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Olga Dubrovina

The Soviet Space Program and International Collaboration during Perestroika, 1985–1991

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To my parents,
Elena and Vladimir

Foreword

Is it ignorance? Or is it amnesia? As the war in Ukraine dragged on in 2025, time and again the press and some public intellectuals were surprised by the cooperative posture struck by Donald Trump towards Vladimir Putin, as if the US and Russia were always enemies. They were not of course. The collapse of the Soviet Union and its fragmentation into a patchwork of separate states in 1991 was a process that was not just welcomed by Washington, but seized as an opportunity to help transform the Soviet command economy into a capitalist free market system. The Soviet military and civil space programs were necessarily engaged in this process, a process that was already under way in the late 1980s during the period of *perestroika* and its demand for transparency (*glasnost*) undertaken by Mikhail Gorbachev. This fine study uses international collaboration with (mostly) NASA and ESA and Western Europe before the 1990s as an instrument to explore the challenges faced by the Soviet system as it navigated the tensions between a reform-driven intelligentsia sympathetic to *perestroika* and an administrative and party elite with a vested interest in preserving a militarised national space program shrouded in secrecy. In their eyes the technological and scientific success of that program was a source of national pride and national security as well as a tribute to the communist system. International collaboration called for openness and reciprocity, undermined Soviet military capabilities, and exposed the system's failures and weaknesses, further discrediting the command economy, and eventually contributing to the collapse of the Soviet system itself—or so they feared.

Gorbachev's first steps advocating *perestroika* in outer space combined concerns about the weakening economy and the need to react to Ronald Reagan's SDI (Strategic Defense Initiative, or "Star Wars"). Both skeptical and fearful of the USA president's bellicose agenda, he advocated international collaboration in outer space for peaceful purposes. He was willing to share the country's extensive scientific and technological hardware and knowhow to continue the exploration of space in cost-sharing ventures that would help preserve a national space sector threatened by major financial cuts and industrial stagnation. Collaborative international space ventures would help transform key sectors of the Soviet economy that needed to be modernised by abolishing secrecy and encouraging competitive innovation. Coupled with *glasnost*, *perestroika* in space opened the black box that shrouded the space industry in secrecy. It facilitated open communication with scientists and engineers in the west (and enabled some of them to emigrate). It was essential to the commercialisation of some sectors of the space program, notably the provision of launch services. The demand for transparency also allowed the people and the world watch Soviet space endeavors as they happened—even when they failed, undermining confidence in the entire space engineering and production system.

Collaboration with Western Europe and with ESA was impacted by geopolitical tensions with the Soviet Union and by internal tensions between national priorities (notably in France) and international obligations in ESA. The Soviet invasion of Afghanistan in 1979, the declaration of martial law in Poland, and President Reagan's characterisation of the Soviet Union as an "evil empire" in March 1983 all called for prudence in dealings with the Soviet space system. Ambiguity on the Soviet side over the financing of joint scientific missions—did it involve clean interfaces and no exchange of funds, as with NASA, or were the foreign partners expected to contribute financially to Soviet costs and to share sensitive technology—added to the confusion. This did not stop France, the UK, the Federal Republic of Germany, Italy, and Austria from working with their Soviet homologues. It simply exposed them to transformations under way in the economic, industrial, and institutional restructuring of the Soviet space program in the late 1980s, that they legitimated by their persistence and gradually normalised by brokering agreements that were mutually acceptable.

The collaborative international effort to observe Halley's comet as it passed by the earth in 1986 on its regular 76-year journey around the sun

remains an unforgettable and outstanding success, even eclipsing the Bion life sciences experiments that got under way in the 1970s. Two Soviet Vega spacecraft tracked the comet on its approach, sharing data with probes launched by ESA and by NASDA (the Japanese space agency) using NASA's Deep Space Network, to facilitate their rendezvous in outer space. It showed that a sound scientific project could maintain its momentum even as geopolitical tensions intensified in the early 1980s, when planning got underway. It dispelled doubts over the possibility of the Soviet space system to build and deliver two functioning spacecraft under pressure of time and to share information with Western colleagues. And it threw light on the meaning of the extension of *perestroika* and *glasnost* into space for both Soviet and Western space communities. It was exceptional in another way. Each national space agency was responsible for separate spacecraft in the armada that met Halley in space, maintaining clean technological interfaces and no exchange of funds. Only the technical data needed by ESA's and NASDA's probes to successfully rendezvous with the comet were transmitted through NASA's network of tracking stations. Above all the project escaped the chilling effect of the export controls that, as explained in Part IV of the book, were one omnipresent obstacle to the commercialisation of space technology by the Soviets in the 1990s.

This book deftly describes the twists and turns in international collaboration in space with the Soviet Union and Russia during the last two decades of the twentieth century. It is a reminder of the important role that science and technology can play in sustaining foreign relations between governments, even when they support very different modes of political organisation. The shared desire to know more and to know better, as well as to build a dynamic international epistemic community, enables cooperative ventures to persist even when the political climate is strained. It can also serve as a stimulus to social change, transparency, and mutual tolerance, as Olga Dubrovina's insightful investigation of the extension of *perestroika* and *glasnost* into space shows. Whether or not science (and technology) diplomacy will serve any purpose in the particularly confrontational and anti-science political climate that is taking hold as I write, is another question.

Kranzberg Professor Emeritus, Georgia Tech John Krige
Paris, France

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In many ways, this book is a collective work, shaped by the written and oral testimonies of numerous participants in collaborative projects. I am deeply grateful to all those who generously dedicated their time, effort, and willingness to share their memories with me. These individuals include (in alphabetical order): Valery Abrashkin, Mark Belakovsky, Karl Bergquist, Thierry Courvoisier, Fabio Favata, Viktor Nikolaev, Mikhail Mogilevsky, and David Southwood.

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The book would have lost an essential part of its source material without the generous assistance of Tatiana Agaptseva (IBMP), Piero Messina (ESA), and Olga Zakutnyaya (IKI). I also owe special thanks to the archival staff who kindly assisted me in researching and working with historical materials: Gherardo Bonini and Andreja Casar (HAEU) and Sarah Jenkins and Sarah LeClaire (NASA HQ Archives).

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Finally, I must acknowledge my close friend and mentor, Andrea Panaccione, who accompanied me through every step of this journey, sharing his ideas and comments on the drafts they reviewed. My heartfelt and boundless gratitude goes to my friend Carolyn Green, who generously proofread the entire book and greatly improved my English. Special thanks also go to Natalia Dubrovina for her artistic contributions. Above all, this book could not have become a reality without the patience, understanding, and moral support of the two people closest to me: Nicola and Nadia Negri.

Music runs throughout this book, connecting voices and memories into a single symphony. I see my role as that of a humble conductor, bringing together talented musicians—each with their own unique perspective—to build something coherent and meaningful.

Competing Interests This book is the result of my continuous involvement in several scientific projects. Its compilation began within the framework of the project "*A Mission for All Mankind? Imaging Russian Science Diplomacy in the Space Race from Cold War Cooperation to Global Competition*", which was part of the *InsSciDE Horizon 2020* project. I continued writing the book within the *PRIN 2017* project, "*Science, Technology, and International Relations: Case Studies in Italian Foreign Policy*", and later as part of the *PRIN 2022* project, "*Europe's Research for Strategic Autonomy: From the Late Cold War to the New Millennium*". All these projects were led by Professor David Burigana. The Department of Political Science, Law, and International Studies (SPGI) at the University of Padua provided the necessary funding to complete this book.

Praise for *The Soviet Space Program and International Collaboration During Perestroika, 1985–1991*

"'Blessed is he who visited this world in its fateful moments,' wrote Pushkin. Olga Dubrovina's book evokes that same blend of nostalgia, urgency, and regret. She captures a turbulent era and the complex ESA-USSR space partnership. As a reader, I strongly recommend this book and would welcome a continuation exploring Russia's dramatic post-Perestroika space journey."

—Lev M. Zelenyi, *Scientific Director, Space Research Institute of the Russian Academy of Sciences*

"Having lived through these turbulent years of international space cooperation, I saw firsthand how perestroika reshaped Soviet space science. This book is an important historical work, capturing the challenges faced at that time, and how determination from scientists kept international collaboration alive."

—Roger Bonnet, *European Space Agency Director of Science, 1983–2001*

"Olga Dubrovina has produced an extraordinarily important book about an understudied aspect of the Soviet space program, the years during perestroika. As Dubrovina shows, science was an important lever of the larger political changes in the Soviet system during this crucial time. Her work is indispensable for anyone seeking to understand the source of the challenges faced by the current Russian space program."

—Asif Siddiqi, *Professor, History Department, Fordham University*

"Olga Dubrovina sheds light on a fascinating chapter in the history of cooperation in space between previously adverse partners during the perestroika period, 1985–1990. With great detail and profound insight, she explores the political and practical conditions which enabled a wave of short- and mid-term opportunities—paving the way for the long-term collaboration that would ultimately culminate in the creation of the largest object ever built in space: the International Space Station."

—René Pischel, *Head of the European Space Agency Permanent Mission in Russia, 2009–2024*

Contents

About the Author

Olga Dubrovina is a historian of international relations with a particular focus on the foreign policy of the USSR and Russia. She has lectured at the Universities of Milan and Bologna and conducted research at the University of Padua. She is also a member of the History Committee of the International Academy of Astronautics (IAA). Dubrovina has authored numerous essays on the history of international relations and Soviet foreign policy, including *Space Politics in Cold War Central and Eastern Europe* (2025), *INTEGRAL Observatory: Rescue at All Costs* (2023), *Russia's Space Diplomacy: Why We Should Look Back to the Soviet Years* (2022), and *Scientists in the Soviet Aerospace Sector: Revealing a Complicated Co-Existence* (2021).

Abbreviations

CAST	China Academy of Space Technology
CMEA	Council for Mutual Economic Assistance
CNES	Centre National d'Études Spatiales
CNRS	Centre National de la Recherche Scientifique
CoCom	Coordinating Committee for Multilateral Export Controls
COPUOS	Committee on the peaceful uses of Outer Space
CPSU	Communist Party of the Soviet Union
DFVLR	German Research and Test Institute for Aviation and Space Flight, 1969–1989
DLR	Deutsches Zentrum für Luft- und Raumfahrt (German Centre for Aviation and Space Flight)
DSN	Deep Space Network
EEC	European Economic Community
EO	Earth Observation
ESA	European Space Agency
ESOC	European Space Operations Centre, Darmstadt (GER)
ESRO	European Space Research Organisation
ESTEC	European Space Research and Technology Center, Noordwijk (NL)
IACG	Inter-Agency Consultative Group
IAF	International Astronautical Federation
IBMP	Institute of Biomedical Problems
IKI	Space Research Institute
INMARSAT	International Maritime Satellite Organisation
IRAC	International Relations Advisory Committee
IRAG	International Relations Advisory Group
ISRO	Indian Space Research Organisation

ISTP	International Solar-Terrestrial Physics
KNA	Scientific Equipment Container
MGU	Lomonosov Moscow State University
MNTS KI	Interdepartmental Scientific and Technical Council on Space Research
MOM	Ministry of General Machine Building
NASA	National Aeronautics and Space Administration
NASDA	National Space Development Agency of Japan
NII	Scientific and Research Institute
NPO	Scientific-Production Association
NPP	Research & Development Production Enterprise
NRC	American Nuclear Regulatory Commission
OKB	Experimental Design Bureau
PTT	Postal Telegraph and Telephone
SAR	Synthetic Aperture Radar
SDI	Strategic Defence Initiative
SDIO	Strategic Defence Initiative Organisation
SSD	Space Science Department of ESA
TsNIIMash	Central Research Institute of Machine Building
TsSKB	Central Specialised Design Bureau in former Kuybyshev
TsUP	Mission Control Centre
VDNKh	Exhibition of Achievements of National Economy in Moscow
VLBI	Very Long Baseline Interferometry
VNIIPAS	All-Union Scientific Research Institute for Applied Automated Systems
VPK	Military-industrial complex
WSO	World Space Organisation
Yuzhmash	Southern Machine-Building Plant in former Dnepropetrovsk, Ukraine

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Introduction

Historians and political analysts often seek to explain contemporary Russia and its relations with the West, tracing the origin of today's dynamics in the so-called dashing nineties, a time of profound upheaval in Russia, marked by sweeping internal social, political, and economic transformations, and the redefinition of Moscow's role on the global stage. However, the roots of these changes should be traced back to the earlier era of *perestroika*—a unique period in history that simultaneously marked the peak of Soviet power and set the stage for the collapse of the USSR, the end of the Cold War, and the beginning of a new chapter for Russia. In many ways, analysing this period is essential to understanding the developments of the decades that followed.

The choice of cosmonautics as the subject of this book is no coincidence. By its very nature, cosmonautics serves as a clear and sensitive indicator—a kind of litmus test—of the social, political, and economic transformations of the late Soviet era. The space field reflects both universal characteristics shared by many countries and features unique to the Soviet system of that time. It is a highly visible and crucial sector, both domestically and at the international level. Closely tied to advanced technologies, the space industry occupied a leading position in the USSR and the USA economic development. As Walter McDougall aptly described it, the space program was a "subsystem of the state", deeply embedded in the

broader political, economic, and military structures of the USA and the Soviet Union.[1]

In the Soviet Union, cosmonautics was an inseparable part of the military-industrial complex (VPK), which conferred upon it an exceptional significance not only in military and strategic terms but also in social terms—as evidenced by the hundreds of thousands of people employed in the field. The physical and intellectual resources of Soviet society were largely concentrated on sustaining the growth of the VPK, which was seen as essential for national security but consumed vast human and economic capital. Moreover, the cultural aspect of cosmonautics was central to Soviet self-identity.[2] The end of the 1980s marked a decisive turning point when the Soviet planned economy, strained by the efforts of multiple generations, finally collapsed—bringing cosmonautics, one of its key pillars, down with it.

The end of the confrontation between the two space superpowers during the Cold War has, somewhat surprisingly, attracted far less scholarly attention than its initial and intermediate phases. Both Russian and Western historians have rightly focused on the beginning of the space race,[3] its uneven progression, and its key milestones, such as the launch of the Sputnik and its multifaceted effects,[4] the first spectacular manned missions, and the rivalry of the Moon programs. The 1970s and early 1980s are justifiably considered the most dynamic period,[5] marked by groundbreaking international space projects, joint missions of great symbolic significance, and major scientific achievements. Projects such as the Soyuz-Apollo mission, the development of reusable space transportation

[1] Mc.Dougall, W. (1997) …*The Heavens and the Earth. A political history of the Space Age*. The John Hopkins University Press, 445.

[2] See more in Andrews, J. T., & Siddiqi, A. A. (Eds.). (2011). *Into the Cosmos: Space Exploration and Soviet Culture*. University of Pittsburgh Press.

[3] E.g. Siddiqi, A. (2000). *Challenge to Apollo: The Soviet Union and the Space Race, 1945-1974*. NASA History Office; Hardesty, V. and Eisman, G. (2007). *Epic Rivalry: The Inside Story of the Soviet and American Space Race*. Washington, DC: National Geographic.

[4] E.g. R. Lanius, R. Smith, J. Logsdon. (Eds.). (2000). *Reconsidering Sputnik: Forty Years Since the Soviet Satellite*. Routledge; D. Cozzoli (Ed.) *The Sputnik Effect in Global Perspective. Competition, Collaboration, and the Circulation of Knowledge*. Forthcoming with Palgrave Macmillan.

[5] For a detailed discussion on the significance of this period, see A. C. T. Geppert. (Ed.). (2018). *Limiting Outer Space: Astroculture after Apollo*. Palgrave Macmillan.

systems (the Space Shuttle and the Buran[6]), and the Strategic Defence Initiative (SDI) have deservedly occupied a central place in historiography. It is no coincidence that most studies focus on Soviet-American[7] and Soviet-French[8] space relations, as well as the USSR's cooperation with countries within the socialist bloc.[9] Within this historiographical framework, Brian Harvey's exploration of Soviet-European cooperation in space[10] and Asif Siddiqi's study of Soviet-African cooperative programs[11] stand out as a pioneering contribution.

Despite the richness of existing literature, the era of *perestroika*—which marked the end of Soviet-American rivalry, including in the space sector—has not yet received the scholarly consideration it deserves. In the 1980s, intense focus on other international developments, combined with a noticeable decline in public interest in space affairs, contributed to the marginalisation of this topic within historiographical debates. However, this is not to say that the period has been entirely overlooked by historians of space exploration. Several specialised studies do address space aspects of the *perestroika* period. Notably, "space sleuths" of different generations Christian Lardier, Asif Siddiqi, and Bart Hendrickx have highlighted the significance of *perestroika* in opening the Soviet space program to Western

[6] E.g. Hendrix, B. and Vis, B. (2007). *Energiya-Buran: The Soviet Space Shuttle*. Springer-Praxis.

[7] Karash, Yu. (1999). *The superpower Odyssey: A Russian Perspective on Space Cooperation*. AIAA; Long Callahan, A. (2013). NASA and Eastern Europe. In Krige, J., Long Callahan, A., Maharaj, A. (Eds.), *NASA in the world. Fifty years of international collaboration in space*, Palgrave Macmillan.

[8] E.g. Lamy J. (2011). What Management Does to Space Projects: The Franco-Soviet Project ARCAD 3 in the Late 1970s. *Science in Context*, 24(4); Ammar-Israël, A. (Ed.) (2015). *50 ans de coopération spatiale France-Urss/Russie : Genèse et évolutions 1966-2016*. Éditions Tessier et Ashpool ; Gouarné, I. (2016). Dépasser les tensions Est-Ouest pour la conquête de l'espace. La coopération franco-soviétique au temps de la guerre froide. *Les Cahiers Sirice*, 2 (16), 49-67. Roche Nye, L., (2017) *Coopération spatiale franco-soviétique et réseaux scientifiques en temps de guerre froide (1966-1988) : Transferts, circulations, pouvoirs.* Doctoral thesis;

[9] Burgess, C., Vis, B. (2015). *Interkosmos: The Eastern Bloc's Early Space Program*. Springer.

[10] Harvey, B. (2021). *European-Russian Space Cooperation*, Springer.

[11] Siddiqi, A. (2021). Shaping the World: Soviet-African Technologies from the Sahel to the Cosmos. *Comparative Studies of South Asia, Africa and the Middle East*. 41 (1), 41–55.

understanding.[12] Brian Harvey captured the "splendours and miseries" of the Soviet space program in the late 1980s.[13]

The evolution of scientific relations between the USSR and Western countries during the *perestroika* period has been mentioned by Roger M. Bonnet and Vittorio Manno,[14] as well as by Olga Zhdanovich in her study of international scientific cooperation in the USSR.[15] The impact of *perestroika* on manned spaceflights is addressed in one of the chapters of Robert Zimmerman's *Leaving Earth*,[16] as well as partially in the work of Luc van den Abeelen,[17] who examines the Soviet Union's involvement in the European Hermes shuttle project.

The initial stages of commercialisation of Soviet manned spaceflights are discussed by Chris Dubbs and Emeline Paat-Dahlstrom, particularly the first commercial flights of foreign citizens aboard Soviet space stations, as well as the earliest USA efforts to establish commercial ventures within the USSR.[18] Similarly, the Soviet Union's first steps towards the development of a commercial space sector are explored by Christian Lardier and Stefan Barensky in their history of Soviet Soyuz[19] and Proton[20] launch vehicles. The authors underscore the significance of Gorbachev's new political direction also in the field of space, which resulted in the establishment of Glavkosmos and the initiation of an extensive campaign to commercialise the Soviet space infrastructure. They identify key trends in the evolution of Glavkosmos' commercial activities, including its strategic focus on the Indian market, unsuccessful attempts to penetrate Western

[12] D. Phelan. (Ed.). (2013). *Cold war space sleuths. The Untold secrets of the Soviet space program*, Springer.

[13] Harvey, B. (2007). *The rebirth of the Russian space program. 50 years after Sputnik, new frontiers*. Springer, 5-8.

[14] Bonnet, R.M and Manno, V. (1994). *International Cooperation in Space: The Example of the European Space Agency*. Harvard University Press

[15] Zhdanovich, O. (2012). International cooperation in Space, from U.S.S.R. to Russia. In L. Morris, K. J. Cox. (Eds.), *International Cooperation for the development of space*. Aerospace Technology Working Group.

[16] Zimmerman, R. (2003). *Leaving Earth. Space stations, rival superpowers, and the quest for interplanetary travel*. Joseph Henry Press.

[17] Van den Abeelen, L. (2017). *Spaceplane Hermes. Europe's dream of independent manned spaceflight*. Springer.

[18] Dubbs, Ch. and Paat-Dahlstrom, E. (2011). *Realizing tomorrow. The path to private spaceflight*. University of Nebraska press.

[19] Lardier, Ch. and Barensky, S. (2010). *Les Deux vies de Soyouz*. Editions E-dite.

[20] Lardier, Ch. and Barensky, S. (2018). *The Proton Launcher: History and Developments*. Wiley-ISTE.

markets, and the gradual decentralisation of the space industry's management structure, which had begun even before the dissolution of the USSR.

A recurring theme in studies on international space cooperation during the Cold War between the Soviet Union and Western countries is the persistent challenge of mutual understanding—or, more often, misunderstanding—and the divergent interpretation of shared phenomena. Reflecting on this divergent understanding from personal experience, only after moving to Italy from Russia in the early 2000s I came to realise the commonly accepted Western view that the USSR had lost the Cold War. For many post-Soviet citizens, the collapse of the USSR did not automatically equate to a definitive defeat in the nearly half-century-long confrontation with the United States. This discrepancy serves as yet another illustration of how internal and external perspectives frequently diverge.

Such ambiguity also characterises the history of the USSR's relations with the West in the realm of space programs. Information manipulation (including disinformation), deliberate concealment, and opportunistic exploitation of the adversary's perceived strengths and weaknesses created an ideal environment for the proliferation of myths, misconceptions, and misunderstandings in the field of space exploration. Throughout the Cold War, Western space experts sought to penetrate the veil of secrecy surrounding the Soviet space program, often relying on indirect sources to reconstruct the carefully guarded Soviet activities. Soviet intelligence services demonstrated a similar interest in Western space efforts.

In the West, an entire movement of "space sleuths" emerged, united by their determination to uncover the truth and circumvent Soviet information barriers. Among them, James Oberg stands out as one of the most reputable specialists on the Soviet space program. His extensive research activity provides a unique lens through which to examine the 1980s from the intertwined perspectives of past, present, and future. In his groundbreaking book on the Soviet space program *Red Star in Orbit*, published at the beginning of 1980s, Oberg endeavoured to forecast the future of Soviet space exploration. Drawing upon the information available at the time, he predicted steady advancement within the Soviet space industry, envisioning ambitious projects such as *Kosmograd*—a codename for "Space Colony Number One"—as well as manned lunar and Martian missions and the development of a powerful launch vehicle to pursue these objectives. Oberg further anticipated that by the end of the twentieth century, space travel would become routine, Soviet cosmonauts would

initiate the colonisation of space, and a new type of "space human" would emerge.[21]

Two decades later, James Oberg—once an optimistic forecaster—had become a disillusioned observer after learning what he described as the true condition of the Soviet space industry. As he later admitted, his disappointment stemmed from the realisation that "there was a lot we all thought we knew that wasn't so".[22] This situation, shaped by severely limited access to reliable information, sustained an extended period of mutual misunderstanding and misinterpretation of intentions between the two space powers. Oberg noted that when "*glasnost* appeared in the USSR, a torrent of restricted information poured forth". Yet, in his view, neither the era of openness nor the collapse of the Soviet Union steered Russia to become a "normal country", and the misjudging in the domain of space persisted. According to Oberg, the primary obstacle to meaningful space cooperation was the persistent lack of transparency and sincerity on the side of the Soviet Union, and later Russia.

A somewhat different perspective is offered by Jeffrey Manber, a direct participant in the first Soviet-American commercial space ventures in the late 1980s. In recounting the history of these early commercial interactions, Manber also emphasises the prevalence of misunderstandings on both sides. However, he places the main responsibility on the American bureaucracy, which, in his view, contributed to the situation where "the working relationship between the Russians and Americans was born in confusion and misunderstanding". Manber believes that in the initial stages of the commercialisation of Soviet space technologies, the Soviet side fundamentally misjudged American intentions. Consequently, the Soviets naively assumed that "the US would welcome a commercial Russian space program, even if it competed against the US government space station, or the monopoly status of US launch vehicles, and the generally non-commercial orientation of NASA's space program."[23]

Space historian Andrew L. Jenks also emphasises the relative secrecy of the American space program, contending that the Soviet space industry began to engage in international cooperation during the period of *détente*

[21] Oberg, J. (1981). *Red Star in Orbit*. Random House Inc.

[22] Oberg, J. (2001). *Star-crossed orbits. Inside the U.S.-Russian space alliance*. McClaw-Hill, 2.

[23] Manber, J. (2000). Russian-American space miscommunication: a study in missed opportunities. *Space policy* 16, 3-6.

under Brezhnev. Whereas American policy on technology transfer remained shaped by a determination to safeguard its presumed technological superiority—even from its allies—the Soviet Union sought cooperation partly to assess the extent of its own technological lag. Jenks underscores the influence of Soviet internationalist traditions, which, in his view, "encouraged the Soviet leadership during the 1970s and 1980s to pursue collaborative opportunities and to gradually overcome the internal arguments for the continued securitisation of their space program".[24] Jenks argues that an opposite dynamic was unfolding in the United States. By the mid-1980s, he maintains, the United States had deepened its reliance on practices of secrecy, securitisation, and obfuscation—habits that American leaders, persistently fearful of the "communist bogeyman", routinely projected onto their ideological adversaries.

Christine Evans and Lars Lundgren, authors of *No Heavenly Bodies*, reach a similar conclusion regarding the Soviet Union's openness and willingness to coordinate activities in space. Their analysis focuses on the behaviour of the Soviet leadership in the development of satellite communications infrastructure, which they argue served as a testing ground for new patterns of international engagement. Specifically, they examine the commercialisation of satellite communication services through cooperation between the Soviet-led Intersputnik and the USA-led Intelsat, beginning in the 1970s. On the one hand, Intersputnik positioned itself as a competitor to Intelsat, particularly in the markets of the Global South. On the other hand, "the Soviet Union simultaneously pursued integration into Intelsat and sought to expand Intersputnik's global presence—despite its status as an asymmetrical actor, with significantly lower investment levels and less advanced technology, but offering lower prices and demonstrating a strong motivation to profit from its space technology". Evans and Lundgren convincingly illustrate how the global integration and commercialisation of Soviet infrastructure, even in a seemingly less visible area such as satellite communications, had already begun in the 1970s.[25]

If, in the context of international space cooperation, the principal historiographical concern at the end of the Soviet era was the degree of openness, mutual understanding, and trust between the parties, then

[24] Jenks, A. (2022). *Collaboration in space and the search for peace on Earth*. Anthem Press.
[25] Evans Ch. and Lundgren L. (2023). *No Heavenly Bodies: A History of Satellite Communications Infrastructure*. The MIT Press.

domestically, scholars were preoccupied with other issues. The interest of historians and cultural studies scholars was attracted by the very phenomenon of the diminishing significance of space exploration in late Soviet and post-Soviet society. One of the first scholars to address the theme of nostalgia for Soviet space achievements was Svetlana Boym. As she recognised, "by the late 1980s, cosmos had become devalued within Soviet youth culture. […] The myth of cosmos came to an end together with the dissolution of the Soviet Union, or perhaps even earlier. […] In post-Soviet Russia the exploration of space continues, but it is devoid of the mythical and ideological significance it vested in the past. The Soviet space program is no longer the model of the future but a souvenir of the past. By the end of the twentieth century, cosmos had turned from a futuristic utopia into a space for nostalgic remembrance".[26]

Later, Asif Siddiqi elaborated this idea, offering his own interpretation of the phenomenon, which he described as a "nostalgia for the future". As Siddiqi argues, "the 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".[27]

Having lost its mythical aura of romanticism by the end of the Soviet era, the space sector acquired new traits of business like efficiency and pure pragmatism. Previous researches make it clear that several phenomena typically associated with the *perestroika* period in international space cooperation had, in fact, already begun to emerge in the preceding decades. However, during the 1980s, under Gorbachev's *new thinking* policy and amidst shifting geopolitical conditions, these new modes of space activity—particularly the strategic pursuit of commercial and scientific opportunities—acquired greater significance. In this context, the deepening of relations with Western partners rendered issues such as transparency of intentions, mutual understanding, and knowledge of each other's internal realities increasingly critical.

[26] Boym, S. (2001). Kosmos: Remembrances of the Future. In Bartos, S. and Boym, S. (Eds.).
Kosmos: A Portrait of the Russian Space Age. Princeton Architectural Press.

[27] Siddiqi, A. (2011). From Cosmic Enthusiasm to Nostalgia for the Future. In E. Maurer, J. Richers, M. Rüthers, C. Scheide (Eds.). *Soviet Space Culture: Cosmic Enthusiasm in Socialist Societies*. Palgrave Macmillan.

This book seeks to shed light on the actual conditions of the Soviet space industry and science at the end of the Cold War and on the reasons behind the Soviet attempts to enter the international market for launch and satellite services. These developments are analysed against the background of a profound transformations of the Soviet space sector since the time of *perestroika*, which epitomise the country's dramatic transition, which led from a communist regime with a planned economy to a liberal democracy with a capitalist system in the 1990s.

To achieve these objectives, a comprehensive perspective on the Soviet scientific and commercial space program during the final years of the USSR was assembled. This research draws on a wide range of historical sources, including archival materials from the Historical Archives of the European Union (HAEU) in Florence, Italy, and the NASA Archives in Washington, D.C., USA. Additionally, contemporary press coverage and first-hand accounts from interviews with key witnesses have provided invaluable insights into this critical period.

This book explores themes of resilience in the face of adversity, the pursuit of ambitious goals despite setbacks, and the enduring tension between ideals and reality. It is dedicated to those pioneers who laid the foundation for Soviet/Russian-Western collaboration in space, individuals who, through perseverance and unwavering dedication, built not walls but bridges. Their contributions cannot be measured solely in monetary terms but in the immeasurable cost of time, energy, and personal sacrifice.

To those who shaped the course of history in ways both seen and unseen, this work stands as a tribute.