 5, pp. 54–63. For an English translation, see T.A. Babushkina and V.N. Shubkin, 'The Statics and Dynamics of Occupational Prestige: From the Findings of the Comparative International Research Project 'The Life-Paths of Young People in Socialist Society'', in Murray Yanowtich, ed., *The Social Structure of the USSR: Recent Soviet Studies*, Armonk, NY: M.E. Sharpe, Inc., 1986, reprinted as a special edition of *Soviet Sociology*, Vol. XIV, No. 1-2-3, pp. 126–49.
43. V.N. Shubkin, 'Molodezh' vstupaet v zhizn'', *Voprosy filosofii*, 1965, No. 5; translated as V.N. Shubkin, 'Youth Starts Out in Life', *Soviet Sociology*, Vol. IV. No. 3: 3–15. Reprinted in Stephen P. Dunn, ed., *Sociology in the USSR: A Collection of Readings from Soviet Sources*, White Plains, NY: International Arts and Sciences Press, Inc., 1969. For their part, boys thought the most prestigious branches of science were (in rank order) physics, mathematics, chemistry, geology, and medicine.
44. Shubkin, *Kolichestvennye metody*, pp. 258–67. The top ten occupations for boys in terms of 'attractiveness' were radio engineer, radio technician, physicist, engineer-geologist, pilot, electrical engineer, mathematician, engineer in machine building, engineer in communication industry and mining

engineer. The bottom ten occupations for girls (from the lowest rated) were clerk, municipal service personnel, logger, accountant/bookkeeper, joiner/carpenter, forge and press operator, vertical turret lathe operator, sales personnel, boring-machine operator and painter (in construction). For an excellent discussion of the findings of Soviet sociological studies of occupational choice in the 1960s, including the full list of occupations and associated ratings from the Shubkin study, see Murray Yanowitch and Norton T. Dodge, 'The Social Evaluation of Occupations in the Soviet Union,' *Slavic Review* 28, December 1969, No. 4, pp. 619–43.

45. Shubkin, *Kolichestvennye metody*, pp. 196–231.
46. Tsentral'noe statisticheskoe upravlenie pri sovete ministrov SSSR, *Itogi vsesoiuznoi perepisi naseleniia 1970 goda, tom VI, Raspredelenie naseleniia SSSR i soiuznykh respublik po zaniatiiam*, Moscow, 1973, pp. 6, 165, 167.
47. See *Vestnik statistiki* 1975, No. 1, p. 91; and *Zhenshchiny v SSSR* (Moscow, 1975), p. 81.
48. I.I. Leiman, *Nauka kak sotsial'nyi institut*, Moscow, 1971, p. 83.
49. Of all the advanced university degrees awarded to women during the period 1962–1964, over half were in applied sciences and more than a quarter in the natural sciences. At the doctoral level, while only one in twelve physics and mathematics degrees went to women, female chemists constituted 40% of recipients in that field. See Norton T. Dodge, 'Women in the Professions', *Women in Russia*, ed. Dorothy Atkinson *et al.*, Palo Alto, CA: Stanford University Press, 1977, pp. 212–13. These numbers were particularly impressive given that in the US, only about 5% of PhDs in chemistry and mathematics and fewer than 3% in physics went to women. See Statistics compiled by the American Institute of Physics Statistical Research Center from NSF data: (a) http://www.aip.org/statistics/trends/highlite/women05/figure7.htm (last accessed 18 January 2011).

11
The Regional Dimension of Space Propaganda

Anna Eremeeva

The success of *Sputnik 1* and the flights of Iurii Gagarin and his colleagues were met with pride and enthusiasm by the Soviet people. New characters appeared in the Soviet pantheon of heroes – space explorers. Propagandizing the Soviet space success became an important part of state ideology.

In this chapter, I intend to develop understanding of the regional version of space propaganda. The area chosen is the Krasnodar region (its unofficial but often-used name is Kuban, after the river that runs through it), which is one of the richest areas in the former USSR in terms of the diversity of its natural landscapes and soil fertility, known as the 'breadbasket of Russia'. In 2014, the town of Sochi in the Krasnodar region will host the Winter Olympics.

In this region, there are and were no cosmodromes or major space design offices. However, a multitude of scientists, engineers and workers were drawn here to realize the space programme during the Soviet era. It was here that Iurii Kondratiuk (whose real name was Aleksandr Shargei) achieved the greatest work of his life. In an atmosphere of secrecy, Kuban scientists planned global control and communications systems that were widely used in the space industry in the creation of the lunar rover. In the Krasnodar 'Saturn' factory, solar batteries for space-rocket technology were produced. Histologists of the regional medical institute studied the effect of extended space flights on the digestive organs of rodents.

Natives of the Krasnodar region include the renowned test pilot Grigorii Bakhchivandzhi; 'the first chemist of cosmonautics' Nikolai Chernyshev; and Dmitrii Kozlov, who managed the creation of the first space-rocketry complexes and of instruments for mapping the Earth. The region is closely linked to the biography of six cosmonauts. Many veterans from the cosmodromes in Baikonur and Plesetsk resettled

there. Over the past 40 years, the region has been one of the leading centres of propaganda of the country's space heritage.

The source database for this chapter includes material from local newspapers (mainly *Soviet Kuban*), scripts for local television and radio programmes, the business documentation of power-holding structures and scientific institutions, literary works, correspondence, transcripts of conversations with the cosmonaut Anatolii Berezovoi, the founder of the 'Kuban and Cosmonautics' movement Taisa Agapova (1919–2007), museum employees, school teachers, university tutors and the president of the Kuban Federation of Cosmonautics Enver Trakhov. The timeframe of the research is from the mid-1950s to mid-1980s.

The most important prerequisite for creating enthusiasm for space in the public consciousness is the distribution of positive information about the history, current state and prospects of space research. The official propaganda discourse was drawn up in such a way as to convince broad sections of the population of the necessity of realizing the Soviet space programmes, their ability to improve the lives of everyone and each individually, and their importance for the authority of 'the first socialist state in the world'. In space propaganda, all possible means of mass communication were used: radio, television, cinema (documentary and fictional), literature, music and art. Images of space researchers were printed on postage stamps, coins, medals, monuments and in museum exhibitions; population centres, streets, young pioneer camps and schools and more were named after them.

The official propaganda was considerably supplemented by the energetic and unpaid activity of enthusiasts, who mainly belonged to the intelligentsia, including veterans of the space industry and teachers (this is discussed in Chapter 12).

Inhabitants of the various regions of the USSR received different information about space research – as much from all-Union/Republic-wide media resources as from local ones. The stream of information included: official messages and commentaries about the flights; Space Day greetings; popular science articles and programmes; interviews with cosmonauts, their relatives, and specialists in space research; biographies of 'space heroes'; announcements about exhibitions, new museum displays, films and books about space exploration, meeting events with cosmonauts; poems, stories and songs.

An analysis of the media material from the Krasnodar region leads to the conclusion that the regional propaganda of space achievements was quite widespread after the launch of *Sputnik 1*. Newspapers printed reports from a photographic station operated by teachers and students

of the faculty of physics and mathematics at the Krasnodar Pedagogical Institute that were monitoring the satellites, and a multitude of articles about the prospects of developing the satellites were published, and television competitions and programmes about space were created.

The spectacle of television programmes matched the modest possibilities of the provincial studio. Here is a brief description of one of them (from 14 March 1961): over a background of the moon surface and the first satellite rise the words 'Man and Space', followed by a photo with a quotation from Tsiolkovskii, then a voiceover begins: 'Soviet rockets do not only go beyond the bounds of our atmosphere, they boldly lead space exploration, casting automated interplanetary stations into the necessary orbits.' The significance of the launch of the satellite rocket was talked about by a tutor at the Krasnodar Pedagogical Institute, Nikolai Istoshin, the text of whose entire speech had been approved beforehand by the producers in the Committee for Social and Political Programming in Radio and Television broadcasting of the Krasnodar Region. By way of confirming the significance of Soviet discoveries, Istoshin drew upon the opinion of Western experts from the pages of the *New York Times*, the *Daily Mirror* and other foreign newspapers, and a Tokyo radio commentator. 'The Soviet people are certain that our country, the first on Earth to have built a socialist society, will be the first to master interplanetary space', summarized the speaker.[1]

References to the high opinion of foreign specialists, such as the quotation just given (in various versions) were obligatory attributes of the texts that were translated during those years for the media: indeed, the propaganda of Russian space achievements was tied up with the ambitious slogan 'Catch up and overtake America.' One of its regional variants was 'Kuban challenges Iowa', which symbolized the competition between the Krasnodar region and the American state of Iowa. A general acceptance of the space dominance of the USSR created an illusion of possible breakthroughs in other areas.

In the year of Gagarin's flight, in Krasnodar one hundred thousand copies were printed of a colourful book of verse for children by the local poet Viktor Podkopaev called *Belka and Strelka* (*Fairy tale-Fact*) about animals competing for the right to fly into space.[2] As a result, the 'grizzled and bald' doctors – members of the commission – chose two dogs and several mice and rats. Unaware of the ongoing situation, the poet recreated the competing situation that existed in reality, albeit not in the animal world but in the human one. Selection took place from a unit of cosmonauts, whose training for the first flight took place in secrecy in the environs of Krasnodar. Apart from the cosmonauts,

a multitude of inhabitants from all corners of the country, including the Krasnodar region, thought themselves worthy candidates and, by letter, attacked the editors of the *Red Star* newspaper, and the president of the Academy of Sciences of the USSR, a then completely unknown 'comrade chief designer of space ships'.[3] People were even willing to participate, instead of animals, in programmes that were known to be risky.[4]

Power-holding structures saw victories in space as an important instrument for forming a patriotic mood and social optimism. Here is an excerpt from a report to the Central Committee of the Communist Party of the Soviet Union (CC CPSU) about the political mood in the Krasnodar region (January 1969): 'Among the workers there has been a rise in patriotic feeling as a result of the flight of the space ships Soiuz 4 and Soiuz 5. Business meetings have ended with unanimous approval of the program of space research.'[5]

The 'rise in patriotic feeling' was particularly important, given the background of the negative perception of the inhabitants of the region of the USSR's interference in events in Czechoslovakia (this is also discussed in the report).

In Kuban newspapers, space-related and other important events were accompanied by 'local response' under headlines like 'Fairy tale becomes fact', 'Joyful news' and 'We're proud!' Beneath them were the surnames of real people – inhabitants of the towns and rural areas of the region. Workers and collective farmers dominated, while skilled craftsmen, engineers, teachers, scientists and low-ranking party members also featured. The majority of these kinds of responses were written/'organized'/edited by journalists.

The typical local response would consist of the following semantic components: admiration of the heroic deeds of space explorers, promises to 'build upon the unparalleled victory in space by the numerous labour victories in production, so that our motherland will be yet mightier',[6] and information about the production process itself.

'Now in our collective farm the time is ripe: at the height of haymaking time, laying haylage and preparing the grass flour … The farmers toil with unprecedented increase. The victory in space inspires them to new labour achievements', wrote the secretary of the party committee of the collective farm in the name of V.I. Lenin.[7]

'Now mechanization experts are working double time … Day to day the fragrant haystacks on the farm grow in number. The farmers of our enterprise, and all the toilers of Kuban, continue on the Earth the space watch of our courageous explorers', the head agronomist of the collective farm *M. I. Kalinin* wrote to readers.[8]

The structure of 'local responses' followed the logic of the way in which official newspaper editorials were constructed, where writing about the scientific and technical results of flights into space were supplemented by arguments for the advantages of the socialist system and the vital tasks of the state.

The cultivation of love for the 'little motherland' (Kuban) was helped by the appearance of 'their own' cosmonauts – those who were either born, raised, received their professional education or began their career in the region. The flight of the first 'Kubaner' – Viktor Gorbatko (the 21st cosmonaut to so do) – in October 1969 was accompanied by a huge number of photographs, poetry in honour of the momentous event and articles in the local press ('From Kuban to space', 'The cosmonaut's mother', 'Half an hour with the cosmonaut's friend', etc.).

Several months after the flight, a book was published called *In space – son of Kuban*[9] with a print run of five thousand in Krasnodar. It was a biography with illustrations, where the cosmonaut was depicted speaking with Kuban farmers, workers, children from kindergarten and school children.

The formal (for example, the festive congratulations of cosmonauts by fellow countrymen through the media, and their participation in official meetings) and informal communication with 'local' cosmonauts was quite intensive. Virtually every cosmonaut's visit in Kuban was linked to visiting their native town and other population centres, and to meetings with officials of various ranks and with employees of research institutions, museums, archives and other organizations connected to the safeguarding and popularization of the space heritage. Not infrequently, the meetings themselves took place in museum halls with a space exhibit. In the absence of the cosmonauts themselves at these 'space' events, their relatives and friends were invited. A multitude of ordinary people wrote letters to their fellow countrymen cosmonauts with various requests and complaints about the unfair decisions made by state judicial procedures.

The process of constant communication with the 'little motherland' and the cosmonauts' interest in its prosperity was regularly depicted in the media. In the aforementioned book about Gorbatko, there is a photograph of the cosmonaut's family taken while they are reading a letter (see Figure 11.1). Beneath the photograph is the caption '"Star City". Letters from fellow Kubaners are a source of great joy in the Gorbatko home'.[10] This was a typical staged set-up, intended for public display. The importance of the moment is emphasized by the presence in the room of all the members of his family, as well as the outward appearance of

Figure 11.1 The Gorbatko family reading a letter from home
Source: V.S. Kalishevskii (1970) *V Kosmose – Syn Kubani (Geroi Sovetskogo Soiuza V.V. Gorbatko)*, Krasnodar: Krasnodarskoe knizhnoe izdatel'stvo.

both adults and children. The cosmonaut is in his military uniform, his wife in a smart dress and high heels, with a 'fresh' hairdo, the youngest daughter in a smart dress, with a big bow and a cat on her lap, and the elder in formal school uniform also with a bow.

Kuban cosmonaut A.N. Berezovoi, describing his 221-day-long flight, noted:

> The fact is that I had a special command from my fellow countrymen. By birth I am from Kuban – one of the most agricultural areas. Also in the Krasnodar region there is a scientific organization which is very interested in the issue of using space technology for the needs of agriculture. When I went home for the holiday, the employees of this organization 'infected' me with their belief in the possibility of space being a help to farmers. My fellow countrymen asked me to describe in minute detail the color of the fields in certain controlled

> plots, and to specify how the 'green wave' of winter crops moves along them, and to show the borders of the flood areas[11]

The scientific organization mentioned by Berezovoi was the Krasnodar department of the All-Union Research Institute of Cybernetics, founded in February 1980 for researching the use of aerospace information in the interests of agriculture, later called the Krasnodar Regional Centre of the All-Union Research Centre 'AIUS – Agroresources' of the Ministry of Agriculture of the USSR. It was here that, in test objectives for the Krasnodar region, many cosmonauts underwent training for observation and photographing agroresources from space. The establishment, along with the subject matter of the research, was 'closed'. The head of the department, now president of the Kuban Federation of Comsonautics, E. M. Trakhov, corresponded with Berezovoi during his flight. Specific requests were received in the orbital station; such as, for example: 'Pay particular attention to the winter shoots, if you can, describe what they look like, what colour etc.'[12]

The orders of specialists from the centre were carried out by many cosmonauts even before Berezovoi's flight, natives of different areas of the USSR.[13] A 'Kuban' fragment in the chronicles of the flight served as a supplementary argument in favour of the self-identification of a cosmonaut as a 'son of Kuban'. Having, up to that point, lived in Star City for longer than in the Krasnodar region, Berezovoi calls Kuban home, and its inhabitants his fellow countrymen.

'Local' cosmonauts became members of the Kuban elite, despite constant stays outside of the region. In 1969, Viktor Gorbatko received a certificate bestowing on him the status of number 1 honorary citizen of Krasnodar, and Vitalii Sevastianov became the first honorary citizen of Sochi (in 1970). Kuban school children studied the biographies of their fellow countrymen cosmonauts. Cosmonauts represented the area in all-Union forums. Cosmonaut V.V. Gorbatko wrote in his individual style:

> At the invitation of the regional committee of the All-Union Leninist Young Communist League, I took part in regional, town and district conferences, and all kinds of rallies and meetings with young people. In particular, I was elected as a delegate of the Young Communist League congress of the Krasnodar region.[14]

Researcher of the history of Soviet cosmonautics Slava Gerovitch notes that 'the attempts to appropriate the cosmonaut as an exemplar of the new Soviet man revealed that the chosen model was far from perfect.

The cosmonauts resisted their transformation into propaganda icons'.[15] This situation is corroborated by numerous respondents who met cosmonauts in the hospitable environment of the 'little motherland'. These were real living people, not communist icons. Significantly, even the descriptions given by individual respondents about the not entirely respectable outward appearance of space explorers who were relaxing on home soil, or remarks like 'because they were waiting for the cosmonaut the plane was considerably delayed' – have a positive tinge. Surrounded by truly nationwide love, cosmonauts played the role of mediator between the top of society and ordinary people.

The pantheon of 'space heroes' of Kuban, comprised chiefly of cosmonauts from a single generation (towards the mid-1980s there were three of them), was slowly supplemented with the names of scientists. After one of the creators of 'Apollo' admitted borrowing the ideas of Iurii Kondratiuk, the latter received heightened attention in the USSR. Through the endeavours of journalists, scientists (including Krasnodar professor Taisa Agapova) and enthusiasts, it was established that the manuscript of the book *The Conquest of Interplanetary Space* was written in Kuban, at the Krylovskyii elevator. Much later, the names of those working in secrecy were written into the pages of the regional history of space exploration – Nikolai Chernyshev, Dmitri Kozlov, Ivan Iatsenko and others.

The official propaganda of space achievements and the activity of propaganda enthusiasts stimulated the creation of, to use Pierre Nora's terminology, 'sites of memory', where the collective memory of space research 'crystallizes and secretes itself'.[16] In Cosmonauts Alley in the 'Riviera' park in Sochi there were new trees, planted by Iurii Gagarin, Valentina Tereshkova, Aleksei Leonov and other Soviet/Russian and foreign cosmonauts, including participants of the joint 'Soiuz-Apollo' project. Cosmonauts from different countries made grafts onto the famous Tree of Friendship.

In the 1970s, a memorial complex was developed, dedicated to Iurii Kondratiuk (when his real name – Alexander Shargei – was kept secret). The famous creator of space engines, the academic Valentin Glushko, commented in a letter to the first secretary of the Krasnodar CC CPSS, S.F. Medunov:

> Now I can note, with satisfaction and gratitude, that on 4th October 1973 at the Krylovsky elevator of the Krasnodar region, the first memorial complex in the country was opened, in the name of Iu.V. Kondratiuk. The complex includes a memorial museum bringing together more than 500 unique documents, photographs and objects.

> In Oktiabrskaia village, adjoining the elevator, a school aviation and space museum was created, also in the name of Iu.V. Kondratiuk. The street on which he lived in 1925-6 is named after him.[17]

State, departmental and school museums in the Krasnodar region contain a permanent aerospace section, and organized temporary (including travelling) 'Kuban and cosmonautics' exhibitions.[18] The communities of Ventsy-Zaria and Enem entered the network of excursion routes as 'the birthplace of cosmonaut Gorbatko' and 'the birthplace of cosmonaut Berezovoi', respectively. In the Ventsy-Zaria community from 1971, on the first Sunday after Space Day, a spring cross-country race was held, with the prizes given by the pilot-cosmonaut of the USSR Viktor Gorbatko. There are monuments to the space explorers.

At the Krasnodar State Institute of Culture (the workplace of professor Agapova), theoretical and practical conferences were organized: 'Aviation and space monuments and their use in the communist cultivation of the workers', which facilitated the incorporation of reconnaissance and analytical work completed by Institute teachers and students. The conception of safeguarding the space heritage, and its translation, was formulated in the works of conferences and in documents of the social movement 'Kuban and Cosmonautics'.

Traditions emerged about how to celebrate Space Day and other events linked to memorable dates in space exploration. A set of methodological material, used during preparation for such occasions, was formed. Verse texts by Kuban poets in honour of individual cosmonauts and space explorers are reproduced many times in so-called verse montages – an inalienable part of the Young Pioneers assemblies and performances by school children at 'adult' events. Here is an example of a quatrain from a 'space' montage:

> How long we have waited our turn,
> How we believed! So it came to pass!
> The fellow countryman of our courageous nation
> Conquers the sunny distance.[19]

The appearance of monuments and the development of the concepts and rituals of 'space' events enabled mass representation of the importance of space research, the unbreakable bonds of an area's history and the history of space exploration.

Analysis of the 'space' publications of regional newspapers bears witness to the gradual shift from romanticism to pragmatism. As early

as the 1970s, space victories were associated not with the rapid construction of communism (the 'prophecy' of Khrushev, pronounced at the 22nd congress of the CPSS, and reinforced in the Party's manifesto, was not taken seriously by anyone), and space problems became ever more strongly connected to those on Earth. This can be seen even at the level of newspaper article titles in *Soviet Kuban*. Headlines from the late 1950s–1960s – 'We were born to make fairy tale into fact', 'Jump into the future' and 'Great victory in the world contest against capitalism' – transmuted into, for example, 'Into space in the name of the Earth', 'In the name of science for the good of mankind', 'Space is the arena for international collaboration', 'Space can help the ploughman', 'Practice ground and orbit' and 'Heavenly helper of the Earth'. Accordingly, their content also changed. Joint interviews with cosmonauts and scientists became popular. Newspapers reported on cosmonauts' trips to so-called 'test' (participating in the *Kolos* programme of AIUS – Agroresources) collective and state farms. In the archive of the Kuban Federation of Cosmonautics, there are many photographs of cosmonauts, with a sheaf of some crop in their hand, surrounded by farmers (see Figure 11.2).

Figure 11.2 Cosmonaut Anatolii Berezovoi on a field of the Soviet Farm (Sovkhoz) 'Adygeiskii', Enem settlement (Adygeia, Krasnodar territory), 1983
Source: Reproduced by courtesy of the Archive of the Kuban Federation of Cosmonautics.

The romance of space exploration generally now dominated projects aimed at children and young people. For them, the subject of space compared with other patriotic state projects seemed more appealing.[20] Numerous museum exhibitions (including regional ones) with elements of interactivity, books (particularly science fiction), films (among which were the super-popular *Moscow-Cassiopeia* and *Boys in the Universe* (*Otroki vo vselennoi*)), hobby groups and themed exhibitions of children's technological and literary creativity, olympiads and grassroots initiatives (the 'Kuban and Cosmonautics' movement) that have prompted research work on various levels – all this provided a stable interest in space exploration.

Overall, generating mass space enthusiasm as an instrument for realizing urgent ideological tasks was one of the more successful projects of the era of late socialism. Russian achievements in space were looked upon as an important argument in favour of the correctness of the 'arterial path' selected by the Soviet Country, an indicator of the unity of the workers, peasants and intelligentsia, a prerequisite for a happy future. Between the 1970s and early 1980s, space research was increasingly presented as an important component of the development of 'Earth' economics.

Regional space propaganda, along with the reproduction of all-Union excerpts (which was inevitable), included specific practices of mass persuasion for the development of local patriotism. The appearance in the 1970s and 1980s of space 'sites of memory' and the local pantheon of space heroes formed common notions of the unbreakable bonds between the history of space research and of a region.

Notes

1. Gosudarstvennii Arkhiv Krasnodarskogo Kraia (GAKK) fond (f.) R-1530, opis' (op.) 1. delo (d.) 412, list (l.) 79.
2. Podkopaev, Viktor, Belka i Strelka. Skazka-byl. Dlia detei. [*Belka and Strelka (Fairy-tale-Fact). For Children.*] Illustrated by A. Mezentsev, Krasnodar: Kn. Izd-vo 1961, 20 pages. Belka and Strelka were the names of the two dogs successfully sent into space.
3. Arkhiv Rossiiskogo Akademii Nauk (ARAN), f.1647, op. 1, d. 260.
4. A fragment from one of the letters: 'I think it's better to send people than animals, because people speak, not to mention the re-entry to earth' (ARAN f. 1647, op. 1, d. 260, l. 2.)
5. Tsentr Dokumentatsii Noveishei Istorii Krasnodarskogo Kraia (TsDNIKK), f. 1774-A, op. 15, d. 114, l. 37.
6. Line from a letter written by a worker at the Krasnodar tannery (*Sovetskaia Kuban'*, September 26, 1970, p.1). This cliché is constantly repeated in various forms.

7. V. Iakunin, 'Radostnaia vest'' [Joyful news], *Sovetskaia Kuban'*, June 9, 1971, p. 1.
8. S. Krasnobryzh, 'Gordimsia!' [We're proud!] // Ibid.
9. V.S. Kalishevskii, *V Kosmose – Syn Kubani* (*Geroi Sovetskogo Soiuza V. V. Gorbatko*) [In Space – son of Kuban (Hero of the Soviet Union V.V. Gorbatko)], Krasnodar: Krasnodarskoe knizhnoe izdatel'stvo, 1970.
10. Ibid., p. 64
11. A.N. Berezovoi, '211 sutok na orbite', *S dumoi o zemle* [*Thinking about Earth*], ed. A.N. Berezovoi, V.P. Gorkov, L.D. Kizim, Moskva: Molodaia gvardiia, 1987, p. 97.
12. From a letter to A.N. Berezovoi in orbit from E.M. Trakhov. The original letter and envelope are kept in the personal archive of Trakhov in Krasnodar and were kindly allowed to be used for publication.
13. For example, those who flew on the Soiuz T-4 mission, V. Kovalenok and V. Savinykh. See: 'Kosmos pakhariu pomoshchnik' [Space helps the ploughman], *Sovetskaia Kuban'*, July 17, 1981, p. 2.
14. Gorbatko, V.V., *About myself, life, work and friends*, *Star son of Kuban: the 70-year-old, twice Hero of the Soviet Union, pilot-cosmonaut of the USSR, general-major of aviation, V.V. Gorbatko,* Krasnodar: Periodical of Kuban, 2004, p. 68.
15. Slava Gerovitch, '"New Soviet Man" Inside Machine: Human Engineering, Spacecraft Design, and the Construction of Communism', *Osiris* 22, 2007, p. 156.
16. Pierre Nora, 'Between Memory and History', trans. M. Roudebishom, *Representations* 26, Spring 1989, p. 7.
17. Letter published by Vladimir Sadym in the collection *Istoriia regional'nogo nauchnogo obshchestva: Problemy izuchenia* [*The History of the Regional Scientific Community: research issues*], ed. Anna Eremeeva, Krasnodar, 2008, pp. 28–30.
18. M.R. Strugova, 'Vystavka 'Kuban' i kosmonavtika' Krasnodarskogo Gosudarstvennogo istoriko-arkheologicheskogo muzeia-zapovednika im. E.D. Felitsyna [The 'Kuban and Cosmonautics' exhibition at the Krasnodar State History and Archaeology Museum-Reserve in the name of E.D. Felitsyn], *Kuban' i kosmonavtika* 1, 2007, 1, p. 39.
19. Viktor Podkopaev, 'Messenger of our country', *Sovetskaia Kuban'*, October 14, 1969, p. 2.
20. I refer to my own experience. Receiving, in the early 1980s, along with a certificate for finishing at High School No. 25 in Krasnodar, a professional certificate for being an elder Young Pioneer leader, I could have undergone Young Pioneer training in any subject as an exam. At the age of 17 years and representing the interests of my 'supported' 13- and 14-year-old seventh-graders, it seemed logical for me to choose the subject of space, and time the training to coincide with Space Day. The correctness of my choice was proved by the lively and sincere participation of the schoolchildren in the preparation and carrying out of the training, and also the active position of their parents, who provided their children (without it being specially requested) with old newspapers containing announcements of space flights, recordings of Yuri Gagarin's voice, and portraits of cosmonauts cut out of magazines.

12

Propaganda of the Historical and Cultural Heritage of Cosmonautics

The Experience of Russian Regional Non-Governmental Organizations

Vladimir Sadym

Today, many countries in the world have a rich space heritage. They have the task of safeguarding and propagandizing the historical and cultural heritage of cosmonautics. Some of the main institutes responsible for popularizing this historical and cultural heritage in society are non-governmental organizations (NGOs).

These organizations exist in all developed countries in the world that have made achievements with regard to space and have long since proved their worth. They cooperate effectively, on the one hand with practical cosmonautics, government bodies and industrial structures, and on the other with the wider public, helping to build mutual understanding on current issues of space research, and organizing the exchange of ideas and discussion of the space agenda. In this chapter, I consider the activity of Russian non-commercial NGOs that endeavour to safeguard and popularize the historical and cultural heritage of cosmonautics. A typical example of this could be the foundation and activity of both large all-Russian as well as smaller regional NGOs, which were often not legally recognized, were small in number and had no permanent office. However, they played a notable role in the regional cultural community and often found support for their ideas in bodies that wielded power.

As a rule, these associations were headed by eminent scientific or cultural personalities, veterans of the space industry or former cosmonauts, who brought together people from various professions, and of different ages and social status. In my opinion, the historical and cultural heritage of cosmonautics includes both the history of cosmonautics as an area of knowledge, and the technical and scientific achievements of theoretical and practical space research.

The issues of propagandizing the historic-cultural heritage of cosmonautics (generally in its theoretical period) became the object of keen

attention in many NGOs and societies that formed in the early years of the Soviet regime. The formation of these types of associations was brought about by a rapid growth of interest among the scientific community in problems of theoretical space research. So, for example, in 1924 in Moscow the Interplanetary Communication Group was created from the Military-Scientific Society at the Air Fleet Academy. It brought together more than two hundred enthusiasts. Taking part in the group's work were Konstantin Tsiolkovskii, Fridrikh Tsander, Vladimir Vetchinkin and other theorists and popularizers of cosmonautics.[1]

Another example is the numerous societies that study space flights[2] – the Moscow and Leningrad Groups for the Study of Reactive Motion (GSRM).[3] They were founded in the USSR in the 1920s and 1930s, and also played a notable role in the propaganda of the ideas of cosmonautics in Soviet Russia. Space exploration between the late 1950s and early 1960s had a huge influence not only on the material, but also the spiritual development of the world community. After the launch of the first artificial Earth satellite on 4 October 1961 and Iurii Gagarin's flight on 12 April 1961, the USSR saw the creation of numerous museums and NGOs who saw their main task as to popularize the achievements of Soviet space science and technology. The domination of the USSR in practical space exploration became the country's national property and the object of virtually every Soviet citizen's pride. Thanks to voluntary group activists, who had the support of well-known scientists and the makers of space technology, the first museum collections in Russia were formed, scientific conferences and exhibitions (including at international level) were held, and material about the heroes of Soviet cosmonautics was published. The main Russian NGOs that formed during the 1960s to 1980s concerned themselves with the safeguarding and propaganda of USSR space achievements. These were: the Soviet/Russian Federation of Cosmonautics, the Russian Members' Association of the International Academy of Astronautics, the Association of Space Museums of Russia, the Academy of Cosmonautics, the Russian Association of Cosmonautics, the All-Russian Youth Aerospace Society 'Soiuz' and various other societies uniting those interested in cosmonautics. Many of them still exist today, and have numerous regional and local branches across Russia. An example of a regional NGO in the USSR that emerged during that period is the 'Kuban and Cosmonautics' organization in the Krasnodar region.

In 1978, the Soviet (Russian) Federation of Cosmonautics was created in the Soviet Union – it was the most important Russian NGO. It was headed by pilot-cosmonaut Nikolai Rukavishnikov, who flew into space

three times. Voluntary group activists placed a special emphasis on involving young people in scientific and technological creativity and collaboration with academic institutions.[4] Currently, the organization has 59 regional branches in Russia and unites more than 330 space-rocketry companies, military units, educational and cultural institutions, space museums, and so on. The organization contains more than 200 activists. The Federation actively works with schools and higher education institutions; creates space societies and museums; and organizes and runs scientific conferences, creative competitions and meetings between scientists, cosmonauts and veterans of the space-rocketry industry.[5] Over the past five years, around 30 projects have been carried out, including celebratory evenings and meetings dedicated to the 40th anniversary of Iurii Gagarin completing the world's first flight into space, the 50th anniversary of the beginning of the space age, the 40th anniversary of Alexei Leonov's spacewalk, and the 50th anniversary of the foundation of the Baikonur cosmodrome and an international theoretical and practical symposium dedicated to the first piloted space flight in the USSR. A special kind of public organization was created in 1991 in the form of the K. E. Tsiolkovskii Russian Academy of Cosmonautics. The academy brings together scientists and specialists who work in cosmonautics and its related fields (in all, around 2000 people). The only organization that specializes in the safeguarding and propaganda of Russia's space heritage is the Association of Space Museums of Russia (AMKOS). It was created in 1990. One of its main tasks is to familiarize children and young people with studying the history of cosmonautics, cultivating within them feelings of national pride at their country's achievements.[6] The organization has more than 20 regional and local branches.

Another example is the All-Russian Youth Aerospace Society (VAKO) 'Soiuz'. Created in 1988 by an initiative of the Soviet authorities and the Academy of Sciences, VAKO 'Soiuz' was the first educational youth NGO in the country.[7] VAKO 'Soiuz' unites more than 50,000 children and adolescents, and has its own structural subdivisions in 53 territories of the Russian Federation. The society benefits from state support. Together with the main Russian space museums, VAKO 'Soiuz' carries out national youth programmes for aerospace education. One of their interesting projects is an excursion programme entitled 'Space Routes'. This programme is for school pupils and students, including foreign children. It includes visits to Russian space museums, expositions and the museums at the cosmodromes at Baikonur, Plesetsk and aerospace educational institutions. For example, when visiting the

space museum, in the Gagarin Cosmonaut Training Centre in Star City (Moscow), students become acquainted with the equipment and set-up which is used to train cosmonauts. This includes space training simulators, a hydropool, centrifuge, and replicas of the space ship 'Soiuz' and the space station 'Mir'. The programmes are designed, and the events run, by Russian volunteers.[8]

From the point of view of propagandizing the cultural heritage of cosmonautics in Russia, the experience of the regional social movement (an NGO) 'Kuban and Cosmonautics' in the Krasnodar region[9] is unique. The story of its creation begins in the 1970s – while Russian cosmonautics was at the zenith of its world glory and was the object of every citizen of the USSR's pride. Kuban became one of the first regions where work on perpetuating the memory of fellow Kubaners – cosmonautics pioneers – achieved considerable scale and, in time, grew into a social movement. The social work of Kuban enthusiasts, supported from the very beginning by the academic Valentin Glushko, the Academy of Sciences, the Konstantin E. Tsiolkovskii State Museum of the History of Cosmonautics (Kaluga) and the Leningrad Museum of the Gas Dynamics Laboratory (GDL) (Leningrad/St Petersburg), was aimed at safeguarding the regional heritage through creating school museums and memorial space complexes, involving young people and broad sections of the public in their work. The 'Kuban and Cosmonautics' movement united scientific and cultural intelligentsia of the Krasnodar region, young students and enthusiasts. They were all keen to study the history of Russian and world cosmonautics. The founders of the movement were the most important Russian scientist in the field of rocket propulsion engineering and academic of the Soviet Academy of Sciences, Valentin Glushko,[10] and professor Taisa Agapova, scientist, local history researcher and a holder of a PhD in history.[11]

With the participation of members of the organization 'Kuban and Cosmonautics', museums and memorial space complexes were created in the Krasnodar region in the 1970s to 1990s. They immortalized the memory of the founders of theoretical cosmonautics: Iurii Kondratiuk,[12] Nikolai Chernyshev[13] and Grigorii Bakhchivandzhi.[14] They all have craters on the far side of the moon named after them. On 4 October 1972, with the support of the organization 'Kuban and Cosmonautics', the first school space museum was created, named after Iurii Kondratiuk, in Oktiabr'skaia village in Kuban in the Krasnodar region (see Figure 12.1). In the same village in 1973, a memorial space complex was opened, dedicated to Kondratiuk. Inside was a school museum, a memorial museum and a monument to the scientist.

Figure 12.1 The opening of the Iurii Kondratiuk museum at the Krylovskii elevator (Krylovskaia village in the Krasnodar region, Russia, 4 October 1973)
Source: Reproduced by courtesy of the Archive of the Kuban Federation of Cosmonautics, Krasnodar.

The academic Valentin Glushko, in one of his letters to the Kuban voluntary group activists, shows how their work immortalizing the memory of the pioneers of cosmonautics is very highly valued:

> Your museum pleases me. The bright, distinctive talent of Iurii Vasilievich Kondratiuk that is evident in his brilliant research on the problems of space rocketry inspires my deepest respect. The great contribution to the development of cosmonautics made by Kondratiuk is great. Irrespective of Tsiolkovskii, they deduced the fundamental equations of rocket dynamics and solved many of the new problems in cosmonautics. The results of his research are now widely used in the USSR and abroad. Kondratiuk can justifiably be called the second Tsiolkovskii.[15]

Consequently, the academic Glushko continued to maintain a connection with the museum in his correspondence, as well as donating engine models and space-related literature.

Figure 12.2 An excursion in the G. Bakhchivandzhi museum (Brin'kovskaia village in the Krasnodar region, Russia, June 2006)
Source: Photograph by V. Sadym.

In 1984, with the support of the 'Kuban and Cosmonautics' movement, the G. Bakhchivandzhi Memorial Complex was opened in his small birthplace, the village of Brin'kovskaia in the Krasnodar region (see Figure 12.2).

In the 1970s and 1980s, the tasks and aims of the NGO's propaganda activities were defined by the common tasks of ideally, morally and patriotically cultivating the Soviet people. This was reflected in the activity of the 'Kuban and Cosmonautics' movement. Great attention was paid to the distribution of cosmonautic knowledge as being the most advanced and promising branch of human knowledge. Emphasis was placed on the training of the future scientific and technological potential of the country – pilot-cosmonauts, engineers, specialists in space science and technology and so forth. In many respects, this defined the large-scale work of activists with the young generation.

Many educational establishments were incorporated into the propagandistic activity. In Kuban school, expositions and museums were founded, opened and dedicated to space-related subjects. The main one is

the museum of aviation and cosmonautics of school No. 72 in Krasnodar. As a show of practical help in the museum organization, the academic Glushko instructed his reviewer L.M. Aleksandrova to go to Krasnodar with valuable display pieces to donate to the museum, a record of lectures by the academic Glushko entitled 'At the sources of cosmonautics', the author's autograph from 12 April 1980, a model of the automated station 'Luna 13', a moon globe, copies of letters from Glushko to Tsiolkovskii, correspondence with Kuban inhabitants and photographs. The school museum became the best location for town and regional theoretical and practical conferences for young people, lectures and celebratory events. With the participation of members of the 'Kuban and Cosmonautics' movement, in the 1980s school displays (rooms of glory) were created and dedicated to the life and work of the Kuban pilot-cosmonauts Anatolii Berezovoi,[16] Viktor Gorbatko[17] and Vitalii Sevastianov.[18] Later, museum exhibitions appeared dedicated to Kuban cosmonauts and space veterans Gennadi Padalka[19] and Sergei Treshchev.[20]

In 1987, 'Kuban and Cosmonautics' obtained official recognition: a Regional Cosmonautics Committee was founded. Archive data attests to the active work of the movement during this period. In Kuban, scientific conferences were held on the history of cosmonautics and the preservation of monuments. Eminent scientists and cosmonauts came to the Krasnodar region. Kuban schoolchildren would meet with cosmonauts in Star City, in Moscow and in Tsiolkovski's home town Kaluga. In the towns and regions of the Krasnodar region, children's creativity was developed according to the space model. In Krasnodar, the first festival of school space museums took place. In 1990, an exhibition entitled 'Space and Man' was organized, which received more than 30,000 visitors. While the exhibition was open, there were meetings between veterans of the Baikonur and Plesetsk cosmodromes and activists from school space museums (see Figure 12.3).

The historic events of the early 1990s – the fall of the USSR and the economic crisis – also had an influence on the work of NGOs. The activities of many of them ceased. The 'Kuban and Cosmonautics' movement continued its activity, but not on the same scale and without the support of bodies that wielded power. The link with important social institutions – the Russian Federation of Cosmonautics and the Academy of Sciences – was lost. Many school space museums also ceased their work. The revival of NGO activity in Kuban began in the mid-1990s. It was linked to training events leading up to the 40th anniversary of the beginning of the space age. The first important event organized by the movement in the post-Soviet period was

Figure 12.3 Pilot-cosmonaut and twice Hero of the Soviet Union, V. V. Gorbatko, with the scientific adviser to the social movement 'Kuban and Cosmonautics', Professor T. I. Agapova, in a school space museum (Krasnodar, Russia, 1989)
Source: Reproduced by courtesy of the Archive of the Kuban Federation of Cosmonautics, Krasnodar.

the opening of the N.G. Chernyshev memorial complex in 1997. In the scientist's birthplace, Kazanskaia village in the Krasnodar region, events were held in which Chernyshev's relatives and scientific work comrades took part. A school museum, in which Chernyshev's authentic documents and manuscripts are maintained, was founded by the efforts of enthusiasts. From 2005, 'Kuban and Cosmonautics' has existed as a Krasnodar regional non-governmental organization called the 'Kuban Federation of Cosmonautics'. Today, it continues work on the propaganda of the aerospace heritage among the population of Kuban. The main audience is still young people. In the Krasnodar region, there are around 100 school aviation and space museums. The most important of them is the school museum in the name of the academic Glushko in the town of Krasnodar. This museum has been the centre of the aerospace education of students since the 1980s.

Annually, with the participation of members of the Kuban Federation of Cosmonautics, Gagarin readings for young people are organized in the Krasnodar region. With the support of the Krasnodar Regional Department of Education and Science, the Kuban Federation of Cosmonautics organized a summer excursion programme for school children in Moscow called 'Cosmonautics. Aviation. Culture'. The programme included visits to space museums in Moscow, to space exhibition halls at the Exhibition of Achievements of the National Economy, the Mission Control Centre in Star City and the open-air museum of aviation in Monino (Moscow Oblast). All travel, hotel, cultural and entertainment expenses were paid for by the Regional Department of Education and Science. Over the course of the summer holidays, around 300 school children from the Krasnodar region participated in the programme. This number included winners of the regional Olympiad and competitions in astronomy, physics, aviation and cosmonautics, as well as members of aerospace clubs and school space museums. As a delegation leader during one such trip to Moscow, I can confirm that the participants showed great interest in the history of the establishment and the development of Russian and world cosmonautics. We visited the space hall at the Exhibition of Achievements of the National Economy and the memorial house museum of Sergei Korolev in Moscow. In the Memorial Space Museum, we met with pilot-cosmonaut Viktor Gorbatko, who spoke about himself and his flights into space, and was pleased to sign autographs for the children. During the excursion to the Mission Control Centre in Star City (Moscow Oblast; see Figure 12.4), we were shown around the rooms where training for future cosmonauts takes place. In one of them, the children could see the models of the space station.

Since 2005, summer space camps by the Black Sea (Krasnodar Region) have been organized for young people interested in the history of aviation and cosmonautics and for members of school space museums. In 2006, the All-Russian Creative Works Competition entitled 'Baikonur Earth Universe' was held. Judges examined around 1000 essays, poems, drawings and sculptures sent to them by students from all over Russia. The competition was dedicated to the 50th anniversary of the Baikonur cosmodrome. The Federal Agency of Education of the Russian Federation, together with the town administration of Baikonur, organized the visit for the winners (I was the leader of this trip). Over the course of seven days staying in Baikonur, we succeeded in seeing virtually all the sights of the town, the commemorative places and memorials dedicated to the pioneers of Russian cosmonautics,

Figure 12.4 Kuban schoolchildren at the Iurii Gagarin monument in Star City (Moscow, 1 August 2006)
Source: Photograph by V. Sadym.

scientists, cosmonauts and the most important events in the history of cosmonautics (see Figure 12.5). We went on an excursion to a hotel where cosmonauts stay before a space flight.

A highlight of the stay was a trip to the Russian Baikonur cosmodrome where, on the night of 14 April 2005, they witnessed the launch of the 'Soiuz TMA-6' space ship with the crew of the 11th expedition to the International Space Station. A group of Kuban school children arrived at the launch pad, together with numerous other representatives of Russia, the USA, France, Italy, Canada, China and Kazakhstan. One of the trip participants, Elizaveta Kuznetsova, remembers:

> Around 3 am the crew reported on the readiness of the flight to the cosmodrome command center. We witnessed the ceremony. I watched the ship launch and remember it vividly. First the girders coming away, then the team coming out from the Mission Control Centre, the last few seconds waiting for the launch, and finally the strong sound wave and take-off of the rocket, then the traditional applause from all those watching the launch. We were lucky that we were witnesses to such a grand event in real life. We will remember it for a very long time.[21]

Figure 12.5 The winners of the All-Russian 'Baikonur Earth Universe' competition at the S. P. Korolev monument (Baikonur, Russia, 15 April 2005)
Source: Photograph by V. Sadym.

The most important aspect of the Kuban Federation of Cosmonautic's activity today is their collaboration with regional museums and archives that form collections on the history of cosmonautics. Partnerships with academic institutions and space-related businesses are being maintained. So, for example, those studying at schools in Krasnodar visit the 'Saturn' factory museum (Krasnodar, Russia), which produces solar batteries for the space industry both in Russia and abroad.

The research activity of members of the Kuban Federation of Cosmonautics is reflected in published books and journals on the historical and cultural heritage of cosmonautics. A calendar of the important regional events and festive occasions is created every year. Some Heroes of the Soviet Union and of Russia are honorary members of the Federation – pilot-cosmonauts Anatolii Berezovoi, Viktor Gorbatko, Gennadii Padalka and Sergei Treshchev. A close connection is maintained with the academic Glushko's son Alexander, who came to Kuban and visited the schools, museums and memorial space complexes, and met with school children and school museum managers.

Given the keen attention paid by the world public to issues of the safeguarding and propaganda of the historical heritage of space science and technology, Russian NGOs are today faced with the task of broadening the scope of their activity. Presently, they are popularizing activities with events dedicated to the precise 50th anniversary of Gagarin's flight into space (2011). In particular, the Kuban Federation of Cosmonautics has begun to realize the planned events of 2010–2011 dedicated to this anniversary. The main participants of these events will be space industry veterans, students from educational institutions, cultural activists and the Kuban population. The experience of Russian NGOs in propagandizing the achievements of Russian and world cosmonautics is a striking example of a display of social initiative and the incorporation of various social groups in public activity. So, we observe that, recently, the institution of NGOs and voluntary movements in Russia is broadening and encompasses new aspects of life and social activity.

Notes

1. Valentin P. Glushko, *Razvitie raketostroieniia i kosmonavtiki v SSSR* [*Development of Rocketry Space Technology in the USSR*], Moskva: Mashinostroenie, 1987, pp. 21–2.
2. Ibid., pp. 22–3.
3. Ibid., pp. 27, 32–4.
4. Ibid., p. 160.
5. Federatsiia kosmonavtiki Rossii [Russian Federation of Cosmonautics], see http://www.fkr.ru (last accessed 7 January 2010).
6. The charter of the All-Russian NGO, the 'Association of Space Museums of Russia' (Assotsiatsiia muzeev kosmonavtiki Rossii, AMKOS) from 25 June 1992, see Archive of the Krasnodar regional branch of the Association of Space Museums of Russia.
7. The All-Russian Youth Aerospace Society 'Soiuz', http://vako.ru (last accessed 7 January 2010).
8. The All-Russian Youth Aerospace Society 'Soiuz'. Excursion programme 'Space routes', see http://vako.ru/project (last accessed 7 January 2010).
9. Kuban is an area in the South of Russia which includes territory in the Krasnodar region and the Republic of Adygeia.
10. Valentin Petrovich Glushko (1909–1989), Soviet rocketry pioneer. Chief Designer and General Designer of the OKB-456 between 1946 and 1974, pre-eminent Soviet designer of rocket engines for missiles and launch vehicles. Head of the non-profit organization 'Energia' from 1974 to 1989, where he directed development of the 'Energia' launch vehicle and 'Buran' spaceplane.
11. Taisa Ivanovna Agapova (1919–2007), holder of a *doktor nauk* in history, professor at the Krasnodar State University of Culture and Art, honorary member of the K.E. Tsiolkovskii Russian Academy of Cosmonautics, major social figure of Kuban, founder and first leader of the Russian regional social movement 'Kuban and Cosmonautics'.

12. Iurii Vasilievich Kondratiuk (1897–1942), one of the pioneers of theoretical cosmonautics. During 1925 and 1926 he worked in the Krasnodar region (Russia) on the Krylovskii elevator, where he completed work on his book *The Conquest of Interplanetary Space*.
13. Nikolai Gavrilovich Chernyshev (1906–1953), chemist, one of the creators of a rocket fuel. Born in the Cossack village Kazanskaia in the Krasnodar region, Russia. Chernyshev has had one of the craters on the far side of the Moon named after him.
14. Grigorii Iakovlevich Bakhchivandzhi (1909–1943), born in Brin'kovskaia, in the Krasnodar region, Russia. He was a Russian test pilot, and in 1943 set a world speed record in a BI-1 rocketplane. He was posthumously named Hero of the Soviet Union. On 15 May 1942 he first completed a flight on the first Soviet airplane BI-1 with a liquid rocket engine. He died during testing. Bakhchivandzhi has had one of the craters on the far side of the Moon named after him. In the pilot's small hometown, in the village of Brin'kovskaia, a museum named after him was opened, a memorial created and a bust installed in the G.Ya. Bakhchivandzhi High School No. 5.
15. Telegram from Glushko to the Kondratiuk school museum (Oktiabrskaia village). 22 January 1972, Copy. Archive of the Krasnodar regional NGO 'Kuban Federation of Cosmonautics.'
16. Anatoli Nikolaevich Berezovoi, Soviet pilot-cosmonaut, Hero of the Soviet Union. He completed a space flight lasting a total of 211 days in the orbital station 'Saliut 7'and in the ships 'Soiuz T-5' and 'Soiuz T-7' (May–December 1982). He was awarded the Order of Lenin and medals of the USSR, as well as the Order of the Legion of Honour (France), the Kirti Chakra (India) and the Afghanistan freedom medal.
17. Viktor Vasilievich Gorbatko, Soviet pilot-cosmonaut, twice Hero of the Soviet Union, Major General of aviation. He completed three flights into space (1969, 1977 and 1980). He was awarded the Order of Lenin three times, the Order of the Red Star, the Order of Sükhbaatar (Mongolia) twice, the Order of Ho Chi Minh (Vietnam) and the K.E. Tsiolkovski medal of the Academy of Sciences of the USSR. He was awarded the honorary citizenship of eleven cities in Russia and abroad.
18. Vitali Ivanovich Sevastianov completed two flights into space (1970 and 1975). He was awarded two Gold Star Medals of the Hero of the Soviet Union and the Order of Lenin twice, and he was the recipient of the USSR and Estonian Soviet Socialist Republic State Prizes (1979).
19. Gennadi Ivanovich Padalka, Russian pilot-cosmonaut, Hero of Russia, born in Krasnodar. He completed three flights into space (2003, 2007 and 2009). He was awarded the Gold Star Medal of the Hero of the Soviet Union and numerous other medals.
20. Sergei Evgenievich Treshchev, Russian pilot-cosmonaut, Hero of Russia, cosmonaut tester of the space-rocket corporation 'Energia' in the name of S.P. Korolev. On 7 December 2002 he completed a space flight to the International Space Station as the second flight engineer of the fifth international expedition.
21. Manuscript, 2005. Archive of the Krasnodar regional NGO the 'Kuban Federation of Cosmonautics.'

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Part III
Performing Space in World Politics: Communications and Mediality

Figure PIII.1 Sputniki (Matchbox label)
Source: M. Rüthers private collection.

Figure PIII.2 Sputniki (Matchbox label)
Source: M. Rüthers private collection.

13
Introduction to Part III

Monica Rüthers

The first satellite, the *Sputnik*, revived the concepts of delimitation that had already been visible in earlier world communication projects such as the world postal society, the world telegraph society and Esperanto as a world language. The general idea of global communication abounded in the year of the *Sputnik*. This was also the year of the first globally broadcast television show. The *Sputnik* renewed old theories such as that of the noosphere (Teilhard de Chardin, 1881–1955, and also Vladimir Vernadskii, 1863–1945). Marshall McLuhan (1911–1980) coined the term 'noosphere' with reference to de Chardin as a 'cosmic membrane that has been snapped round the globe by the electric dilation of our various senses', forming 'a technological brain for the world'.[1] This 'World Brain' (H.G. Wells) would reconcile man and technology, and would produce a modern World Society.[2] *Sputnik* was, indeed, the pioneer of satellite technology, which, in the end, made the information revolution possible: worldwide acoustic and visual communication in almost real time via satellites and through the internet. *Sputnik* announced the new order of knowledge.

The first satellite, as the bringer of the message of Soviet superiority, left traces in media theory. Marshall McLuhan's famous statement 'The medium is the message' referred to the *Sputnik*. There were, however, very tangible connections between space and the media world. For one thing, the *Sputnik* flight was broadcast by the famous Iurii Levitan, a radio moderator from the war years, announcing the success in space to the Soviet citizens; this also appeared in various other media. Parallel to this, the landing on the moon in 1969 can be seen as the first major event of the age of television. These varied connections between space travel and communication technology point to a paradox that was a significant factor in space travel: on the one hand, the Soviet

leadership kept everything connected to the technological large-scale projects strictly secret out of fear of espionage.[3] On the other hand, technology was popularized within the country, to its own citizens, and was supposed to serve as an ambassador of Soviet superiority to other countries. Additionally, the aim of the secret objects was to gain and pass on information. These two opposing sides of the Soviet technology discourse – a symbol of superiority and its popularization on the one hand, and the antimodern and secretive nature on the other hand – were portrayed by Alexander Solzhenitsyn in his novel *The First Circle*: two groups of engineers worked in a privileged labour camp for scientists. One group constructed a machine that encoded outgoing messages to ensure their security. The other group worked on a machine that decoded rival messages and revealed not only the message sent, but also its sender.[4]

The images, objects and heroes of Soviet space travel were central messages in the 'brother countries' and in communication with the West. At the World Fair in Brussels, the consumer oriented 'American kitchen' encountered Soviet concepts of rational uses of science and technology. The most important exhibition object – and, at the same time, the most important message – was the *Sputnik*. Preparing the Soviet Pavilion for Brussels, Soviet officials noted the quick commodification of *Sputnik* in Western consumer environments and remarked on the tackiness of it, as Lewis Siegelbaum notes in Chapter 14. However, given the emergence of a new Soviet mass and consumer society, a new way of life also pervaded the Soviet context: 'Laika' cigarettes and 'Sputnik' became subjects of Soviet branding and consumer advertising:

> A huge poster on the windowless side of an old house declared: 'The best *sputniki* of tea'. In cosmic space, the best *sputniki* orbit around a cup of tea: cookies, jam, cakes … 'Clever advert!' said Dimka. 'All adverts should be made along those lines: the best *sputnik* of soap is the sponge, the best *sputnik* of vodka is herring' (Vasili Aksenov, *Ticket to the Stars*).[5]

The cosmonauts' later functions were similar to the *Sputnik*: they, too, became bearers of a message, as both Radina Vučetić and Monica Rüthers point out in their chapters. They travelled around the 'brother countries' and the West as a living proof of Soviet success. Gagarin and Tereshkova, as ambassadors of Soviet superiority, were welcomed in the GDR in 1963 with all the honours of an official visit. Non-committal Belgrade proved to be a space heavily contested by the US and the

Soviet Union. The Yugoslavian state leadership gave the order not to award the Soviet cosmonauts German Titov, Andrian Nikolaev and Pavel Popovich the full honours of the diplomatic protocol during their visits in the 1960s. One possible reason for this was that the Soviet Union excused Gagarin from appearing in person. However, the astronauts from the 1969 moon mission were received as state guests with all diplomatic honours: with cheering crowds, state receptions, medals. The cosmonauts were thus not only heavily retouched heroes used for propaganda, they became projections and also media: as such, were charged with political messages for the outside world.

Notes

1. Marshall McLuhan, *The Gutenberg Galaxy: The Making of Typographic Man*, Toronto: University of Toronto Press, New York: Signet Books, 1962, p. 44.
2. Frank Hartmann), 'Sputnik und die Globalisierung des Weltbildes', *Die Spur des Sputnik. Kulturhistorische Expeditionen ins kosmische Zeitalter*, ed. Igor J. Polianski and Matthias Schwartz, Frankfurt am Main: Campus, 2009, pp. 160–77; here p. 165.
3. Asif Siddiqi's paper at the conference in Basel (January 2009) illustrated this point very forcefully.
4. Aleksandr I. Solzhenitsyn, *The First Circle*, New York: Harper & Rowe, 1968. Klaus Städtke 'Wandel im Technikbewusstsein. Zur Geschichte eines sowjetischen Ideologems', *Der Technikdiskurs in der Hitler-Stalin-Ära*, ed. Wolfgang Emmerich and Carl Wege, Stuttgart: Metzler, 1995, pp. 175–188; here p. 182.
5. Огромный плакат на глухой стене старого дома: "'Лучшие спутники чая"'. В космическом пространстве вокруг чашки чая вращаются его лучшие спутники: печенье, варенье, торт … - Шикарно придумана реклама, - сказал Димка. - Надо бы всю рекламу построить по этому принципу. Лучший спутник мыла - мочалка, лучший спутник водки - селедка…Vasilij Aksenov, 'Zvezdnyj bilet', first published in *Iunost'* no. 6 and 7, 1961; cited and translated from the online text: http://russian.cornell.edu/russian.web/courses/310/Aksyonov_bilet.htm (last accessed 18 January 2011).

14

Sputnik Goes to Brussels

The Exhibition of a Soviet Technological Wonder

Lewis H. Siegelbaum

In April 2008, the ITAR-TASS online journal *Ekho Planety* carried an article on the Brussels World Fair, also known as Expo '58. Focusing on the Soviet pavilion, which an international jury judged as the Fair's most outstanding, the article cited the two replicas of the first artificial satellites – the *Sputniks* – as 'its highlight, the trump card'. Expo '58 served as the first venue for the display of the *Sputniks*, the first time that the general public had an opportunity to view them up close. It also was the first universal exhibition of the post-World War II era and, as such, became a major battleground in the 'cultural Cold War'. The exhibition enabled the USSR to bask in the glow of its technological achievement before an international audience in excess of 40 million while the US was still scrambling to catch up. Indeed, the period from the launching of *Sputnik-1* on 4 October 1957 to the close of Expo '58, almost exactly one year later, arguably coincided with the peak of the Soviet Union's international prestige. No wonder an article published half a century later could look back nostalgically to a time 'When We Were First'.[1]

A consideration of how *Sputnik* was used by Soviet authorities, the messages inscribed in its display, and the appropriation of the exhibit by different publics can help us gain new clarity about the effectiveness and limitations of demonstrating new technologies to both foreign and domestic audiences and, more particularly, *Sputnik*'s role in the Cold War. This chapter begins by contextualizing Soviet participation in the Brussels World Fair with reference to both previous international expositions and the geo-political and cultural stand-offs between East and West during the mid to late 1950s. It proceeds to analyze the display of the *Sputnik* replicas in the entrance hall of the Soviet pavilion in terms of its production (or 'encoding'), reproduction and consumption

(or 'decoding/reading'). This approach, adapted from social anthropologist Sharon Macdonald's theorization of museums, is pursued using different sources for each component.[2] Thus, the section on production relies mainly on discussions behind closed doors – statements at meetings of the Soviet pavilion's organizing committee and internal memos among its members, advice from its board of consultants, correspondence with party officials and exchanges with Expo officials in Brussels. Reproduction – essentially the repackaging of *Sputnik* and the impression it made at the exhibition for those who could not attend – is examined via published materials. Finally, to access consumption, I rely on comments in visitors' books deposited in the Soviet archives, as well as commentary published in contemporary foreign newspapers and journals.[3] Though presented in succession, these different kinds of material were clearly linked and, in a sense, produced each other.

Context

Clearly, the Cold War shaped Expo '58 and the nature of the Soviet presence in the most profound ways. The Fair's organizers were not above exploiting the superpower rivalry and mutual fears associated with it. Brigitte Schroeder-Gudehus and David Cloutier cite internal State Department memos to the effect that 'the Belgian organizers kept the American government abreast of Soviet plans as one of several stratagems intended to lure the United States to attend the exposition'.[4] It turns out the organizers played the same game in reverse. During his visit to Moscow in June 1956, the Fair's General Commissar, Baron Moens de Fernig, 'underscored the tremendous interest in the project throughout the world *and especially in the United States*'.[5]

Whether the Soviets needed such prodding is doubtful. *Sputnik* would become not only the centrepiece of the Soviet pavilion, but also the best-known of Soviet scientific-technological achievements from this era, but when in August 1955 Deputy Foreign Minister Valeriis Zorin formally accepted de Fernig's invitation to participate, *Sputnik* was hardly a twinkle in the eye of its designer, Sergei Korolev. In the context of Cold War rivalry, *Sputnik* fed off a whole series of Soviet advances and propaganda victories that continued beyond the successful launching of the satellites themselves and, indeed, the display of their replicas in Brussels. Washington was probably most concerned about Soviet progress in developing its nuclear arsenal and delivery systems. Moscow's announcement on 26 August 1957 that it had successfully tested the world's first inter-continental ballistic missile (ICBM) upset

the Pentagon more than the *Sputnik* launch would, for the test demonstrated the capacity to send nuclear weapons to targets within a radius of 4000 miles. Only in December of that year would the US conduct a successful test of its own (Atlas) ICBM. In the meantime, fears of a 'missile gap' (articulated by the emerging presidential candidate John F. Kennedy, among others), had spread and, with them, the increasing popularity of fallout shelters.[6] These and other international gains, plus the initial success of his Virgin Lands programme, account for why at least one of Khrushchev's biographers considers the years between 1957 and 1960 as the Soviet leader's 'best yet'.[7] Others have noted that the 'cult of science' that had emerged during the last years of Stalin 'grew unchallenged in the 1950s on the foundation of successes in space, nuclear power, and high-energy physics', and that achievements in space technology 'were the capstone of scientists' increasing power and prestige under Khrushchev'.[8]

As for the arts, modernism continued to be anathema, but these years witnessed a broadening of socialist realism's 'stylistic parameters' and the emergence of 'a new realism in a modern or "contemporary style"'. Susan Reid has identified this development as part of the shift in Soviet cultural politics away from autarchy under Stalin to 'the aspiration to world cultural leadership in line with the Soviet Union's new geopolitical role'.[9] The pursuit of this goal was inextricably connected to what Frederick Barghoorn called the Soviet Union's 'cultural offensive' in the Cold War,[10] an offensive that also helps to contextualize the Soviet pavilion at the Brussels World's Fair and the impression that the *Sputnik* replicas made.

Production

For the commissioner general of its pavilion, the US State Department chose a Broadway producer and director of the Metropolitan Opera, Howard Cullman. Cullman's Soviet counterpart, Dmitri Ryzhkov, had worked his way up to First Deputy Minister of the Machine Tool Industry and Deputy Chairman of the Moscow Regional Economic Council before assuming the position of 'general commissar'.[11] The contrast is instructive. The US pavilion, designed as a vast 'pleasure dome' by Edward Durrell Stone, emphasized, in Robert Haddow's words, 'men's gadgets, women's fashions, and the American way of life'.[12] The Soviet pavilion (see Figure 14.1), an aluminium and glass parallelepiped designed by a team of relatively young Moscow-based architects, contained displays that were, as British design expert Catherine Cooke

Figure 14.1 The Soviet Pavilion, an aluminium and glass parallelepiped, Brussels Expo '58
Source: Gorillas Don't Blog at http://gorillasdontblog.blogspot.com/search?q=Brussels (last accessed 31 March 2010).

recalled many years later, 'straightforwardly factual, showing concrete technical and scientific achievements … with photographs of Soviet people doing their work and enjoying the new amenities of their socialist environment'.[13]

Why were the displays made that way? What was the thinking that went into their selection and design? How, to reiterate Sharon Macdonald's central question about museums, was the pavilion 'produced'?

The production of the Soviet pavilion began in June 1956 with the appointment by the State Committee on Economic Affairs of Ryzhkov as general commissar and M.V. Nesterov of the USSR Chamber of Commerce as his assistant.[14] Apart from selecting the winning design from among submissions for the pavilion, the most noteworthy activity during the initial phase consisted of the two meetings of general commissars from the Soviet bloc countries, one in Prague (16–17 July 1956) and the other in Moscow (20–22 August 1956).[15] Who initiated these meetings is not clear, but according to a letter of instructions (*direktivnoe pis'mo*) from the Soviet Minister of Foreign Trade I.G. Kabanov to Ryzhkov, their purpose was to coordinate political aims, architectural

styles, and participation in conferences, theatrical productions, and international scientific and artistic displays.[16] The prevailing assumption seems to have been strength in unity, for it certainly was not in numbers. Comparatively few to begin with, the socialist 'camp' soon dwindled to three (the USSR, Czechoslovakia, and Hungary, with Yugoslavia being socialist but not in the camp) when expenses proved prohibitive or of unjustifiable return. Recent analyses of the Czechoslovakian and Hungarian pavilions cast doubt on the persistence of coordination with Moscow and nothing I saw in the Soviet archives suggests otherwise.[17]

However, the salient point is that, from the very beginning, Soviet organizers saw the World's Fair in terms of the Cold War rivalry between two systems, and demanded equal treatment for theirs. They only accepted a reduction in the space allotted to their pavilion from 30,000 to 25,000 square metres when Belgian authorities assured them that they would restrict the US pavilion to the same size.[18] However, matching the West, and particularly the US, in other ways would be difficult. 'This exhibition', wrote Ryzhkov in a letter to Soviet Minister of Finance Zverev in July 1956, 'will be more complicated than an industrial fair because: a) of the complexity of issues concerning politics, technology, industry, science, economics, culture, art, the struggle for peace, etc., and b) we must show how in the USSR material and moral benefits are guaranteed and how successes in these areas compare to capitalist countries'. Nesterov, addressing a meeting of ministerial and departmental representatives on 1 September, reiterated Ryzhkov's point 'that this exhibition is special because here two economic systems – socialist and capitalist – will compete and the foreign press will be discussing this with complete candor'.[19]

How to meet the challenge? Iakov Lomko, head of the Soviet Information Bureau, drew upon both personal experience and recent events in addressing a meeting in May 1957 hosted by Ryzhkov. We must acknowledge, he told the meeting, that simply advertising achievements would not have the intended effect on foreigners, especially after the Twentieth Party Congress, when the shortcomings then revealed in order to move forward more successfully became the centre of gravity of imperialist propaganda against the USSR. Lomko advised that the main emphases should be Soviet democratism, the country's rising standard of living, and its struggle for peace, but warned that 'we must not "varnish" [reality]. We must admit to our problems'.[20]

Such advice, though, was hard to follow for those who, in many cases, had made their careers by 'varnishing' and who instinctively rebelled

Figure 14.2 Vasilii Dmitrevich Zakharchenko (1915–1999)
Source: 'Russkaia fantastika' at www.rusf.ru/fc/d0008.htm (last accessed 31 March 2010).

against washing dirty linen in public. The thematic plan that the organizers wrote for the exhibit contained virtually no admission of problems. Consisting of four themes: the USSR as a socialist, multinational, peace-loving state; the achievements of industry, agriculture and transportation; the development of a socialist culture; and the growth of material well-being – it celebrated achievements predictably and monochromatically.[21] Between 3 October and 15 November 1957 – coincidentally, the period encompassing the launching of *Sputnik* I and II – the plan was scrutinized by a consultative council consisting of some 30 prominent architects, artists, writers, scientists, representatives of public organizations and ministerial bureaucrats. Their criticisms and suggestions for revision, as well as the responses by Ryzhkov and his staff, comprised a laboratory for the Soviet pavilion's production.[22] However, the proposals that had the most far-reaching consequences came from Vasilii Dmitrievich Zakharchenko (see Figure 14.2), chief editor, since 1949, of the popular science magazine *Tekhnika – molodezhi* (*Technology for Youth*) and a cosmic enthusiast *par excellence*. Submitted on 5 October 1957, the day after *Sputnik*'s historic flight, Zakharchenko's proposals deserve special attention.

Zakharchenko levelled four major complaints against the thematic plan. First, instead of a hymn to the new Soviet man/person and his contribution to world culture, it stressed the 'depersonalized fruits of labor – machines, mechanisms, and construction sites'. Such had been the

bread and butter of propaganda in Stalin's era, but times had changed. He suggested presenting 'realistic but lively' biographies of people from varied walks of life – workers, students, artists, disabled veterans – and, echoing Lomko, urged the organizers not to be afraid to show difficulties, 'even failures. Only then will we be believed!' Second, the exhibits resembled each other too much in terms of colour, materials, lighting and furnishings, causing attention to wane. Third, the explanations of exhibits suffered from monotonality. 'We, the host, must not only "broadcast" but also smile, joke, engage in conversation, and not assume the role of a schoolteacher', Zakharchenko admonished. Finally, dissatisfied with the equal emphasis given to each exhibit, the experienced propagandist asked 'What is the highest achievement of Soviet science and industry?' and immediately answered his own question: 'the sensational flight of *Sputnik*'. *Sputnik* had to be recognized as 'the top of the pyramid of all scientific, technological, and industrial development' and everything – displays of computers, metallurgy, chemistry, radiotechnology, and so forth – should follow from it ('*sleduet postroit vse*').[23]

Possibly influenced in its phrasing by the razzamatazz of Madison Ave, Zakharchenko's criticisms and suggestions did not fundamentally challenge communist ideological orthodoxy.[24] On the contrary, his emphasis on the centrality of technological achievements to the fulfilment of the Soviet dream revived a hoary theme of the party's propaganda efforts going back to GOELRO, Lenin's electrification programme. Even before the first *Sputnik* blasted off into space, organizers planned to festoon the pavilion with technological marvels. These would include the 'Lenin' icebreaker (the first nuclear-powered surface vessel), the world's largest synchrophasotron (proton accelerator), and – before it turned out to be impossible to accommodate on the Expo's Heysel Park grounds – the giant TU-114 turboprop.[25] What Zakharchenko's memo did was to make manifest the importance of *Sputnik* as a symbol around which everything else would orbit.

Zakharchenko came honestly by his cosmic enthusiasm. Not long after he assumed the editorship of *Tekhnika – molodezhi*, he serialized in it his own 'Journey to Tomorrow', a tale of space exploration. Travelling at speeds of up to 8 km per second, the author (disguised as 'Engineer V. Dmitriev') visits, among other places, Tsiolkovskii Island, a space station in orbit around the Earth. The satellite, a gigantic carousel 'about which we, Soviet people, have heard so much', serves as a means for interplanetary communication. It also sustains a 'cheerful collective' that grows its own fruit and vegetables, and keeps in touch with the latest news on

Figure 14.3 Moon Walk, *Tekhnika molodezhi* cover illustration, 8, 1953
Source: Dark Roasted Blend: Weird & Wonderful Things at http://www.darkroastedblend.com/2007/11/retro-future-to-stars.html (last accessed 31 March 2010).

Earth via radio and colour telecinematic transmissions.[26] In subsequent years, readers of Zakharchenko's journal visited other places in the cosmos, many of them illustrated with fantastical drawings that appeared on the cover, (see, for example, Figure 14.3).[27]

It took a while – nearly four months – before the State Committee under Politburo member Anastas Mikoian approved the revised version of the Soviet pavilion, but already by this point Zakharchenko had authored a brochure, *Face to Face with the Cosmos*, for distribution at the Exhibition.[28] He also assumed the position of editor of the Soviet pavilion's newspaper, appropriately named *Sputnik*, which started its run of 20 issues with the opening of the Exhibition on 17 April 1958. Printed in Liège in a run of 800,000 copies, *Sputnik* introduced 'Beep Beep': 'Any newborn tells the world of its existence with a cry', the

inaugural issue explained. 'I conformed to this tradition and hardly had I appeared, when I cried "beep-beep". The entire planet heard my voice. What is the secret of my popularity? I serve humanity and progress … Let's drop the formalities. You can call me Beep Beep.'[29] The gimmicky tone of the text and the playfulness of the accompanying graphics typified the enterprise – in effect, practising what its editor had preached to the organizers. From low- to high-brow (Shostakovich on Oistrakh's performances of his works, Eisenstein's ideas on film), with even a bit of cheesecake thrown in (some risqué drawings accompanying an article about the Soviet publication of the Flemish-language novel *Thyl Ulenspiegel*), *Sputnik* was hardly an ordinary Soviet newspaper.

But then, offered in five languages (English, French, German and Flemish, as well as Russian), *Sputnik*'s intended audience was hardly Soviet either. 'The newspaper must become the focus of attention and interesting to broad layers of the Belgian intelligentsia and large numbers of cultural activists from other countries', Zakharchenko stated in a report written on the eve of the Exhibition.[30] Broad its coverage was, especially in the area of technology. 'The Great Siberian Rivers Will Water the Deserts of the South', announced one article on the (never to be realized) river-diversion projects then being debated. Nuclear-powered airplanes, children expecting to be passengers on rockets to the moon, and *Sputnik III* – these and other features made for an attractively produced version of a dynamically modern Soviet Union.

Reproduction

In his book that sounded the alarm about the Soviet 'cultural offensive', Frederick Barghoorn noted that an article appearing in *Pravda* on 6 February 1958 foreshadowed their 'strategy for the fair'. 'Clearly', he wrote, 'the Kremlin regarded the fair as an opportunity to display to 50–60 million visitors Soviet achievements which had already acquired unprecedented prestige as a result of the *Sputniks*'.[31] What Barghoorn failed to mention was the loopback effect. While organizers of the pavilion did their best to produce awe-struck visitors at the Exhibition, the Soviet propaganda apparatus was busy reproducing an idealized version of visitors' reactions for an even larger audience back home.

'So, what are the most interesting exhibits in the industrial section', the assistant director of the pavilion, Mikhail Chernikov, was asked on the eve of the Fair's opening by a reporter from the popular journal *Nauka i Zhizn'* (*Science and Life*)? 'It's hard to say', he replied.

Figure 14.4 *Sputnik* (foreground) and Lenin (rear), Soviet Pavilion
Source: www.flickr.com/photos/allhails/2850928702/ (last accessed 31 March 2010).

'There will be the model of Magnitogorsk; the Stalingrad hydroelectric station, the synchrophasotron and the nuclear(-powered) icebreaker. Let me not forget to mention the Chaika and the three-axle ZIL-157 truck … But of course all attention will be on the first *Sputniks*.'[32] Chernikov proved correct. 'One could say without any exaggeration', wrote *Pravda's* special correspondents on the opening day 'that from the very first hours our artificial satellite is the highlight of the World Fair. One feels enormous patriotic pride for our socialist Motherland', they continued, thanks to its 'leading role in scientific and technological progress … Everywhere one hears expressions of surprise, approval, and delight'. A photograph a week later showed a crowd gazing intently and pointing at the second of the *Sputnik* replicas.[33] The pride proved infectious. It 'overflows the heart', exclaimed *Ogonek's* special correspondent, who added that not until foreigners heard the sound of 'beep, beep' from space 'did they believe that we have intercontinental missiles'. 'Here, it is the *Sputniks* that are stationary and the people who orbit around them', observed Boris Agapov.[34] (See Figure 14.4.)

If the *Sputniks* were children of the Motherland, what about their paternal lineage? V. Rodionov, the assistant artistic director of the

pavilion, noted the old drawings and models of Tsiolkovskii that surrounded the Sputniks. He described them as the *Sputniks*' 'grandfathers and great-grandfathers'. As for the father, sharing floor space with the metallic objects stood a larger-than-life statue of Lenin. 'Lenin and *Sputnik* form the main compositional element of the pavilion's central axis', Rodionov told a reporter. 'Their mutual position carries the idea of the Soviet pavilion – the inseparability of technical and social progress'. That is, 'the technical achievements that *Sputnik* embodies are the result of the great social struggle that the genius of Lenin advanced and led'. Last, one should not forget the role of 'the comradely labor of thousands of factories and dozens of combines' that enabled the *Sputniks* to fly 'at an unheard of speed to unseen heights' and 'when in the Hall of Science the visitor learns that the number of scientific workers in the USSR rose from 10,000 in 1914 to 260,000 in 1957 and the number of scientific institutions from 289 to 2756, he [sic] will know that only as a result of this could *Sputnik* be born'.[35]

So, the Soviet people were supposed to feel proud of their country, inspired by its revolutionary past, and grateful to the many who, either through their labour or their knowledge gained in higher educational institutions, contributed directly to the success of *Sputnik*. As for the future, it was possible to imagine people living on the moon and visiting Mars before the end of the century, wrote Zakharchenko drawing on his fantasist experience. For the best 'living predictor of this future remains the sphere with the mustachioed antennae'. What did *Sputnik* mean in the here and now to Europeans, especially the fortunate ones who visited the Soviet pavilion? Zakharchenko contended that *Sputnik* had caused a 'real revolution in Europeans' imaginations about us, the Soviet people'. That 83 kg aluminium ball with the long moustaches was like a 'bomb that exploded in the consciousness of the man in the street (*obyvatel'*) causing him to think: "Wait a minute. If these Bolsheviks can do this, they must have a huge advantage, not in how they dress but in the general direction of their scientific and industrial development".'[36]

Zakharchenko reported seeing an advertisement in a cinema that showed a beer bottle travelling around the globe ('Drink *Sputnik* beer – best in the world'). In Antwerp, he came across a carousel named '*Sputnik*'. He also noticed, or was told about, women wearing hairpins in the shape of the aluminium ball with the antennae as clasps. Was he mocking the kitschiness of it all – capitalists trying to appropriate *Sputnik* for their own grubby commercial purposes – or proud that a Soviet object had made its way into the everyday lives of Europeans? It was impossible to tell. A letter from a Miss Wilson in London informing

him that her nephew had been named after the Soviet satellite seems to have evoked amazement and pride.[37]

Reproducers like Zakharchenko embellished their accounts with quotations from the comment books placed at the entrance to each section of the pavilion. Zakharchenko even went so far as to include a few not so flattering comments among the many plaudits in the newspaper *Sputnik*.[38]

Bourgeois newspapers proved to be another useful source. Propagandists cited the praise lavished on the pavilion as a whole by Brussels' *Le Soir* and *Volks-Gazet*. The Catholic daily *La Cité* provided good copy as well, referring to the *Sputnik* exhibit as the Expo's 'greatest show' with a 'crowd around it all the time, especially Americans'. These and other reviews were assiduously collected by the pavilion's staff, arrangements were made for their translation into Russian, and they were made available for reproduction in Soviet publications.[39]

Consumption

Actually, the staff did more than clip, translate and make available the articles. They also provided analysis for higher authorities. One such assessment of the Belgian press interpreted criticism of the Soviet pavilion as part of a campaign organized by Russian émigré and reactionary Hungarian circles to slander the country. Such anti-Communist groups did attempt to mount demonstrations, distribute leaflets and otherwise take advantage of the Soviet presence at the Exhibition, but the attribution to them of less than flattering comments in the newspapers suggests either ignorance or paranoia.[40] In truth, few reviews were entirely positive or negative, though many reflected preconceived, stereotypical ideas of the Russian or Soviet character. The Soviet staff's laborious collection, translation and periodic assessment of them demonstrates a need to document both bourgeois slander and bourgeois respect. But why? What value did these statements – favourable and critical – have for Soviet propagandists? Notwithstanding their own assertions of technical dynamism and superiority, the exercise smacks of both a lingering sense of inferiority (as if the country's achievements were not being given their fair due in the bourgeois public sphere, where it most mattered) and of insecurity (as if foreign praise were required to persuade a sceptical Soviet public).

A similar dynamic pertained to visitors' comments. These typically brief responses, sometimes only a few lines or words, numbered tens of thousands. Analyzed by staff and culled by propagandists, as with the press clippings, they present to the historian a methodologically

challenging source. Quantifying them would be a Herculean task and, even then, the data would be of questionable utility.[41] One might divide them into thematic categories (political, technical, aesthetic, etc.) but that hardly could convey irony or forcefulness of expression, seriousness or levity, and relevance to what was on display. Qualitative interpretation, while also hardly unassailable, at least can accommodate analysis of these kinds of responses and, more generally, appropriation by the viewer of what was on view.

In what follows, I treat viewing and responding to the *Sputnik* replicas and other objects on display in the Soviet pavilion as a form of consumption, and therefore, following Daniel Miller and other anthropologists of material culture, as acts of 'creative appropriation' constitutive of cultural specificity and difference.[42] However, unlike the Coca-Cola that Miller tells us thirsty Trinidadians consume and have adapted to their local universe of sweet drinks, *Sputnik* was hardly part of everyday life. Much like the Belgian beer company, the carousel operator and the hairpin manufacturer, individuals adapted *Sputnik* by making the unfamiliar familiar, by giving it local meanings – only their meanings tended to be more personal. If Zakharchenko and other Soviet propagandists could employ *Sputnik* as a symbol of Soviet technological superiority, 'humanity and progress', then visitors could 'spin' *Sputnik* in their own direction.

'An appeal: Fight for peace and inspire the peoples of the Middle East to destroy Israel', someone identifying him/herself from 'Antwerpen-Beirut' wrote in the guest book attached to the Sport section of the pavilion. The comment obviously had nothing to do with Soviet sport; it might have been prompted by nothing more than the availability of a pen and paper and a great deal of anger at Israel. Then again, the author may have appealed to the USSR not only because of its professed commitment to peace, but also as a result of its seemingly miraculous ability to beat the West (and especially the US, then emerging as Israel's strongest ally) at what historically had been its own game. Other comments appearing in the same book had a very different political bent: 'Budapest – oh, my country!'; 'Where are the concentration camps in Siberia?'; and from someone from 'USA, God's country', 'Beautiful lies: Where is the churches? [sic]'.[43]

Many visitors were moved to congratulate the USSR on the success of its space programme. They expressed 'admiration' and offered 'best wishes', and 'peace'. Two congratulated Laika, the canine occupant of *Sputnik II*, perhaps as a tongue-in-cheek gesture or because they were dog-lovers. Some comments invoked *Sputnik*, but not in the way Soviet authorities intended. For example, one visitor observed none too subtly

that if 'your people' were given 'a higher standard of living with the speed of *Sputnik*, there would be no more communists'. More thoughtful was the following comment by a resident of Liège:

> I am surprised by what I have seen. I doubt that everything is as great in the USSR as you want to show. Without a doubt your scientific achievements are impressive, but I am sure that the standard of living is not as high as you claim, proof of which is the fact that very few have the right to travel to western countries. I hope, however, that improvement will come.[44]

In September 1958, one month before the Brussels Exhibition closed, the Vienna Trade Fair opened its doors. It, too, had a Soviet pavilion containing two *Sputnik* models – whether the very same as exhibited in Brussels is not clear. According to the *Arbeiter Zeitung*, hundreds of visitors streamed past the replicas every hour, some with expressions of doubt on their faces and others of delight and wonder. Of the 271 who penned comments in the pavilion's guest book, some 36 (15%) referred explicitly to the *Sputniks*. Some, as in Brussels, were impressed. A few – such as the person who wrote, 'To live in the cosmos is impossible; we were created to live on earth' – clearly were not. At least one visitor noted the contradiction between the USSR's ability to send a ball into space but not to feed its population adequately, while another – evidently a disgruntled wife or child – appropriated *Sputnik* to settle scores with 'my old man'. '*Sputnik* I liked the best', s/he wrote, 'and I want to put [him] in it and send him to the moon'.[45]

Conclusion

In 1960, the Paris-based Bureau International des Expositions (BIE) awarded Moscow the right to host a World Fair in 1967 to coincide with the 50th anniversary of the October Revolution. The Soviet government set aside 520 hectares in Teplyi Stan in the south western part of the capital, but after more than two years of intensive planning, informed the BIE that it had decided against hosting the event – at which point an earlier bid by Montreal was accepted.[46] Before it changed its mind, though, the government announced a competition to design a structure for the Fair's main entrance. Among the entries that survive in the archives, the most elaborate was submitted by Heinz Kolbe, a resident of the Saxon town of Grossenhain in the German Democratic Republic. A printer by trade, Kolbe also happened to be secretary of the

local German-Soviet Friendship Society. His proposed structure resembled the Eiffel Tower in its open iron grillwork, although his tower had neon advertisements and a hotel, rather than restaurants on the landings of the first and second levels. The crowning glory, though, consisted of another hotel perched on top of the moon, which was cradled by the sloping roof of the tower – and what might the shape of that hotel be? Let us give Comrade Kolbe the last word:

> Dear comrades, on 26 November 1960 I heard on the radio in the GDR about the World's Fair. Comrade Günter Leischner said to all listeners to send proposals for the main entrance to the Moscow city administration. In October 1959 I had the good fortune of visiting the Soviet Union and was delighted by the gigantic construction of communism I saw in Moscow and Leningrad. After much thought, I have come to the conclusion that the most appropriate symbol for the Exhibition must be *Sputnik* with the Soviet star resting on steel supports.[47]

At least someone, it seems, could not get enough of *Sputnik* and the days of glory with which it was associated.

This chapter has been about how the Soviet Union represented itself to both a foreign audience and its own citizens back in the USSR by highlighting its technological achievements and, above all, its successes in space. It has argued that no effort was spared in producing a persuasively attractive version of the country and its peoples, and to reproduce for Soviet citizens the impression that that version made on the some 30–35 million visitors who toured its pavilion. In the tradition of the Potemkin villages, and perhaps of socialist realism, too, the intent was not so much to distort reality as to display an idealized or 'higher' version of it, in the hope that doing so would inspire people to work towards making the extraordinary become more ordinary.[48] Coinciding with the moment of supreme international prestige for the Soviet Union, Expo '58 provided the occasion for using technological success to make people believe this was possible. There is little to suggest that foreign visitors who were not already favourably disposed changed their attitudes based on what they saw or experienced. As for Soviet citizens, the materials at my disposal did not enable me to determine much at all about how they responded to or consumed this message. What we still need to do, therefore, is to determine exactly what *Sputnik* evoked among the Soviet public: whether – as Soviet authorities intended – people did actually connect it with the 'gigantic construction of communism' and the continuing material improvement in their own lives; and, if that were the case, when they stopped so doing.

Notes

1. See Aleksandr Fomichev, 'Kogda my byli pervymi', *Ekho plantey* (a weekly of ITAR-TASS) at www.explan.ru/archive/2008/17-18/s1.htm (last accessed 30 September 2008).
2. Sharon Macdonald, 'Exhibitions of Power and Powers of Exhibition: An Introduction to the Politics of Display', *The Politics of Display: Museums, Science, Culture*, ed. Sharon Macdonald, London: Routledge, 1998, p. 4.
3. I borrow this methodology with respect to the use of sources from Jeffrey W. Jones, 'Every Family Has Its Freak: Perceptions of Collaboration in Occupied Soviet Russia, 1943–1948', *Slavic Review*, 64, 2005, pp. 747–770. Although Jones characterizes his article as 'an analysis of the language in a variety of sources,' it is better described as one of discursive shifts.
4. Schroeder-Gudehus and Cloutier, 'Popularizing Science and Technology', p. 169.
5. Archives Générales du Royaume, Brussels (Hereafter AGR), 8316/25932, Walter Loridan (Belgian ambassador to the USSR) to Paul-Henri Spaak (Belgian Foreign Minister), June 20, 1956. Emphasis mine. I thank Rika Devos for helping me identify relevant files within AGR.
6. Walter La Feber, *America, Russia, and the Cold War, 1945–2006*, 10th edn, New York: McGraw Hill, 2008, pp. 2016.
7. William Taubman, *Khrushchev the Man and His Era*, New York: W.W. Norton, 2003, p. 365.
8. Paul R. Josephson, 'Soviet Scientists and the State: Politics, Ideology, and Fundamental Research from Stalin to Gorbachev', *Social Research*, 59, 1992, pp. 589–614, quotations at p. 605 and p. 606; and Idem, 'Rockets, Reactors, and Soviet Culture', *Science and the Soviet Social Order*, ed. Loren Graham, Cambridge, MA: Harvard University Press, 1990, p. 176. Three Soviet physicists – Pavel Cherenkov, Il'ia Frank, and Igor Tamm – won the Nobel Prize in Physics in 1958.
9. Susan E. Reid, 'Toward a New (Socialist) Realism: The Re-engagement with Western Modernism in the Khrushchev Thaw', *Russian Art and the West: A Century of Dialogue in Painting, Architecture, and the Decorative Arts*, ed. Rosalind P. Blakesley and Susan E. Reid, DeKalb, IL: Northern Illinois University Press, 2007, pp. 218–21.
10. Frederick Barghoorn, *The Soviet Cultural Offensive: The Role of Cultural Diplomacy in Soviet Foreign Policy*, Princeton, NJ: Princeton University Press, 1960.
11. See Gosudarstvennyi arkhiv Rossiiskoi Federatsii (GARF), f. 9470 (Sovetskaia sektsiia vsemirnoi vystavki v Briussele, 1958 g.), op. 1, d. 11, l. 74 ('information'); and AGR, Expo '58, Participations étrangères, 8316 (Spectacles)/25692, L. Rasin, Commercial Representative of USSR in Belgium to M. Le Baron Moens de Fernig, June 29, 1956.
12. Robert H. Haddow, *Pavilions of Plenty: Exhibiting American Culture Abroad in the 1950s*, Washington, DC: Smithsonian Institution Press, 1997, p. 135. See also Austin Jersild, 'The Soviet Pavilion at International Exhibits: Contrasting American and Soviet Ideas about Culture and Consumption, 1937–1967', Maryland-Harvard Workshop on Russian History, 2003 (cited with author's permission), p. 25: 'the story of initiative and material prosperity on display.'

13. Catherine Cooke (with Susan E. Reid), 'Modernity and Realism: Architectural Relations in the Cold War', *Russian Art and the West*, p. 189.
14. The State Committee was chaired by Politburo member Anastas Mikoian. It had formal supervisory authority over the activities of Ryzhkov and his staff.
15. On the competition, see A. T. Polianskii and Iu. V. Ratskevich, *Vsemirnaia vystavka v Briussele 1958. Pavil'on SSSR*, Moscow: Gosizdstroi, 1960, pp. 8–10. On the Prague and Moscow meetings, see respectively GARF, f. 9470, op. 1, d. 3, ll. 20-40; d. 4, ll. 12-14.
16. GARF, f. 9470, op. 1, d. 3, l. 133; d. 4, l. 14.
17. Catherine Giustino, 'Czechoslovak Gold at EXPO '58 and the Brussels Style at Home: Seeing Abstract Expressions through the Iron/Glass Curtain', and György Péteri, 'Trassystemic Fantasies: Counterrevolutionary Hungary at Brussels' Expo '58', unpublished papers presented at conference on 'Sites of Convergence: The USSR and Communist Eastern Europe at International Fairs Abroad and at Home', Budapest, 29–30 May.
18. AGR 8319/16009 Kamenskii to de Fernig, 19 December 1955; de Fernig to Commercial Representative, 19 December 1955; 14345 de Fernig to Loridan, 23 December 1955; 16627 Commercial Representative to de Fernig, 5 January 1956.
19. GARF, f. 9470, op. 1, d. 7, l. 57; d. 21, l. 12.
20. Ibid., d. 21, l. 159.
21. Ibid., d. 1, ll. 7-21.
22. GARF, f. 9470, op. 1, d. 10, l. 87; d. 21, l. 276. For an alternative analysis, stressing the difference between the bureaucratic cultures of Nesterov's Chamber of Commerce and the State Committee for Cultural Links with Foreign Countries headed by G. A. Zhukov see Susan E. Reid, 'The Soviet Pavilion at Brussels '58: Convergence, Conversion, Critical Assimilation, or Transculturation?' unpublished paper presented at conference on 'Sites of Convergence: The USSR and Communist Eastern Europe at International Fairs Abroad and at Home', Budapest, 29–30 May, 2009.
23. Ibid., d. 11, ll. 1726.
24. Nor did a document produced by a(n unidentified) foreign consultant that even more reflected the conventional wisdom of public relations (e.g., 'Men are always interested in politics and international relations;' 'Exteriorization and frivolity are characteristic of women from western countries;' 'The golden rule of public relations: Penetrate into the psychology of your interlocutor and accommodate yourself to it as best you can'). See GARF f. 9470, op. 1, d. 10, ll. 147–65. The undated document was translated into Russian.
25. The largest airliner of its time, the Tupelev 114 did fly to Brussels from Moscow but could not be transported from the airport to the fair grounds. See AGR 8317/63360 Van Hagendoren to Ryzhkov 18 December 1957.
26. See *Tekhnika – molodezhi*, no. 4 (1950).
27. See for example *Tekhnika – molodezhi*, no. 8, 10 (1953) and no. 7 (1954). Zakharchenko wrote science fiction for decades thereafter. He was relieved of his position as editor after acceding to the publication in the journal of Arthur C. Clarke's novel *2010: Odyssey-2*. He died in 1999 at the age of 84. A 'small planet' has been named after him. See http://publ.lib.ru/ARCHIVES/Z/ZAHARCHENKO_Vasiliy_Dmitrievich/_Zaharchenko_V._D.html (last accessed 4 October 2008).

28. GARF, f. 9470, op. 1. d. 6, l. 7; l. 62.
29. GARF, f. 9470, op. 1, d. 29. The English-language version is rendered as 'Bleep bleep' and refers to Moskow (sic) streets.
30. *Ibid*. d. 9, l. 193.
31. Barghoorn, *Soviet Cultural Offensive*, p. 87.
32. A. Mirkina, 'Briussel' 1958,' *Nauka i Zhizn'* no. 6, 1958, p. 30.
33. *Pravda*, 18 April, 1958, p. 6; 24 April, 1958, p. 6.
34. Andrei Novikov, 'S utra i do vechera,' *Ogonek*, no. 24, 1958, p. 24; Boris Agapov, *Poezdka v Briussel'*, Moskva: Pravda, 1959, p. 12.
35. 'Vsemirnaia vystavka v Briussele,' *Dekorativnoe iskusstvo*, no. 4, 1958, pp. 25–26.
36. V.D. Zakharchenko, *Na poroge velikogo veka*, Moskva: Molodaia gvardiia, 1959, pp. 11–12, 25.
37. Zakharchenko, *Na poroge*, pp. 12, 14–15.
38. For example 'I am anxious for the time when your painting will be on the same splendid level as everything in the Soviet Union'; 'Invite me to Russia and I will believe that truth exists on our planet!' See *Sputnik*, no. 2 (25 April – 7 May, 1958): 3 See also *Pravda*, 19 April, 1958, p. 6; Zakharchenko, *Na poroge*, p. 36.
39. Cited in Ia. A. Lomko, *Briussel'skaia Vsemirnaia vystavka 1958 goda*, Moskva: Znanie, 1959, p. 26. See also GARF f. 9470, op. 1, d. 18, l. 7.
40. On an Estonian émigré group's intention to hold a demonstration on 3 October, see AGR 8318/128033 Soviet Ambassador V. Avilov to de Fernig, 20 September 1958.
41. The Soviet Chamber of Commerce (RGAE f. 635, op. 2, d. 377 and 378) archived 14 volumes of comment books totalling 473 pages with approximately thirty comments on each page. In addition, several folders (*dela*) within the Soviet section's materials contain typewritten translations of comments.
42. See Daniel Miller, *Material Culture and Mass Consumption*, Oxford: Blackwell, 1987; Daniel Miller (ed.), *Material Culture: Why Some Things Matter*, Chicago, IL: University of Chicago Press, 1998; Judy Attfield, *Wild Things: The Material Culture of Everyday Life*, Oxford: Berg, 2000, pp. 92–95.
43. GARF, f. 9470, op. 1, d. 18, ll. 17; d. 381, l. 3; RGAE, f. 635, op. 2, d. 381, l. 3.
44. GARF, f. 9470, op. 1, d. 18, l. 12, 16.
45. RGAE, f. 635, op. 2, d. 398, ll. 1–6.
46. It is generally believed that cost was the main consideration. In remarks prepared for a conference on *Sputnik* held in Washington, DC in 1998, Sergei Khrushchev noted in reference to Moscow hosting the World's Fair that 'My father wholeheartedly supported this very prestigious undertaking […] until he learned that the organization of the Fair would cost the Soviet budget billions of dollars.' See Sergey Khrushchev, 'The First Earth Satellite: A Retrospective View from the Future,' in Roger D. Launius, John M. Logsdon and Robert W. Smith, eds., *Reconsidering Sputnik, Forty Years Since the Soviet Satellite*, London: Routledge, 2000, p. 283.
47. GARF, f. 9469, op. 1, d. 32, ll. 89–91.
48. On these two levels of reality, see Katerina Clark, *The Soviet Novel, History as Ritual*, Chicago, IL: University of Chicago Press, 1981, pp. 142–8.

15

Soviet Cosmonauts and American Astronauts in Yugoslavia

Who Did the Yugoslavs Love More?

Radina Vučetić

One of the major aspects of the Cold War was the space race in which the US and USSR had the same goal – to conquer space and to be the first to reach certain milestones in space exploration. The space race between the US and the USSR, which had started with the launching of *Sputnik* in 1957 and which continued with the founding of NASA in 1958, defined the 1960s. During the Cold War the moon became the goal of the rival superpowers, who wanted to prove their scientific, technical, ideological and political supremacy.[1] Thus, the space race was not just a race, but a clash of ideologies, political systems and cultures. When the US astronauts planted the American flag on the surface of the moon in 1969 and stated 'we came in peace for all mankind', the leaders of the Soviet Union realized that they were not considered a part of 'all mankind' in this context.[2] In a world that was divided into two different blocks, everyone knew who to favour – the Americans or Soviets. However, in the case of Yugoslavia, it was not that simple, at least at first glance.

To understand the specific Yugoslav position towards astronauts/cosmonauts, or America/the Soviet Union, it is important to understand Yugoslav foreign policy and its relations with the superpowers. After World War II, Yugoslavia became a Communist country and, initially, one of the Soviet satellites. In 1948, the USSR excommunicated Yugoslavia from the international communist community, and accused it of ideological and political deviation. Soviet military forces amassed on the Yugoslav border, threatening invasion.[3] In that atmosphere, Yugoslavia started searching for ways to balance its unique position between the East and West. After the 'historical NO' in 1948 (as the split with the Soviets was understood in Yugoslavia), Yugoslavia became a unique socialist country, which was deeply devoted to Marxism, but to Western popular culture as well. Although it was one of the world's largest recipients of American

military and economic aid, it regarded itself as a non-aligned country with a special position between East and West.[4]

In the 1960s, Yugoslavia, like much of the rest of the world, experienced various phenomena. It was a period of liberalization (more cultural than political) and modernization of everyday life, which led to dramatic changes in Yugoslavia between the 1950s and 1960s. From the harsh suppression in the initial post-war period to slow and then strong and open acceptance of Western trends, Yugoslavia created its own everyday life, moving dramatically from the popular Russian drink *kvas*, socialist realism and Soviet films, to Coca-Cola, American movies (even the famous Cold War movies *Dr. Strangelove* and *The Russians Are Coming* were shown in Yugoslavia in the 1960s), rock 'n' roll, jeans, American abstract expressionism and pop-art. The analysis of everyday life – models of behaviour, fashion, nicknames (Jack, Joe, Jimmy and Johnny were the most popular nicknames in the 1950s and 1960s) – show how the 'Coca-Cola generation' was created in Yugoslavia. In 1961, the first jukeboxes were installed in restaurants and clubs, playing the sounds of the twist and rock 'n' roll. Yugoslavs adored the movie *Rebel without Cause*; they cried when Marilyn Monroe died; they mourned when John Kennedy was assassinated; and they warmly welcomed the crew of *Apollo 11* in Belgrade, only three months after their walk on the moon. In the same decade, Yugoslav factories launched the production of both Pepsi Cola and Coca-Cola.[5]

At the same time, the 1960s were a period of uncertainty in Yugoslav foreign and domestic policy (love–hate relationship with the USSR, ups and downs in Yugoslav–American relations, economic crisis and growing nationalism). Although Yugoslav–American relations were generally friendly after 1948 and the Yugoslav split with the Soviet Union, they were marked by increasing changes and tensions on both sides. They deteriorated after the Belgrade Conference of non-aligned countries in 1961, when Yugoslav president Josip Broz Tito failed to criticize the Soviet breach of the moratorium on nuclear testing. In such an atmosphere, the American Congress decided to withdraw the most-favoured nation tariff treatment to Yugoslavia. The Yugoslavs were trying to improve relations with the US, but at the same time they were normalizing relations with the Soviets (Brezhnev visited Yugoslavia in the autumn of 1962, and in December 1962 Tito visited Moscow for the first time since 1956). Tito then visited Kennedy in October 1963.[6] Later, the Yugoslav role as the 'mediator' in the Near East conflict in 1967 and its fierce criticism of the Soviet intervention in Czechoslovakia in 1968 created fertile ground for more solid relations with the US and the West at the end of the decade (see Figure 15.1).

Figure 15.1 Tito and the American astronauts, 18 October 1969
Source: Reproduced by courtesy of the Archive of Josip Broz Tito (AJBT), Belgrade, K414/76, 18 October 1969.

Good relations with America in the 1960s were apparent not only in foreign relations, but also in the field of nuclear energy and space explorations, and in the fact that Yugoslav scientists cooperated well with NASA. In 1960, the Yugoslav Secretary for nuclear energy was invited to the US by the American Atomic Commission for negotiations about future cooperation, and in 1963 Belgrade hosted the American exhibition *Atoms in Action*.[7] The cooperation with the US in the field of space research was initiated in March 1966, when Yugoslav scientists took part in the NASA programme of satellite observation.[8] Although Yugoslavia tried to demonstrate its permanent neutrality, its participation in the NASA project at the peak of the space race showed that 'neutrality' favoured one side – the American side. Furthermore, as a part of scientific cooperation, Nixon's science adviser Lee DuBridge paid a visit to Yugoslavia in September 1969, less than a month before the *Apollo 11* crew visited Belgrade.[9]

American successes in space exploration and generally good Yugoslav–American relations led to a situation in which the American space programme was omnipresent in Yugoslav media. Even before the success

of *Apollo 11*, a pro-American orientation in the space race could be discerned in the Yugoslav written press, which started emphasizing the importance of American endeavours to conquer the moon long before the American flag was planted there. The fact that the Yugoslav president, Tito, and the Romanian president, Ceausescu, were the only heads of communist countries who were put on a list of 'chosen' world leaders (73 of them), whose statements, together with statements and messages of Eisenhower, Kennedy, Johnson and Nixon had been recorded on a disc that astronauts left on the moon, is testimony of Yugoslav sympathies for America in the space race, as well as the wishes of the Western camp to win over the dissident Communists.[10]

The US was well aware of the use of its space achievements for propaganda reasons. It was a great way to show American technological superiority all over the world. The American Embassy in Belgrade published its special monthly bulletin *Pregled* with a circulation of 35,000 copies. This bulletin focused on the presentation of the American system as the perfect one. Each issue had information on current events in America, American foreign policy and on Yugoslav–American relations, but as a clear example of propaganda, this bulletin emphasized American supremacy in various fields of life and promoted the 'American Dream' as the common way of life in the United States.[11] This propaganda magazine, which was used to inform Yugoslavs about the American way of life (large houses with swimming pools and big cars in front of them; huge refrigerators and well-equipped kitchens; supermarkets and department stores full of goods; modern hospitals, etc., all together with smiling and satisfied people), started to promote the American space programme in the same way and with the same goal – to gain Yugoslav admiration. There were a number of articles about the American space programme in *Pregled*, with an array of photos in colour – about space explorations,[12] the Mercury programme,[13] NASA space programmes,[14] the flight to the moon,[15] and so forth. One whole issue of *Pregled* was entirely dedicated to American space successes and space programmes.[16]

Numerous American space achievements were on display in Yugoslavia during the 1960s through various exhibitions. For example, the exhibition *Mercury* was on tour in Yugoslavia in 1967. The audience in six Yugoslav towns was highly impressed by the full size model of the space ship *Mercury*.[17] The following year, the exhibition *Gemini* travelled through Yugoslavia, this time with a full size model of the *Gemini-12* capsule. This exhibition showed twelve successful *Gemini* space flights from 1964 to 1966. More than 56,000 people visited this exhibition in Belgrade alone.[18] At the American space exhibition 'Five years of space

exploration', the audience could see just over 100 photographs about the American space programme (see Figure 15.2), followed by two movie projections about the latest space achievements.[19] Particularly popular was the exhibition *Spacemobil* organized by NASA and JARD (Yugoslav Astronautical and Rocket Association) which travelled through 30 towns across Yugoslavia from 24 March to 17 June 1969. This exhibition, like all other American space exhibitions in Yugoslavia, was followed by the latest movies about NASA projects.[20]

However, until the success of the *Apollo 11* mission, the Soviets seemed to be winning the space race by having a larger number of 'firsts' – they launched the first artificial satellite (*Sputnik*, 1957), a Soviet cosmonaut was the first human to orbit the Earth (Iurii Gagarin, 1961), they had the first woman cosmonaut (Valentina Tereshkova, 1963) and carried out the first spacewalk (Aleksei Leonov, 1965).[21] Even the cosmic research of the moon began with the Soviet cosmic programme *Luna* in 1959. Thus, the Soviets had appeared to be well ahead.[22] However, with the

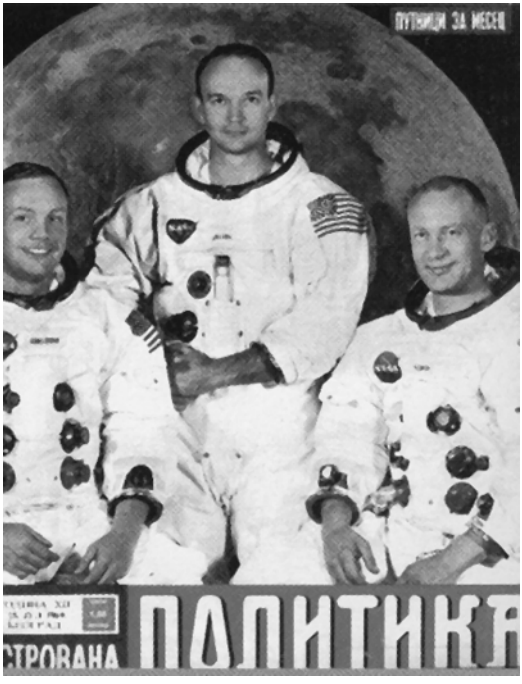

Figure 15.2 The three American astronauts
Source: Ilustrovana politika, cover page, 15 July 1969.

dramatic shift after the *Apollo 8* mission, and the culmination with the moon landing in 1969, America eventually won the space race.

Apollo 11 – On the moon, and then in Yugoslavia

As early as July 1969, even before the launching of *Apollo 11*, all Yugoslav media covered this achievement as the most important event of the epoch. Although the American success was highlighted, especially after the moon landing, there was still a certain amount of room, albeit small, to criticize various American problems, most of them related to the war in Vietnam. Critical statements such as 'While we are thrilled with the outstanding results of 24 billion dollars that have been invested – we cannot erase from our memories that two billion people still live overwhelmed by illnesses and poverty … A space ship is proof of the entrepreneurship and wealth of a country that sent it to the moon, but that cannot erase, but rather underline the fact that the USA has 40 millions of poor citizens. Vietnam is, still, closer than the moon'[23] played a strong role in giving Yugoslavs an objective view of the East and West, as well as justifying its dedication to socialism. In any case, even with this kind of relativism, in July 1969 it was already clear who had won the space race, although there were attempts to ascribe this success not so much to one nation alone: 'In this phase of the space race that will probably never end, the winner is well known. Admiring the achievements of Armstrong, Aldrin and Collins, we could only conclude that in the moon race it is not important that one nation gains an advantage over another, but that the perfect technology outmaneuvers man'.[24]

The Yugoslav position, especially the emphasis of the American success as a success of all mankind, had been inspired by the general American policy concerning the moon landing. The message left on the moon 'We came in peace for all mankind', as well as the famous words of Neil Armstrong 'That's one small step for man; one giant leap for mankind', probably supported the general Yugoslav position. The question arises what would have been the case if Armstrong had said 'That's one small step for man; one giant leap for America.' This also was conceivable, considering that it was an American victory in the moon race. Tito's message on the disc the astronauts left on the moon also appealed to the wider human dimension: 'May this majestic fulfillment of the ancient dream of the human race – man's setting foot on the distant soil of the moon, the first neighbor of us all – bring us closer to the realization of humanity's age-long vision to live in peace, brotherhood and joint endeavor.'[25]

Figure 15.3 Olja Ivanijcki in front of her painting, July 1969
Source: 'Olja slika za Arsmtronga' ('Olja paints for Armstrong'), Ilustrovana Politika, 8 July 1969, p. 25.

When Neil Armstrong uttered his famous words about the significance of his small step, people from Earth were delirious with joy. Like much of the rest of the world, Yugoslavs admired this achievement. All cover pages were dedicated to this American success. Not only the popular magazines, but also the daily press continuously wrote about American astronauts. It is interesting to know that the daily party newspaper *Borba* was covering the *Apollo 11* project from June until August, and then again in October 1969, when astronauts visited Yugoslavia, emphasizing the American success with great enthusiasm.

After the moon landing, space heroes were everywhere – not only in the media, but also in art. Neil Armstrong appeared on the paintings *20th century, Big journey* and *Astronaut in space* by Olja Ivanijcki, who was one of the first pop-art artists in socialist Yugoslavia (see Figures 15.3 and 15.4). It is worth mentioning that she pictured Armstrong in her works of art even before the success of the *Apollo 11* mission.[26] Her love for American successes was not just confined to the space race, but to art as well – she went to the US several times on different fellowships. A number of popular songs were also recorded – a record 'Man and the moon' with

Figure 15.4 Olja Ivanijcki, 'Life-support box', 1969
Source: Olja Ivanjicki, *Očekivanje nemogućeg*, Beograd: Službeni glasnik, 2009.

two songs 'Hymn for a man' and a new ('atomic') musical arrangement of a traditional Bosnian song 'Mujo shoes a horse in the moonlight'.[27] An amateur sculptor – a peasant from the heart of Serbia – presented his sculpture of three astronauts dressed in the Serbian national costume to the American Embassy in Belgrade.[28] Two baby twins born on 21 July 1969 in the town Svetozarevo were named Neil and Edwin.[29]

Up to the final American victory in the space race, there was an interesting and ambiguous linguistic confusion about the terms *astronaut* and *cosmonaut*[30] which were omnipresent in the media of the time. When the press wrote about the successes of the *Vostok*, *Voskhod* or *Soiuz* spaceflights, the term 'cosmonaut' was used, and when they wrote about the *Mercury*, *Gemini,* and *Apollo* space programmes, the term 'astronaut' was used. Documents about the decoration of the American astronauts also show the clear division not only between the terms, but also between the competing sides in the space race. It shows that the American side insisted that Armstrong, Collins and Aldrin should be addressed only with a title *astronaut*. July 1969 marked the climax of the schizophrenia in the usage of both terms by various Yugoslav media outlets. In early writing about the *Apollo 11* mission in Yugoslav newspapers, a distinction

was also made between *cosmonauts* and *astronauts*. Yugoslav society, which had balanced itself between East and West, found the solution in using the term *astronauts* for Americans and *cosmonauts* for Soviet citizens flying to space. However, this distinction was not always unproblematic. For example, in an article about the 'new moon era' in the weekly *NIN*, a number of scientists were asked about their opinion of the success of the *Apollo 11* crew. Two of them talked about *cosmonauts*, one of them mentioned *astronauts*, and one of them mentioned both.[31] In the same issue of *NIN*, the moon landing was the subject of a survey among children who also showed the terminological confusion that was present not only in all media, but in the whole society. Seven-year old Esmeralda said: 'I was afraid that astronauts could fall on their backs like cockroaches, and that they wouldn't be able to get up again on the moon'; the other girl, Tijana, was sure that 'the cosmonauts succeeded because they had long preparations'; Dubravka said: 'A cosmonaut looked like a dwarf'. Of all the children, only Esmeralda used the term *astronauts*, while the others used *cosmonauts*.[32] Perhaps this was due to school textbooks, because in many of them the term *cosmonaut* dominated – together with short stories about and images of Iurii Gagarin.[33] In light of this linguistic confusion, one would assume that the most important and accurate term would be the one used by President Tito himself. The written version of the toast in honour of the astronauts, which is kept in the Archive of Josip Broz Tito, shows that the Yugoslav President called his guests *cosmonauts*: 'Let me say a few words in my toast to our dear guests, *cosmonauts*, who obliged all of mankind with their big success – the conquering of the moon.'[34] It seems that it was a draft of a toast, or a version that was changed, since the toast was a bit different according to the press: 'Let me say a few words to our dear guests, *astronauts*'.[35] This linguistic confusion could be interpreted as a perfect example of the Yugoslav balancing act between the East and West, but this confusion was also a part of a wider Cold War context, since it could have also been found in American documents from the same period.[36] The same applies to almost all literature about the space race, which is a small, but very revealing detail about the complete division of the Cold War world, even when terminology and linguistics are concerned.

The extraordinary publicity of the success of the *Apollo 11* mission among the Yugoslav public culminated during the astronauts' visit to Yugoslavia. This event represented the climax of the Yugoslav shift to the American side during the space race. Quite aware of the global success of their enterprise, the US wanted to use the fame of its astronauts for propaganda purposes as much as possible. Therefore, soon after the

return of *Apollo 11* from space the astronauts went on a world tour called *Giantstep Apollo 11*, during which they visited 22 countries.[37] Yugoslavia was the only communist country they visited on that tour, and the astronauts' visit to Belgrade was also one of their longest stays in one city (from 18 to 20 October 1969).[38]

The visit of the *Apollo 11* crew to Belgrade was organized at the highest official level, so the astronauts were received by Yugoslav president Josip Broz Tito himself. Although the press emphasized that the American success was the achievement of all mankind, some aspects of the visit indicated that, as far as the success of the *Apollo 11* astronauts was concerned, mankind was preferably of the American kind for Yugoslavs. According to American reports, the reception of the astronauts greatly surpassed the American expectations.

Yugoslav hospitality was initially shown at the landing at Belgrade airport. As soon as the astronauts stepped off the plane, they were 'confronted with the sight of joyful and enthusiastic Belgraders, who filled the entire space in front of and around the airport', and the press noted that they were 'welcomed with ovations and frenetic applause', and that the astronauts were showered with flowers.[39]

Upon arriving in Belgrade, the astronauts set off on a 10 km parade route from the airport, through the city centre to the Monument to the Unknown Soldier. According to the writing of the press, 'the crowds were so impressive that thousands of people were lining the whole route'.[40] Descriptions in newspapers spoke about 'a unique and emotional experience',[41] 'a magnificent welcome different from any before'[42] – just some of the comments reported. The press profusely exaggerated in praising the visit of the American astronauts. Not only were the heroes depicted warmly and enthusiastically, but also their NASA security guards. For example, during part of the programme performed for the astronauts, two NASA security guards were so touched that 'tears streamed from their eyes'.[43] That was during the pioneers' performance with the choir singing 'Dear Edwin, Michael and Neil, we welcome you, because you rule'[44] and 'Astronauts, astronauts … we are trying so hard to be good because we love you and we want you to have nice time with us'.[45]

Even the decorations the astronauts were awarded were a grade higher in rank that those given to the Soviet cosmonauts. The overall attitude the Yugoslav authorities, journalists and public had towards the astronauts' achievement clearly showed the Yugoslav attitude towards the American success. The satisfaction on the American side was also evident – a memorandum to Henry Kissinger about the reception of the

astronauts in Belgrade declared the visit to Belgrade as 'the high point of the tour so far with the superb effort from Yugoslav Government and Embassy' and that 'the crowds were enormous, the official honors extended our men much superior to those accorded earlier to visiting Soviet cosmonauts'.[46] Geneva B. Barnes, who was a member of the NASA delegation that visited Yugoslavia on the *Giantstep Apollo 11* tour, testified that Belgrade was an experience she would never forget.[47] On the 30th anniversary of the moon landing, the *Washington Post* mentioned Tito as one of the outstanding figures on the astronauts' goodwill tour: 'They met the queen of England, Marshal Tito, the Pope, the Emperor of Japan, the Shah of Iran and Generalissimo Franco.'[48]

Apollo 11's mission to Yugoslavia was an overall success. Masses of people, waving American flags, obviously favouring the Americans over the Soviets, their aligning with the winners in the space race, Tito's speech and messages – everything showed a pro-American orientation of the Yugoslav state, at least in the context of the race to the moon. Even though the Yugoslav government tried not to show the 'Americanism' of this achievement too obviously, the image of the American flag stuck into the moon, seen both on Yugoslav television and in other media, and the success of Armstrong, Aldrin and Collins undoubtedly revealed a preference for one power – the US.

Soviet cosmonauts in Yugoslavia

In order to understand the Yugoslav position in the space race, it is important to analyze the attitude of the Yugoslav government towards Soviet space programmes and successes, which depended on the political moment and the general state of Yugoslav–Soviet relations.

The Soviet launching of the *Sputnik* in 1957 as the greatest world space success came at a very specific moment in Yugoslav–Soviet relations. After the break-up with the Soviets in 1948, these relations were at a low point. However, in 1955, after Khrushchev's conciliatory visit to Yugoslavia, they were gradually improving. On the other hand, it was not a one-way process, as there were a number of political setbacks/situations when relations acutely deteriorated. As early as 1956, the Soviet intervention in Hungary had led to a situation in which Tito refused to sign the declaration of 12 communist parties which proclaimed the leadership of the Soviet Communist Party in the world communist movement.[49] In such a strained atmosphere, the Soviets made a great breakthrough by launching the *Sputnik*, and the Yugoslav side did as much as it could to downplay this success. For example, a number of

apt names which foreign media gave to *Sputnik* were mentioned in the Yugoslav press ('Baby-Moon' in New York,[50] 'Small Moon' in the USSR, 'Moon No. 2', 'Red Moon', 'Soviet Moon' or 'Red Star' in Italy[51]) but it did not give it a similar nickname, which would have made *Sputnik* more familiar, friendly, or pleasant to the readers. In the Yugoslav press, only the emotionless word 'satellite' was used. By giving a neutral, dispassionate name without any emotions to the Soviet satellite, the Yugoslav side expressed its attitude to the Soviet Union in general.

The beginning of the 1960s was marked by another Soviet success – sending the first man, Iurii Gagarin, into space. At that moment, Yugoslav relations with the Soviets were improving, which resulted in much more enthusiasm and excitement about the Soviet space success. One 'poet and peasant' published the book *Poems on Cosmonautics*, dedicated to 'the first cosmonaut Iurii Gagarin – Columbus of the Universe'. One of his poems ended with verses:

> And now I cry out
> Long live Gagarin
> And all Soviet
> Beloved scientists![52]

Even with verses 'by the people' that glorified Soviet success, the official media remained neutral, emphasizing that this success belonged to humanity and to all mankind, not only to Soviets.

Altogether, most of the 1960s was a period of very good Yugoslav–American relations and it resulted in an almost negative Yugoslav attitude towards Soviet cosmonauts who had visited Yugoslavia. During the 1960s, an extremely important period for the space race and space exploration, Yugoslavia also officially received Soviet cosmonauts – German Titov, Andrian Nikolaev and Pavel Popovich. However, the character of their visits was completely different from the visit of the American astronauts.

The Yugoslav government had the idea of inviting the Soviet cosmonauts after the great success of Iurii Gagarin in 1961. Due to his success, Gagarin became a kind of a cosmic hero in Yugoslavia, regardless of any changes in Yugoslav–Soviet relations. It seemed that the Soviets did not want to send their greatest space star to Yugoslavia, offering the excuse that he was 'too busy with his arrangements'. Instead, they sent German Titov.[53] It is apparent that Belgrade was not on the priority list when the Soviets planned Gagarin's world tour, which was the opposite of the American arrangements for their *Apollo 11* tour. It was also a way

for the Kremlin to send a certain message to Yugoslavia on the state of Yugoslav–Soviet relations.

Not only at the state level, but also in the public sphere the visits of Soviet cosmonauts and American astronauts had a completely different impact on Yugoslav society. The visits of Soviet cosmonauts did not draw any people to the streets and also were poorly organized, which provoked open dissatisfaction with German Titov and the Soviets. On the other hand, the visit of American astronauts attracted mass hysteria and the overall joy of the people, who welcomed the *Apollo 11* crew as the greatest heroes and new icons in Yugoslavia.

While organizing the cosmonauts' visits, Moscow placed certain demands concerning their reception in Yugoslavia. However, Yugoslav officials also wished not to harm their ties and relations with the West. Thus, during Titov's visit to Yugoslavia it was emphasized by Yugoslav authorities that his visit should have 'normal publicity, media coverage without exaggeration and sensationalism'.[54] This stance was presumably partly because of the Soviet decision not to send Gagarin to Yugoslavia, but the continuous Yugoslav balancing act between the US and the USSR often resulted in turning heads towards Washington more often than towards Moscow. When Titov's visit to Yugoslavia was approaching, Soviets increasingly insisted on mass gatherings for his welcome on the highest official level and on cover pages in newspapers.[55] Yugoslav wishes to give Titov's visit 'normal publicity' and 'without exaggeration and sensationalism' were far from Soviet expectations. Yugoslav reports showed that the 'Russians were dissatisfied with the level of Titov's reception'.[56] German Titov was also dissatisfied, which resulted in his becoming drunk, as noted in the Yugoslav report: 'Under the influence of alcohol Titov said that he saw clear differences between the reception by the people and the reception by the party leaders. He also remarked that the Party Programme of the CLY[57] had many weaknesses'.[58] Even toasts on this occasion are interesting for analysis: 'In all speeches and toasts Titov underlined the traditional friendship between our peoples and the love of the Soviet peoples for our peoples, etc. and he more than once toasted to Tito and Khrushchev while our side only toasted Titov'.[59] The cold reception on the part of the Yugoslavs during this visit was more than visible.

The visit of Andrian Nikolaev resulted in a similar situation. Reports about his visit were not on the cover pages (usually found on pages six or seven in daily newspapers) and were without any sensationalism.[60] Some details from the press showed that even the visit of the Soviet cosmonaut was used for expressing admiration of the Americans, showing

them as friendly and positive, as one report about Nikolaev's landing on the Belgrade airport shows: 'A group of pioneers gave Nikolaev flowers, and when the cosmonaut headed towards the main airport building, a crew of an American Boeing 707 waved at him.'[61]

After *Sputnik*, the Soviet media and its leadership highlighted their space achievements, emphasizing the fact that they were 'ahead' of the US as a proof of the superiority of the socialist economic and political system.[62] This kind of statement about the superiority of the Soviet system was not present in Yugoslav media, but was reflected in a joke about the race to the moon that Titov told Tito in Belgrade: 'Americans came to the moon in an attempt to establish their rocket bases there. A lunar inhabitant came along and asked them who they were and what they wanted on the moon. Americans answered that they had come from the planet Earth and that now they owned the moon (Nikolaev probably wanted to show American imperialist policy towards the moon). The inhabitant of the moon answered: "You came too late. One small man had already been here and ordered corn to be sown all around. That is the proof of the peaceful Soviet policy."' The reaction of the Yugoslav president to this joke was more than neutral and cold – 'It's interesting how the technology has improved', and it showed the general Yugoslav attitude toward Soviet space successes.[63]

All these situations with Soviet cosmonauts as Yugoslav guests are even more important for analyzing Yugoslav–American as well as Yugoslav–Soviet relations, especially because they had happened much before the final American triumph.

Conclusion

The political importance of American space successes and of the visits of Soviet cosmonauts and American astronauts to Yugoslavia were obvious for all sides in the Cold War. Yugoslavia, which the 1948 split with the Soviet Union had balanced between the two superpowers, showed its complete admiration of Americans as the winners in the space race after the successful American moon landing. The reception of the astronauts, which greatly surpassed American expectations, reflected this, as did the masses on the streets and the decorations the astronauts were awarded, as well as the overall attitude of the Yugoslav authorities, journalists and public towards this and other American space achievements. The US was happy to prove that, in its success in the conquest of space, it had a communist ally. Successful visits of American astronauts strengthened good Yugoslav–American relations, but also

resulted in the concrete initiative in the field of nuclear and space research with NASA and American Atomic Commission.[64] The Yugoslav inclination towards America in the space field was also confirmed during Tito's visit to Nixon in 1971, when the Yugoslav president visited NASA Space Centre in Houston. This visit, as well as the visit of the Soviet cosmonauts to Belgrade, showed that Yugoslavia, which often balanced itself between superpowers, openly took sides in this case.

Notes

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36. For example see: DDRS, Memorandum to Henry Kissinger recommending him to ask President Richard M. Nixon to send a letter of appreciation to Yugoslav President Josip Broz Tito for the warm reception extended to the U.S. astronauts during their 18–20 October visit to Belgrade in 1969. Memo. White House. Issue date: 29 October 1969, CK 3100517866.
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Iran (28–31 October); Perth, Australia (31 October); Sydney, Australia (31 October – 2 November); Agana, Guam (2–3 November); Seoul, Korea (3–4 November); Tokyo, Japan (4–5 November); Elmendorf, Alaska (5 November); Ottawa and Montreal, Canada (2–3 December).

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16

Children and the Cosmos as Projects of the Future and Ambassadors of Soviet Leadership

Monica Rüthers

During the 1950s and 1960s, the Soviet state was confronted with enormous challenges. Following the 'dilemmas of de-Stalinization',[1] social tensions arose. Some of these stemmed from the gap between promises and reality concerning the supply of commodities. They also had to do with the ongoing rivalry of systems, even if the Cold War was now (temporarily) called 'peaceful coexistence': The high costs of the arms race and the images of Western consumer culture were not easy to deal with. At that very moment, the Soviet achievements in outer space, *Sputnik* and Gagarin, appeared like a *deus ex machina* to help the leaders of the state and the Communist Party. Though the space project had been in preparation for a long time, the popularity and propaganda value of the success came as a surprise.

The cosmonauts as new socialist heroes appeared everywhere – from newspapers to stamps to television and murals. Very soon, the strong and meaningful motifs of 'childhood' and 'cosmos' were used in combination. In their symbolic meaning, these iconographic motifs signified the belief in the country's leading role in the future of mankind. The present study will attempt, by analyzing different combinations of childhood and cosmos in Soviet visual propaganda, to concentrate on official intentions and meanings of visual propaganda, as well as on the ways in which they were understood by the public inside and outside the Soviet Union.

The beginning of the 'cosmic era'

Since the Great October Revolution, breakneck pioneer enterprises like expeditions to the Arctic Circle or long distance flights had accompanied the Soviet progress towards a bright future. The movement upwards, made possible by the advancement in rocket engineering during and after World War II, meant a quantum leap forward in

civilization. As early as December 1956, an interview with *Sputnik*, the little matchstick-man, appeared in a Soviet periodical. *Sputnik* had all the attributes of a hero of the Soviet people. After his flight into outer space, he returned to earth and to the magazine as the comic-strip character *Beep Beep* to recount his adventures.[2]

On 4 October 1957, the real Sputnik circled the earth. Its beeping shocked the West and accelerated the race to the moon. The Soviet leaders announced the beginning of the 'cosmic era'. One could listen to the beeping sound of the Sputnik on radio everywhere on Earth and see it with the naked eye during twilight hours. A short time later, on 3 November the first space dog called Laika took off to celebrate the 40th anniversary of the Great October Revolution in outer space. It was a one-way trip. Belka and Strelka were the first dogs who managed to return to Earth in safety after a day in outer space in August 1960. In April 1961, Iurii Gagarin became the first cosmonaut. His space flight became the new symbol of Soviet progress to a bright future.

From this moment on, the cosmos dominated Soviet media and state propaganda. Fantastic reports of imaginary space correspondents described possible life in the Milky Way, the possibilities of artificial intelligence or of telepathy. The press wrote about lost meteorites, signals from outer space and ancient time 'cosmonauts'. Expeditions ventured to far away destinations to search for traces and explore the possible truth of ancient myths.[3] Accomplishments in outer space were, at the same time, seen as promises of progress and affluence. Cosmonauts were heroes, and every little boy dreamed of becoming one. This enthusiasm was supported by official youth organizations on a large scale.

Cosmos fever – even at the Soviet periphery

From 1961 on, Clubs of Future Cosmonauts became part of every other pioneer palace, even in provincial towns. A good example for this is Cheliabinsk, a Soviet industrial town in the southern Urals, which now has 1.3 million inhabitants. During World War II, the city grew due to the evacuation of industrial plants from central Russia. The tractor factories produced tanks for the battle against Hitler's *Wehrmacht*. In 1961, the first Club of Future Cosmonauts in the Southern Urals was opened at the Cheliabinsk pioneer palace. The plan for the opening celebration says:

> On September 16, 1962, a 'Club of Future Cosmonauts' was opened at the Pioneer Palace. This day was well prepared, and the opening ceremony was held in a nice and productive way. As a motto for

> the Club's activities, words of N. S. Khrushchev were chosen: 'Hero-cosmonauts are people who in our time embody the goals of communist man: high intellectual capacity, moral purity and physical perfection. Love for their country, social responsibility and the high objectives of communism.'[4]

For future cosmonauts, the following rules were stated during the opening celebration:

1. Study all the time, know everything! The more you know, the freer you are.
2. Those who love to work on Earth take off into outer space.
3. We don't need nannies!
4. Difficult does not mean impossible.
5. Honesty, modesty, civility – with those we press Communism.
6. When you feel tired, help your comrade, and you will feel better.
7. A healthy spirit lives in a healthy body.
8. We need good songs, songs make life better.
9. Working time is good time.[5]

A flourish of trumpets accompanied the celebration, and slides were shown in the Lenin Hall of the pioneer palace. They featured pictures from science fiction movies, as well as scenes showing the first cosmonauts Iurii Gagarin, German Titov, Andrian Nikolaev, the pilot of Vostok-3 and Pavel Popovich with Vostok-4. From the loudspeakers, the voice of the famous radio speaker Iurii Levitan, who had announced the Soviet victories during World War II, reported the start of the first manned space-rocket.[6] Young pioneers sang songs, recited poems and read congratulatory telegrams sent by Soviet cosmonauts. Several young pioneers 'spontaneously' proposed to elect the 'heavenly brothers', as the first two cosmonauts Gagarin and Titov were called, as honorary members of the new club.[7]

The club published a journal of future cosmonauts and organized meetings with scientists.[8] Children could construct model airplanes and skyrockets (see Figures 16.1 and 16.2) that were regularly tested in competitions.[9] During the 1960s, the Club of Future Cosmonauts in Cheliabinsk had about 1000 members. On celebrations and holidays, they sang songs about the hero-cosmonauts or 'We would all like to fly to the moon', and danced mass dances.[10] In the 1980s, older pioneers could join a pre-military school for parachutists and later train as military pilots. Such clubs of future cosmonauts, as well as training-centres, existed in many places throughout the Soviet Union. To prepare for

Figure 16.1 *Aviamodelatory* (model plane builders) during a lesson in the Cheliabinsk Dvorets Pionerov, 1960s
Source: Reproduced by courtesy of Cheliabinsk Dvorets Pionerov.

Figure 16.2 A rocket contest in front of the Cheliabinsk Dvorets Pionerov, 1960s
Source: Reproduced by courtesy of Cheliabinsk Dvorets Pionerov.

their future dream-job, the children could dress in space-gear and train themselves in makeshift iron centrifuges. To access those centres, however, the young people had to pass difficult theory tests.[11]

Childhood and cosmos as projects of the future

At the opening of the Cheliabinsk club, a poem described space travel as the dream of every child. The motifs of childhood and cosmos were seen in the context of the re-launch of socialism after Stalin and the rebirth of mankind. They were projects of a bright future. The cosmos referred to the most important achievement of socialism.

The first generation of Soviet cosmonauts, among them Iurii Gagarin, German Titov, Valentina Tereshkova and Pavel Popovich, all lived in the so-called City of the Stars (*Svezdnyi Gorodok*) outside Moscow, a special, closed and privileged settlement and training centre for scientists, engineers and cosmonauts. The first cosmonauts visited pioneer camps, schools and pioneer palaces on a regular basis. Liudmila Nikolaevna, a 13-year-old pupil from the Siberian township Akhinsk, spent a four-week vacation in the famous international pioneer camp Artek on the Crimean Island in 1965.[12] In her memoirs, she describes how, on the last day of her stay, Iurii Gagarin joined them and spoke to them. A standard feature of Soviet cosmos iconography is the cosmonaut amid a group of children.

The connection of the meanings of childhood and cosmos can be seen on several levels: murals showing or displaying motifs from space travel adorned the walls of Soviet schools and pioneer palaces; in playgrounds, children could climb on poles in the form of a skyrocket (see Figure 16.3). Space travel was also an important subject of children's literature. The cosmonaut was the most popular of socialist heroes, and children were encouraged to emulate him. All Soviet children knew the names of the first 10 cosmonauts by heart, as well as those of the space dogs – who were travelled around to visit pioneer palaces (see Figure 16.4).[13]

Physicists and cosmonauts superseded former Soviet heroes such as metro-builders, war heroes or the pioneer-explorers of Khrushchev's Virgin Land Campaigns. As no one could exactly imagine how the new heroes spent their days, the descriptions of their characters in the new literary genre of scientific fantasy were all the more human.[14] Journals of popular science not only reported facts and results, but speculated wildly about possibilities. As long as the contrary was not proven, even human settlements on far away planets seemed possible.[15]

In the quite hagiographic official discourse, the sons of the cosmos were deeply loved by the Soviet people.[16] Iurii Gagarin, the Columbus

Figure 16.3 Skyrockets on a playground in Novye Cheremushki Number 11, Southwest Moscow
Source: Photographer A. Sergeev-Vasil'ev, 1963; Reproduced by courtesy of Tsentral'nyi arkhiv audiovizual'nykh dokumentov Moskvy (TsAADM), Nr. 0-3368.

Figure 16.4 The space dogs Belka and Strelka during a visit at the Moscow Pioneers' Palace, October 1962
Source: Photographers V. Gende-Rote, V. Lagranzh for TASS; Reproduced by courtesy of Tsentral'nyi arkhiv audiovizual'nykh dokumentov Moskvy (TsAADM), Nr. 0-948.

of our day, excelled with his gift of a beautiful smile. He became a national symbol and seemed immortal. Gagarin and Titov had flown into heaven like gods, and at the same time they were modest sons of the Russian people. Their plainness was proof of their excellence. They were chosen brothers in heaven.[17] Gagarin's portraits showing him with his helmet like a halo around his face to call to mind the Russian religious icons. They were copied over and over on posters, badges, school murals, in children's books or on postage stamps. His portraits thus established a certain style of portrait photography.[18]

I argue that the Soviet government profited from such pictures and representations of space travel to legitimize power. The combination of childhood and cosmos addressed hopes for a new beginning and utopian fantasies. Moreover, the motif of childhood referred to an existing consensus concerning childhood as a realm with a right to protection. During the conservative renewal of Stalin's cultural politics, the sociocultural myth of 19th-century happy childhood on a country estate – traceable to Lev Tolstoi in his 1852 novel 'Childhood' – was brought about. It found its most famous expression in the slogan 'Thank you, comrade

Stalin, for our happy childhood!'[19] This aspect of Soviet society survived de-Stalinization undiminished. During the 1950s and 1960s, childhood remained an idealized social space, a fairy tale world, protected both by Soviet parents, adults in general and the government.[20] The happy childhood was a place of compensation and escape for the parents as well.

Childhood and cosmos became even more compelling when combined with hopes for more and better consumer goods. To improve the supply of consumer goods, in 1954 40,000 new shops were planned.[21]

One of the important building projects in central Moscow during Khrushchev's time was the big new department store Children's World (*Detskii Mir*) on Liubianka square (see Figure 16.5). It signified that Soviet children should only have the best of everything. Photographs from this children's store taken in 1953 and 1954 show mothers with children while shopping.[22] In a time of persisting shortages, it presented a world of miracles filled with toys and clothes to the public. *Detskii Mir* was part of a group of three big department stores in Moscow designed to propagate the image of socialism as a consumer's paradise. In its decorations, the combination of childhood and cosmos was omnipresent. In one picture, taken in 1959, the main hall was dominated by an orbit system and a rocket hanging from the ceiling. These photographs substantiate a growing emotional meaning attributed to consumer goods in Soviet society. For the authoritarian welfare state, to love and value children meant that it had to provide goods for their needs in special stores and for the parents to buy gifts for their children. Consumer supplies for children thus stood for optimism, a bright future and the socialist way of life.

Now that we have the *Sputnik*, we need shoes

The intense visual propaganda during the Seven-Year-Plan (1959–1965) implies specific social tensions in the post-Stalinist society. The official politics of a 're-launch of socialism after Stalin' entailed a new social contract, promising less state repression and more consumer goods in exchange for the people's cooperation and their acceptance of restricted liberties – concerning access to information or travel abroad, for example. Nevertheless, the Thaw led to a sense of awakening among the intelligentsia (who read Solzhenitsyn's *One Day in the Life of Ivan Denisovich*, published in 1962). The changes also directed attention towards social problems. After a series of amnesties, former inmates of Soviet concentration camps were a living reproach to those who had been part of the system, of which there were many. Hidden unemployment and alcoholism

Figure 16.5 The 'Children's World' *(Detskii Mir)* megastore in Moscow 1959, with a rocket decoration
Source: Photographer M. Ozerskii for Sovinformbiuro; Reproduced by courtesy of Tsentral'nyi arkhiv audiovizual'nykh dokumentov Moskvy (TsAADM), Nr. 1-19039.

were also growing problems that became visible, and Khrushchev's reforms were accompanied by massive corruption.[23]

Another set of tensions was caused by the cosmic era meeting a Soviet people that were still holding a set of conservative Stalinist values

firmly instilled by the *kul'turnost'* campaigns of the 1930s.[24] Some of the tensions stemmed from the gap between hopes, promises and reality concerning the supply of consumer goods. The visual propaganda and the successful space flights had given rise to hopes for more comfort in Soviet life, like a small apartment or more consumer goods of better quality and in more style. Soviet people expected to be granted a certain standard of living by their government. However, the shortage problems were also linked to the ongoing rivalry of systems called the Cold War. The high costs of the arms race and the comparison with images of Western consumer culture were not easy to deal with. 'We built *Sputniks* and atom-driven icebreakers. We have the biggest nuclear plants in the world. Now let us duly begin to produce down cushions and tongs to tear out nails!', a reader wrote in a letter to *Pravda*.[25]

One of the most challenging fields of tensions was presented by the contrast between the accomplishments in outer space and the persisting shortages on earth. 'We have a shortage of apartments and kindergartens, and commodities are expensive. I am sure that this moon rocket swallows up sums of money one would get dizzy thinking about', said a letter to *Pravda* in 1960.[26] When the Soviet administration tried to correct its economic malaise by raising the prices for bread and meat in 1962, this caused consumer riots in several provincial towns. In Novocherkassk, the strikes and riots were put down by the militia, causing several casualties.[27]

The Soviet officials were well-aware of the social tensions. The measures taken followed three main trajectories:

1. They engaged in a cult of technology and science in combination with utopian childhood and promises of a bright future. The cosmic enthusiasm had its roots in fantasies of a conquest of the skies that were made popular in the 19th century by the Russian Scientist Nikolai Fedorov (1829–1903). The cult of outer space drew on messianic ideas and hopes for salvation. 'Westerners' as well as 'Slavophiles', nationalists, anarchists and socialists were all thoroughly convinced that Russia had some sort of mission, religious or historical, to change the world and to free it, to destroy the old order and to build a new one. Plans and technical visions existed in the 19th century to change the climate, to gain power over time, to enliven the dead and to colonize other planets of the universe.[28]
2. Intense visual propaganda accompanied the Seven-Year-Plan from 1959 to 1965. Economic, scientific and social progress was documented by annual photographic exhibitions.[29] The visual propaganda was aimed at consoling the public by promising a better future. Photographs are always proof of something that already exists somewhere.

3. The supply of living space and commodities was improved in order to stabilize the new leadership. Between 1955 and 1972, 132 million Soviet citizens moved into new flats.[30] The family flat relieved them from the communal apartments and gave them something unknown: privacy. This was much longed for, but presented a danger in the eyes of the officials, because privacy contradicted the socialist idea of living in the collective.[31] New ways of social control were needed. The flats were tiny, and people were invited to eat in the canteens. Instead of the family flat, the *mikroraion*, the neighbourhood, was to become the centre of everyday life, providing an infrastructure of kindergarten, school, medical care and shops.

Against the menace of (Western-style) 'consumerism', socialist morals and the concept of 'rational consumption' were put forward. 'Rational consumption' was based on reasonable decisions and objective needs, not on irrational desires and striving for social status like Western or capitalist conspicuous consumption. Soviet consumption was to be a part of 'communist morals', which comprised self-discipline and voluntary asceticism.[32]

In spite of these efforts, the tensions failed to disappear. In the early 1960s, images of the 'West' distributed by the media and international exhibitions had begun to influence popular fantasies about the American mass culture in the Soviet Union on a large scale. The ongoing rivalry led to an increase in Soviet exhibitions of consumer goods and visual propaganda showing amenities. Coverage of the GUM,[33] the largest of Moscow's department stores, showed electric household appliances and even Vespa-style motor scooters.[34] Up to the mid-1960s, the standard of living improved visibly and for the majority,[35] but this only led to increasing demand. Periods of sufficient supply usually only led to shifts in demands, to hoarding and to corruption; they did not end the general economy of shortage. Visual propaganda featuring consumer goods therefore signified the need of the government to legitimize its power. In the late 1950s, communal apartments, the existence of which before the war had been attributed to the priority of the Five-Year-Plans for industrialization and later to the war itself, were no longer accepted as a form of 'normal' living. The same was true for shortages.[36]

This basic conflict was appeased by the combination of cosmos, childhood and consumer culture in Soviet propaganda photographs of the time. A picture taken in 1962 in Moscow shows the typical pyramids of oatmeal packages of the brand *Gerkules* in a freshly opened self-service store named Sputnik.[37]

'They no longer should hide behind their *Sputniks* and far range aircrafts. Climb down – to the plain shoe', wrote a reader in a letter to *Sovietskaia Rossiia* in 1959.[38] In the background of a photograph taken in the children's department of the new Moscow House of Shoes (*Dom obuv'*), one can see an orbit in the guise of a shelf.[39]

The Soviet intelligentsia had a value-oriented worldview, and helped the Thaw and the emerging dissident culture of the 1960s to emerge. Their recollections, however, while dominating the Soviet era memories to a certain degree, are only representative of a small minority. Most Soviet citizens remember the 1960s as the time when there was finally enough bread on sale and the women could throw away their felt boots, because investments in light and consumer industries finally put an end to the notorious shoe shortages. For the first time in Soviet history, large parts of the population were reasonably wealthy. One can say that both attitudes, the silent dissident culture in tolerated niches as well as the (mass) orientation towards consumer goods, helped to finally stabilize the system. However, 1957, the year of Sputnik, was a dangerous year for the leaders: they had to manage the consequences of de-Stalinization and the power play inside their ranks.

Brothers in the skies: cosmos fever in the GDR

The cosmic fever was also used to strengthen the alleged friendship between socialist countries and to ensure the leading position of the Soviet Union. Cosmos became an omnipresent feature of socialist everyday culture, especially of children's culture. This was made possible by the pioneer organizations that were a common feature of all socialist countries. Thus, Clubs of Future Cosmonauts came to life not only in the Soviet Union, but in the GDR as well, especially after the first East German cosmonaut visited the Soviet Space Station in 1978. German children wanted to grow up to be cosmonauts just like their Russian counterparts.

The combination of cosmic motifs with consumption in names of shops or in shop decorations connected both subjects in a positive way. The Soviet achievements in outer space not only served to mobilize the population for a renewal of socialism inside the country, but also became a cohesive force in the Eastern Bloc. A closer look at the GDR can substantiate this theory.

The Soviet space flights were acknowledged as 'peak performances of socialism', even in the eyes of the capitalist rival. The Soviet lead in the competition of systems was widely exploited in media coverage

and propaganda, inside the Soviet Union, in the socialist countries and in the Western world alike. *Sputnik* could be seen and heard from all over the world. Outer space became part of everyday culture in East and West. To strengthen the bonds of friendship between the socialist countries, the Soviet Union let the brother countries participate in the glory of space travel. Soviet cosmonauts visited the brother countries. Stamps with space motifs were created in Poland, Hungary, Czechoslovakia and the GDR, and from 1978 on those countries were invited to join Soviet space missions in the so-called Intercosmos Programme.

From the start, the connection of space travel and children's culture was also exported to other socialist countries. The pioneer organization of the GDR serves as an example: here, *Sputnik* became the symbol of socialist as well as personal progress. After Gagarin's flight into outer space in 1961, cosmos fever spread everywhere. The cosmos became an integral part of GDR children's culture. It was implemented through the closely linked structures of school and youth organization. In the official booklet 'Horst wants to be a pioneer', published in 1959, children were depicted drawing and cutting out paper *Sputniks*.[40] The booklet informed parents about a step-by-step programme including proposals for reading and learning goals for each class and step. The children who attained their goals were rewarded. At school, the students had a Sputnik-Notebook, in which their performance was documented. It featured Sputnik and the (lazy) Spaetnik (from German *spaet*: someone who is always late).[41] Sputnik clearly had a mobilizing role: young pioneers started on a low level of knowledge and climbed higher with age and achievements. The 'Pioneer-Express', a vehicle of such progress, was renamed 'Sputnik-Express' in 1959. The school year 1959–1960 was declared the 'year of the Sputnik' and was to advance the country in Sputnik-like fashion.[42] Young pioneers had to follow a precise programme to be awarded their 'Sputnik badges'.[43] While this programme was rather rigorous,[44] there were also more entertaining ways to popularize Sputnik. The children's cartoon magazine *Mosaik* started to cover scientific and space topics. In 1958, the adventure story 'Abducted into outer space' described the history of space travel.[45] *Mosaik* followed the example of the Soviet children's magazine *Murzilka*. In 1960, there was even a Soviet widescreen cartoon featuring *Murzilka* in outer space.[46]

Gagarin and Tereshkova toured the GDR in 1963: Valentina Tereshkova was the first woman to fly into outer space on 16 June 1963. Tereshkova's picture was shown all over the world. She was only 26 years old and had applied for the space programme spontaneously after Gagarin's flight in 1961. The visiting cosmonauts were greeted as young and modern

heroes of a new era. The generation of those born after the war could particularly identify with them.[47] The East German press called them trustingly by their first names, Iurii and Valia. The biographic patterns depicted in official 'hagiographies' of Gagarin and Tereshkova were similar. Gagarin was the son of a Russian peasant. He had suffered German occupation during the war. He became a worker, then a student and a military pilot. Finally, he was the one who pioneered man's way into outer space. This story was repeated by Tereshkova, whose background was similarly modest. Her father had been a peasant and was killed during the war. Her mother, a worker, brought up the three children alone. The life-stories of these socialist heroes thus embodied the 'epoch of victorious socialism'.[48]

For young people in the GDR, 'Iurii' and 'Valia' were heroes they could identify with easily. They were a new kind of socialist hero, who stood not for the past, the oppression of the communist party in Nazi Germany or the difficult times during and after the war, but for the future. They were messengers of the new era of progress through science and technology, and they represented success. In a poll among GDR youth in 1964 inquiring about most admired heroes, cosmonauts were named second after literary figures. Valentina Tereshkova held the top position among the heroines. After a few years, their fame began to wane, but they were remembered regularly until the end of the GDR by press coverage on anniversaries.[49] Series of small brightly coloured pictures featuring cosmonauts and other space motifs were collected and traded by Soviet schoolchildren. In the GDR, every child knew the first German cosmonaut Sigmund Jaehn. He was a 'late hero' when he took off in 1978 on a Soviet mission (a Polish and a Czechoslovak cosmonaut went before him).[50] On 26 August 1978, GDR media proudly reported his launch. Sigmund Jaehn became the most popular GDR hero, especially among children. He travelled around the country and visited schools and factories. Propaganda put forward his modest origins, just as in the biographies of Gagarin and Tereshkova (even Laika had to be a stray from Moscow streets). Jaehn had been a pioneer leader (heroes had to have an inclination towards education) and one of the first jet pilots of the GDR (this was part of the classic socialist myth of aviators as explorers and pioneers).[51]

However, there is another story to tell about the connection of childhood and cosmos through the media. Jaehn took off together with a Soviet cosmonaut – on board *Saliut 6* there were also the popular German children's television puppet 'Sandmaennchen' and the Soviet mascot 'Masha'. This was Sandmaennchen's first real space

mission – Sigmund Jaehn took a puppet especially made for the trip out of his pocket. Unexpectedly, his Soviet colleague followed suit and produced Masha. Apparently, the puppets got on quite well, because Jaehn spontaneously celebrated a space wedding during a live television show on 29 August.[52] Sandmaennchen had covered Soviet space missions regularly on television since 1961.[53]

Children in the GDR had their own 'Clubs of Future Cosmonauts'. Photographs show them playing at being cosmonauts in home-made cardboard space costumes. To gain admission to cosmos training centres and flight-simulators, they had to pass tests in the theory of science and technology.[54] These examples show that there were striking similarities between the Soviet Union and the GDR concerning the connection of childhood and cosmos in everyday cultural practices. The obvious vehicles that imported cosmic enthusiasm into GDR culture were the new socialist heroes, visual propaganda, children's media and the comprehensive structures of the pioneer organization, which organized leisure time. The pioneer organization followed the same lines from Cheliabinsk to Wuhlheide, where a 'Pioneer park' was established in 1950. When the Pioneer palace 'Ernst Thaelmann' was opened there in 1979, it boasted a cosmic training centre as well as a 'Club of Future Cosmonauts', just like the Soviet pioneer camp 'Orlenok', founded in 1960 on the shore of the Black Sea.[55]

The highly standardized albums, with photographs from pioneer summer camps in the Southern Urals during the 1960s and 1970s, all feature a 'day of the cosmos'. One camp even bore the name of 'Aelita', Aleksei Tolstoi's space novel. Children built model aircrafts and rockets, and paid honour to the accomplishments of space travel.

The similarities substantiate the attempt of the Soviet leaders to benefit from their performance in space in connection with childhood utopias to promise a bright future and to enhance their relationships with other Socialist countries.

Childhood and cosmos as post-Socialist places of remembrance

One of the reasons for the successful combination of childhood and cosmos as projects of the future was the idealized happy socialist childhood, which, of course, drew on romantic visions of childhood of the 19th century. Nonetheless, the 'happy socialist childhood' lives on to this day in the guise of a post-Socialist *lieu de mémoire*, to use the term of Pierre Nora.[56]

The present-day significance of the symbolic connection between childhood and cosmos lies in its carefully maintained image (stamps, anniversaries, day of the cosmos etc.) not only during Socialist times, but afterwards as well. Childhood and cosmos are popular *lieux de mémoire* in post-Socialist societies. The combination of a 'happy childhood' and popular heroes of childhood times is further enhanced by superpower-nostalgia and the glory of having been 'the first' in outer space.

Childhood utopias exist in most developed societies.[57] In authoritarian socialist states, they were cultivated for political reasons. Therefore, they had a strong presence in everyday practices and were imported into the post-Socialist culture in the form of nostalgia. The protected 'happy childhood' is an emotionally significant place of remembrance in the Soviet Union and in the GDR. In the myth of the happy childhood, individual memories of security meet with the collective imagination of a powerful socio-cultural myth. During childhood, tutelage held no offence, but was sanctioned jointly by the parents and the state. Childhood nostalgia, therefore, is even 'allowed' by former critics of the system.[58]

Conclusion

The period from 1953 to 1970 is usually seen by Western historians of the Soviet Union as a time of transition from the post-war society during late Stalinism to de-Stalinization to the stagnation of the Brezhnev era. The focus on everyday practices surrounding the motifs of childhood and cosmos in Soviet visual culture brings to the forefront the issue of an emerging alternative, Soviet-type mass and consumer society eager to compete with its Western rival. The focus on practices allows us to reconstruct negotiations of social roles and hierarchies. This chapter argued that the stories of the specifically Socialist connection of the motifs of children and space rockets with myths of a happy childhood tell other stories. For one, it is the story of how desperately the Soviet leadership needed new and positive images to gain the loyalty of their people and to hold out a prospect of a better future. Another story is the transnational and intertemporal validity of such a strong motif as children.

Notes

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3. Schwartz, *Erfindung des Kosmos*, pp. 176.
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6. OGAChO f. 1624, op. 1, d. 58: Perspektivnyi plan rabota Dvortsa na 1962–1963, p. 52.
7. OGAChO f. 1624, op. 1, d. 58: Perspektivnyi plan rabota Dvortsa na 1962–1963, p. 54.
8. OGAChO f. 1624, op. 1, d. 59, p. 10.
9. Information and photographs obtained during a visit to the Dvorets Pionerov in Cheliabinsk, September 2007.
10. OGAChO f. 1624, op. 1, d. 58: Perspektivnyi plan rabota Dvortsa na 1962–1963, p. 16.
11. Holdings concerning pioneer palaces in the archives of Itar-TASS, Moscow. See for example *Fotokhronika TASS*, no. 774370; 774371; 834233/5; 886159; 924269/3.
12. Liudmila Jackson (1999) http://www.tim-jackson.co.uk/lyuda/artek.html (last accessed 2 February 2010).
13. The later cosmonauts were not as popular. They were not seen as messengers from heaven and were not given exemplary biographies (Schwartz, *Die Erfindung des Kosmos*, p. 67).
14. Ingrid Oswald, 'Sowjetische Science-fiction-Literatur als soziologisches Erkenntnismittel: Literarische Plattform und öffentliches Medium der wissenschaftlich-technischen Intelligenz', *Osteuropa* 41, 4, 1991, pp. 393–405.
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17. OGAChO f. 1624, op. 1, del 58: Perspektivnyi plan rabota Dvortsa na 1962–1963, p. 54. Cf. Vail /Genis, 60-e, p. 23; Schwartz, *Erfindung des Kosmos*, p. 65.
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49. Gibas, 'Venus vom Sternenstädtchen', pp. 156–7.
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Part IV
Space in Popular Culture

Figure PIV.1 Space dog Laika (Matchbox label)
Source: M. Rüthers private collection.

17
Introduction to Part IV

Julia Richers and Monica Rüthers

Judging from its (omni)presence in everyday life, from the 1950s, the cosmos had become a central part of popular culture in the Soviet Union. Space motifs appeared in many different genres and contexts. In addition to space motifs in songs and films, in art or popular scientific literature as well as in the areas of consumer behaviour and material culture analyzed in this section, the cosmos was brought into daily life by the world-famous GDR car 'Trabant' (Satellite), the cigarette brands 'Laika' and 'Sputnik', or even confectionery with names such as 'Cosmos' or 'Stratosphere'. It was the special mediality of the notion of cosmos that made it a hallmark of a modern mass culture.

The quantity of visual representations of the cosmos and of cosmonauts is astounding. There are several possible reasons for this phenomenon. Since spaceflights and the physical experience of the cosmos was something limited to a handful of chosen people, imparting knowledge about the cosmos and space travel fell into the realm of imagination, and was therefore fuelled especially by pictures. This vast visual legacy of the space age gives highly interesting insights into this 'cosmic era' – to read the iconography of an era means to get closer to the concepts of a culture and a society.

In the Soviet Union, political posters in particular traditionally served as vehicles for varied utopian messages. They visualized the new worldview and served as 'advertisements of Utopia'.[1] Posters did not merely influence visual culture in public spaces, they also contributed considerably to the Soviet repertoire of images by means of their striking and memorable iconography.

'Cosmic' symbols did not just become a constituent part of the visual culture in the 1950s and 1960s, but were already visible in the early years of the Soviet Union.[2] In addition to global and 'post-planetary'

visions of revolutionary thinkers, some specific planets and stars had a lasting impact on the images and imaginations of the Soviet Union. The Sun was most definitely such a symbol – as the epitome of light and enlightenment – as was Mars as the utopian 'red planet'. However, no single star was assimilated by Soviet iconography so surreptitiously and yet so significantly as was the five-pointed Soviet red star. The red star was the fixed star of redemption that literally lit the path of Communists to paradise. It remained a central element of imagery until 1991 (and also after). Interestingly, up to the present day we know little about the origin of this important Soviet symbol, only that it was probably first introduced on 19 April 1918 as a distinguishing mark and emblem of the soldiers of the 'Workers' and Peasants' Red Army' (RKKA). Soon after, the 'cosmic sign' became *the* visual representation of Soviet power. Its ability to match the 'scientific utopian' self-image of the revolutionaries and to interpret their theme in 'religious-magical, popular terms'[3] may have contributed to its huge success.

Myriads of posters showed the red star; it served as an ideal iconographic link to the new, sparkling and shiny world of Khrushchev's space age. The cosmos was portrayed visually not only on posters but by all possible media such as postcards, stamps, photo reports, television films and movies, as well as a long list of objects and manifestations in urban construction. The red star was completely incorporated into socialist popular culture.

In essence, the Soviet leadership had to deal with the visualization of something hardly visible – the cosmos. This was helped neither by the intangibility of the topic 'space', nor by the censorship and secrecy surrounding space technology. Millions of space enthusiasts inside and outside the Soviet Union were shown 'false' or heavily touched up pictures of the Soviet space missions. None of the pictures of rockets and space capsules corresponded to the real objects. Therefore, the artistic freedom of the creators of space imagery was virtually limitless. This is illustrated well in Anneli Porri's chapter on the images of the cosmonaut in Soviet and post-Soviet Estonia. While Soviet Estonia was not infected so much by the general space fever of the USSR, Porri points to the fact that Estonian artists quickly learnt how to make use of it for their own goals. By taking up the cosmos motif, artists could experiment with visual techniques otherwise viewed as 'Western', such as video stills (in the form of oil paintings on canvas). In the post-Soviet art scene, on the other hand, the image of the cosmonaut becomes a partly ironic, partly nostalgic reference to a youthful Soviet utopianism that is long gone.

Popular scientific literature for the masses served as a back door for a re-enchantment of the cosmos during the Thaw. The 'other' world provided room for escapism, which certainly contributed to the enthusiasm for anything to do with the cosmos. Matthias Schwartz's chapter deals with these unscientific counter-discourses on the topic of outer space and de-Stalinization. He addresses the phenomenon of two cultures: the competition between *liriki* (poets) and *fisiki* (physicists). Both (natural) science as a seemingly objective, independent producer of knowledge as well as literature and art were, each in their own way, popular vehicles of the search for 'truth' and 'honesty'. As well as the popularization of technology, in the writings of popular science on the cosmos, the authors investigated legends, myths and miracles, and attempted to explain them through technology. The cosmos inspired imagination; and, with this fantasy literature, a genre was born which harboured possibilities of other narratives on space than the dominant one (on this topic, see the Introduction to Part I).

In his chapter, dedicated to Russian and American pop songs and films about space travel since the 1960s, Andrei Rogatchevski describes the gradual transition from enthusiasm to scepticism towards official narratives. Here, we find obvious counter-narratives as well: conspiracy theories fed by the official policy of secrecy were virulent both in American as well as in the post-Soviet versions. The protagonists are either deceived or manipulated, and the theme of the mediality of the whole cosmos fever is dealt with in depth. The comparison of American and Soviet or post-Soviet products of popular culture makes the specific 'Sovietness' of Russian cosmic enthusiasm particularly clear.

Notes

1. Cf. Klaus Waschik and Nina Baburina, *Werben für die Utopie. Russische Plakatkunst des 20. Jahrhunderts*, Bietigheim-Bissingen: Edition Tertium, 2003.
2. On the cosmic symbols in Soviet visual culture see Julia Richers: 'Himmelssturm, Raumfahrt und 'kosmische' Symbolik in der visuellen Kultur der Sowjetunion, *Die Spur des Sputnik. Kulturhistorische Expeditionen ins kosmische Zeitalter*, ed. Igor J. Polianski and Matthias Schwartz, Frankfurt, New York: Campus, 2009, pp. 181–209.
3. Manfred Hildermeier, *Geschichte der Sowjetunion 1917–1991. Entstehung und Niedergang des ersten sozialistischen Staates*, München: Beck, 1998, p. 322.

18

A Dream Come True

Close Encounters with Outer Space in Soviet Popular Scientific Journals of the 1950s and 1960s

Matthias Schwartz

Introduction: the greatest of all human dreams

> 'Khrushchev took off his hat and tightly kissed the hero, embraced him, and kissed him again and again.'[1]

In 1957, after the launch of the first artificial earth satellite, crowds in Moscow went out into the streets, watching the sky every evening and morning in order to detect the small, man-made object flying among the stars.[2] The official press celebrated it as the beginning of a new era:

> The launch of the first artificial Earth satellite was achieved in a country where, 40 years ago, a new era of humanity began. The volley of the cruiser 'Aurora' announced to all peoples and countries the birth of a new world, new interpersonal relations and the liberation of thinking. Since that moment, science in our country has developed in seven-league boots and today its creators have fulfilled the ancient dream of humanity under the guidance of the Communist party.'[3]

Four years later, in 1961, not only the streets, but also the roofs were crowded with people welcoming Gagarin back from outer space. Journalists noted that it was the most happy and honestly celebrated public holiday ever in the city's history.[4] The first secretary of the Communist Party, Nikita Khrushchev, declared in a tribute in Red Square: 'The unfulfilled dream of conquering outer space – has been indeed the greatest of all human dreams. We are proud of the fact that

this dream became true through our Soviet people, that this fairy tale has been brought into reality by them.'[5]

Obviously, since the end of World War II, the Soviet people and their government had never been so aligned in their feelings and sense of belonging as in these days of cosmic enthusiasm. However, from the perspective of a cultural historian, this close affinity between public interest and political propaganda is more than astonishing because the popularization of science was one of the main domains of Stalin's times, whereas Khrushchev's times are generally associated with a cultural Thaw and a political de-Stalinization of society. So, we have to take a closer look at these crowds on the streets and roofs of Moscow, celebrating the ancient dream come true, and ask: What did these events speak of other than the straightforward technological ability to leave Earth? Why was it at this particular point in time that so many people longed for extraterrestrial heroes? What triggered this extreme enthusiasm? More generally speaking: How did people perceive outer space? As I will show, underneath the cosmic enthusiasm of the late 1950s and early 1960s in the Soviet Union was a subtext, one that speaks of a different view of the events, contrary to the official propaganda and proclamations. This subtext was primarily articulated in popular scientific publications and in science fiction texts of the time.

In the following, I want to sketch out the main characteristics of this subtext that formed part of scientific as well as cultural and political discourses. My argument will be based mainly on central popular scientific journals such as *Knowledge is Power* (*Znanie – sila*), *Around the World* (*Vokrug sveta*), *Science and Life* (*Nauka i zhizn'*) and *Technology for the Youth* (*Tekhnika – molodezhi*). I focus on these journals because they became the leading voices for the public discourses about outer space during the Thaw and, hence, defined the imagery and ideological boundaries of cosmic enthusiasm.[6]

Popular dreams: spaceflight in Stalin's time and post-Stalin

> 'Sagest leader and friend of all workers, comrade Stalin! All my life I dreamt about moving mankind forward at least a little bit with the help of my works. Before the Revolution my dream couldn't be realized. Only October paid tribute to the works of an autodidact … I felt the love of the masses … I am convinced that they will finish these works.'
>
> (Konstantin Tsiolkovskii, 1935)[7]

In contrast to cybernetics and genetics – which were rejected as bourgeois 'pseudo science' – space flight was never a forbidden theme in the time of Stalin, yet it did not ever play a major role in the popularization of science, which was one of the central fields for Soviet propaganda.[8] However, space flight featured quite prominently in the official rhetoric of the period.[9] According to this discourse, scientific and technological innovations had to focus almost exclusively on the improvement and development of the socialist present and of the so-called Great Stalinist construction sites.[10] In this context, rocket technology for travel to outer space was presented as a revolutionary, contemporary field that opened new horizons and marked the onset of a new life. Similar to the 'reconstruction of nature' and the foundation of new industrial centres at the back of beyond in Siberia, as well as the scientific exploration of the Arctic, outer space represented just another unsettled area full of natural resources, which would be conquered by the almighty Soviet technical inventions in the near future.[11]

The canonical authority in aerospace to which all participants had to refer, similar to that of Ivan Pavlov, Ivan Michurin or Vladimir Vernadskii in other fields of science, was the rocket pioneer Konstantin Tsiolkovskii (1857–1935), who was central to the popularization of space flight.[12] Although his writings entailed far-reaching philosophical thoughts and socio-political impacts, the reception of his fantasies was extremely selective.[13] His 'fantastic' speculations about future interplanetary settlements were taken almost exclusively for the limited purpose of propagating spacecraft.[14] One prominent science writer, Boris Liapunov, outlined Tsiolkovskii's ideas in a popular book for pupils as follows:

> He dreamt about how people conquer interplanetary spaces, how they explore the unlimited treasures of the Universe. Tsiolkovskii dreamt about how the sun will work wonders for humans: how it will grow up fruits in heavenly orangeries, how it will move heavenly living rooms – space ships … Tsiolkovskii dreamt about engines without fuel, about factories and enterprises, where everything is done by the sun … Tsiolkovskii understood how many obstacles will be met on the way to the conquest of interplanetary spaces. But he devoutly believed that his dream will come true, that humanity will conquer the Universe.[15]

Following this vision, popular scientific journals informed in detail about the technical and scientific particulars of space flight in their contributions, and educated their readers about the evolution of the universe or the astronomic system of different galaxies in general.[16]

After Stalin's death, space flight gradually became a more prominent topic in public scientific journals. In 1954, *Knowledge is Power* launched a special issue dated 1974 with a detailed fictitious description of the first human landing on the moon.[17] In the journal *Technology for the Youth*, a tale about interplanetary contacts won a national contest for the best science fiction short story in 1954/55.[18]

Despite these enforced attempts to propagandize space exploration, success was minimal. Even when, starting in early 1957, the upcoming flights of artificial earth satellites were an ongoing theme for newspaper reports about the International Geophysical Year (January 1957 to June 1958), they rarely entered the headlines of the national newspapers.[19] Space propaganda in the Soviet Union was associated with Stalinist science politics and was at best met with disinterest, if not open animosity. An example of this attitude is the most popular feature film in the Soviet Union in 1957, the New Year's comedy drama *Carnival Night* (*Karnaval'naia noch'*, American release title *Carnival in Moscow*) by El'dar Riazanov, which openly ridiculed the topic. On New Year's Eve, the director of a culture house invited a lecturer from the Society for the Popularization of Scientific Knowledge to give a 40-minute talk on the question 'Does life exist on planet Mars?' This lecturer represents the typical cultural official of the Stalin period, whose performance the young generation tried by all means to prevent.[20]

The youth of 1957 – in the second year of the new cultural and political 'Thaw' – had completely different interests than the question of possibly primitive plants on other planets, or successfully launched weather satellites. In the summer of 1957, the sixth International Youth Festival took place in Moscow.[21] Western fashions, new popular music styles, the cinema of the Italian Neo-realism and modernist art exhibitions gained public attention. After decades of strict political regulation, for the first time, a generation of young Soviet writers, poets and songwriters (subsequently known as the *shestidesiatniki*) gained a sphere of artistic freedom – albeit still restricted.[22]

The indifference of Soviet people towards the official space propaganda seemed to be so salient that even the political leadership appeared to be completely unprepared when the launch of the first artificial Earth satellite on 4 October 1957 caused the so-called 'Sputnik shock' in the United States.[23] Only days later did the Soviet government and media realize the enormous propagandistic value of the *Sputnik* in the context of the Cold War and gradually adopt it. Yet, it was only after the launch of the second *Sputnik*, which transported the 'first interplanetary passenger', the dog Laika, to outer space on 9 November 1957, that the space programme was

conceptualized into an overall political campaign to popularize Soviet sciences.[24] Now Soviet citizens could no longer ignore the beginning of a new 'cosmic era of mankind', when 'the human genius opened the secret curtain of the Universe and paved the way to the cosmos'.[25]

However, in the following months and years this campaign for cosmic enthusiasm in many ways repeated the typified forms of science popularization from the Stalin period. The political leadership around Nikita Khrushchev announced that the Soviet Union would soon overcome the United States as the foremost industrial nation of the world. After Gagarin's and Titov's first manned space flights, the 22nd Congress of the Communist Party declared in autumn 1961 that the generation of the day would build Communism on Earth until 1980. In his opening speech, the first party secretary pointed to the connection between space flight and social progress with the following words: 'Now we may say with pride that the peoples of the Soviet Union … in putting up the building of the communist society indeed assault heaven in the figurative as well as in the literary sense of the word.'[26]

The popular scientific journals constructed the cosmonauts in this 'figurative sense' as actualized Stalinist heroes, who personified the promised glorified future of a better world, the earthly paradise to come, and propagated the Russian words of *Druzhba* (friendship) and *Mir* (peace) worldwide.[27] At the same time, Iurii Gagarin and German Titov were addressed as 'brothers in heaven', who desecrated the old religious Heaven and dethroned its Christian gods.[28] In a more straightforward 'literary sense', the journals circumstantially embellished the beginning of the cosmic era of mankind in the tradition of Tsiolkovskii's dreams and highlighted its first technical and scientific forerunners.[29] Satellites symbolized the vision that, in the near future, it would be possible to translate pictures and voices in real time via telecommunication all around the globe.[30] Sputnik cartoon characters became popular and were portrayed as commenting, for instance, on the design of new portable radio receivers. At that time, even the model of a new automobile was named after the first satellite.[31]

Until the middle of the 1960s, all these figurative and literary symbolic representations of the ongoing successes of the Soviet space flight programme followed established schemes of science popularization. However, they seemed increasingly to attract ordinary people. Hence, during the Thaw popular scientific journals enlarged their circulations considerably. *Science and Life*, for instance, increased its volume from 150,000 copies in 1957 to 1,750,000 in 1965; while *Technology for the Youth* increased circulation from 250,000 in 1955 to 1.2 million

in 1964.[32] Obviously, the attitude of Soviet people shifted quite rapidly from a dominant disinterest in the topic to increasing curiosity when, as personalized Sputnik figures, Gagarin and Tereshkova became the new 'stars' of the Soviet firmament of the Thaw. We can find a possible explanation for this change in attitude by looking not so much at the symbolic level, but by more closely exploring the narratives published in popular scientific journals about the space race. The picture that emerged at that point in time shows that the discourse about outer space was much more ambivalent than the transformed political 'cult of personality', the established schemes of science popularization, and the international 'peaceful competition' of the space race suggest.

Close encounters: wonders grounded in scientific explanations

> 'No, we will work now for ourselves real wonders, about which the authors of biblical fairy tales didn't even dream.'[33]

The increasing public interest in space exploration possibly had different reasons. First certainly, no one could escape the omnipresence of cosmonautics in everyday life. Second, from the beginning the Soviet satellites, and then the cosmonauts, were connoted with double meanings. On the one hand, they were addressed as 'stars' in the sky and 'brothers in heaven' and, in this way, associated with the broad field of popular religious beliefs, in which heavenly signs are seen as fateful omens or heralds of a metaphysical meaning. On the other hand, the technology was linked to the Russian word 'Sputnik', which means companion, fellow or partner. Naming the satellite 'Sputnik' therefore metaphorically suggested that this new technology could guide you through your life and would join you in difficult or happy moments. The former Stalinist heroes, who had been characterized by steely discipline, were transformed into nice guys who carried a happy smile on their lips, similar to the American crew of 'Mercury Seven'.[34] In addition, there was a third subtext that most openly undermined the official notion of Sputnik as a symbol of Soviet superiority and the communist future – namely one that viewed the possibility of cosmic flights as a way to escape Earth, to get away from one's own society.

Popular scientific journals did not propagandize this idea of escape directly, but what they accomplished was to discuss space flight not only as a way in which humans conquer and explore outer space, but

also as a new field of close encounters with other beings, strange worlds, different civilizations, and with until now unknown fields of knowledge and unresolved secrets of human history. They not only described in detail how humans would visit and colonize other planets, but also asked how space flight would change life on Earth. Starting with the reactivated debate about the possibly artificial nature of the so-called 'canals' on Mars, many authors asked whether humans really are the only intelligent creatures in the universe.[35] The authors proposed organically different intelligent civilizations on other planets and discussed the possibility of alien visits to Earth. Even hypotheses about the manipulation of human history and the ongoing influence of aliens on life on Earth arose.[36]

All these questions operated in a border zone between science and pseudo-science, which had, until then, been unknown in the Soviet Union. Writings were positioned between the craving for sensations and the belief in wonders, but were at the same time seriously discussed by known academics and engineers, practitioners and laymen, writers and readers. It was only in the middle of the 1960s that these discussions were increasingly ridiculed or moved to journal sections entitled, for instance, 'Terra phantasia'.[37] Before this point, they were regarded as contributions to science. The journals, however, still dedicated considerable space to similar topics. Due to the enormous response to these publications by readers, the journal *Knowledge is Power* even founded an internal committee for 'alien contacts' to collect and systemize all the reports on this matter.[38] In 1965, a prominent psychiatrist stated that one of the most common illness narratives of his patients consisted of close encounters with aliens.[39]

If we look at these 'close encounters' with other worlds in a broader context of the Stalinist notion of science, then we may argue that exactly these 'illness narratives' facilitated a gradual paradigm shift that simultaneously took place in all fields of knowledge but was most prominently articulated in writings on cosmic themes. In order to understand this shift, we have to keep in mind that the scientific field was extremely politicized during the late Stalin period, proclaiming a fundamental difference between Western and Soviet science, between an idealistic and a materialistic conception of scientific thinking. The consequence of this dichotomy was what Ethan Pollock describes as real 'Science wars' and Alexei Kojevnikov calls 'games in Stalinist democracy', as a consequence of which whole fields of scientific research and theoretical questions were totally rejected as bourgeois idealism.[40]

In opposition to these strict ideological boundaries, the themes previously forbidden and objected to once more gained special attraction

for popular scientific discussions after Stalin's death. Even quite esoteric theories about telepathy or visits of aliens to Earth were seriously discussed.[41] Some publications even suggested that the Himalayan Yeti was actually a crash-landed Martian who had migrated to the high mountains of Pamir.[42] One of the most prominent cases in this regard is the story of the so-called 'Tunguska event'.[43] The huge explosion in East Siberia near the river Tunguska in 1908 was allegedly caused by an object of cosmic origin. Some influential scientists and journalists believed that it happened because an alien space ship from Mars had exploded. This hypothesis was a regular topic in popular scientific journals from 1957 onwards.[44] The Academy of Sciences even founded a special commission, and several expeditions visited the place where the body from outer space had arrived. Since no evidence was found for the popular thesis of the cosmic causation of the event, the story eventually ended up in the journal section called 'terra phantasia'.[45]

The credibility of these discussions about thematic border regions was facilitated by a second factor that can be seen as a continuation of a dominant strand within the Stalinist science paradigm. In this understanding of science, the bourgeois are seen as passively accepting the eternal laws of nature whereas, in contrast, the Soviet scientists try to fight and overcome the restrictions of nature for the benefit of humans. Lysenko's ideas about changing the inherited properties of grain, as well as the gigantic projects to melt the Arctic ice in order to improve the climate in Siberia, were based on this understanding of science. Following these ideas, the colonization of outer space was understood in the sense of Tsiolkovskii as an experimental ground for unlimited speculation. In 1958, one doctor of technical science developed a detailed plan of how to transform the moon into a flourishing 'seventh continent' of Earth within 10 years. Other scientists offered projects for colonizing outer space within the next 150 years, planning the first permanent settlements on the moon for the year 2000, and for reconstructing the atmosphere of Mars within the 21st century.[46]

Thus, in the popular scientific discussion around outer space, we find two differing intellectual operations. On the one hand, the de-Stalinization of hitherto political forbidden fields of science enables the emergence of rather esoteric topics as objects for serious discussion. On the other hand, the worldview paradigms of late Stalin times live on in the theoretical notion that no natural boundaries for scientific enterprises exist. Thus, the post-Stalinist hubris of colonizing space and its opposite imaginary direction of aliens contacting Earth imply

the same political and theoretical hypotheses. However, when the first option was firmly connected with the concrete achievements of Soviet cosmonautics until the end of the Thaw, the second field of scientific speculation gradually caused a fundamental shift in the notion of the role of humans as part of the universe. This shift can be characterized as a turning away from a materialistic, dialectic worldview to a more positivistic understanding of science. Popular culture and folk tales of ordinary people, which had previously been seen as cultural heritage and as showing the creativity of the oppressed classes, were now restudied as authentic documents for a previously known and subsequently overlooked higher truth. For instance, popular scientific journals published increasingly ethnographic reports about religious legends from Soviet minority cultures, which could be interpreted as close encounters with alien forces from outer space.[47] Similarly, medieval icons were studied as illustrations of extraterrestrials, and biblical wonders were read as descriptions of technical inventions from outer space. These so-called 'cosmonauts of ancient times' caused a whole wave of reader responses in the beginning of the 1960s.[48]

Common to all these different popular scientific reports about alien contacts was a strong positive affirmation of the topic. Although all of them critically reflected the possibility that aliens have never visited or contacted planet Earth and possibly never will, the hope of finding conclusive evidence for the existence of extraterrestrial close encounters never ceased. In 1965, the prominent physician and promoter of science, Aleksandr Kitaigorodskii, characterized this new positivistic notion of science as follows: 'Quite often people honestly believe in the possibility of a "divine will" interfering with our world. More educated people believe in wonders grounded in scientific explanations.'[49]

Whereas in Stalinist times these 'scientific wonders' were related to the activities and achievements of Soviet people, they were now projected into outer space or to other non-human, unknown forces. This extrapolation of human activity to an external force, I argue, forms the core of the popular scientific paradigm shift that took place. In this conceptualization, humans are no longer viewed as the active subject of history and historical change, but are conceived as passive objects of others, in this case of extraterrestrial forces. The scientific hubris about humans overcoming natural restrictions changed into a scientific belief about the transformation of human limitations due to the help of supernatural forces.

Attempts to escape: 'other spaces' in Soviet science fiction

– Was it hard? – I asked him.
– It was very hard for all of us, Ruzhenka, – he answered.
– Did you love me there?
– I loved you everywhere. There is a planet left which I named after you. Only I don't remember where … It was a malicious planet, Ruzhenka.
– Why did you name it after me then?
– I don't know. Strictly speaking, it's a wonderful world.'[50]

The described ambivalence between the official political notion of space flight and the popular scientific subtexts was even reinforced by the fact that the journals mentioned above started to publish largely so-called 'scientific fantasy' (*nauchnaia fantastika*), the Soviet form of science fiction.[51] These fictional stories emphasized the future perspectives of human life on distant planets and in other galaxies, offered alternative types of society, tested the possibility of time travel, or presented different forms of intelligent life. 'Fantasy', as one physician put it in a statement in 1964, 'means destruction of the ordinary, of the everyday ways of thinking. But it has to be a justified and artistic destruction – and not less important – a logical one.'[52] In this way, popular discourse about outer space opened an imaginary gateway into other worlds, far away from one's own Soviet present.

If we take a closer look at these fictional close encounters with outer space, they appear not so much like a communist dream come true – as the official rhetoric suggested, nor even like an unshaken belief in scientifically grounded wonders – as in popular scientific articles, but like a persistent 'attempt to escape' the Soviet present, as one short novel of the Strugatskii brothers from 1962 was called.[53] At the same time, these 'attempts to escape' were not simply imaginary journeys into 'absolutely different' worlds. They represented, following Michel Foucault's notion about 'other spaces' (heterotopias), 'something like counter-sites, a kind of effectively enacted utopia in which the real sites, all the other real sites that can be found within the culture, are simultaneously represented, contested, and inverted'.[54]

The first work of science fiction that came close to 'opening' these gates to the 'counter-sites of the own culture' was a novel by a known paleontologist and geographer, Ivan Efremov (1907–1972). Efremov had

already started to write science fiction stories during the war, but after trouble with censorship stopped publishing until the beginning of 1957, when his great communist utopia *Andromeda Nebula* (*Tumanost' Andromedy*) appeared in instalments in *Technology for the Youth*.[55] This work was immediately met with overwhelming enthusiasm by the readers and remained one of the most popular science fiction works until the end of the Soviet Union, with more than 20 million copies sold.[56] It described the world of the communist future of the 31st century, when several civilizations of the galaxy are united in a so-called Great Circle, living and working together only for the sake of their collective interests and needs. This utopia fascinated not only because it portrayed, for the first time, an ideal Communist society in great detail, but also because of its vivid descriptions of horrifying space adventures, crashed spaceships, and romantic close encounters with alluring alien females.[57]

Starting with this novel, a whole wave of science fiction publications flooded public scientific journals, which sometimes printed several stories in one issue, written mainly by a new generation of younger scientists who in this way articulated their fascination with scientific topics, often without any literary experience or schooling. The most well-known authors of this new wave were Mikhail Emtsev (1930–2003) and Eremei Parnov (1935–2009); Evgenii Voiskunskii (1922–) and Isai Lukod'ianov (1913–1984); Genrikh Al'tov (1926–1998, pseudonym of Genrikh Al'tshuller) and Valentina Zhuravleva (1933–2004); as well as Anatolii Dneprov (1919–1975), Il'ia Varshavskii (1908–1974) and the brothers Arkadii (1925–1991); and Boris Strugatskii (1933–).[58]

Most striking about these stories were the highly ambiguous narratives the authors invented about outer space, the way in which they described the close encounters with alien heterotopias, predominantly without any open criticism of their own culture. This ambiguous fascination became obvious as early as the first published short stories by the most famous Soviet authors of science fiction, the brothers Strugatskii. 'From Beyond', their first story published in January 1958 in *Technology for the Youth* and later reworked into a short novel, describes how an interplanetary spaceship visits Earth in 1967 and abducts some archaeologists working in the mountainous area around Stalinabad (the capital of Tajikistan, renamed Dushanbe in 1961), before official contact with the 'Intellect from Another World' is established by Chinese-Soviet spaceships.[59] However, the main focus of the story is not this topic of peaceful interplanetary cooperation – obviously polemically referring to the Western Cold warriors in the tradition of H.G. Wells' 'War of the Worlds'.

Rather, it focuses on a small group of people, living and working in the steppes of Middle Asia, cut off from civilization and confronted with an irrational alien force, which observes, prosecutes and abducts them arbitrarily with the help of technical instruments unknown to the heroes. Only in the second half of the story are the mysterious 'air strikes' and 'celestial hooliganism' recognized as cosmic interventions of so-called 'in-migrants' (*prisheltsy*) from beyond.[60]

Similarly, another early story, 'Special Assumptions' (published in *Knowledge is Power* in 1959), tells of a spacecraft crew who are initially supposed to be away from Earth for over 100 years due to some implications of Einstein's theory of relativity, although the excursion time inside the spaceship lasts only 17 years.[61] To overcome this extreme time difference, the crew reduce their time of absence to six months with the help of some 'special assumptions' concerning Einstein's theory – by accelerating the spaceship in a way that causes extraordinary damage to the human body and kills half of the team before the spaceship returns home. This 'accelerated' space trip is described in all its torturous consequences:

> It was so hard that sometimes it looked as if we wouldn't survive it … I hoped that we could get used to it at least a little bit. But that proved to be impossible. We had to renounce all kinds of solid food and nourished ourselves on bouillon and juice … We lay motionless in our hammocks and remained silent, because it was so hard to speak … Only Mikimi Saburo was still able to go to the crew's control cabin without losing consciousness … Porta agonized most of us, even when we put him into the 'Sarcophagus' he was unable to fall asleep. It was awful to look at him. It was awful to look at each of us. We lay in front of the 'Sarcophagus' and looked at Porta.[62]

It was spellbound glances into awful 'Sarcophagi' like this that structured the plot of the bigger part of the stories: extreme hardships 'at the end of the way'[63] have to be borne by a single person or a small group of people, caged in a tiny space capsule or isolated in deserted regions, before the 'Call of Earth'[64] returns them back home. Thus, close encounters with outer space took on a double meaning: as fantastic 'counter-sites', science fiction stories deconstructed 'ordinary, daily ways of thinking' and inverted the fulfilled dream of official statements into traumatic nightmares of the authors' own culture. Similar to a 'black square',[65] the wonderful but 'malicious planet' mentioned above could be associated with all possible counter-sites of Soviet reality; it could represent the experience of repression, terror and

ostracism in Stalin's times, it could hint about secret tests of new weapons and technical inventions in far Siberia, or the warning of possible future threats. Whereas American science fiction of the so-called 'Golden Age' predominantly extrapolated inner fears into intergalactic dimensions of inevitable 'Star Wars', the Soviet counterpart highlighted peaceful cooperation, at least on the surface, but subcutaneously reconsidered the personal experiences of traumatized humans, who are helpless at the mercy of overpowering external forces.

Conclusion: the far side of cosmic dreams

> 'Illusions are a common thing
> I try to live in dreams
> Although its only fantasy.'[66]

When the first artificial Earth satellites were launched by the Soviet Union in 1957, neither the government nor ordinary people, apart from some rocket technology enthusiasts, anticipated that 50 years later these bold ventures would function as central symbols of a whole generation, the period of the so-called space race. Cosmonautics were perceived as part of a dominantly technological understanding of social order, and associated with violent industrialization and enforced collectivization, total state control and all-embracing political repression in Stalin's times. In 1956, the 20th congress of the Communist party, with Khrushchev's famous secret speech denouncing Stalin's dictatorship, marked a signal to leave this public dominance of the 'technical intelligentsia' behind for the benefit of a more 'humanistic' transformation of society.[67] However, the negative image of science among the 'cultural intelligentsia' changed only gradually during the Thaw, and in 1960 Boris Slutskii still complained in his widespread poem 'Physicists and Lyricists': 'Physicists are somehow much in honour/Lyricists are somehow pushed aside.'[68]

Contrary to this dominant discourse of post-Stalinist times, within a short time space flight and outer space gained enormous popularity among Soviet people.[69] Cosmic dreams even continued to be admired when Khrushchev had to resign and Soviet cosmonautics fell behind its American counterpart – ultimately losing the space race to the moon. Paradoxically, it looks like as though outer space constituted the last functioning 'modern myth' (Roland Barthes) of the Soviet Union until the state broke down.

The reasons for this were manifold. On the one hand, the 'Road to the Stars' – as Gagarin's 1961 autobiography was called – in its official

utilitarian form, continued along certain central discursive lines from Stalin's time in highlighting human superiority over nature and interpreting manned spaceflight as a first step to the realization of the promised Communist future. In the context of the antireligious campaigns of Khrushchev's time, cosmonauts were constructed as secular heavenly sons who worked wonders even more fascinating than religious fairy tales could tell. On the other hand, these discourses about outer space in the popular scientific journals were transformed from the official utilitarian concept to more ambivalent narratives about space flight as a gateway into other worlds, of imaginary possible close encounters with alien beings and unknown secrets of human society. Parallel to the optimistic notion of overcoming all natural restrictions and of colonizing the moon – and even Mars – within a few decades, we find a persisting belief in wonders grounded in scientific explanations that re-established a worldview in which humans form part of a bigger universe of natural, cosmic, or occult forces.[70] In this vein, humans are no longer conceptualized as active almighty subjectivities transforming the world around them as they like, but as limited intellectual and physical beings who have to accept that there exist other, more powerful supernatural or extraterrestrial forces, ones on which they are probably dependent.

This popular scientific paradigm shift in the notion of humans was even reinforced by the science fiction stories published during the Thaw in the very same journals. These narratives not only transformed the official notion of cosmic enthusiasm into a quasi-religious, occult worldview, but also supplied it with contrary underlying meanings. The way to the stars was fictionalized as an 'attempt to escape' into heterotopic inverted utopias, where not only differing worldviews and secret desires, but also the inner fears and traumatic events of the authors' own society were extrapolated to alien, distant worlds. Fantastic space adventures told about all the captivating and harrowing 'counter-sites' of Soviet reality that could not be articulated in any other medium or fictional form.

To come to a conclusion, my main argument is that, in talking about 'cosmic enthusiasm', we also have to take into account all these differing popular narratives about outer space in order to understand why people were so attracted to space flight during the Thaw. Cosmonauts not only symbolized a possible better future or ancient dreams about conquering space, they also personified all the countersites of these dreams, read many times over in the pages of popular scientific journals.

Notes

1. Description of Khrushchev's reception of Gagarin, when he arrived in Moscow two days after his spaceflight, [Anon.],'Nachalo ery', *Iunost'*, 1961, V, pp. 3–10, p. 8.
2. V. Komarov, 'Gliadia na nebo… (Prochtite vsluch)', *Kul'turno-prosvetitel'naia rabota*, 1958, I, pp. 56–60, p. 56; Paul R. Josephson writes that 'From the start the Soviet masses were involved' and 'Hundreds of thousands of people gathered in Moscow … to applaud the appearance of the satellite', but I doubt that this was true for the first weeks afterwards as I'll argue further on. Cf. Paul R. Josephson, 'Rockets, Reactors, and Soviet Culture', *Science and the Soviet Social Order*, ed. Loren R. Graham, Cambridge, MA: Harvard University Press, 1990, pp. 168–91, p. 184.
3. [Anon.] 'K novym pobedam truda i nauki', *Znanie sila* 1957, XI, p.1.
4. Cf. [Anon.] 'Chelovek na orbite', *Tekhnika – molodezhi*, 1961, V, pp. 16–17; [Anon.], 'Sovetskii chelovek v kosmose (V poslednii chas)', *Znanie – sila*, IV, 1961, four-page special insert.
5. Nikita Khrushchev, 'Velikii podvig budet zhit' v vekach! (Rech' N. S. Khrushcheva na mitinge trudiashchikhsia Moskvy 14 aprelia 1961 goda)', *Nauka i zhizn'*, 1961, IV, p. 3.
6. For a broader look at the topic cf. Matthias Schwartz, *Die Erfindung des Kosmos. Zur sowjetischen Science Fiction und populärwissenschaftlichen Publizistik vom Sputnikflug bis zum Ende der Tauwetterzeit* (Berliner Slawistische Arbeiten 22), Frankfurt am Main: Peter Lang., 2003.
7. Letter to Stalin, 13 September 1935, quoted in Boris Liapunov *Raketa (Shkol'naia biblioteka)*, Moskva/Leningrad: Gos. Izd. Det. Lit-y, 1951, p. 156.
8. Cf. Loren R. Graham, *Science, Philosophy, and Human Behavior in the Soviet Union*, Cambridge MA: Harvard University Press, 1987, pp. 119–124, 272–276; On science politics in late Stalin times cf. Ethan Pollock, *Stalin and the Soviet Science Wars*, Princeton, NJ: Princeton University Press, 2006.
9. Cf. Iu. Kondratiuk, *Zavoevanie mezhplanetnych prostranstv*, Moskva: [publisher unknown] 1947; A. Shternfel'd, 'Nakanune kosmicheskogo poleta', *Tekhnika – molodezhi*, 1952, II, 31–5.
10. Cf. A. Dorokhov and V. Zacharchenko, 'Na poroge Zemli budushchego', *Tekhnika – molodezhi*, 1953, II, pp. 1–8; N. G. Dombrovskii, 'Budushchee v nastaishchem', *Tekhnika molodezhi*, 1953, III, pp. 4–9.
11. A. Shternfel'd, 'Kosmicheskii polet', *Tekhnika – molodezhi*, 1941, VI: 54–56; A. Rusetskii, 'Novosti iz kosmosa', *Tekhnika – molodezhi*, 1944, IV, p. 9; V. A. Ambartzumian, 'Zvezdnye assotsiatsii', *Znanie – sila*, 1951, IV, pp. 1–5.
12. Cf. Boris Liapunov, 'Tsiolkovskii i raketoplavanie', *Tekhnika – molodezhi*, 1944, IX: 72; V. Sytin, 'Chelovek real'noi mechti', *Tekhnika – molodezhi*, 1946, IX, pp. 5–7; X-XI, pp. 23–4; Al. A. Svetov , 'V domike Tsiolkovskogo (Pis'mo iz Kalugi)', *Znanie – sila*, 1949, VIII: 17; B. Vorob'ev, 'Vstrechi s Tsiolkovskim', *Znanie – sila*, 1951, I, pp. 31–35; M. Arlazorov, *Konstantin Eduardovich Tsiolkovskii. Ego zhizn' i deiatel'nost'* (Liudi russkoi nauki), Moskva: Gos. izd. techniko-teoreticheskoi literatury, 1952.
13. See Chapter 4 this volume.
14. Cf. Konstantin Tsiolkovskii, 'Za atmosferu', *Vokrug sveta*, 1934, I, pp. 10–14; idem, *Trudy po raketnoi tekhniki*, Moskva: Oboronziz, 1947.

15. Boris Liapunov, *Raketa* (Shkol'naia biblioteka), Moskva/Leningrad: Voenizdat 1950, p. 150.
16. Cf. G. Pokrovskii, 'Novyi sputnik Zemli (Okno v budushchee)', *Tekhnika – molodezhi*, 1944, II–III; V. Prival'skii, 'Kak vygliadit nasha planeta', *Vokrug sveta*, 1946, XI–XII, pp. 57–8.
17. K. Gil'zin Iu. Khlebtsevich et al., *Znanie – sila*, 11; (1974), *Znanie – sila*, 1954, XI, pp. 14–32.
18. [Zhiuri konkursa], ‚Soobshchenie zhiuri konkursa', *Tekhnika – molodezhi*, 1955, VII, p. 14; id., Ot zhiuri konkursa', *Tekhnika – molodezhi*, 1955, VIII, p. 22; Erast Maslov, 'Pod svetom dvukh solnts (Iz rasskazov, postupivshikh na konkurs)', *Tekhnika – molodezhi*, 1955, III, pp. 31–5.
19. Cf. V. Belousov, V. Troitskaya, 'Mezhdunarodnyi geofizicheskii god', *Nauka i zhizn'*, 1957, VII, pp. 27–30; A. Gorelov, 'Iskusstvennye sputniki (kritika i bibliografiia)', *Nauka i zhizn'*, 1957, VII, pp. : 60–1.
20. Cf. Igor J. Polianski, ‚Das Unbehagen der Natur. Sowjetische Populärwissenschaft als semiotische Lektüre', *Laien, Lektüren, Laboratorien. Künste und Wissenschaften in Russland 1860–1960*, eds. Matthias Schwartz, Wladimir Velminski, Torben Philipp, Frankfurt am Main: Peter Lang, 2008, pp. 71–113, p. 112f.
21. Cf. [Anon.] 'Festival', *Znanie – sila*, 1957, VII, p. 1.
22. Cf. Hilary Pilkington, '"The Future is Ours". Youth Culture in Russia. 1953 to the Present', *Russian Cultural Studies. An Introduction*, ed. Catriona Kelly, David Shepherd, Oxford University Press: Oxford 1998, pp. 368–4.
23. Cf. *Die Spur des Sputnik. Kulturhistorische Expeditionen ins kosmische Zeitalter*, eds. Igor J. Polianski and Matthias Schwartz, Frankfurt am Main/New York: Campus, 2009.
24. [Anon.], 'Put' v kosmos', *Tekhnika – molodezhi*, 1957, XI, p. 22; [Anon.], 'Nashi Sputniki', *Vokrug sveta*, 1958, I, p. 2; A. Azizyan, *Put' v kosmos. Materialy gazety 'Pravda' o trekh sovetskikh iskusstvennykh sputnikakh Zemli*, Moskva: Pravda, 1958.
25. Iurii Pobedonostsev, 'Triumf sovetskoy nauki', *Nauka i zhizn',* 1957, 11, p. 8.
26. N. S. Khrushchev, 'Otchet tsentral'nogo komiteta Kommunisticheskoi partii Sovetskogo Soiuza XXII s'ezdu KPSS. Doklad Pervogo sekretaria CK', *XXII s'ezd Kommunisticheskoi partii Sovetskogo Soiuza (17-31 oktyabrya 1961 goda. Stenograficheskii otchet, vol I*, Moskva: Gos. Izd. pol. Lit-y, 1961, pp. 15–132, p. 131.
27. Vsevolod Revich, '19-y vitok. K godovshchine poleta kosmonavta-2', *Vokrug sveta*, 1962, VIII, p. 3.
28. Cf. S. Borzenko and N. Denisov, 'Kosmonavt Dva, *Iunost*', 1961, IX, p. 2f.
29. Tsiolkovskii himself was praised as the 'father of space travel'. He had not only prophesized the present development, but even scientifically overcome scientists like Einstein or Bor, cf. M. Arlazorov, 'Imeni Tsiolkovskogo', *Znanie – sila*, 1961, V, p. 7; A. Pobedinskii, 'K vershinam nauki', *Tekhnika – molodezhi*, 1963, I, p. 1 (cover).
30. Cf. N. Kol'chitskii et al.,'Torzhestvo zemnych zvezd', *Tekhnika – molodezhi*, 1957, XI, pp. 18–22.
31. Cf. [Anon.], Konkurs krasoty', *Tekhnika – molodezhi*, 1962, II, pp. 30–1; N. Kozlov V. Varshavskii, '"Avtomobil" "Sputnik" – samyi malen'kii v nashei strane', *Tekhnika – molodezhi*, 1963, I, pp. 20–1.
32. Cf. Schwartz, *Die Erfindung des Kosmos*, p. 35.

33. V. Mezentsev, 'V gostyach u bogov', *Znanie – sila*, 1962, IX, p. 2.
34. Cf. Karsten Werth, 'The Mercury Seven. Amerikas Kalte Krieger im Weltraum', *Die Spur des Sputnik*, pp. 56–73.
35. The discussion about a possibly artificial character of the assumed so-called 'Mars channels' started with their first description by the Italian astronomer Giovanni Schiaparelli in 1877, cf. F. Tsitsin, 'Zhizn' vo Vselennoi', *Nauka i zhizn'*, 1957, I, p. 47f.; V. Kozakov, 'Marsiane byli. Gde zhe oni teper'?' (Zhizn' vokrug solntsa), *Tekhnika – molodezhi*, 1960, X, p. 19; F. Zigel', 'Na Marse – razum?', *Znanie – sila*, 1961, II, p. 22; K. Liubarskii, 'Kanaly Marsa. Iskusstvennye ili estestvennye? (Gipotezy, predpolozheniia, dogadki), *Nauka i zhizn'*, 1965, XI, pp. 139–44.
36. Cf. F. Zigel', 'Nerazgadannaia taina', *Znanie – sila*, 1959, VI, p. 40f.; Iu. Rall', 'Razumnye obitateli Vselennoi', *Nauka i zhizn'*, 1960, XI, p. 32ff.; A. Guliaev, V. Komarov et al., 'Zhizn' vokrug solntsa', *Tekhnika – molodezhi*, 1960, I, p. 36.
37. Cf. F. Zigel', 'Vnezemnaia tsivilizatsiia vozmozhna? (Klub mechtatelei. Strana fantaziia / Terra phantasia)', *Znanie – sila*, 1965, VI, p. 39; V. Komarov, 'Gde ty, syn neba?', *Vokrug sveta* 1965, XI, pp. 1–3.
38. Cf. Tat'iana Chernysheva, *Priroda fantastiki*, Irkutsk: Izd. Irkutskogo universiteta, 1984, pp. 267ff. The popular interest in these topics was also reflected in other ways. In May 1964, the Armenian Branch of Sciences hosted a conference on the topic of 'extraterrestrial civilizations', cf. Akademiia nauk Armianskoi SSR, *Vnezemnye tsivilizatsii. Trudy soveshchaniia. Biurakan, 20–3 maya 1964 g.*, Erevan: Izdatel'stvo AN Arm. SSR, 1965.
39. Cf. [Anon.], '12 voprosov professoru V. M. Banshchikovu', *Znanie – sila*, 1965, X, p. 39.
40. Cf. Pollock, *Stalin and Soviet Science Wars*; Alexei Kojevnikov, 'Games of Stalinist Democracy. Ideological Discussions in Soviet Sciences, 1947–52', *Stalinism. New Directions*, ed. Sheila Fitzpatrick, London: Routledge, 2000, pp. 142–75.
41. Cf. E. Fadeev,' 'Tak chto zhe takoe telepatiia?', *Nauka i zhizn'*, 1961, VI, p. 60f.; G. Anfilov, F. Astratyan et al., 'Peredacha myslei – vozmozhna li ona? (Chto dumaiut ob etom sovetskie uchenye)', *Znanie – sila*, 1960, XII, pp. 23–9; V. Tugarinov, 'Eshche raz o peredache myslei', *Znanie – sila*, 1961, VII, p. 22; P. Gulyaev, M. Airapetiiants et al., 'Chitateli sprashivaiiut nas: Sushchestvuet li peredacha mysli na rasstoianii? Na etot vopros otvechaiut matematiki, fiziologi, biofiziki, psichiatry, inzhenery', *Tekhnika – molodezhi*, 1961, I, pp. 30–3.
42. Cf. D. Solov'ev, I. Efremov et al., 'Kto zhe on? (Reshena li zagadka, Snezhnogo cheloveka'?)', *Tekhnika – molodezhi*, 1959, IV, pp. 32–4; V, pp. 37–9.
43. The topic first appeared in popular scientific journals in the second half of the 1940s, but then was soon suppressed by political censorship, cf. Schwartz, *Die Erfindung des Kosmos*, pp. 98–101.
44. Cf. A. Shternfel'd, 'Meteorit ili kosmicheskii korabl', *Vokrug sveta*, 1959, X, 9ff.; Konstantin Iankovskii, 'V poiskach neizvestnogo', *Znanie – sila*, 1961, VI, pp. 16–20.
45. Cf. E. Krinov, A. Iavnel' et al., 'Okonchena li istoriia poluvekovoi zagadki?', *Tekhnika – molodezhi*, 1962, III, p. : 32ff.; I. Zotkin, K. Florenskii, 'Vstrecha s kometoi, *Znanie – sila*, 1962, V, pp. 40–3.

46. Ju. Khlebtsevich, 'Sedmoi kontinent', *Znanie – sila*, 1958, XII, p. 7; Vladimir Lvov', 'Put' v kosmos. Nauka operezhaet kalendar' (Malaia Kosmicheskaia Entsiklopediia. Beseda piataia)', *Vokrug sveta*, 1961, XII, p. 38.
47. Thus, the scientific arguments in favour of the existence of the Himalayan Yeti in Pamir or the Tunguska event as a crashed interplanetary spaceship were mainly based on oral histories by local inhabitants, cf. S. Obruchev, 'Taina Gimalaev (Otvety na voprosy)', *Nauka i zhizn'*, 1957, V, p. 63; Konstantin Iankovskii, 'Po ischeszaiushchim sledam tungusskoi katastrofy', *Znanie – sila*, 1960, II, pp. 6–8.
48. Cf. A. Guliaev, V. Komarov et al., 'Zhizn' vokrug solntsa', *Tekhnika – molodezhi*, 1960, I, p. 36; M. Agrest 'Kosmonavty drevnosti', *Na sushe i na more*, 1961, II, p. 527; V. Zaitsev, 'Mify, legendy i kosmos', *Na sushe i na more*, 1965, VI, pp. 634–9.
49. A. Kitaigorodskii, 'Chego na svete ne byvaet', *Znanie – sila*, 1965, VI, p. 7.
50. Arkadii, Boris Strugatskii, 'Chastnye predlozheniia', *Znanie – sila*, 1959, VIII, 40–3, p. 42.
51. Cf. Schwartz, *Die Erfindung des Kosmos*, p. 35f.
52. V. Smigla, 'Fantasticheskaia nauka i nauchnaia fantastika (S tochki zreniia chitatelia-fizika)', *Znanie – sila*, 1964, XII, p. 22.
53. Arkadii, Boris Strugatskii, 'Popytka k begstvu', *Fantastika 1962 god*, Mosvka: Molodaia gvardiia, 1962, pp. 146–261.
54. Michel Foucault, 'Of other spaces', *The Visual Culture Reader*, ed. Nicholas Mirzoeff, London: Routledge, 2002, pp. 229–36, p. 231.
55. Ivan Efremov, 'Tumannost' Andromedy. Nauchno-fantasticheskii roman', *Tekhnika – molodezhi*, 1957, I, pp. 26–31; II, pp. 25–9; III, pp. 22–7; IV, pp. 22–7; V, pp. 22–7; VI, pp. 27–32; VIII, pp. 28–33; IX, pp. 30–5; XI, pp. 4, 25–9.
56. Cf. [Anon.] 'Nam pishut…', *Tekhnika – molodezhi*, 1957, XII, p. 25.
57. Cf. Goldschweer, Ulrike, 'Kommunismus und die Utopie der Schönheit. Frauengestalten in Ivan Efremovs *Andromedanebel* (1957)', *Intermedialität – Identitäten – Literaturgeschichte. Beiträge zum vierten Kolloquium des Jungen Forums Slavistische Literaturwissenschaft, Freiburg im Breisgau 2001*, eds. Alfred Gall et al., Frankfurt am Main: Peter Lang, 2001, pp. 89–98; Elena Gomel, 'Gods like Men. Soviet Science Fiction and the Utopian Self', *Science Fiction Studies* XXXI: 3, 2004, pp. 358–77; Birgit Menzel, 'Russian Science Fiction and Fantasy Literature', *Reading for Entertainment in Contemporary Russia. Post-Soviet Popular Literature in Historical Perspective*, ed. Stephen Lovell, Birgit Menzel, Munich: Otto Sagner, 2005, pp. 117–50.
58. Cf. Schwartz, *Die Erfindung des Kosmos*, pp. 37f., 112ff.
59. Arkadii, Boris Strugatskii, 'Izvne. Nauchno-fantasticheskii rasskaz'', *Tekhnika – molodezhi*, 1958, I, pp. 26–9; Ibid. 'Izvne. 'Povest' v trech rasskazach', *Shest' spichek*, Moskva: Detgiz, 1960, pp. 7–70.
60. Strugatskii, 'Izvne' (1958), p. 28.
61. Arkadii , Strugatskii (1959), 'Chastnye predlozheniia', *Znanie – sila*, VIII, pp. 40–3.
62. Ibid.
63. 'At the end of the way' (*V kontse puti*) is the title of another SF-story of the time with a similar topic, cf. Gleb Anfilov, 'V kontse puti', *Znanie – sila*, 1959, XII, pp. 40–2.

64. Cf. the SF-story with the same title by Mikhail and Larisa Nemchenko 'Zov zemli (fantasticheskii rasskaz)', *Vokrug sveta*, 1960, XI, pp. 9–11.
65. As an obvious hint to Malevich's famous painting, a story with the same title transforms the antireligious impact of the 'Black square' into cosmic dimensions, when a visual message from outer space appears at a black quadrate photographic plate, cf. F. Bolkov, 'Chernyi kvadrat', *Technika – molodezhi*, 1961, IV, pp. 30–2.
66. Song lyrics from 'Reality' by Richard Sanderson (1980). Copyright remains with the author of the song.
67. Cf. Rosalind J. Marsh, *Soviet Fiction since Stalin: Science, Politics and Literature*, Worcester: Billing & Sons, 1986, pp. 215ff.
68. Boris Slutskii, 'Fiziki i liriki' (1960), idem, *Sobranie sochinenii v trekh tomakh*, I, Moskva: Khudozhestvennaia literature, 1991, p. 351.
69. Only cybernetics gained similar public and intellectual attention for a time at the end of the 1950s, cf. Slava Gerovitch, *From Newspeak to Cyberspeak. A History of Soviet Cybernetics*, Cambridge, MA: MIT Press, 2002.
70. Cf. Matthias Schwartz, 'Guests from Outer Space. Occult Aspects of Soviet Science Fiction', *The New Age of Russia. Occult Roots and Influences in Soviet and Post-Soviet Russia*, ed. Birgit Menzel, Bernice Rosenthal and Michael Hagemeister, München: Kubon & Sagner (forthcoming).

19

Space Exploration in Russian and Western Popular Culture

Wishful Thinking, Conspiracy Theories and Other Related Issues

Andrei Rogatchevski

This chapter contains a comparative examination of a comprehensive selection of fictional representations of space exploration in search of their main recurrent and specific features. It has been conducted on the assumption that such representations, frequently stimulated by the secretive and at times disingenuous nature of the official outer space discourse, provide a revealing counter-narrative to this discourse, tapping into common and widespread hopes and fears associated with the space conquest. In my analysis, I have chosen to focus on two media created to reach the widest audience possible and thus achieve a maximum impact, the popular song and the motion picture, because their bid for a mass appeal inevitably feeds off, shapes up and uncovers the relevant patterns of collective consciousness. (Regrettably, the word limit precludes me from a discussion of the genre of television science fiction series.) Chronologically, prominence will be given to songs and films from the early 1960s to the present. Occasionally, however, I shall be referring to the films that had pictured interplanetary travel long before manned space missions became a reality, and therefore had also contributed to the narrative in question. My approach to the cultural artefacts at hand combines various techniques of interpretative textual analysis with elements of content analysis in an attempt to detect the artefacts' messages, identify their (ir)regular traits and relate them to the public perception of the 'man in space' phenomenon. The artefacts' thematic commonality is given preference over the negligible differences determined by their genre.

Together alone? Collectivism versus individualism

Those involved in the space programme on both sides of the Iron Curtain faced many similar technological, logistical and psychological

problems. Moreover, in the opinion of the first man on the moon, Neil Armstrong, 'eventually, "the space race" provided a mechanism for engendering co-operation between former adversaries'.[1] Yet, Western and Soviet fictional representations of space flights are sometimes strikingly different, which is not altogether unexpected, given the irreconcilable ideological differences between the communist and capitalist worlds.

One example is a comparison of the 1960 Soviet song *Chetyrnadtsat' minut do starta (Zapravleny v planshety kosmicheskie karty)* [*Fourteen Minutes before the Launch* (*The maps of outer space have been put in the map-cases*)] by Oscar Feltsman (music) and Vladimir Voinovich (lyrics),[2] and the 1969 British song *Space Oddity* by David Bowie.[3] The first song was so popular in the Soviet Union that it was performed by the cosmonauts Andrian Nikolaev and Pavel Popovich on board their spacecraft during a 1962 live television broadcast, and quoted by Nikita Khrushchev in a speech given from the rostrum at Lenin's Mausoleum, while Bowie's song gave him his first UK hit (it reached number five in the chart on its initial release, timed to coincide with the Apollo 11 mission to the moon; and number one on its re-release in 1975).

The Feltsman-Voinovich song has been written on behalf of a team of Soviet space explorers invariably using the first person plural 'we'. By contrast, Bowie's astronaut, Major Tom, is in outer space on his own, and speaks for himself, using 'I' only. The Feltsman-Voinovich cosmonauts express their confidence in the possibility of mapping outer space, in following a carefully planned route and in having a technologically advanced spacecraft fleet swiftly covering long distances. The cosmonauts are clearly motivated by the task of getting somewhere in outer space first, but, no matter how far and wide in the universe they travel, they are also keen to emphasize the dominance of their loyalty to Planet Earth. By contrast, Major Tom feels helpless aboard a spaceship that is referred to disparagingly as a 'tin can', does not know where he is going and eventually refuses to come back to Earth (where the only person he seems to be attached to is his wife), because he finds his cosmic experience irresistibly enticing.

Thus, the Soviet-style collectivism, preliminary planning and patriotism of the Feltsman-Voinovich song find themselves in a stark contrast with the Western individualism, irreverence and irresponsible adventurousness of Bowie's song. There is no suggestion that Bowie knew the Feltsman-Voinovich song and wrote his 'Space Oddity' in reaction to it, which makes their directly opposite messages and imagery even more significant, because it demonstrates that the self-perception of the space

race from both sides of the ideological divide was at times, indeed, just as different as the divide would prescribe them to be (one should not forget, of course, that the Soviet optimism of the Thaw provided an additional contrast to the feeling of bitterness caused in the West by the ongoing war in Vietnam).[4]

However, Bowie's song does not appear to be fully representative of the Western fictional discourse on outer space. Although the *motif* of an astronaut ignoring instructions from the mission control centre has been prominent in the discourse at least since Robert Altman's feature film *Countdown* (1968),[5] it is obvious that *Space Oddity* is interested in the space conquest not so much for itself, but primarily as a convenient metaphor for a drug-infused psychedelic trip. It is significant, however, that the song can be seen as portraying not only the excitement of parting with a collective, but also its downside: Bowie's space traveller would not have been doomed, had he been able to overcome his self-destructive individualistic tendencies.

In Western narratives devoted to the exploration of outer space *per se*, such features as collectivism, planning and patriotism, frequently associated almost exclusively with Socialist realism, are not exactly uncommon. Suffice it to mention *Destination Moon* (1950), Irving Pichel's film loosely based on Robert A. Heinlein's novel *Rocket Ship Galileo* (1947). In *Destination Moon*, an ambitious project to build a rocket to fly to the moon comes to fruition only as a result of the collective effort of a general (played by Tom Powers), a rocket designer (Warner Anderson) and a manufacturer (John Archer). Despite many serious obstacles, they complete the spaceship and go on the maiden voyage together. The importance of the team spirit is additionally emphasized in a sequence when one crew member drifts off into space during an attempt to repair the spaceship and can only be rescued by a joint effort of the rest of the crew (which also includes a technician, played by Dick Wesson). Quite unlike Bowie's song, *Destination Moon* treats the unplanned and uncontrolled floating in outer space as unambiguously hazardous.

Who got there first? Patriotism versus internationalism and petty squabbles over the issue of priority

The concept of patriotism is inextricably linked to that of security, and matters of security often lead to imposing restrictions on mankind at large (although they are often claimed to be furthering humanity's best interests). When the *Destination Moon* spaceship finally lands, the

planet is patriotically claimed by the crew for the US (not the UN, as in Heinlein's book) via a radio broadcast, because, according to the film, those who control the moon and can launch nuclear missiles from there will control the Earth. If the Americans don't do it first, the Russians will – and there will be no US after that but a disunited world!

Conversely, the protagonist of Vasilii Zhuravlev's Soviet space adventure film *Kosmicheskii reis* (*Cosmic Voyage*, 1935), the first Russian space traveller, academician Sedykh (played by Sergei Komarov), 'is every bit as ambitiously individualist as his Hollywood counterparts'[6] but remains a positive hero through and through – in the Russian/Soviet sense, of course.[7] He successfully thwarts his colleagues' plot to stop him from flying to the moon on the grounds that this is too risky (especially for a man of his age), and even takes his chief opponent's young assistant Marina (K. Moskalenko) with him.[8] Sedykh's individualism does not get in the way of his Soviet patriotism, though: on arrival, the crew of his spaceship (named, predictably, after Joseph Stalin) mounts a Soviet flag on the lunar surface, and the visual signal, sent to the Earth to indicate that the first leg of the flight went well, reads 'the USSR' in gigantic letters. It is curious that no foreign competition is mentioned in *Kosmicheskii reis*, which appears to assume that by 9 August 1946 (the date of the film's moon landing) either the entire world will be absorbed by the Soviet Union, or that only the Soviet Union would be capable of running a successful space programme.

The sensitive issue of priority in the space conquest, often metonymically represented by a moon landing, is resolved differently in different feature films. In the 1964 adaptation of H. G. Wells' 1901 *First Men in the Moon* by Nathan Juran, made when space exploration became a reality and the British involvement in manned space flights turned out to be rather limited, a modern-day United Nations moon mission, lead by an American, a British and a Czech astronaut, discovers a Union Jack and a note claiming the moon in the name of Queen Victoria, dated 1899. In *Countdown*, James Caan's character finds the bodies of three Russian cosmonauts who landed on the moon secretly some time before him but died in the process. He collects their folded Soviet flag and places it on a moon rock under a US flag in an acknowledgement that both countries are not only competitors, but also comrades in arms on an extremely dangerous assignment.

Various components of both *Countdown* (the Soviet priority in landing on the moon, with tragic consequences) and *The First Men in the Moon* (landing in an exotic location on return to Earth[9] and treating a member of the expedition to the moon as a mentally disturbed

person) seem to have influenced Aleksei Fedorchenko's *Pervye na lune* (*First on the Moon*, 2005), a mockumentary advancing the idea that Russian cosmonauts went to the moon first, long before the Americans, on a 1938 secret mission, the exact details of which (allegedly concealed in the archival KGB files and footage) can be disclosed to the general public only now.

According to *Pervye na lune*, in 1928 the Soviet engineer Fedor Suprun designed a rocket for interplanetary spaceflights, which received the government's approval, and a crew of prospective cosmonauts was assembled in utmost secrecy. The crew consisted of the pilot Ivan Kharlamov, the diver Khanif Fattakhov, the acrobat Mikhail Roshchin and the mechanics student Nadezhda Svetlaia. As the top performer in training sessions, Kharlamov became the first person on board the first Soviet spacecraft launched towards the moon on 16 March 1938 from a site 20 miles south of the town of Niazepetrovsk in the Urals. Two minutes after the launch, contact with the spaceship was lost. Suprun and Fattakhov went to an observatory in the Crimea to use its telescopes in an attempt to locate the spacecraft, but did not succeed. To avoid arrest on suspicion of sabotage, Suprun deceived the NKVD surveillance and disappeared without a trace.

However, the spacecraft apparently returned to Earth on 24 March of the same year, landing in a mountainous area in the north of Chile. The landing was mistaken for a fallen meteorite. The League of Nations sent an expedition to study what was thought of as a meteorite but the remains of the spacecraft could not be found until much later. In the meantime, Kharlamov, who survived both the moon landing and the landing in Chile, had to make his own way back to the Soviet Union, via the Marquesas and the Solomon Islands, as well as the Chinese port Xiamen (Amoy), until he was detained by the NKVD in the Khalkhyn Gol area during the Soviet-Japanese military conflict in August 1939. Kharlamov's identification and interrogations proved futile, because his brain was damaged as a result of the landing, and he could not either write or speak clearly any more. He was sent to a mental hospital in the city of Chita, from which he later escaped. In 1946–1951, he worked in a circus, and no one knows what happened to him afterwards. However, Suprun did resurface in 1968 as a cemetery guard in Cape Town, and Fattakhov survived Stalin's purges (especially ruthless towards the spacecraft project participants, to keep the matter secret) and became an employee of the Zoological Museum in St Petersburg. The story has been pieced together by a documentary film crew, on the basis of interviews with Fattakhov and other, mostly minor and

accidental, participants in the events, as well as the archival footage supposedly provided by the UN, the Federal Security Service and the Museum of Natural History in the Chilean city of Antofagasta.

The film even received an award as the best documentary in the Horizons programme at the 2005 film festival in Venice. However, the credits at the end of the film reveal that all the characters in it have been played by little-known actors. Thus, Fedorchenko's endeavour follows into the footsteps of such examples of the mockumentary genre as Woody Allen's *Zelig* (1983) and Rob Reiner's *This Is Spinal Tap* (1984).[10] Fedorchenko's cameraman, Anatoly Lesnikov, has successfully imitated the style of the 1930s newsreels, using the post-World War II cameras of the Reflex type shooting 8, 12 and 16 frames per second, while the prints have been made at the speed of 24 frames per second (there is genuine archival footage in *Pervye na lune* too, but it takes up no more than 7% of the screen time).

The atmosphere of deep secrecy surrounding the Soviet space programme (leading, for instance, to the rumours that the first man in space was Vladimir Iliushin, not Iurii Gagarin),[11] frequent falsification of recent history (including staged episodes in what purported to be documentary cinema)[12] and the public's naïve belief in the truthfulness of the printed word and the visual image (in the words of the custodian of the Federal Security Service film archive, played in *Pervye na lune* by Anatolii Zaikov, 'if something has been filmed, it means that it's happened for real')[13] have undoubtedly contributed to the fact that the mystification has been rather successful. After *Pervye na lune* had been shown to the inhabitants of the city of Korolev near Moscow (the cradle of Soviet and Russian space exploration and home to the spacecraft manufacturing corporation *Energiia*), a sometime designated operator of the lunar module from the space programme Mission Control Centre (also housed in Korolev) approached Fedorchenko to confirm that the story narrated in *Pervye na lune* had taken place almost exactly as it was told.[14]

I have already mentioned the possible influence of *Countdown* and *The First Men in the Moon* on Fedorchenko's film. Also, in the mid-1990s, when Aleksandr Gonorovskii's and Ramil Yamaleev's script of *Pervye na lune* was written, at the time when the Russian film industry was going through a disastrous financial crisis, it was only natural to model one's ideas on the golden classics of the silent era, such as *Le voyage dans la lune* (1902) by Georges Méliès and *Frau im Mond* (1929) by Fritz Lang (to go back to cinema's origins, as it were). However, in *Pervye na lune* the moon appears not merely as a journey's destination to prove that such a journey is possible in principle (as in the film by Méliès).

Neither is it treated as a source of getting rich quick (as in Lang's film, which claims that the moon is little else but one gigantic gold deposit). In Fedorchenko's film, the moon represents a Communist utopia, in conjunction with the moon's image frequently being perceived as an 'eternal promise, a dream, a longing, a hope – something completely different from reality'.[15] It is not a coincidence that yet another recent mystification, a history of Soviet science fiction by Rustam Kats (a pseudonym of the Saratov-based author and literary critic Roman Arbitman), first published in 1993 and re-issued in 2004, claims that 'Soviet leaders, from Lenin to Gorbachev, were maniacally possessed by the idea of a physical conquest of the moon'.[16] It is not therefore surprising that, according to Fedorchenko, the main theme of his film is not the provincial inferiority complex of the gullible Russians who fall for yet another tale about their country's priority in the sphere of inventions and discoveries, but an illustration of how the Russian 'state undervalues its people … breaking the most precious thing in its possession – their lives'.[17]

Has it really happened? Mediality and myth-making in the space exploration discourse

Another key theme in *Pervye na lune* is the mediality of events: it is not so much space travel itself, but the way it is presented by the media that forms people's perception of it, up to the point that a non-existent space flight can plausibly be imitated. In this respect, it is interesting to compare *Pervye na lune* with the 1978 American film *Capricorn One*, directed by Peter Hyams. *Capricorn One* tells the story of the first manned mission to Mars, faked by NASA, which is besieged by insurmountable technical obstacles and is fearful of the financial and political implications of an unsuccessful flight. The story takes place in an unspecified year in a near future. Three astronauts (played by James Brolin, O. J. Simpson and Sam Waterston), forced by the head of the space programme (Hal Holbrook) to participate in the deception because their families are put under threat, find themselves on a deserted US army base which passes off as a Martian landscape in front of the television cameras. The NASA Mission Control Centre monitors the actual flight, while the astronauts' cooperation is required only for television broadcasts. All goes relatively well until the spaceship gets burnt on re-entry into the Earth's atmosphere, and the astronauts decide to break away from the base to avoid getting killed. In a separate chain of events, an investigative journalist (played by Elliott Gould) is tipped off by his friend, a NASA employee

working at the Mission Control Centre, that the broadcasting signals cannot possibly come from Mars. Alerted by his friend's subsequent disappearance, Gould's character speaks to one of the three astronauts' wives[18] and finds out that, during a live television broadcast for the astronauts' families, her husband gave her a hint that the mission to Mars was a hoax, by referring to a holiday they had spent together at the town of Flat Rock, AZ (apparently a location for making feature films about the Wild West). The journalist guesses that secret television broadcasts could only be organized from the above-mentioned army base. He goes there and finds it empty, but comes across the husband's medallion in the dust. He then finds the astronaut himself in the desert, just in time to save him from those who want to kill him to get rid of the hoax's witnesses (the two other astronauts have already been killed). The film ends with the journalist's and the astronaut's surprise arrival at the memorial service honouring the three men who supposedly died in their spaceship on the way back from Mars.

Capricorn One is a conspiracy thriller that has evidently been inspired by persistent rumours that the manned landings on the moon were a hoax (members of the film's creative team talk openly about it in a seven-minute documentary *What If … ? The Making of Capricorn One* by Ronald Saland and Elliot Geisinger, and some shots in *Capricorn One* have obviously been designed to remind the viewers of the visual images associated with the moon landing, such as 'The Man on the Moon' poster, with one astronaut being reflected in the helmet of another, next to a US national flag on a flag pole, spread over the extra-terrestrial soil).

Similarly to *Pervye na lune*, *Capricorn One* expresses concern that matters of international prestige and world leadership might prove too costly in terms of human lives (the astronauts involved in the mission to Mars are being eliminated in the film, just like the participants in the secret mission to the moon in *Pervye na lune*; and both motion pictures feature a disappearing act, of the inquisitive NASA employee in *Capricorn One*, and of Suprun in *Pervye na lune*). Both films are preoccupied with the side effects of the desire to provide ordinary people with something to aspire to at the times when public ideals experience a grave crisis (in post-Watergate America and in post-Communist Russia). Both films describe paranoid societies that vacillate between believing everything that their leaders and media tell them, on the one hand, and doubting every official picture and word, on the other. (As a member of the *Capricorn One* creative team puts it in *What If…?*, 'we watch a lot of television and we read a lot of newspapers and we tend to

accept the fact that something is on television or in the papers as proof that it is true – while it's not'. When in *Capricorn One* the US President praises the success of the mission to Mars in a pre-recorded address, the camera rolls back showing the makeshift television studio where the landing on Mars is being faked, thus, revealing the falsity of the propaganda rhetoric.) Both films even employ the same technique to add plausibility to their stories: names of real people, such as the astronauts Neil Armstrong and John Glenn in *Capricorn One* and the first Russian rocket designers Aleksandr Zasiadko (1779–1837) and Karl Shil'der (1786–1854) in *Pervye na lune* are dropped in the narration next to fictional names and actions to make the invented bits more palatable.

However, there are still some important differences in both films' treatment of the two countries' space programmes as myths. While the more free-thinking members of the public in the West often indulge in conspiracy theories because their critical faculties make them sceptical about any official media-purveyed version of events, the apparently more credulous Russians, whose historical and public record has been frequently falsified by their rulers, are happy to believe in their own manned moon landing hoax, to help them get over the fact that they lost to the US in this particular aspect of the space race. While *Capricorn One* re-affirms the belief in democratic values, such as press freedom (the perpetrators of the Mars landing hoax will undoubtedly get their just desserts once it is exposed by the journalist played by Elliott Gould), the conclusion of *Pervye na lune* is irredeemably pessimistic, because justice in Russia appears to prevail less frequently than in the West. This profound pessimism is expressed in the words of the former NKVD cameraman,[19] who makes the following comment on the hard and selfless – but ultimately unappreciated – efforts of Suprun and his team: 'Everything has already happened before, and this vast experience has been of no use to anyone. Mankind does not ever learn anything. It rarely takes interest in itself. Either technical or moral progress does not exist. Any effort is either useless or damaging.'[20]

Has it been worth it? The human cost of the space conquest

Capricorn One, released in cinemas across the Soviet Union not long after it had been made, must have influenced Viktor Pelevin's novella 'Omon Ra' (1992), which depicted the Soviet space programme as a hoax taking place in front of television cameras located in the underground premises beneath the Lenin State Library in Moscow. But even if the basic facts of the Soviet space programme are not questioned, voices are heard (ever

louder since the collapse of the Soviet project) expressing serious doubts whether the programme was worth pursuing. Aleksei German Jr's film *Bumazhnyi soldat* (*Paper Soldier*, 2008) is a case in point. It borrows its title from a 1959 song by Bulat Okudzhava (1924–1997), first published in 1962, about a paper toy soldier who wanted to make the world a happy place and died heroically in a fire because he forgot that he had been made of paper.[21] Using the image of a burnt paper soldier as a symbol of futile sacrifice, and drawing parallels between this image and the deaths of the cosmonauts Valentin Bondarenko, who caught fire in a pressure chamber on 23 March 1961, and Iurii Gagarin, in an aeroplane crash on 27 March 1968, *Bumazhnyi soldat* portrays the preparations for Gagarin's space flight through the eyes of a doctor (Merab Ninidze) worrying sick for the lives of the future spacemen whose health he is assigned to monitor. At the same time, the doctor believes that the space mission is necessary, because it might change Russia's destiny for the better. Therefore, it is more important for the USSR to send the first person into space than for a more advanced Western country, where life is believed to be decent enough without a space conquest. The manned space flight is perceived by many characters in the film as nothing short of a miracle, and is often invoked in the same breath with God and angels ('a man will go up there where the angels are, and all our problems will be solved', says a cosmodrome soldier). Torn by contradictory feelings for and against the space mission (and by problems with his private life), the doctor dies of a heart attack near the cosmodrome just as Gagarin's rocket is launched. His death barely receives any attention in the middle of the ensuing celebrations (which once again demonstrates that big political schemes do not value lives of ordinary humans highly enough). *Bumazhnyi soldat*'s epilogue, set in 1971, makes it clear that life in the USSR improved negligibly because of the Soviet space programme, except perhaps on a superficial consumerist level (television sets, fridges and prestigious cars get a mention). Spiritually, however, the Soviet situation remains bleak enough for a close friend of the doctor's to decide in favour of emigration.

Conclusions

It is remarkable that, judging by the selection of songs and films I have surveyed, the spiritual dimension of space conquest remains dominant in the Soviet/Russian films on the subject, as opposed to the Western ones (thus, the moon's commercial value is repeatedly emphasized in Western feature films: e.g., in *Destination Moon*, it is said

to contain uranium; and in Duncan Jones's futuristic *Moon* (2009), it is mined for the Helium-3 isotope, which becomes a primary fuel source on Earth). Otherwise, various combinations of the same themes – such as individualism versus collectivism, establishing a priority at every key stage, struggling with faulty equipment[22] and other aspects of the unglamorous side of the space programme[23] – can be observed with what seems to be a fairly equal frequency in fictional representations on both sides of the competition in space. It appears that a large composite body of work that encompasses fictional representations of the space race, whether they are of American or Russian/Soviet origin, is a continuum, every single component of which, as a rule, functions simultaneously as a mosaic piece (contributing something specific to the overall picture) and a microcosm (reflecting many general topics and tendencies characteristic of that picture).

Of these topics, the most prevalent seems to be a pre-occupation with the truth about the space programme. Going into space has been fantasized about since time immemorial. This has inevitably led to examples of wishful thinking, such as the British going to the moon in 1899, as in *The First Men in the Moon*; and the Russians landing there well before the Americans, as in *Pervye na lune*. It is easier for the audience to believe in the latter claim, if only because it is presented in an ostensibly documentary form, while the former originates from a science fiction novel. Had the space programme on both sides of the Iron Curtain not been shrouded in secrecy, such a 'documentary' would not have been possible. On the other hand, secrecy breeds rumours and conspiracy theories, with poetic licence being their natural ally and outlet. The unnamed evil forces (a pro-Soviet fifth column?) trying to block the first US space flight in *Destination Moon*, the head of the Soviet space programme portrayed as a Satan-like figure roaring with demonic laughter amid rocket fuel flames in *The Right Stuff* and, of course, the entire plot structure of *Capricorn One* all belong to the realm of conspiracy theories. Valentin Selivanov's film *Bol'shoe kosmicheskoe puteshestvie* (*A Long Journey through Outer Space*, 1974) tells the story of three child cosmonauts selected to take part in an arduous children-only space flight, only to discover that the flight they took was a training simulation. This film can also be interpreted as a veiled criticism of the Soviet space bluff in Pelevin's vein, and therefore classified under the category of conspiracy theories, too. Even in Duncan Jones's *Moon* – which boldly reverses the traditional premises for a space flight (two inhabitants of a lunar mining station discover that they are clones with falsified memories of their life on Earth, and decide to fly to Earth to see what it is like for real) – the

theme of free access to information remains dominant. (The clones are told by their mining corporation, anxious to keep them unaware of their predicament, that there is no live satellite link with Earth on the moon. In fact, it is suppressed by jamming towers; one of the clones demolishes the towers and exposes the corporation's inhuman practices upon his arrival on Earth). In other words, in the context of fictional representations of space exploration, people's hopes (expressed at an extreme end through wishful thinking) and fears (expressed at another extreme by means of conspiracy theories) stem from a desire to achieve something new on the basis of an unrestricted access to all the information available. This is in order to try and make this achievement by their own free will and in full awareness of the challenges of the task, as opposed to remaining in the relative dark about both the challenges and the task, and being manipulated by someone else.

Notes

1. Anon. 'Moon Astronauts Urge Mars Mission', http://news.bbc.co.uk/go/pr/fr/-/1/hi/sci/tech/8158519.stm (last accessed 11 September 2010).
2. Заправлены в планшеты космические карты, / И штурман уточняет в последний раз маршрут. / Давайте-ка, ребята, закурим перед стартом, / У нас еще в запасе четырнадцать минут. // Когда-нибудь с годами припомним мы с друзьями, / Как по дорогам звездным вели мы первый путь, / Как первыми сумели достичь заветной цели / И на родную Землю со стороны взглянуть. // Давно нас ожидают далекие планеты, / Холодные планеты, безмолвные поля. / Но ни одна планета не ждет нас так, как эта, / Планета дорогая по имени Земля. // *Припев*: Я верю, друзья, караваны ракет / Помчат нас вперед от звезды до звезды. / На пыльных тропинках далеких планет / Останутся наши следы.
   Translation: The maps of outer space have been put in the map-cases / and the navigator has been double-checking the directions for the last time. / Guys, let's have a smoke before the launch. We still have fourteen minutes left. // Some time later, as the years go by, friends, we'll recall / how we broke a trail among stars for the first time / and how we were the first to reach a coveted goal / and to take a detached view of our native Earth. // Distant cold planets with their silent fields / have been waiting for us for a long time, / but no other planet has been waiting for us more impatiently than this one – / our dear planet called Earth. // *Refrain*: Friends, I believe that caravans of spaceships / will be rushing us from one star to another / and our traces will remain / on dusty footpaths of distant planets.
3. The *Space Oddity* lyrics could not be reproduced because of copyright restrictions. However, readers can easily find the exact words of the song on the Internet.
4. It is worthy of note that Voinovich's lyrics were conceived not so much as a propaganda effort but in an attempt to write something that would be genuinely popular. He even ran into a problem with censors/editors who demanded a replacement for the word 'dusty', which allegedly deflated the song's romantic

mood, and for the line about lighting up before the launch, because cosmonauts were reportedly non-smokers (see V. Voinovich, *Zapakh shokolada: Povesti i rasskazy*, Moscow: Vagrius, 1997, pp. 157–75). In the record of the song released after 1962, the word 'zakurim' (let's have a smoke) was indeed replaced with 'spoemte' (let's sing). These and other clashes with censors and editors turned Voinovich into a dissident in the late 1960s and early 1970s.

5. In it, the astronaut Lee Stegler (played by James Caan) is sent to the Moon under strict orders to attempt a Moon landing only if he can see his intended place of residence, a survival module, on the Moon's surface. Stegler lands without seeing one, because he wants to be the first American on the Moon and cannot afford to pass up what might be his only chance to achieve this, even if it spells death for him because of a limited oxygen supply in his space suit.
6. Phil Hardy, *The Aurum Film Encyclopedia*, vol. 2: *Science Fiction*, London: Aurum Press, 1984, p. 94.
7. For more on the peculiarly Russian/Soviet concept of positive hero, see Rufus W. Mathewson, *The Positive Hero in Russian Literature*, Stanford, CA: Stanford University Press, 1975.
8. There is no suggestion, however, that Sedykh and Marina are having an affair. Their age difference is simply too big. As for their third companion, a young pioneer called Andriusha (played by Vasilii Gaponenko), who sneaked into the spaceship shortly before take off but, inexplicably, found a spacesuit on board to match his size, he is too young to be interested in Marina as a sexual object. Thus, the three members of the crew can concentrate on the business at hand – getting to the Moon and back – undistracted. Their age and gender characteristics are presumably meant to demonstrate the universal accessibility of space travel.
9. In the ocean off Zanzibar.
10. A detailed discussion of the film's link to the genre of mockumentary can be found in Birgit Menzel's article 'Der sowjetische Raumfahrtmythos als Parodie: Aleksej Fedorčenkos Film *Die Ersten auf dem Mond* als russisches Mockumentary', published in *Die Spur des Sputnik: Kulturhistorische Expeditionen ins Kosmische Zeitalter* (ed. Igor J. Polianski and Matthias Schwartz; Frankfurt am Main: Campus, 2009).
11. See James E. Oberg, *Red Star in Orbit*, London: Harrap, 1981, pp. 51–4.
12. See A. Rogatchevski, 'Film, documentary' in *Encyclopedia of Contemporary Russian Culture*, ed. Tatiana Smorodinskaya, Karen Evans-Romaine, Helena Goscilo, London and New York: Routledge, 2007, p. 195.
13. Cf. Pushkin's remark made 175 years previously in his article 'Opyt otrazheniia nekotorykh neliteraturnykh obvinenii' (An Attempt to Reply to Some Non-Literary Accusations, 1830): 'We still cling to the sanctity of the printed word. We still think: how can this be stupid or unfair, after all it has been published!' (*The Complete Works of Alexander Pushkin*, vol. 13, Norfolk: Milner & Co. Ltd, 2003, p. 173 (translation by Tatiana Wolff)).
14. Viktor Matizen, 'Aleksei Fedorchenko: 'My ne poliruem vremia'', *Novye izvestiia*, 6 June 2005.
15. V. V. Rozanov, *Liudi lunnogo sveta: Metafizika khristianstva*, St Petersburg: Novoe vremia, 1913, p. 10.
16. Adelaida Metelkina [Boris Kuz'minskii], 'Pokhititeli velosipedov: Lunu proizvodiat v Saratove, a potrebliaiut v Sverdlovske', www.globalrus.ru/print_this/779030 (last accessed 11 September 2010).

17. S. Bondarev, 'Pervym na lune byl sovetskii kosmoletchik?' http://news.bbc.co.uk/hi/russian/entertainment/newsid_4438000/4438633.stm (last accessed 11 September 2010). For more discussion of the price of the space conquest, see the 'Has it really happened?' and 'Has it been worth it?' sections of the present article.
18. Played by Brenda Vaccaro.
19. Played by Aleksei Anisimov.
20. In her above-named article about *Pervye na lune*, Birgit Menzel, however, states that Fedorchenko, while being aware of the harsh political realities of the Soviet Union, has managed to preserve the spirit of modern Utopia intact. From this point of view, *Pervye na lune* can be compared to Philip Kaufman's 1983 feature film version of Tom Wolfe's 1979 *The Right Stuff* (a story of the Mercury Seven juxtaposed to that of Chuck Yeager and other test pilots involved in flying experimental high-speed aeroplanes at what is now known as the Edwards Air Force Base). Kaufman's adaptation has been called 'classical and subversive at the same time' (David Thomson, *The New Biographical Dictionary of the Film*, London: Little Brown, 2002, p. 455).
21. For the song's lyrics, see B. Okudzhava, *Stikhotvoreniia*, St. Petersburg: Akademicheskii proekt, 2001, p. 177.
22. Ron Howard's *Apollo 13* (1995) starring Tom Hanks, Bill Paxton and Kevin Bacon is a prime example of that. An anonymous song 'Proidet mnogo let' (Many Years Will Pass) parodying Feltsman-Voinovich's 'Chetrynadtsat' minut do starta' gives a helpful general description of the difficulties experienced by the Soviet space engineers and technicians: Заправлены ракеты, конечно, не водою, / И кнопку пусковую пора уже нажать. / Давайте, друг, в сторонку мы отойдем с тобою. / Ох, только б улетела! Не дай нам бог сливать. // Пусть утром с перепоя не слушаются ноги. / Ракета улетела! Налей еще стакан! / Мы кончили работу, и нам пора в дорогу. / Пускай теперь охрипнет товарищ Левитан. // Гостиницы с клопами и пыльные дороги – / Все это нам, дружище, пришлося повидать. / Пускай газеты пишут, что мы живем, как боги. / Давай помнем газету и сходим погулять. // Припев: Я знаю, друзья, что пройдет много лет — / И мир позабудет про наши труды. / Но в виде обломков различных ракет / Останутся наши следы. *Translation*: The rocket has been fuelled – not with water, obviously – / and it's time to turn the ignition on. / My friend, let's step aside. / I hope it'll take off, otherwise we'll have to defuel it. // It does not matter that we can't walk in the morning because of a hangover. / The rocket has left – so fill yet another glass for me! / Our work has been done, and it's time for us to leave. / Now it's Comrade Levitan's turn to lose his voice. // Hotels with bedbugs and dusty roads – / we have seen a great deal of that, my friend. / The papers say that we live like gods – / let's crumple a newspaper sheet and use it in an outdoor toilet. // *Refrain*: My friends, I know that many years will pass / and the world will forget about all the work we have done, / but our traces will remain / in the form of various rocket debris (N. V. Belov (ed.), *Pesni nashego dvora*, Minsk: Sovremennyi literator, 2003; Iurii Levitan (1914–1983) was a famous Soviet radio announcer).
23. This includes episodes of self-doubt and soul-searching, sometimes in the 'is it worth it' mode; cf. Lee Stegler's conversation with his wife (played

by Joanna Moore) on the night before his space flight in *Countdown* and a moment of weakness for the Soviet chief rocket designer displayed in front of his on–off partner Natalya (played by Ada Rogovtseva) in the heavily fictionalized biopic of Sergei Korolev (under the name of Andrei Bashkirtsev, played by Kirill Lavrov) in *Ukroshchenie ognia* (Taming the Fire, 1972; directed by Daniil Khrabrovitskii).

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Two Images of a Spaceman in Estonian Art

The Missing Myth of a Hero and the Fable of Failure

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The space explorer, an idol of the 1960s and 1970s, holds an important place among the visual memories in the modern culture of the 20th century. In spite of its highly specific historical background, the artistic depiction of the cosmonaut cannot be seen as documentary, but as a creation of a mythological and poetical text. The political climate in which the works of art were created is extremely important, as the cosmonaut is a central figure in Cold War politics, and mythology can only have one historical foundation, since myth is the speech chosen by history.[1]

This cultural study compares two ways of visualizing the cosmonaut that stand for different attitudes of Estonian artists towards Soviet heroes and reveals the construction of this ideological image, its relation to historical facts and its various functions. An iconological analysis of works of art depicting cosmonauts shows a clear distinction between the imagery prevailing in the work of Soviet Estonian artists and the imagery used by Estonian artists after Estonia regained its independence in 1991. In the first case, we are dealing with a presumptive imperial figure whose political significance is ignored by artists, whereas in the second case the cosmonaut represents the former ideology, but is visually reduced to a pathetic weakling.

In order to emphasize the image of the cosmonaut as something only remotely related to Estonia, it is important to show the connections between Estonia and Soviet Space programmes. Estonia, as one of the 15 republics of the Soviet Union, contributed to the Soviet space programme on a scientific as well as on a high-quality material level: scientists and engineers in Tõravere Observatory produced optical appliances to be used in spaceships; Põltsamaa Agricultural Factory produced Space food in a tube and Kalev Chocolate Factory provided chewing gum, made with special permission in small amounts. The ARS Factory of

Art Products and the furniture company Kooperaator prepared interior design solutions for Star City.[2] No cosmonauts from this area are known, but the contribution to the major and exciting experiment of the USSR was, however, important to the pride of a small nation.

How do you recognize a cosmonaut? An iconology

In sacred art and in the case of mythological topics, it is not always possible or necessary to portray individual features exactly. An individual is identified by the subject of the painting, a biblical quote, but most often by an attribute. In an iconological analysis, the Soviet cosmonaut carries two objects as his attributes – a space suit, especially a helmet, and a smile (along with any other gesture expressing friendliness). The space suit's most likely semiotic predecessor is a knight's suit of armour. A proud knight is always depicted in full gear – first, good armour could save the warrior; and, second, it was a sign of financial success and prestige. Thus, the reputation of the state as this 'knight's' master is also enhanced by the portrayal of a state-serving cosmonaut in his space suit.

The helmet of the cosmonaut, as all head gear, signifies its bearer's place in social hierarchy. The letters CCCP (USSR), always clearly painted on the cosmonaut's helmet, sleeve or some other visible place, are very important. This type of symbol can also be found in the poetry of courtship. Knights gave vows to enhance their honour and fame – they promised, for example, to perform a heroic deed in one year and one month. To confirm the promise, they bore a symbol to remind them of the given promise at any moment.[3] The universally understood letters CCCP have the same effect – they mark the vow to support the Soviet Union, to help build and defend Communism, to be the new hero.

Once he has taken off his space suit, the cosmonaut smiles. Press photos in newspapers usually depict serious people busy with work, studies or something else important and requiring concentration as it was deemed suitable for a Soviet person. The cosmonaut, however, can without exception be recognized by his open photogenic smile; his behaviour is like that of a pop star smiling to the masses. This stereotype owes much to the personal qualities of the pioneering space pilot Iurii Gagarin, who became the epitome of the character of cosmonaut. That this smile became characteristic of the Soviet space pilot in particular is proved – with intensive help from the Soviet media – by a confession in the autobiography of US astronaut Buzz Aldrin, who recalls his unwillingness to adapt the new public role in his address to Congress: 'But

I was obliged to smile and look as I was expected to look like'.[4] German Titov, on the contrary, embraced the role expected of him, and described the wave of endearment towards his home planet and the feeling of reaching the peak of his life that overwhelmed him in space.[5]

This iconology can be applied both to artistic works and mass media images, which the former took as a basis.

Mythicizing the cosmonaut

Without a doubt, the public role of a cosmonaut was to be a new hero. The development of the figure of the cosmonaut in art is different from other similar hero types, since it was supported by objective documentation and exact dates. The new smiling space conqueror appeared quickly on the front pages of newspapers and in cinema reviews. The variety of shots in use was, in fact, small – they were controlled and had to support a clear ideological message.[6] It must not be ignored that cosmonautics was a top secret industry with military aims, where distribution of detailed and exhaustive images was restricted.

Through the impact of television and mass media, the cosmonaut helped to further mythicize the cosmonaut as a larger-than-life figure.[7] These effects of television and, earlier, the film screen were exploited from the start by the ruling power. Already, Stalinist culture showed great interest in exactly such models for forming the subconscious where the forming mechanism remains hidden: for example, Pavlov's conditional reflexes theory or the Stanislavskii system.

All information about cosmonauts was distributed by the state-owned news agencies in a quick, yet controlled and tempered manner. The images submitted for public use were scarce. Correspondents, scientists, newspaper illustrators were engaged in an orchestrated propaganda campaign. During the first space flights, newspapers even printed specially designed issues for several days (e.g. *Rahva Hääl* (*People's Voice*), 11–15 August 1962). Lacking suitable and sufficient visual materials, illustrators consequently had to work on the basis of a collective mythological consciousness about anything related to flying and sky (imaginative fantasies of UFOs, the myth of Icarus, opposition of a masculine sky and feminine Earth, and – though ostracized – even religious and biblical connotations), in combination with the rhetoric of Communist struggle to bring this exciting and nearly unbelievable event to the readers.

These, thus, unrealistically depicted cosmonauts can only be regarded as mythical speech. Barthes asserts that the function of myth is to

distort. Peeter Torop from the Tartu School of Semiotics also writes about the mythogenesis of the image as a shift: 'So the symbol can be observed as a myth which is no longer overlaying itself; it has been recently paraphrased and has become a new myth through this process'.[8] So there will be the link *old myth – symbol – symbol in new wording or context – new myth* – or, as this case: myth of inhabited Sky – flying human-like gods – god-like cosmonaut – myth of Elysian, almighty Communism. The entire progressive self-concept of the Soviet Union seemed united in the cosmonaut; cosmonautics became a populist warrant of the Soviet Union's modern scientific, medical and ideological aims. At the same time, the topic changed to become prosaic enough, the results of space research changing behaviour in all fields of life; how to eat, what to wear, how to practise good hygiene.

Myth, according to Barthes, is a deformation; the sentence of the mythical speech becomes faulty during the distortion. Print-maker Allex Kütt's (1921–1991) illustration *The Expanse Belongs to Us* would not be an object of mythical speech if depicted in accordance with logic, but as it is – with the cosmonaut standing in the Red Square, having taken off his helmet and holding it, BOCTOK (Vostok) spacecrafts swishing over his head, the cosmonaut cheering – the picture becomes the bearer of the myth. What is a pilot in a space suit doing at night in the heart of Moscow? Is the space control centre aware that the whole space fleet has disappeared? Clear nonsense, as a mythologist would perceive it according to Barthes, focusing on the filled signifier and destroying the meaning of the myth. However, focusing on the signifier of the myth as the inseparable whole of meaning and form: a jubilant cosmonaut combined with Kremlin walls forms a whole where the two affirm each other's might. It is an illustration of the collective imagination cultivated by authorities, and not to a real object or event.

There is one more means of shedding light on this relation: a memory of the pentagon-shaped State Quality Mark of the USSR, which at first sight looked like a victorious cosmonaut, seems to be the most representative replacement. The course of this replacement proves the extent to which the whole Soviet myth relied, not to say parasitized, on space conquest. Regarding the quality mark – first, not even basic consumer goods were available in stores, and if you did manage to obtain something then it did not work, but everything was nonetheless proudly quality-marked. The only thing that really worked was cosmonautics; therefore the cosmonaut had to become the epitome of functioning.[9]

The situation of Estonian art

The myth of the cosmonaut in Estonian art, the fixation and detachment of the image, needs to be put into the context of the dominating trends of Estonian art. World War II severed the independent development of art in the Republic of Estonia, and Soviet occupation brought the demand for socialist realism in the arts. The period from 1955 to 1965, especially the beginning of the 1960s (Khrushchev's 'Thaw') is considered as a time of relative tolerance and revival. From 1964 to 1968, artistic life becomes more diverse, and the difference between Estonian art and the official art of the Soviet Union becomes more clearly visible. The ruling power-minded discourse that had dominated thus far gave way to the influence of Western avant-garde art, and art history became more prominent. Estonian society cheered optimistically at the growth of autonomy.[10] This time of new hope ended with the 1960s.

From 1969 to 1975, the hope for political, ideological and social freedom faded away, the free development of art was restricted, and boundaries were set as a dialogue between art and society. The end of the 1970s brought on a brutal Russification policy and socio-political stagnation. During the second half of the 1980s, romantic nationalism and punk culture fused into emotional neo-mythologies of everyday life which were carried on to the next period. The 1990s – with their crucial political and identity changes, and adjustments to post-modernism in Estonian culture research – marked an abrupt change from the previous period.[11]

The missing myth in Estonian art

If we compare the depiction of the cosmonaut in fine art to his reproductions through illustrations in journals, newspapers and agitation posters, it would be more accurate to talk about a *missing myth* in art during the years when the space race was at its most active. There are only a modest number of artworks with a cosmonaut as the subject, and the cosmonaut or cosmonautics is not the central theme of those works. As a central character, the spaceman is never depicted in an unambiguous political manner, but rather as a generalized and abstract embodiment. The first reason for this was, possibly, that the cosmonaut was a foreign figure in Estonia, a hero of the Empire, a man from the news. Another, better and more tangible reason was the optimism brought on by Khrushchev's Thaw, the loosening of restraints and a growing hope for autonomous life. More information about international art

was reaching Estonia, basic art history texts were being translated and copied by hand. They all seemed more attractive than propaganda icons provided by the ruling power. Also, state institutions were not commissioning works with cosmonauts as the subject, and the wider art public was not perceived as a target group by artists. Despite the few economical and scientific connections between Baikonur and Soviet Estonia, the motif of the victorious spaceman did not find its place: all the noise about space conquerors echoes in Estonian artworks like party noise in a communal flat: the neighbours have to hear it, but are not invited.

Paradoxically, it is only the late 1960s and early 1970s that give us the most fascinating cosmonaut portrayals. Allex Kütt's prints *Futurum* (1967), *Man and Machine* (1969), *Kaleidoscope* (1969), *Observatory* (I to VI, 1973) are from this period, as is Renaldo Veeber's work *Lenin* (see Figure 20.1) for the magazine *Noorus* (*Youth*, 1970) and *Cosmos* (1971), Kaisa Puustak's *Flyover* (1971) and Evi Tihemets's *The Coming* (1976). In painting, Lepo Mikko is the main artist who took up space conquest: *Soldier Defending Peace* (1968), *Wheel of Time* and *Man and the Space* (both 1971). Kristiina Kaasik's triptych *Mirages in Space* (1970) is also quite notorious. Completely unique is the colouring book for children *Into the*

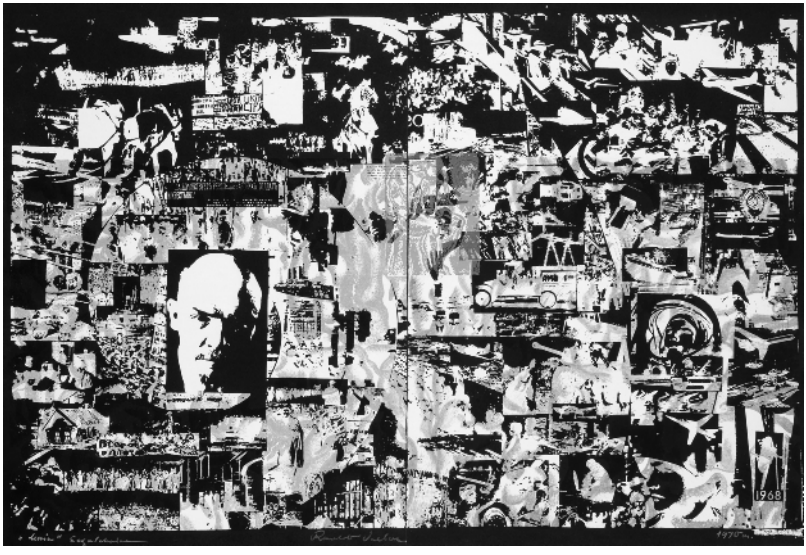

Figure 20.1 Renaldo Veeber, 'Lenin'. Author's technique on paper, 100 × 69 cm, 1970
Source: Reproduced by courtesy of the Art Museum of Estonia.

Year 2000 (1972), by the semi-underground avant-gardist and philosopher Tõnis Vint – the aesthetics of it were clearly inspired by Pop Art.

The repertoire of artworks that contain a cosmonaut is extremely monotonous: the same images are repeated from work to work. Only the style moves are rather boldly modernist and almost abstract in comparison to the ubiquitous Soviet Realism.[12] This situation is bound to make one think of a canonized mythical figure, which no one has seen and at the projecting of which the artist relies solely on quite rich tradition; that is, photos from media, a variety of visual images from the past, and the archetypical fantasies of mythological consciousness.

Throughout the whole cosmonaut tradition in art, a reliance on the original images can be observed. This means that we can only discern the first four conquerors of the Universe. Afterwards, artists did not refer to individual pilots, instead creating a generalized image, or an iconic symbol, of a cosmonaut. A fine example of such a re-use of a mass media image in an art work is a graphic piece by print artist Olev Soans (1925–1995). A popular photo of Gagarin smiling and holding a white dove was potent enough for the artist to repeat the same take when portraying Nikolaev and Popovich. His linocut *The Future is in Our Hands* from the 1962 September issue of the magazine *Noorus* (*Youth*) presents two cosmonauts in space suits and helmets, the first of the two holding a white dove in his palm. A romantic night sky with something that resembles fireworks forms the background. The intimate picture should once more assure the viewer that peace, in shape of the dove, is truly well-guarded by the cosmonauts.

The fragmentation of the world should be substituted with an aspiration towards the wholeness, says Jung.[13] In extraterrestrial objects, which lack a parallel in earthly reality, he sees the healing entirety, and thus a direct link to the human psyche should be guaranteed. A careful, pedantic aim for the whole is what most characterizes the cosmonaut works in Estonian art. This could also be seen the other way round – cosmonauts usually appear only in works that aspire to present a wholesome picture of life, map the 'Soviet Universe';[14] meaning the cosmonaut is a *sine qua non*, an inseparable ingredient of daily life in the 1960s.[15]

Kütt, Veeber and Mikko have noted in their Soviet universe soldiers, doctors at operating tables, sports events, children, builders on scaffolding, oil rigs and the cosmonaut as the conventional things of social life (as shown in Figure 20.1). Such collage works are without doubt expressions of a new view of the world, influenced by semiotics, structuralism – on the level of the picture, we witness an attempt to introduce a new visual grammar. Dividing the sheet into small fragments

reminds one of the structure of film frames or, more likely, video stills. One can observe the artist's ploys to make the viewer gaze on these objects along the trajectory in mind, so this is montage. There is nothing new in such fragmentation and in the representation of several time–space continua in one field. This was a widespread method in medieval art, but there it was used to recount the story, used in the function of an oral narration. The continuation of the oral tradition in the works of the above-mentioned authors could be understood as similar to the image construction of television news. News that constructs the mythical identity of social life constructs a holistic view of the world from different areas of life – economy, sports, culture, foreign politics, and so forth. In television news, everyday life is represented in a hierarchical form, since some events, persons or topics are perceived as more important than others at a given moment.[16] Since artists used those more important topics, one can only speculate whether this was the excuse for using a more bold and ambiguous stylistic form and still not earn accusations of being formalist and inappropriate.

There is another example of how the images of cosmonauts were used to mask the artistic aspirations in avant-garde form-seeking. Lepo Mikko's (1911–1978) largest painting *Man and Space* (oil on canvas, 1971; see Figure 20.2) employs the topic very directly to enact contemporary video-technical moves on canvas. In a manner of speaking, he follows *repro-avant-garde*,[17] as there was no experience in Estonia of the video-space that existed and was so popular in the West by that period. In Mikko's work, video editing and imitation of the simplest analogue effects can be wonderfully observed. The canvas is vertically split into three sections: Earth and technology – space and man-cosmonaut – Earth and technology again. This turns the painting into a space voyage video journal to be read from left to right. The flight control centre, a cosmodrome with a shuttle on stand-by, the clock counting the seconds backwards until launch have all been recapped briefly. The centre section, the largest and most detailed and elaborate, accentuates the human being. The space crew seems to have lined up between the segments of celestial bodies below and above, as much as lining up is possible in the state of weightlessness. Each crew member is in a slightly different pose, each one a little behind the one in front. On closer inspection, they all seem to be moving towards the viewer. In fact, only one of the cosmonauts is portrayed as moving towards the viewer; the others are just stills marking the movement of that single cosmonaut. In the late 1960s, a number of simple analogue effects such as halted frames and feedback were used in video. Such

Figure 20.2 Leppo Mikko, 'Man and Space'. Oil on canvas, 200 × 200, 1971
Source: Reproduced by courtesy of the Tartu Art Museum.

mediation of vision is highly powerful, as it introduces the completely unexpected grammar of media into classical painting technique.

This shows that the figure of the space-suited hero, after all, *does* exist in art. However, a heretical thought arises when we look at the images of cosmonauts from the 1960s and 1970s, all created within approximately five years. By this time, the US had commenced its space programme and the USSR had lost its priority on rocketry over the US. The Apollo moon mission was without a doubt more striking than Gagarin's orbit of the Earth. So, there is cause for suspicion that the cosmonaut was rid of his uniquely Soviet hero connotation, that he became a more neutral figure – or perhaps the artists even celebrated the success of the US in the space race. Nevertheless, there is no certain evidence, except one print – *The Coming* (1976) by Evi Tihemets (1932–) which is completely unique in using the famous image of Neil Armstrong on the moon's surface, taken from a magazine sent to the artist by her Canadian relatives.[18]

The first space age in Estonian art ends with a mural by the acknowledged People's Artist of the USSR Evald Okas (1915–) in the Orlov Palace in Tallinn. The masterly painting was finished in 1987 with the goal of decorating the palace that was just about to become a museum of the friendship of nations. The pattern of Okas's work is the same as it was in the kaleidoscope-like works of Allex Kütt, Lepo Mikko or Renaldo Veeber: one composition draws together samples from all fields of life; a miner works side-by-side with amateur performers in national costume, decorative red flags waving entangled with the national ornaments of a Viru county maiden dress. The work is notable for its lack of tension and heroic pathos. The cosmonauts seem worn out and exhausted – by 1987, they had lost the vigour of young heroes. Also from 1987, the day of cosmonautics is no longer reflected in the literature suggestion list compiled for public libraries, as the topic has been exhausted and was failing to attract a readership.

The fable of failure

The same year that Evald Okas painted his last 'serious' cosmonauts, Ilia Kabakov, the émigré Russian conceptualist in New York, created one version of a total installation of his piece *The Man who Flew into Space from His Apartment*, in which he displays a small, shabby room with walls covered in propaganda posters. In the middle of the room, there is a catapult and there is a hole in the ceiling. With irony characteristic of Kabakov, he sums up the two most common suspicions about the Soviet space programme. First – so, is this what the famous Soviet space technology is really like? Second – but did they really manage to fly into the space? Doubts and scepticism had probably also spread in the West: already in 1980, David Bowie had placed his famous Major Tom in the mental asylum in his song *Space Oddity*, suggesting that the memory of the flight was merely a delirium of the weak-minded. The same doubtful questions were being asked and answered in Viktor Pelevin's novel *Omon Ra* (1992). A 2008 Russian film, *Paper Soldier*, directed by Aleksei German Junior, shows the unpolished version of Baikonur and the miserable mental conditions of cosmonauts during training. This artistic exaggeration challenges the widespread imagination of the cosmodrome and special training as a highly advanced scientific ambience under professional medical supervision.

In 1990s, the well-hidden unhappy nature of the Soviet space programme began to come to light. Space flight's connection with national prestige meant that endeavours often remained secret until

they were accomplished. The hushed up or underexposed Soviet space failures prompted speculation and rumour. The Baikonur cosmodrome conflagration in 1960, which killed 165 people, was made public only in 1990; in 2002, it was revealed that Laika, who reportedly had died painlessly after a week of orbiting, in fact succumbed to overheating several hours after launch.[19] Not to mention the widespread rumours that Gagarin did not die during a test flight in 1968, as goes the official version, but simply had an accident while being drunk, having tried to ease the burden of fame with alcohol.

From the mid-1990s, the second space age began to manifest itself in Estonia, which had regained its independence. It was no longer the discourse of power which dominated, but that of a generation whose childhood occurred at the end of the 1960s, in the 1970s and the early 1980s. Now, grown up to become artists, graphic designers and fashion designers, cosmonauts appear in their work clearly as images intended for children. The style moves are borrowed directly from illustrations in children's books, but the approach is grown-up, critical or ironic. Without doubt, the theme of the spaceman is now chosen without any political pressure, and it can be seen as a clearly personal statement; something avoided during the previous era. It is the shift of style and significance that lets us see the cosmonauts of the 1990s and 2000s as a post-modernist pastiche.

In a pastiche, the cosmonaut is the new hero again, but an antihero, a typical failure. He has lost his halo and heroic qualities, and behaves quite unintelligently. Among other things, he is now on the same level as common people, allowing everyone to appraise the situation critically. This levelling can be explained by attention moving on to the next, post-modernist basic myth, viewed as globalization, decentralization and deconstruction.

Autumnal contemplation, a 1996 painting by Peeter Allik (1966), is of this particular kind – a cosmonaut in a space suit but wearing no helmet, standing beside a young woman in underwear (see Figure 20.3). The cosmonaut smiles like before, but his smile is the most witless in the world. Allik's painting is the first hyperrealist work on the cosmonaut. It holds two references – the meeting of the object and the technique that ruled at that moment in time. Earlier, too precise a depiction would have been taken by the ruling powers as spying. Hyperrealism does not only accentuate the imperfections of appearance, but also exposes the desires of the former hero. This representation completely levels a potential hero with a possibly fallen woman. Furthermore, the Russian artist Oleg Kulik placed a hyperrealist sculpture of smiling Gagarin in a space suit between the Madonna and Anna Kurnikova in his work *The Museum* in 2003.

Figure 20.3 Peeter Allik, 'Autumnal Contemplation'. Oil, acrylic paint on cardboard, 220 × 128, 1996
Source: Reproduced by courtesy of the artist.

A cosmonaut is also standing next to an ordinary man in Ando Keskküla's (1950–2008) interactive video *Meeting Endel* from 1996, where the viewer commands the character of the video to behave in different ways. The background of the film is an audio recording of the last moments of Vladimir Komarov's death in the 1967 failed landing. It is clear that the pilot did not die heroically, but as a consequence of a human error. Since the installation analyzed 'how a person can be manipulated, the inability to stand up to this, being both the manipulator and the victim',[20] the artist also draws a parallel to the cosmonaut, stating that pilots regarded as heroes did not, in fact, have freedom of choice and that their fate was not in their own hands.

A completely new myth is created by the artist duo Marko Mäetamm (1965–) and Kaido Ole (1963–), claiming the identity of a new artist called John Smith and creating a plausible fable. The story that represented Estonia at the 50th Venice Biennale is about a German genetic scientist who arrives in the small Estonian town of Rapla, the most mediocre place on Earth, to observe Marko and Kaido, the most mediocre boys.[21] The scientist, John Smith, documents the boys' aspirations to become cosmonauts in his diary and also in paintings. However, one day something unbelievable happens – in the middle of Rapla a cosmodrome begins to materialize, and behind the house of the aviation-inspired boys a plywood rocket is being assembled. (See Figure 20.4.)

Figure 20.4 John Smith (Marko Mäetamm and Kaido Ole), 'Marko und Kaido I'. Oil on canvas, 350 × 220, 2002
Source: Reproduced by courtesy of the artists.

The artists Marko Mäetamm and Kaido Ole have joined the myth of hero with myth of artist, only with a completely reverse logic, by which a genetic scientist accidentally becomes an artist and boys want to fly into space for fame. Their story relates to the polarity of the classical myth the same way as the images on a reversible court card. Marko and Kaido becoming cosmonauts: their taking off into space in a rocket-shaped plywood playhouse also reminds one of Ivanoushka the Simpleton, travelling around on a stove in a popular Russian fairytale. Marko Mäetamm treats the rocket as one of the signs of a 1960s childhood, common in children's songs and books, postcards and even the palpable reality – in the shape of the cast iron playground constructions. For Kaido Ole, however, the rocket is a purely ironic object, a splendid empty toy, which confirms the theory about the revival of cosmonautics as reminiscent from nursery school.

Such actions as described above that view the cosmonaut as a childhood myth can be seen as a subconscious destructive revenge on the dysfunction of Communism as a myth and its beautiful promises; or as a new superiority over the former imperial hero, even his lynching. This time the function of the cosmonaut is political: the starting point of its use is the personal relationship of the artist to the image as a political symbol, in opposition to the Soviet Estonia, where initiation for depiction came as an ideological order to be fulfilled, rather than the wish to generate a political meaning. Such an extremely personal love–hate

relationship might be impossible to understand without being familiar with the political and national background.[22]

John Smith's project concludes the second round of the rise and fall of cosmonaut pictures in Estonian art. Looking at the works of a younger generation of artists, we can expect the appearance of the third space age – completely devoid of political connotations, as well as of personal relations to the image and myth. For example, the man-sized origami cosmonaut by Laura Toots (1986–), photographed in different situations (on the street, in a museum), is just a clumsy alien who tries to fit into everyday surroundings. Today, as the cosmonaut is, rather, the symbol of the optimism and euphoria of the golden 1960s, reminiscent of the beautiful times of sexual liberation, having witnessed the birth of youth culture, Kiwa (1975–) demonstrates to us an inflatable silver space suit with fan stickers of non-existent bands on it. These two cosmonaut embodiments apply a logic similar to Nicholas Bourriaud's concept a 'semionaut', who smoothly strides along different cultural signs. The third-generation cosmonaut in Estonian art is only left with a space-suited body and the ability to move around in unlimited social and mental spaces.

Notes

1. I use the term 'myth' in the widest meaning, referring to the cultural texts about the complex of ideas and beliefs shared by society. Hereafter, I rely on contemporary myth theory by Roland Barthes, that says myth is a certain form of speech, a communication and a message. Roland Barthes, *Mythologies*, London: Vintage, 1972, pp. 109 et seq.
2. K. Eerme, 'Eesti ja kosmos', *Tehnikamaailm*, 2001, no. 4, pp. 84–7.
3. H. Palamets, Keskaja kultuurist ja olustikust, Tallinn: Valgus, 1982, p. 68.
4. V. Peskov and B. Strelnikov, 'Kuulsuse telgitagused', *Noorte Hääl*, 4 August 1974, p. 3.
5. G. Titov, 'Kosmonaudi elukutse haripunktid', *Noorte Hääl*, 6 August, 1976, p. 1.
6. See Chapter 9 this volume.
7. Encyclopaedic Dictionary of Semiotics, Media and Communications ed. Marcel Panesi, Toronto, Buffalo, London: University of Toronto Press, 2000, p. 154.
8. Peeter Torop, 'Müüt kui seletus (Neomütologismist)', *Uurimusi müüdist ja maagiast*, ed. Peet Lepik, Tallinn: Tallinna Pedagoogikaülikooli Kirjastus, 2001, p. 30.
9. E. Mutt: Interview with the author, 2003.
10. J. Kangilaski, *Kunstist, Eestist ja eesti kunstist*,Tartu: Ilmama, 2000, p. 234.
11. See more about the history of art in Estonia and in the Baltics: Alla Rosenfeld and Norton T. Dodge (eds.) *Art of the Baltics. The Struggle for Freedom of Artistic Expression under the Soviets, 1945–1999*, Norton and Nancy Dodge Collection, Jane Voorhees Zimmerli Art Museum, New Brunswick, NJ : Rutgers University Press, 2002.

12. Sirje Helme explains the nature of Estonian art: 'Estonia's image within the Soviet Union was tied to the harsh northland. Generally, calling a work "Estonian" art meant that it was simplified in form, with colour schemes based on greyish brownish, bluish, and black hues, and it was rationally composed, as opposed to being emotionally controlled. The Estonian myth comprised technical accuracy, intellectuality, and cool privacy. The vision of Estonian art provided a niche that sheltered it from demands of Soviet ideology'. Sirje Helme, 'Nationalism and Dissident. Art and Politics in Estonia, Latvia, and Lithuania under the Soviets', *Art of the Baltics*, ed. Rosenfeld and Norton, 2000 (see above) p. 12.
13. Carl Gustav Jung, *Tänapäeva müüt. Asjadest, mida nähakse taevas*, Tallinn: Vagabund, 1995, p. 116.
14. Elnara Taidre, Kosmonaudid, lendavad taldrikud ja astronoomid: kosmose teema eesti nõukogude graafikas, KUMU Art Museum, wall text at the exhibition, 2008.
15. Although a famous collage-print *Signs* by Robert Rauschenberg uses the same motif and mixes symbolic images from glossy journals. In year 1970 he bottom-lined the 1960s by compiling visual images of the most notorious events of decade, we can see Martin Luther King, Jr, soldiers in Vietnam, Janis Joplin, Robert Kennedy and Moon pilot Buzz Aldrin in full equipment.
16. Jonathan Bignell, *Media Semiotics*, Manchester, New York: Manchester University Press, 1997, p. 127.
17. A term to stress that Estonian artists received information about international art only through printed material such as art magazines, not through lived experience. The two-dimensional reproductions and theoretical articles certainly influenced the understanding of contemporary art in their own way. Sirje Helme, 'Estonian Art from 1987 to the Present', pp. 158–68.
18. Elnara Taidre, 'Kosmose-teema käsitlusi Nõukogude Eesti graafikas', *Kunstiteaduslikke uurimusi. Studies on Art and Architecture. Studien für Kunstwissenschaft*. Tallinn: Eesti Kunstiteadlaste Ühing / Estonian Society of Art Historians, 2010, p. 91.
19. A. Brown, 'Space Programme and Exploration', *Encyclopedia of Contemporary Russian Culture*, ed. Tatiana Smorodinskaya *et al*., London, New York: Routledge, 2007, pp. 586–7.
20. Sirje Helme, 'Ando Keskküla', *Eesti kunstnikud: Artists of Estonia*, ed. Johannes Saar, Tallinn: Sorose Kaasaegse Kunsti Eesti Keskus, 1998, p. 55.
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From Cosmic Enthusiasm to Nostalgia for the Future

A Tale of Soviet Space Culture

Asif Siddiqi

> 'From flight to flight, the assignment will be harder and harder. Therefore each of us, on the way to launch, believes deeply that his work … will make our science [and] our people even stronger, and get closer to a bright future … a communist future for all of humanity. And yes, to achieve this great goal we still have much to do. But we are still young and can build that future.'[1]

The Khrushchev period was the 'most future-oriented in Soviet history', notes Svetlana Boym in her meditation on *The Future of Nostalgia*. The post-Stalinist Thaw created a space for renewed expectations on the future of socialism, anticipations that were unencumbered by the heavy pallor of disappointment that suffused Soviet culture of the late-Stalin years. Boym amplifies her claim by noting that, 'Khrushchev promised that the generation of the 1960s (my generation) would live in the era of communism and conquer the cosmos. As we were growing up it seemed that we would travel to the moon much sooner than we would go abroad. There was no time for nostalgia.'[2] The rhetoric that surrounded and promoted Soviet space exploits in the 1960s undeniably communicated a fascination for the future as underscored in language that explicitly linked socialism with the space programme; the former made the latter possible, while the latter made the former stronger. Both would take the Soviet Union into a glorious future.

Apart from social and technological optimism, Soviet cosmic enthusiasm of the 1960s also encompassed an equally potent but largely forgotten quality, one of looking to the past. This gaze backwards had an important function: it helped to create an 'origins narrative' for the Soviet space programme, a pre-history or childhood with appropriate father figures

(e.g. Tsiolkovskii) and adolescent traumas (e.g. the Revolution). It also delivered a teleological story to the masses on the history of the space programme, one that eliminated contingency from the story and gave Soviet cosmic enthusiasm a forward motion geared towards a singular goal that conflated the utopia of socialism with the utopia of spaceflight. From the very early days, spokespersons for the Soviet space programme engaged in the construction of a 'usable past', offering meditations galore on the glorious back story of Soviet cosmic triumphs. The past was as important as the future since the past not only gave the programme a form and narrative structure, but also produced dead heroes, such as Tsiolkovskii (and later, Korolev and Gagarin) whose lives could be moulded into legacies useful for prognosticating about the future.

This combination of forward-looking utopianism and backward-looking storytelling was central to the Soviet space narrative from its inception, and embodied in the very first communiqué on the launch of *Sputnik* on 4 October 1957. The past is communicated in a direct allusion to the 'father' of Soviet cosmonautics, Konstantin Eduardovich Tsiolkovskii, while the future is grounded in utopian expectations, specifying that 'artificial earth satellites will pave the way to interplanetary travel, and … our contemporaries will witness how the freed and conscientious labour of the people of the new socialist society makes the most daring dreams of mankind a reality'.[3] This link between the history of Russia and the future of socialism was a common trope that served a useful framing narrative that frequently omitted the present, a time that was difficult to illuminate in too much detail because of the draconian demands of secrecy surrounding the Soviet space programme.

Those who have studied the cosmic discourse of the 1960s have typically focused on some obvious characteristics – its explicit claim that socialism made the space programme possible, its use of space achievements as representing some ineffable quality of the Soviet people, its frequent claims about the peaceful nature of Soviet space exploits, and so forth.[4] My goal here is to direct attention to the bundling of past and future that simultaneously, inescapably and dramatically gave form to Soviet space culture. I describe the nature of each of these rhetorical tropes, particularly how both shared common characteristics yet had key points of departure that were often contradictory. I argue that the particular role of the past and the future in the construction of early cosmic enthusiasm can be used to historicize and periodize the phenomenon itself. In the 1970s, when popular fascination with Soviet space achievements began to wane, these two threads of past and future began to merge. Soviet space rhetoric no longer looked to the future as

bright and inviting; instead, there was now a kind of nostalgia for the future, a fascination for the halcyon achievements of the 1960s that communicated an undeniable melancholia, a nostalgia for a time when the future was possible. This nostalgia for the future has survived, and even strengthened in the post-Soviet era, but now manifests itself in entirely unexpected and contradictory ways.

Cosmic enthusiasm in the 1960s

The vast outpouring of expression surrounding Soviet space achievements of the late 1950s and the 1960s was, first and foremost, 'future-oriented'. This discourse was grounded in the unprecedented run of space achievements in the wake of *Sputnik*, all of them, year after year, helping to reinforce the international image of the Soviet Union as a nation, not of dreary collective farms and obsolete technology, but one at the vanguard of a new dynamic future. The litany of material accomplishments of the Soviet space programme – the world's first satellite, the first probe to reach the moon, the first animal in space, the first human in space, the first woman in space, the first multi-person spaceship, the first 'walk' in space, and so on – invigorated a Soviet populace still reeling from the shocks of late Stalinism. The congruent nature of Khrushchev's Thaw and the first early burst of cosmic enthusiasm was not coincidental, as the former gave the (discursive) space for the latter to flourish. Both were characterized by an unequalled optimism about the future, a future that would finally align with the original (and still fully unrealized) dreams of the Bol'shevik Revolution. If for decades, the Soviet project was a project in the making, this period of cosmic enthusiasm signalled a brief period when it seemed to have *arrived*.

That Soviet cosmic enthusiasm was steeped in futuristic discourse is not surprising given the Revolution's explicit adoption of futuristic text and imagery from the very origins of the Soviet state, in 1917. By Stalin's time, posters, for example, had taken on a distinctive characteristic, with obvious renderings of expectations of the future; in People's Commissar of Enlightenment Anatolii Lunacharskii's words, they should depict not the grim reality of industrialization but rather 'the inner essence of life'. Historian Victoria Bonnell describes this quality as depicting 'the future in the guise of the present'.[5] She adds, detailing the way in which posters showed the idealized new Soviet woman, that:

> the image of the *kholkhoznitsa* was not supposed to be realistic. Its purpose was to provide a visual script and an incantation, engendering

> a powerful illusion. To depict the rural woman was to invoke her. The image became a vehicle for anticipating and achieving the future. Stalinist propaganda created, in sum, a new political mythology. The picture, especially with the use of photomontage, acquired an unprecedented verisimilitude, not with the existing society but with the rural social world of the *imagined future*.[6]

Soviet space rhetoric from the 1960s built upon this practice but added a strong dose of technological utopianism; that is, a notion that technology was a panacea for all of society's ills. In the post-war years, and particularly beginning in the 1950s, this resurgent technological utopianism was abetted by an explosion of popular science journals and a general fascination with wartime technologies such as atomic energy, the jet engine and radar.[7] In the Soviet context, this enthusiasm for technology, grounded in the belief that modern science and technology had the power fundamentally to transform society for the better and eliminate all its imperfections, had roots in Marxist thought predating the October Revolution as well as the millenarian utopianism of the 1920s.[8] The link between technology and state was strengthened by Bol'shevik ideology that stressed machines as the key to modernity. Both of these antecedent historical strands and cultural tropes, the ubiquity of visual depictions of the socialist future and the utopian fascination with technology, were appropriated by the Soviet space programme when it arrived as a powerful force with the launch of *Sputnik* in 1957.

The public image of the Soviet space programme depended to a large degree on the pronouncements of its primary spokespersons. As a result of the demands of secrecy, Soviet designers of spaceships were hidden from the public eye; in rare cases, they were allowed to write for newspapers but only under pseudonyms.[9] As a result, two groups, cosmonauts and eminent scientists (usually with little or no connection to the space programme), assumed the mantle of being the most visible spokespersons for the Soviet space programme. Given their heroic status in the Soviet imagination, cosmonauts were especially powerful instruments of image-building, coming to symbolize in their bodies new Soviet power and prestige, and becoming ambassadors of Soviet socialism to both the Eastern bloc and the Western world.[10] Their utterances, occasionally militaristic and politically minded, were more potent than a dozen *Pravda* editorials. Despite ruthless secrecy and censorship, the many cosmonaut biographies of the 1960s communicate an enthusiasm for the future, generalized but irresistible, which infused the great Soviet

cosmic project with a kind of fervour and mystique that a completely open programme might not have succeeded at.[11]

Cosmonauts' public statements were a mix of the earthly and the cosmic, not so subtly connecting the vitality of Soviet youth with the incontrovertible promise of the future. For example, referring to Khrushchev's (in)famous Virgin Lands campaign to reclaim unused lands in Soviet Central Asia, first woman cosmonaut Valentina Tereshkova noted that 'our glorious youth have accomplished a terrestrial achievement by reclaiming millions of hectares … This is the heroism of people who fear no odds, who undertake feats for the sake of the radiant future.'[12] Similarly, in a political cartoon published in *Pravda* soon after his flight, we see first cosmonaut Iurii Gagarin leading the way to a new Soviet future where regular citizens would routinely travel to space for tourism and shopping, activities which themselves were as much in the realm of dreaming as space exploration was for most Soviet citizens.[13] In the early years, particularly, cosmonauts were not shy of invoking big goals for the years ahead. After his flight, when asked about his plans for the future, Gagarin noted that, 'I want to go to Venus, to see what happens with its clouds, to see Mars and make sure myself if there are canals there … I think that we won't have long to wait to fly to the moon and on the moon.'[14] Political leaders also routinely basked in the presence of cosmonauts, and used their achievements to promise a brighter future to Soviet citizens, thus explicitly linking successes in space with the future successes of the Soviet state. In his speech at Red Square with Gagarin after the latter's historic flight, Nikita Khrushchev noted that:

> the success [of Gagarin] should not weaken our will, perseverance, [and] commitment to the further betterment of the national economy, [and] the development of science and technology. The creation of a solid material and technical base of communism as planned at the XXI Congress of the Communist Party [in January–February 1959] is daunting. It has immense historical significance. With the seven-year plan and the achievement of the results of this new expansion of our entire economy, [and] science and technology, we will create an environment where the economy will exceed the level of the most developed capitalist country – the United States of America – and many-fold exceed its advantages in science and technology.[15]

Only months later, at the convocation of the XXII Party Congress, Party leaders asserted that an ideal communist state would be achieved

by 1980, an optimistic claim partly influenced by the numerous successes in space during the previous four years. Many at the Congress mentioned *Sputnik* and Gagarin, and predicted a glorious future for the Soviet state encouraged by the successes in space so far.[16]

The most important pronouncements pushing the futuristic bent of Soviet space discourse in the 1960s were major annual articles on the Soviet space programme published in *Pravda*, often at the beginning of the year. These long essays, published by the author 'K. Sergeev,' were, in fact, authored by Sergei Korolev, the erstwhile chief designer of the Soviet space programme, under a pseudonym.[17] These articles directly underscored that current Soviet accomplishments in space were laying the foundations for a better future. For example, in his very first article after the successes of the early *Sputniks*, Korolev noted that:

> there will come a time when spaceships will leave the Earth to depart on a journey to the far planets [and] far worlds. Today many of the above [plans] seems only like a fantasy but this is not quite so. A reliable bridge from the Earth to space has already been opened by the first Soviet artificial satellites, and the road to the stars is open![18]

Many of his articles were sprinkled with expectations of a bright future for the average Soviet citizen, with space technology as the remedy for a host of earthly problems. In his article on New Year's Day 1964, Korolev noted that:

> there will come a time when mail, and then high-speed passenger flights will be made through nearest space. Indeed, why spend 10–15 hours on a flight, if you can get to your destination within 1–2 hours! … So-called 'round-the-clock' artificial satellites will provide universal radio and television. Geophysical systems, heliophysical and other satellites will serve the Earth and the Sun, clearly follow weather formations, the radiation conditions in the Earth from space, etc.[19]

The following year he underscored that the impending future will be glorious precisely because of the successes of Soviet science:

> The infinite cosmic ocean will, in the coming years, be one of the largest areas of application of the latest human knowledge from various fields of science and technology so that people can reliably and

> safely work and play in space … All of this is yet to come, but the first day of the coming new year I want to believe that these [goals] will be achieved by Soviet science![20]

Overall, this futuristic rhetoric had some common characteristics. Most of it was utopian, drawing from the technological utopianism of the 1950s. It privileged visionary improvements over the practical and mundane; wonder and dreaming trumped cold and rational benefits. In addition, the future brought about by new Soviet cosmic capabilities would only have peaceful intentions, in contrast to American militaristic ambitions in space which were said to be dangerously driving up tensions across the globe.[21] According to Soviet space commentators, space technology was a neutral force, which in the hands of the socialist nation could be harnessed for the benefit of all humankind; capitalists could not be trusted to ensure a peaceful future. Furthermore, partly because of the utopian tinge, future prognostications were rather general; public spokespersons rarely alluded to specific programmes or projects but instead used language that was vague. Here, the future was both impending (which raised the hope for the current young generation that they would reap these benefits) and distant (for we could never know the entire range of benefits of the glorious Soviet space programme). This vagueness was reinforced by the strict regimes of secrecy surrounding the space programme. It was expressly forbidden to announce upcoming Soviet launches or plans, a practice inherited from the Soviet defence industry that oversaw the space programme. As a result of the military foundations of Soviet space research, cosmonauts or public spokespersons could hardly devote much attention to the current technical details of their exploits; as such, they devoted a large part of their public pronouncements to the future, which could be unspecific and inspiring at the same time. This lack of specificity was a fundamental feature of the futuristic discourse at the height of Soviet cosmic enthusiasm in the 1960s.

Invoking the past

At the very same time that cosmonauts and other public spokespersons of the Soviet space programme were articulating a glorious future, both in space and on earth, they were also creating a 'usable past' for the space programme.[22] When *Sputnik* was launched, the larger public knew very little about how this success came to be. The long grand march of Soviet space successes required a history, one that followed acceptable

narratives as determined by both secrecy and ideology. Commentators began constructing this history soon after the launch of *Sputnik*. The making of history depended on some obvious tropes: first, the history was extremely selective – omitting, for example, aspects that involved military concerns (too sensitive) or still-living people (too secret); second, the history was made coincident with the history of Bol'shevism; and third, the history was constructed specifically to strengthen the futuristic rhetoric.

As the military aspects of Soviet cosmonautics had to be excised from the new history, there was no mention of the work on the development of ballistic missiles in the post-war period that led directly to the successes of *Sputnik* and Gagarin. Therefore, all the focus had to be on the pre-1945 period, particularly on the activities of amateur groups that formed in the 1920s and 1930s. The most important touchstone here was Konstantin Tsiolkovskii, the founder of Soviet cosmonautics – who was conveniently both famous and dead. Tsiolkovskii had first published the mathematical foundations of space travel in 1903, before the Revolution, but had been adopted as a 'home grown' genius by the Bol'sheviks in the early 1930s, just a few years before his death.[23] In the post-World War II years, a number of important space enthusiasts, including Sergei Korolev, had rallied to resurrect Tsiolkovskii's contribution to the science of space travel; as a result, the esteemed USSR Academy of Sciences had finally taken note of the late scientist and began publishing his collected works. In 1954, the Academy instituted the Tsiolkovskii medal, awarded to the individual for 'distinguished service in the area of interplanetary travel'.[24]

During his life, Tsiolkovskii had displayed a distinct lack of enthusiasm for the Bol'shevik cause, but in death, his legacy was appropriated for the new Soviet future; his name was on the very first communiqué announcing the launch of *Sputnik* in 1957. All subsequent pronouncements on the space programme, from the most mundane press release to hefty tomes, invoked Tsiolkovskii's name as the very first person who had developed the mathematical foundations of space travel. That he had done this before contemporaries such as the American Robert Goddard and the German-Romanian Hermann Oberth was ideal for emphasizing the priority of Soviet science. One of the most important aspects of this appropriation was to note that Tsiolkovskii's genius had been recognized by the Bol'sheviks after being ignored by the Imperial government for decades. In other words, the Soviet space programme's birth was dated not so much to 1903 (when Tsiolkovskii first published his theories) but to 1917 (when his theories were allowed to

flourish). As a result, the history of the Soviet space programme became coterminous with the history of the Soviet Union itself.

In some cases, the creation of a 'usable past' also resurrected unlikely individuals because they fitted this alignment between the history of the space programme and the history of the Bol'shevik project. Nowhere was this more starkly underscored than in the case of Nikolai Kibal'chich, the one-time terrorist who was hailed as a hero of the Soviet space programme. Kibal'chich's story, the flipside to that of Tsiolkovskii, weaved together a number of useful tropes of the new Soviet space history. While Tsiolkovskii served as a patriarchal face for cosmic enthusiasm in the 1920s and 1930s, he was also apolitical and had, at least up to that point, declined explicitly to support the Bol'shevik cause – not surprising, given the lack of support they demonstrated for him immediately after the Revolution.[25] By contrast, Kibal'chich was a much better candidate for a revolutionary figure in the field of space exploration; with a relatively minor contribution to aeronautics, he was elevated to remarkable prominence from the 1960s. His story, often likened by Soviet commentators to that of Icarus, remains extant in the post-Soviet era; historians in both the East and West continue to trump up this lost figure as a contemporary of Tsiolkovskii, Fridrikh Tsander and other major Soviet theoreticians.[26]

Kibal'chich, a certified engineer, deserves some prominence in Russian history but not for any contribution to astronautics. As a young revolutionary in the anti-Imperial *Narodnaia volia* (People's Will) terrorist organization, he was instrumental in building and placing the bomb that killed Tsar Aleksandr II on 1 March 1881. After his arrest and sentence, while in his prison chamber, Kibal'chich drew up a crude plan (with a single diagram) for an 'aerodynamic instrument' using powder rockets that he wanted a responsible government commission to examine. He wrote:

> I am writing this project in imprisonment, a few days before my death. I believe in the realization of my idea, and this faith sustains me in my terrible predicament. Should my idea, after careful examination by scientific experts, be recognized as feasible, then I would be happy that I have rendered a service to my country and to mankind; I would then meet death peacefully.[27]

The new government of Tsar Aleksandr III was not interested. After Kibal'chich's execution on 3 April 1881, news of this mysterious flying machine seeped through various sources in both Russia and the

West, but it was only in 1917 that the Bol'shevik government found his complete handwritten report, and asked Nikolai Rynin, a prominent aeronautics academic, to judge its value. Rynin found it promising and published the report along with his analysis of it in the journal *Byloe* (*The Past*) in 1918.[28] In an uncharacteristic lapse of hyperbole, Rynin noted that 'Kibal'chich must be given priority for the idea of using reactive engines in aviation … and giving tempting prospects for the future, especially if one is dreaming of interplanetary voyages.'[29]

Kibal'chich's idea to use a powder rocket attached to a platform to propel it was not new. Other Russian scientists had advanced similar plans far more sophisticated around the same time that Kibal'chich had.[30] In his exposition, Kibal'chich did not mention the cosmos or even the upper atmosphere; because his calculations omitted the effects of air, *post facto* interpreters assumed that he might have been thinking of a rocket working in vacuum. Although Kibal'chich's exposition had nothing to do with space, Rynin's original statement stuck. Eventually, the former revolutionary achieved an iconic status in the canon of Soviet space history that hardly distinguished between Kibal'chich's political and (alleged) scientific work. His dramatic, tragic and ultimately heroic story was retold dozens of times in speeches, articles, and books through the 1960s until it achieved a momentum that was divorced from the original events of the case.

Kibal'chich's story had obvious metaphoric value in the context of space, since his tale gave the new cosmic movement a hero who had given his life for *both* liberation from oppression and liberation from gravity. Rynin himself wrote of him in 1929, 'One cannot but help but genuflect before a man whose love for new invention and whose inventive thoughts were fully occupying him prior to being executed, and whose certainty of the correctness of the principle of flight supported and encouraged him before his death.'[31] As the story was so compelling, the science – or, indeed, any appeal to evidence – was unnecessary. Embellishments to the story began to appear almost immediately, perhaps the most enduring being that Kibal'chich had feverishly and hurriedly drawn up the plans *the night* before his execution when in fact, he had done so eleven days before – a small detail perhaps, but one which made the story even more compelling. In many imagined representations of Kibal'chich's flying machine, artists exaggerated his original representations to depict spaceships flying over the moon which its original author would have hardly recognized.[32] In the 1960s, these images proliferated as Kibal'chich's story was brought to the forefront of Soviet space history, uncomplicated by appeals to evidence.

In untangling the myths associated with Kibal'chich, one might argue that his effective contribution to the science of spaceflight is unimportant because he served a purpose that transcended questions of 'scientific value'. The conclusions that both Russian and Western historians have come to regarding Kibal'chich's role in the history – such as Michael Holquist's claim that he represents the nihilist impulse in Soviet space history – are not necessarily untrue, but obscure a deeper and perhaps more important process of myth-making.[33] The Kibal'chich myth is instructive precisely because it shows how the Soviet space community was willing to subvert its own tenets of scientific truth to bolster its case.[34] Even more striking, the community did this without any prompting from the state, whose interest in Kibal'chich's story would be understandable. The Kibal'chich case underlines the degree to which, first, the infant Soviet space community was not naïve but opportunistic when it served its purposes; and second, that they were skilled at remaking their own history – a practice that, with the not inconsiderable resources of the state, they mastered during the 1960s to reflect the perceptions of the most powerful designers, such as Sergei Korolev and Valentin Glushko.

Apart from Tsiolkovskii and Kibal'chich, articles in the post-*Sputnik* era gradually revealed the activities of young enthusiasts who aspired to build rockets and reach the cosmos in the 1920s and 1930s, and who were provided material support by the Bol'shevik government. These accounts, while revealing the names of long-forgotten pioneers such as Fridrikh Tsander and Iurii Kondratiuk, made a direct connection between the past and the future, suggesting that the Soviet path to the cosmos had been long and deliberate with the ultimate goal of cosmic conquest always in mind.[35] The architects of this history-making were usually journalists who had been given special access to the top leaders of the Soviet space programme, or in some cases the managers themselves, writing under pseudonyms. In other words, those in charge of the Soviet space programme were actively complicit in creating their own myths and stories. Valentin Glushko, the chief designer of rocket engines, was one of the most prolific in this respect, writing an abundance of historical articles in the early 1960s under the pseudonym 'G.V. Petrovich' that highlighted his earlier apprenticeship work at the Gas Dynamics Laboratory in the 1930s.[36]

Once the Soviet space programme had accumulated a substantive post-*Sputnik* history that included the achievements of new Soviet cosmonauts and spaceships headed out to the moon and the planets, the campaign to connect the past with the future was rendered stronger

by the coincidence of anniversaries. In 1967, the Soviet Union simultaneously celebrated the 50th anniversary of the Revolution and the 10th anniversary of *Sputnik*. In an article written at the time, Mstislav Keldysh, the then-President of the Academy of Sciences noted that 'in October 1967, we commemorate the 10th anniversary of the beginning of the space era – 10 years since the launch of the world's first artificial satellite. This great feat accomplished by Soviet science and technology is inextricably connected with all the progress our nation has achieved in the 50 years of its existence.'[37]

By the late 1960s and early 1970s, the discourse of Soviet cosmic enthusiasm had already developed the backbone of a master narrative. This story arc appealed to both the past and the future. The past existed to create a narrative that made the story of Soviet space travel coincident with the Bol'shevik project and Soviet history in general; the future reflected the hopeful ethos of general Soviet expectations in the post-Stalinist era, especially those released in the openness of the Khrushchev Thaw. Both the past and the future were seamlessly folded into a single narrative, as in an essay on 'K. E. Tsiolkovskii and the Future' in which Soviet space pioneer Mikhail Tikhonravov described Tsiolkovskii's half-century old Malthusian justifications for human expansion and settlement in outer space.[38] The past provided a precedent for the new futuristic cosmic enthusiasm to appropriate older phenomena, such as the technological utopianism of the 1920s and the iconography of Soviet aviators of the 1930s.[39] It also provided, in the form of the Bol'shevik Revolution, a powerful organizing framework for the futuristic and frequently optimistic tone of the cosmic enthusiasm of the 1960s. This striking connection between the past and the future, enabled by the strict secrecy regime in the Soviet space programme that prevented a full recounting of the events of the present, was a unique creation of Soviet space culture during its first 15 years. It began to fall apart in the 1970s and eventually took on a completely new form by the 1980s when nostalgia replaced enthusiasm.

Nostalgia for the future

Soviet cosmic enthusiasm had begun fragmenting by the late 1960s after a series of traumas that unravelled the hope of the early years. These losses first confused, then dampened, and ultimately tore apart the optimism that had carried the programme on a wave of national euphoria. First, there was the passing of Sergei Korolev in 1966, unknown in life but a hero in death as he was finally identified as the mysterious

'chief designer' of the Soviet space programme. The biggest and most heart-wrenching trauma was the untimely death of Iurii Gagarin, aged 34, in 1968. His funeral, attended by tens of thousands of Muscovites, was a mirror image of the parades that greeted Gagarin after his flight in 1961; instead of mass jubilation there was now the deepest sorrow. Gagarin's death, and the consequent uncertainty over exactly how he died, unleashed, slowly at first, but with ever more firm certainty in the coming years, a sense of lost chances and abandoned expectations among those who had earlier believed that anything was possible. The cottage industry of rumours surrounding Gagarin's death ignited a spark of deep cynicism among the populace regarding the official propaganda of the space programme and, by proxy, a suspicion of the legitimacy of the Party's place in Soviet society.

As the economy entered a period of great stagnation, this scepticism was linked to people's daily lives. In February 1971, for example, a large portion of potatoes sold in Moscow was too rotten to eat. Outraged by the poor quality of a staple Russian food item, one indignant grandmother declared to a crowd waiting to buy potatoes at a central farm market, that, '[w]e have rockets, right? Of course, right. We have *Sputniks*, right? Of course, right. They fly beautifully in outer space. So I say to you, dear friends. Why don't we just send these rotten potatoes into outer space too'. The small crowd gathered around gave her a round of applause.[40] Soon, prominent Soviet spokespersons were forced to defend in public the massive state expenditures on the space programme, an unthinkable proposition in the early years. With uncharacteristic defensiveness, Academician Leonid Sedov wrote in 1971 that:

> One runs into the point of view that space research is a luxury and that the heavy allocations spent on it should be applied to the satisfying of the critical needs on earth – the fight against hunger and disease, the development of education, agriculture, and so forth. I cannot agree with that. Space research has become one of the most essential factors in the modern technological revolution. One can say that it is the child of this revolution.[41]

This scepticism of the master narrative of the Soviet space programme was abetted by the increased circulation of *samizdat* dissident literature that began the long process of introducing a parallel counter-narrative of the history of the Soviet space programme, one that included many missing and unsavoury chapters. Less than five months after Korolev's death, a Hungarian publication made the sensational

claim that Korolev had been in prison from 1940 to 1953; that is, until Stalin's death. Days later, this news made the pages of the *Washington Post*.[42] More details emerged in the late 1960s and early 1970s from a former Soviet journalist named 'Leonid Vladimirov' who had defected to Great Britain in 1966. Vladimirov (whose real name was Leonid Finkel'shtein) had much to say about Korolev's life (including his time in prison) in a number of publications. Finkel'shtein's book *The Russian Space Bluff* was quite a sensation in the West.[43] This book, and others by Roy Medvedev, Leonid Kerber and Aleksandr Solzhenitsyn that contained suppressed information about the origins of the Soviet space programme, were reproduced illegally and distributed furtively among Soviet intelligentsia throughout the 1970s as part of the growing *samizdat* culture.[44] This system of underground publishing served as the backbone of an emerging counter-narrative of the Soviet space programme, which was reinforced by derisive jokes, persistent rumours and reflexive cynicism; it was a counter-narrative that was antitriumphalist, often dystopian, but invariably unimpressed with Soviet space exploits.

The belief that the Soviet cosmic project was the vanguard force in global science and technology was given a further blow by the loss of the moon race; the ghostly visage of an American astronaut on the moon in 1969 – a Soviet flag was nowhere in sight – was a shock to popular confidence in the programme. As the decade drew on, Brezhnev's stagnation set in, and the Soviet populace's general lack of interest coincided with a broader disillusionment. Svetlana Boym remembers 'that we were the generation that was supposed to live in the era of communism and travel to the moon. We did not fulfil our mission. Instead we were forced to confront the ruins of utopia … The fairy tales of our childhood were deprived of a happy ending.'[45]

On the one hand, the loss of cosmic enthusiasm was a response to the visible failures in the Soviet space programme and the material disappointments of the socialist project as manifested in the dreary living standards of most Soviet citizens. The era of jet packs and interplanetary travel for all never came. Yet, on a deeper lever, the transition from an era of optimism into the era of cynicism and disappointment was occasioned by the *merger* of the two very forces that characterized the earlier era: unbridled optimism for the future and the creation of a 'usable past' for the Soviet space programme. By this, I mean that the loss of cosmic enthusiasm gave way to a kind of 'nostalgia for the future' that encompassed both a backwards glance and a forward gaze. In an entirely different context, Jonathan Bach notes that 'modernist nostalgia' is 'less a longing for an unredeemable past … than a longing for the fantasies

and desires that were once possible in the past'. Mapped on to the Soviet space programme of the 1970s, this can be understood as 'modernist nostalgia [where] a longing for a mode of longing is no longer possible.'[46]

In the period after the 1960s, the most striking ethos of Soviet space culture was a yearning for the kind of aspiration that was once attainable but no longer an option. We see this manifested in the growing fascination in the 1970s and 1980s for the halcyon days of *Sputnik*, Gagarin and Tereshkova; this was nostalgia for a time (the 1960s) when it was possible to hope. This is not to say that the Soviets did not achieve significant achievements in the 1970s and 1980s, neither that there was no publicity of these accomplishments. On the contrary, media attention to the space programme showed a sharp increase in that period; each Soyuz mission to a Salyut space station was given its due with formal portraits of newer cosmonauts featured on the first page of *Pravda* and *Izvestiia* upon launch. However, the language of the space programme evinced a distinct turn from humanistic wonder to rational practicality, from the inspiring to the mundane. In a lengthy piece ('Looking into the Future') written for *Pravda* on the 10th anniversary of the Gagarin flight in 1971, Academician Leonid Sedov's predictions were couched in uninspiring prose. He emphasized that automatic stations and not cosmonauts 'are now assigned the leading role in the study of space, the moon and the other heavenly bodies of the solar system', that these robots would be 'the true scouts of the universe'. He added that, while the first era of space travel was one of breakthrough for humanity into space, the second era was one of 'orbital stations and systematic research work by man in space laboratories [and] a decade of the extensive use of automatic stations'.[47] Gone was Korolev's utopian rhetoric about transforming society; now the goal was sober scientific and practical research. Certainly, cosmonauts ventured forth to the orbital stations year after year, but the dreary images of Leonid Brezhnev bestowing awards on these new hero cosmonauts was shadowed and eventually *over*shadowed by the machinery of producing and then *re*producing the past.

By the late 1970s, the Soviet space programme had a trinity of dead heroes, Tsiolkovskii (died 1935), Korolev (died 1966) and Gagarin (died 1968). Works about them increased at a dramatic pace, many by contemporaries remembering them or by journalists recounting their lives in ever greater detail.[48] Annual conferences became major venues where the past was instrumentalized as an active element of the Soviet space programme. In 1978, the Academy of Sciences established a 'Commission for the Development of Scientific Contributions of the Pioneers of the Mastery of Space' that sponsored an annual meeting in

Moscow dedicated to space history.[49] Unsurprisingly, the three major yearly conferences dedicated to the Soviet space programme were held in honour of Korolev (in January), Gagarin (in April) and Tsiolkovskii (in September). Commemorating an endless series of jubilees and anniversaries of historic events or figures took up most of the activity of these meetings. Many former veterans of the space programme, some of whom took up pen and paper to record their impressions of their younger days, participated. Gagarin's brother, Korolev's associates, Tsiolkovskii's friends, all wrote with yearning paeans to their respective heroes.[50] Memoirs invoking the cosmic enthusiasm of bygone years gave the nostalgia a deeply personal sheen.

On the one hand, the proliferation of these works on the triumvirate of Tsiolkovskii, Korolev and Gagarin – as well as a never-ending stream of books on the early years of the Soviet space programme – drowned the public in nostalgia. On the other hand, the tone of these works was melancholy and full of pregnant hope, remembering a time when the Soviet space programme dreamed of more than simply mundane and lengthy orbital trips in rickety Salyut stations that circled the Earth month after month in the 1980s. Susan Stewart's comment, made in an entirely different context about everyday objects that mediate our understanding of time and space, is apropos here. She notes that, 'nostalgia wears a distinctly utopian face, a face that turns toward a future-past, a past which has only ideological reality'; nostalgia is 'hostile to history and its invisible origins, and yet longing for an impossibly pure context of lived experience at a place of origin'. At its very basic level, 'nostalgia is the desire for desire'.[51]

That this 'desire for a desire' was laid at the memory of dead heroes such as Tsiolkovski, Korolev and Gagarin is not an accident. Both Korolev and Gagarin died untimely deaths, one might say at the prime of their lives, at the peak of their strengths. As with the passing of any cultural icon, the deaths of Korolev and Gagarin were suffused with regret. In the case of Korolev, everything written about him implicitly – or, more often, explicitly – touched upon his forced anonymity during his life. Because he achieved his greatest fame upon his death, descriptions of his life, especially his time as the 'Chief Designer' of the Soviet space programme, were encumbered with a mournful tone. In the case of Gagarin, his life was cut short at the very moment when he was returning from a period of drink and philandering. He had returned to a disciplined life of academic work and cosmonaut training, and hoped to fly a second space mission. These circumstances imbue the many dozens of works on Korolev and Gagarin with the inevitable lament of

'if only they had lived'. Such unfulfilled expectations were at the heart of this nostalgia for the future; having grown into middle age in the 1980s, the Khrushchev generation felt a deep nostalgia for a time when the future was still ahead, while subsequent generations identified Soviet exploits of the 1980s with economic stagnation; for them, the past was as mysterious as the present was mundane.[52]

After the collapse: the nostalgia of interruption

The collapse of the Soviet Union reinforced *and* countered the late Soviet period's nostalgia for the (cosmic) future. The unending anniversaries commemorating bygone events underscored both the richness of Soviet space history and the essential failure of the current Russian space programme to generate more than passing interest.[53] Looking deeper into these frequent and ubiquitous anniversary celebrations, we find nostalgia for the future reformed in new ways in the post-Soviet context.

After the collapse, one symptom of the loosening of information about the older history of the Soviet space programme was the proliferation of accounts of projects that never were. A cottage of industry of publications, websites and groups emerged whose only focus were abandoned, cancelled, never built, or ended-in-disaster Soviet space projects.[54] This trend is the most striking characteristic of the post-Soviet phenomenon of nostalgia for the future; it puts lost chances and abandoned paths central in the history of the Soviet space programme. Along with what happened and what will happen in the future, the most powerful narrative of the 1990s was what might have happened *but didn't*. In the case of the space programme, the fascination for catastrophes, cancellations and abandoned paths suggests a subcategory of nostalgia for the future, what might be best termed 'a nostalgia of interruption', where the past exists only in the space of regret between the path taken (disaster, cancellation, death, etc.) and the path not taken (triumphs, parades, life, etc.). We might situate this nostalgia of interruption as part of the resurgent postsocialist nostalgia for with its complexities, contradictions and nuances.[55]

There is a second newer dimension to the postsocialist nostalgia that reflects and refracts the new economic realities of the day. In the aftermath of the collapse of the Soviet Union, Soviet space history disintegrated into messy fragments. As I have noted elsewhere, the state's withdrawal from managing history – that is, their relinquishment of the master narrative – 'produced conditions where memory was "privatised" [and where] atomized and decentralized views of history populated the landscape of remembrance'.[56] If, in the Soviet period, there was a master narrative and

a (smaller dissenting) counter-narrative, in the post-Soviet era, there was a proliferation of equally powerful contradictory stories – usually propagated through the hundreds of memoirs by former participants of the Soviet space programme. Almost all of these memoirs sought to refute older claims and also fill in the blank holes of official Soviet space history. As a result of wildly contradictory accounts, the memoirs created a jumbled up, non-linear and discrepant morass that became highly personality-centred. The authors of these memoirs are, in their own way, nostalgic to return to a single master narrative of Soviet space history; that is, a narrative that elevated their own favoured personality over others, a narrative that was as estranged from the 'truth' as the official version of the Soviet space programme propagated during the communist era.

All the multiple threads and contradictions of nostalgia in post-Soviet times – the innumerable and unending celebrations of anniversaries, the nostalgia for interruption, and the jumbled nature of the personality-centred privatized memory of post-Soviet times – were seamlessly embodied in the 2005 Russian movie *Pervye na lune* (*First on the Moon*).[57] The movie, produced exactly like a documentary that might have been made in the late 1930s, is about a forgotten and fictional episode to send a Soviet man to the moon.[58] What should have been a triumph (the cosmonaut actually reached the moon) of Stalinist hubris ends in ignominy and indifference when the populace quickly forgets about the exploit. The account of lost triumphs is heightened by the metanarrative: the film acts as both 'documentary' and 'fiction', and there is no clear linear storyline; the film makes demands on the viewer to assemble some sense out of the conflicting messages about image and reality, failure and success.[59] Ultimately, the movie is a project of a historical recovery that exists in the margins between what happened and was lost, and what never happened but was re-recreated; that is, a perfect summation of the conflicting forces acting on space nostalgia in the post-Soviet space. Like the oft-invoked Gagarin-themed rave parties of 1990s-era Moscow, *Pervye na lune* shows how the cosmic enthusiasm of the 1960s has endured (and laboured) into the post-Soviet era, but in ways in which nostalgia, now mashed up and even further from 'history', remains a central defining trope.[60]

Conclusion

The brief burst of cosmic enthusiasm in the Soviet Union, lasting from the late 1950s to the late 1960s, remains an iconic period, even today. Russian historians remain fascinated with this period, mining it for ever

deeper reflections and commentary on a time when the Soviet Union was first in the world. For a short time, there appeared to be unbounded optimism among the Soviet populace, a buoyancy tied directly to the many Soviet successes in space. Karl Gil'zin, a popular science writer who specialized in writing about space topics, noted in 1959 that:

> We are living in a remarkable period. Under the firm but friendly guidance of the Soviet people, armed with the latest scientific and technical achievements, deserts are receding, age-old virgin lands are being ploughed up, rivers are finding new courses, and the world is miraculously changing face … life for the Soviet people is daily becoming more prosperous and more satisfying.[61]

Such utopian expectations were reflected in much of the futuristic public discourse surrounding the Soviet space programme in the late 1950s and 1960s. At the same time, those in charge of the Soviet space programme sought to produce a usable past for the space programme, one whose implicit goal was to align the achievements of the space programme with the achievements of the Soviet state. This history was sanitized of any military overtones and thus had a selective nature; events that were further back in time – and, thus, less of a security risk – were emphasized while more recent events – that is, the present – were rendered invisible. In this way, the emergent historical narrative produced a childhood for the Soviet space programme with its attendant father figures such as Tsiolkovskii and Kibal'chich. The latter's dubious legacy was recruited for the express purpose of ideologically mapping the birth of the Soviet space programme onto the revolutionary spirit of the Bol'shevik cause.

In time, by the 1970s, Soviet popular enthusiasm for the cosmos waned. Boym has noted, 'the revolutionary cosmic mission was forgotten by the Soviet leaders themselves [and] as the Thaw was followed by stagnation, nostalgia returned'.[62] The Soviet space programme itself lost much of its lustre even as the names of more and more unknown cosmonauts filled the pages of *Pravda* and *Izvestiia*, and space travel attained an ordinariness unthinkable in the preceding decade. The malaise was further weighed down by the relatively poor showing of cosmonaut achievements, at least in contrast to the halcyon heights of the American space programme in the late 1960s and 1970s. Soon after, there appeared a new kind of nostalgia, best described as nostalgia for the future, a longing for desires that were once possible in the past but now no longer feasible or realistic. In the older days of cosmic

enthusiasm, the Soviet space programme had been about *creating* a past that gave form and history to enthusiasm for the future; after the 1970s, these two strands collapsed in on themselves, and much of the public rhetoric was about *re*-creating a past *in* which the future could be visualized. The death of Soviet cosmic enthusiasm was the most visible manifestation of this change. By the post-Soviet era, this nostalgia for the future had become even stronger, even as it folded into new obsessions such as the fascination with failure. New economic conditions permitted unprecedented iterations and transformations of nostalgia. The (now) Russian space programme still continues to imagine possible futures, but these futures are marred by cynicism, fed by disappointment and, most important of all, shackled to the past.

Notes

I would like to thank Esther Liberman-Cuenca and Eva Maurer for their useful comments during preparation of this chapter.

1. 'O poletakh sovetskikh kosmonavtov,' *Tekhnika-molodezhi*, [Soviet cosmonauts to the readers of *Tekhnika-molodezhi* (Technology for Youth)] 1963, 7: 1–2.
2. Svetlana Boym, *The Future of Nostalgia*, New York: Basic Books, 2001, p. 60.
3. 'Announcement of the First Satellite' in *Behind the Sputniks: A Survey of Soviet Space Science*, ed. F. J. Krieger, Washington, DC: Public Affairs Press, 1958, pp. 311–12.
4. For older examples, see Martin Caidin, *Red Star in Space*, New York: Crowell-Collier Press, 1963; William Shelton, *Soviet Space Exploration: The First Decade*, New York: Washington Square Press, 1968; Michael Stoiko, *Soviet Rocketry: Past, Present, and Future*, New York: Holt, Rinehart, and Winston, 1970; Leonid Vladimirov, *The Russian Space Bluff: The Inside Story of the Soviet Drive to the Moon*, New York: The Dial Press, 1973; James E. Oberg, *Red Star In Orbit*, New York: Random House, 1981. For more recent overviews, see David Easton Potts, 'Soviet Man in Space: Politics and Technology From Stalin to Gorbachev (Volumes I and II),' PhD dissertation, Georgetown University, 1992; James Harford, *Korolev: How One Man Masterminded the Soviet Drive to Beat America to the Moon*, New York: John Wiley & Sons, 1997; Cathy Susan Lewis, 'The Red Stuff: A History of the Public and Material Culture of Early Human Spaceflight in the U.S.S.R.', Ph.D. dissertation, Georgetown University, 2008.
5. Victoria E. Bonnell, *Iconography of Power: Political Posters under Lenin and Stalin*, Berkeley, CA: University of California Press, 1997, p. 105.
6. Bonnell, *Iconography of Power*, p. 123. Emphasis mine.
7. Asif A. Siddiqi, *The Red Rockets' Glare: Spaceflight and the Soviet Imagination, 1857–1957*, New York: Cambridge University Press, 2010, pp. 301–13.
8. Richard Stites, *Revolutionary Dreams: Utopian Vision and Experimental Life in the Russian Revolution*, Oxford: Oxford University Press, 1989; Paul Josephson, *Would Trotsky Wear a Bluetooth? Technological Utopian under Socialism*, Baltimore, MD: Johns Hopkins University Press, 2010.

9. Christian Lardier, 'Soviet Space Designers When They Were Secret' in *History of Rocketry and Astronautics, AAS History Series, Vol. 25*, ed. Herve Moulin and Donald C. Elder, Novato, CA: Univelt, 2003, pp. 319–34.
10. Slava Gerovitch, '"New Soviet Man" Inside Machine: Human Engineering, Spacecraft Design and the Construction of Communism,' *Osiris* 22, 2007, pp. 135–57.
11. For some early cosmonaut biographies or biographical works, see Iu. Gagarin, *Doroga v kosmos: zapiski letchika-kosmonavta sssr*, Moskva: Pravda, 1961; G. S. Titov, *700 tysiach kilometrov v kosmose*, Moskva: Izvestiia, 1961; M. A. Gerd and N. N. Gurovskii, *Pervye kosmonavty i pervye razvedchiki kosmosa*, Moskva: AN SSSR, 1962; Iu. Dokuchaev, *Idushchie k zvezdam*, Moskva: Molodaia gvardiia, 1963; E. Petrov, *Kosmonavty*, Moskva: Krasnaia zvezda, 1963; Iu. N. P. Kamanin and M. F. Rebrov, *Semero na orbite (11-18 oktiabria 1969 goda)*, Moskva: Molodaia gvardiia, 1969; N. Kamanin, *Letchiki i kosmonavty*, Moskva: Politizdat, 1971.
12. *Soviet Space Programs, 1962–1965; Goals and Purposes, Achievements, Plans, and International Implications*, Prepared for the Committee on Aeronautical and Space Sciences, U.S. Senate, 89th Cong., 2nd Sess., Washington, DC: U.S. Government Printing Office, December 1966, p. 58.
13. Cited in C. Lewis, 'The Red Stuff,' pp. 134–5, 167.
14. A. N. Kiselev and M. F. Rebrov, *Ukhodiat v kosmos korabli*, Moskva: Voenizdat, pp. 159–160.
15. '"Rech" tovarishcha N. S. Khrushcheva' in *Nashi kosmicheskie puti*, eds. S. V. Kupliandskaia and N. Ts. Stepanian, Moskva: Sovetskaia rossiia, 1962, p. 17.
16. *The Road to Communism: Documents of the 22nd Congress of the Communist Party of the Soviet Union. October 17–31*, Moskva: Foreign Languages Publishing House, 1961.
17. Korolev published these articles in *Pravda* on 10 December 1957, 10 November 1960, 14 October 1961, 31 December 1961, 1 January 1964, 1 January 1965, and 1 January 1966.
18. K. Sergeev [S. P. Korolev], 'Issledovanie kosmicheskogo prostranstva,' *Pravda*, December 10, 1957.
19. K. Sergeev [S. P. Korolev], 'S novym kosmicheskim godom!' *Pravda*, January 1, 1964.
20. K. Sergeev [S. P. Korolev], 'Kosmicheskie dali,' *Pravda*, 1 January 1965.
21. For examples of Soviet public statements accusing the US space programme of being militaristic, see *Soviet Space Programs, 1962–1965*.
22. For an exploration of the creation of a 'usable past' in a different Soviet context, see Jay Bergman, 'Soviet Dissidents on the Russian Intelligentsia, 1956–1985: The Search for a Usable Past,' *Russian Review*, 51, no. 1, January 1992, pp. 16–35.
23. For a detailed examination of Tsiolkovskii's journey from obscurity to fame, see Siddiqi, *The Red Rockets' Glare*, Chapters 1 and 2.
24. Siddiqi, *The Red Rockets' Glare*, p. 301.
25. Although uncritically repeated by historians, journalists, and writers, the notion that the Bol'sheviks supported Tsiolkovskii after coming to power in 1917 is grossly untrue. Tsiolkovskii lived a largely destitute existence until three years before his death, in 1932, when the Bol'sheviks finally bestowed their support to the old man as a cynical ploy to advance the cause of stratospheric exploration. See Siddiqi, *The Rockets' Red Glare*, pp. 43–73.

26. The reference to Icarus is from Valerii Rodikov, 'Ot ikara do sputnika,' in *Zagadki zvezdnykh ostrovov: kniga pervaia*, ed. S. Alymov, Moskva: Molodaia gvardiia, 1982, pp. 14–20.
27. N. I. Kibal'chich, 'Proekt' vozdukhoplavatel'nago pribora,' *Byloe* nos. 4-5, April-May 1918, pp. 115–21.
28. The publication consisted of three parts, an introduction, Kibal'chich's report, and Rynin's assessment of it. See *Byloe* nos. 4-5, April-May, 1918: P. Shch, 'Proekt' vozdukhoplavatel'nago apparata N. I. Kibal'chicha,' pp. 113–15; N. I. Kibal'chich, 'Proekt' vozdukhoplavatel'nago pribora,' pp. 115–21; N. Rynin, 'O proekt' vozdukhoplavatel'nago pribora sistemy N. I. Kibal'chicha,' pp. 122–4.
29. Rynin, 'O proekt' vozdukhoplavatel'nago …,' p. 123.
30. For example, S. S. Nezhdanovskii (1850–1940) proposed a similar 'reactive flying machine' powered by gunpowder in 1880. In 1882–1884, Nezhdanovskii even proposed using liquid propellants to propel a flying machine. See V. N. Sokol'skii, 'Raboty otechestvennykh uchenykh pionerov raketnoi tekhniki (istoricheskii ocherk),' in *Pionery raketnoi tekhniki: Kibal'chich Tsiolkovskii Tsander Kondratiuk: izbrannye trudy*, ed. B. N. Vorob'ev and V. N. Sokol'skii, Moskva: Nauka, 1964, pp. 604–7.
31. N. A. Rynin, *Mezhplanetnye soobshcheniia. Kniga 4. Rakety i dvigateli priamoi reaktsii (istoriia, teoriia i tekhnika)*, Leningrad: N. A. Rynin, 1929, p. 47.
32. These exaggerated representations appeared already in the 1930s. See for example Ia. I. Perel'man, *Mezhplanetnye puteshestviia*, 10th edn, Leningrad: ONTI, 1935, p. 93.
33. Michael Holquist, 'Konstantin Tsiolkovsky: Science Fiction and Philosophy in the History of Soviet Space Exploration' in *Intersections: Fantasy and Science Fiction*, ed. George E. Slusser and Eric S. Rabkin, Carbondale, IL: Southern Illinois University Press, 1987, pp. 74–86.
34. In 1964, when the Academy of Sciences published a volume of collected works by notable Russian and Soviet space pioneers, it placed Kibal'chich on the same level as others such as Tsiolkovskii and Tsander. See B. N. Vorob'ev and V. N. Sokol'skii, eds., *Pionery raketnoi tekhniki: Kibal'chich Tsiolkovskii Tsander Kondratiuk: izbrannye trudy*, Moskva: Nauka, 1964.
35. See for example one of the earliest historical essays on the Soviet space programme: E. Riabchikov, 'Da zdravstvuet razum!,' *Znamia* no. 11, 1959, pp. 174–84; Harry Schwartz, '2 Rocket Experts Hailed by Soviet,' *New York Times*, 23 November, 1959, p. 13.
36. See his two-part article 'Vlasteliny ognennogo vodopada,' *Komsomol'skaia pravda*, August 14 and 15, 1962. For a Western evaluation of this 'new' history, see Theodore Shabad, 'Soviet Lifts Edge of Rocket Shroud,' *New York Times*, 7 November, 1965, 16.
37. 'Akademik M. Keldysh, president Akademii nauk SSSR', *Tekhnika-molodezhi*, no. 10, 1967, pp. 3–5.
38. M. K. Tikhonravov, 'K. E. Tsiolkovsky and the Future' in *Tsiolkovsky's Ideas on Cosmonautic Problems*, ed. A. D. Ursal *et al.*, Washington, DC: NASA Technical Translation TT-F16118, 1977, pp. 140–51. Paper originally presented in 1971.
39. For Soviet aviation, see Scott Palmer, *Dictatorship of the Air: Aviation Culture and the Fate of Modern Russia*, New York: Cambridge University Press, 2006;

K. E. Bailes, 'Technology and Legitimacy: Soviet Aviation and Stalinism in the 1930s,' *Technology and Culture* 17.1, January 1976, pp. 55–81.

40. Susan Jacoby, 'Russian Stomachs Grumble: The Potatoes Are Bad,' *The Washington Post*, 5 March, 1971, p. A11.
41. Bernard Gwertzman, 'High Space Costs Backed in Soviet,' *The New York Times*, 28 February, 1971, p. 20.
42. Stephen S. Rosenfeld, 'Top Soviet Space Designer Worked in a Stalin Prison,' *Washington Post*, 16 June, 1966, p. A27. Korolev was actually incarcerated from 1938 to 1944.
43. Vladimirov, *The Russian Space Bluff*. See also L. Vladimirov, 'From Sputnik to Apollo' (in Russian), *Posev*, September 1969, pp. 47–51.
44. For *samizdat* culture, see Ann Komaromi, 'The Material Existence of Soviet Samizdat,' *Slavic Review*, 63, 2004, pp. 597–618; Gordon Johnson, 'What is the History of Samizdat?,' *Social History*, 24, 1999, pp. 115–33; Valeria D. Stelmakh, 'Reading in the Context of Censorship in the Soviet Union,' *Libraries & Culture*, 36, 2001, pp. 143–51.
45. Svetlana Boym, 'Kosmos: Remembrances of the Future' in Adam Bartos, *Kosmos*, Princeton, NJ: Princeton Architectural Press, 2001, p. 85.
46. Jonathan Bach, '"The Taste Remains": Consumption, (N)ostalgia, and the Production of East Germany,' *Public Culture* 14(3): 545–56. For more on modernist nostalgia, see Frederic Jameson, 'Postmodernism, Or, the Cultural Logic of Late Capitalism,' *New Left Review*, no. 146, 1984, pp. 59–92.
47. B. Petrov, 'Smotrit v budushchee,' *Pravda*, 12 April, 1971, p. 3.
48. For a bibliography of the massive number of works on Tsiolkovskii up to 1983, see T. A. Al'tman et al, eds., *Konstantin Eduardovich Tsiolkovskii (1857–1935): bibliograficheskii ukazatel'*, Moskva: Kaluga, 1983. Biographies of Korolev during the Soviet era included some of the following: Ol'ga Apenchenko *Sergei Korolev*, Moskva: Politizdat, 1969; A. P. Romanov, *Konstruktor kosmicheskikh korablei*, Moskva: Politizdat, 1969, revised in six more editions up to 1996; P. T. Astashenkov, *Akademik S. P. Korolev*, Moskva: Mashinostroenie, 1969, revised in two more editions up to 1975; Ia. K. Golovanov, *Korolev*, Moskva: Molodaia gvardiia, 1973, revised and expanded in 1994; and A. S. Starostin, *Admiral vselennoi: Korolev: rasskaz o vremeni i cheloveke*, Moskva: Molodaia gvardiia, 1973. In addition, there were several edited volumes on Korolev and his works published in the 1970s and 1980s. There were at least 50 books published on Gagarin during the same period, a number which does not included the hundreds of articles in the print media.
49. 'Rossiiskaia akademiia nauk: komissiia RAN po razrabotke nauchnogo naslediia pionerov osvoeniia kosmicheskogo prostranstva,' http://www.ihst.ru/personal/akm/ (last accessed 28 May 2010).
50. V. A. Gagarin, *Moi brat Iurii,* Moskva: Moskovskii rabochii, 1972; Aleksei Ivanov [O. G. Ivanovskii] *Pervye stupeni*, Moskva: Molodaia gvardiia, 1970; Aleksei Ivanov [O. G. Ivanovskii], *Vpervye: zapiski vedushchego konstruktora*, Moskva: Moskovskii rabochii, 1982; V. S. Zotov et al., eds., *Tsiolkovskii: v vospominaniiakh sovremennikov*, Tula: Priokskoe knizhoe izdatel'stvo, 1971.
51. Susan Stewart, *On Longing: Narratives of the Miniature, the Gigantic, the Souvenir, the Collection*, Durham, NC: Duke University Press, 1993, p. 23.
52. For personal testimonies of the early hopes and subsequent disillusionment of the so-called *Sputnik* generation, i.e., those who began schooling in the

year after *Sputnik* and graduated from secondary school ten years later, see Donald J. Raleigh, ed., *Russia's Sputnik Generation: Soviet Baby Boomers Talk about Their Lives*, Bloomington, IN: Indiana University Press, 2006.

53. Asif Siddiqi, 'From Russia with History,' *NASA News & Notes*, 24 no. 2 (May 2007): 1–2, 4–5.
54. The first major work in this field was Igor' Afanas'ev's *Neizvestnyye korabli* [Unknown Spacecraft], Moskva: Znanie, 1991. See also such monographs Mikhail Rebrov *Kosmicheskie katastrofe: stranichki iz sekretnogo dos'e*, Moskva: Eksprint NV, 1996; M. D. Evstaf'ev, *Dolgii put' k 'bure',* Moskva: Vuzovskaia kniga, 1999; Aleksandr Zhelezniakov, *Tainy raketnykh katastrof: plata za proryv v kosmos*, Moskva: Iauza/Eksmo, 2004; Vladimir Bugrov, *Marsianskii proekt S. P. Koroleva*, Moskva: Russkie vitiazi, 2007; V. P. Lukashevich and I. B. Afanas'ev, *Kosmicheskie kryl'ia*, Moskva: LenTa Stranstvii, 2009.
55. There is a vast canon of literature on post-socialist nostalgia. For only a small sampling, see Boym *The Future of Nostalgia*; Svetlana Boym, 'From the Russian Soul to Post-Communist Nostalgia,' *Representations* 49, Winter 1995, pp. 133–66; Bach, 'The Taste Remains'; Karen Hörschelmann, 'History after the End: Post-Socialist Difference in a (Post)modern World,' *Transactions of the Institute of British Geographers*, 27 no. 1, 2002, pp. 52–66; Gregory Feifer 'Utopian Nostalgia: Russia's 'New Idea',' *World Policy Journal* 16, no. 3, 1999, pp. 111–18; Daphne Berdahl '"(N)Ostalgie" for the Present: Memory, Longing, and East German Things,' *Ethnos*, 64: 2, 1999, pp. 192–211; Paul Betts, 'The Twilight of the Idols: East German Memory and Material Culture,' *Journal of Modern History* 72, 2000, pp. 731–65; Serguei Alex Oushakine, '"We're Nostalgic but We're not Crazy": Retrofitting the Past in Russia,' *The Russian Review*, 66, 3, July: 2007, pp. 451–82.
56. Asif A. Siddiqi, 'Privatising Memory: The Soviet Space Programme through Museums and Memoirs' in *Showcasing Space: Artefacts Series: Studies in the History of Science and Technology*, ed. Martin Collins and Douglas Millard, London: The Science Museum, 2005, pp. 98–115.
57. *Pervye na lune*, dir. Aleksei Fedorchenko, Sverdlovsk Film Studio, 2005.
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59. *Pervyye la lune* is similar in tone to the other major cultural critique of the Soviet space programme, *Omon Ra*, Victor Pevelin's 1991 novel parodying the Soviet space programme, which also toyed with meta-narratives of image versus reality. See Victor Pelevin, *Omon Ra*, New York: Farrar, Straus & Giroux, 1996. See also Gerovitch, 'Creating Memories'.
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