

SCIENCE FICTION: PRESIDENT MEDVEDEV'S CAMPAIGN FOR RUSSIA'S "TECHNOLOGICAL MODERNIZATION"

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Abstract: From its establishment in May 2009 until late spring 2012 when it lost momentum, the presidential Commission for the Modernization and Technological Development of Russia's Economy was instrumental in shaping the public debate on political and economic change in Russia in general, and the president's campaign for "technological modernization" in particular.¹ The commission was designed to have a dual role: to accelerate priority projects for the technological modernization campaign and to provide a political venue for imagining the nature of the technological modernization and what it would mean for Russia. Ultimately, however, it is best to evaluate the role of the commission in the context of science fiction, since its work was focused more on fantastical imaginings of a possible future for Russia, rather than actually implementing practical change.

With the onset of the global financial crisis, the Russian economy contracted from robust growth at a clip of approximately 8 percent per annum for nearly a decade to a loss of 7.9 percent of GDP in 2009. Although the Russian government was reluctant to acknowledge the severity of the economic collapse, it did implement an economic aid package

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that helped the major state-owned companies through the difficulties.² At the early stage of the crisis, when it looked like Russia would avoid the problems bringing down Western markets, Russia claimed that it could ride out the storm and even serve as a “safe haven” for foreign investors. But after it became apparent that the Russian economy was indeed affected by the crisis, a new line emerged: the crisis would herald a fresh beginning – an opportunity for a radical break with the past.

Clarifying what this radical break entailed fell to the presidential Commission for the Modernization and Technological Development of Russia’s Economy, which had been established for this purpose in May 2009. From its inception until June 2012, when it was re-organized into a presidential council and lost influence, the commission was instrumental in shaping the public debate on political and economic change in Russia in general, and the president’s campaign for “technological modernization” in particular. The commission’s designers gave it a dual role: to accelerate the priority projects of the technological modernization campaign and to provide a political venue for imagining the nature of Russia’s technological modernization and what it would mean for the country.

Indeed, the main task for the commission, as stated in the presidential decree establishing it, was “revising state policy in the sphere of modernization and the technological development of the Russian economy.” The decree also stipulated that the commission was to identify and coordinate a set of priority directions and methods for state involvement in the modernization and technological development of the Russian economy.³ In accordance with these tasks, the commission generated a plethora of presidential instructions meant to accelerate “technological modernization” in prioritized areas (discussed in the next session). However, as President Dmitry Medvedev explicitly stated when opening the commission’s third meeting, each member was supposed to consider these sessions as time spent “thinking about the future,” and therefore beyond the usual bureaucratic routine.⁴

The commission brought together the main factions of the Russian decision-making elite. People considered close to then Prime Minister

² Phil Hanson. 2009. *Russia to 2020*. Finmeccanica Occasional Papers; Katri Pynnöniemi. 2010. *Russia’s Modernization Reloaded: Political Constraints on Economic Development*. FIIA Briefing Paper No. 67. Helsinki: The Finnish Institute of International Affairs.

³ Ukaz Prezidenta RF “O Komissii pri Prezidente RF po modernizatsii i tehnologitseskomu razvitiyu ekonomiki Rossii” [On the presidential Commission for the Modernization and Technological Development of Russia’s Economy]. Presidential decree N579, May 20, 2009. Moscow, Kremlin.

⁴ Dmitry Medvedev. 2009. “Vstupitelnoe slovo na zasedanii Komissii po modernizatsii i tehnologitseskomu razvitiyu ekonomiki Rossii” [Opening address at the meeting of the presidential Commission for the Modernization and Technological Development of Russia’s Economy]. August 31, Pokrov, Vladimirskaya Oblast, at <http://news.kremlin.ru/transcripts/5333/print>, accessed April 28, 2014.

Vladimir Putin, such as Deputy Prime Minister Sergei Ivanov and Russian Technologies Corporation CEO Sergei Chemezov, were members of the commission. Then Prime Minister Vladimir Putin himself did not have a public role in the commission, whereas Viacheslav Surkov, first deputy head of the presidential administration, was to play a major role in the campaign. Additionally, people regarded as belonging to the liberal camp, including Rosnanotech State Corporation CEO Anatoly Chubais and Presidential Advisor Arkady Dvorkovich, were included in the commission.⁵

The dual role the commission assumed in facilitating the implementation of new technologies and practices, and providing a venue for defining the political meaning of such changes, can be analyzed by studying the discourse of the main participants. Most important is examining how they used metaphors that skillfully blended nostalgia for the Soviet past, fear of the primitive 1990s, and hope for change in the not-so-distant future. The technological modernization discourse borrowed tropes of argumentation from several sources simultaneously and was engaged in what can broadly be termed as political imagining – defining future political options and the meanings of the past.⁶ President Medvedev’s instruction to commission members to “think about the future” can thus be interpreted as an invitation to imagine a new Russia championing innovative infrastructure, civilized practices, and modern attitudes that would replace worn-out equipment, primitive habits, and patrimonial approaches.⁷

Medvedev’s efforts drew on the aspirations of the avant-garde movement of the 1920s, which fervently stressed that introducing scientific innovations would change the political landscape in revolutionary ways.⁸ Thus, the Medvedev-era discourse included serious (in the Austinian⁹ sense) and fantastical aspects in imagining the material and political contours of the “new Russia” the president aspired to build.

Instead of asking how many of the plans initiated by the commission were actually implemented, this article seeks to understand “the fantastic as that which precedes the realized.” It does this by analyzing the metaphors of technological modernization discourse as a “practical

⁵ Between May 2009 and June 2012 the list of commission participants was changed twelve times. Ukaz Prezidenta RF “O Sovete po modernizatsii ekonomiki i innovatsionnoy razvitiyu Rossii” [On the Council for the Economic Modernization and Innovative Development of Russia]. Presidential decree, June 18, 2012.

⁶ Raymond Geuss. 2011. *Politics and Imagination*. Princeton: Princeton University Press.

⁷ The future-past dichotomy as innovative versus worn-out things, civilized versus primitive practices and modern versus patrimonial attitudes is expressed in Medvedev’s article *Forward, Russia!* discussed in more detail in the next section.

⁸ Matthews Witkovsky. 2011. *Avant-Garde Art in Everyday Life. Early Twentieth Century European Modernism*. New Haven and London: Yale University Press, 18.

⁹ John Austin. 1965. *How to do things with words*. Oxford: Oxford University Press. Second edition. First edition published in 1955.

form of science fiction.”¹⁰ The science fiction genre provides a somewhat unusual, but applicable vantage point to study technological modernization metaphors since this genre is about “fictive projects of social construction through which familiar realities are somewhat estranged and adjusted, but only somewhat, and then made visible as a ‘future’.”¹¹

According to the science fiction frame, technological development (science) leads to the promise of a “brighter tomorrow” (fiction) and the maturing of a new human consciousness. This link between new technologies and a new man was at the core of the Soviet modernization project, and consequently, science fiction was used as a vehicle for legitimizing the communist ideology, but also as a means to express utopian and dystopian speculations and ethical and political thought.¹² Toward the end of the Soviet period several publications exposed the inherent determinism of the bright future. Aleksandr Zinoviev’s novel *Radiant Future*, first published in 1978, argued that “the chief problem confronting Russians is to free themselves from the oppression of the future, with its firm promise of an ideal society and its permissiveness toward any and all means of achieving that society.” The novel was shocking in the Soviet context because it questioned Russia’s future by asking “Where are we going?”¹³ The Medvedev commission sought to give its own answer. In this way, technological modernization discourse is about framing the preferred future of the new Russia.

Although the commission meetings constituted serious speech acts, and thus, non-fictional events, the articulation of “technological modernization” combines fantastical and factual tropes of argumentation. The merging of the fantastical and factual elements has numerous layers and multiple meanings, many of which will not be touched upon here. Instead, the purpose of this article is to illuminate those elements that address the fundamental question: Is Russia heading in the right direction? And if not, what can be done about it?

Direction: Forward!

President Medvedev’s article “Forward, Russia!” published on the gazeta.ru website on September 10, 2009,¹⁴ is the best-known attempt to

¹⁰ Terrell Carver. 2010. “Materializing the Metaphors of Global Cities: Singapore and Silicon Valley.” *Globalizations* 7:3, p. 385.

¹¹ Carver, Materializing the Metaphors of Global Cities, 385.

¹² Edith W. Clowes. 1993. *Russian Experimental Fiction: Resisting Ideology after Utopia*. Princeton: Princeton University Press, 183.

¹³ Clowes, *Russian Experimental Fiction*, 152.

¹⁴ Dmitry Medvedev. “Forward, Russia!” *Gazeta.ru*. September 10:09, at http://archive.kremlin.ru/eng/text/speeches/2009/09/10/1534_type104017_221527.shtml 29, accessed September 20, 2009.

explain what Russia's technological modernization entailed. In the article, Medvedev articulated what he saw as the main challenges and opportunities for the technological modernization of the Russian economy and subsequent change in the country's political system. The two main metaphors – pipeline and supercomputer – that are implied in the article capture the basic dilemma: the need for fundamental change and the aspiration to accelerate this change in a specific direction.

The pipeline metaphor signifies both the critical vulnerability of the Russian economy and its current political system. This symbolism is expressed in the article with references to Russia as a country that is dependent on the outside world, has a "primitive economy based on raw materials," and suffers from "endemic corruption." What is conveyed here is an image of a country that is a burden to itself and others.

But Medvedev reminds the reader that the country has endured great hardship in the past as well. The image of a suffering nation is linked to the history of the Great Patriotic War and, more subtly, to nostalgia about Russia as a great power during its tsarist and Soviet past. Yet, in the next breath, the president puts a positive spin on everything that he has just described in negative terms. Thus, in Medvedev's historical trajectory, the Soviet legacy is a "huge territory," with "solid industrial potential," "outstanding achievements in science, technology, education and the arts," and a "glorious history," with awesome military might ranging from the regular army to nuclear weapons. This heritage shapes Russia's huge but unrealized potential, according to Medvedev.

This future potential is expressed through the metaphor of a supercomputer, which conveys an image of a future in which Russia's economy, and consequently, the country's political life, is "extremely open, flexible and internally complex." As a symbol of high technology, the supercomputer exemplifies the link that is drawn between new innovations and freedom. In Medvedev's words: "every new invention which improves our quality of life provides us with an additional degree of freedom." He thus expresses the hope that the new "technologically modernized" economy will serve as the basis for the creation of an "active, transparent and multi-dimensional social structure," which corresponds with "the political culture of a free, secure, critical thinking, self-confident people."

With these changes, Russia will become "more humane and more attractive," Medvedev argues. To realize this vision, Russia needs to have the right type of human capital: innovators, scientists and entrepreneurs who will bring change to the country. The state, in turn, is seen through the prism of competitiveness in global markets and the networks it participates in (through individual projects, such as Skolkovo innovation city). What is left unsaid in this connection is that the existing supercomputer is largely a product of the Soviet modernization project and thus an antinomy

of the political imaginings attached to it in the context of the present-day modernization campaign. This and other contradictions inherent in the supercomputer metaphor will be discussed in more detail below.

In addition to these main metaphors, utopian and dystopian tropes of argumentation are used in articulating what “technical modernization” is all about. Due to the linguistic ambiguity of the term, utopia can mean both “no place” or “good place.”¹⁵ It is in connection with this discussion that the Skolkovo innovation city is often mentioned as an example of projects that are too out-of-place to change the way that Russia really works. Thus, the Skolkovo *innogorod* (innovation city) is represented as the utopian City of Sun, the first citizens of which are young “innovators” and “businessmen.”¹⁶ On the other hand, the Soviet legacy – the existing network of crumbling roads, pipelines and electrical lines feature in the discourse as part of the dystopian present – a primitive background that has to be transformed in order for Russia to achieve the preferred future.

The transcripts of 29 individual commission meetings from May 2009 until March 2012 form the bulk of the empirical research material used in this analysis.¹⁷ After a short pause in spring 2012, the commission was re-organized into a presidential council. Medvedev, as prime minister, was appointed head of the council’s presidium and the meetings continued, although not with the same intensity as before. This latter period of the council’s life is discussed briefly in the final section. Since the article focuses on the official articulation of Russia’s technological modernization, the general public debate in the media or articles written by Russian experts are not the subject of systematic analysis, but will be used in sketching the general context of the debate.

It is impossible to judge whether President Medvedev’s technological modernization campaign was intentionally designed to imitate the fervor of the avant-garde movement of the 1920s at the expense of concrete results. However, an articulation of the future in utopian terms runs consistently throughout the discourse, and therefore it can be argued that the president emphasized imagining the fantastical rather than something that could be realized in practical terms.

To explicate these issues, the remaining part of this article is organized into three sections. The first section examines the main metaphors and discusses how the fantastical elements of the discourse are intertwined

¹⁵ Svetlana Boym. 1994. *Common Places: Mythologies of Everyday Life in Russia*. Cambridge: Harvard University Press, 12.

¹⁶ Vladislav Surkov. 2010. “Vladislav Surkov vstretilsya s soobshchestvom ‘Futurussia’” [V. S. meets the ‘Futurussia’ society]. (April 7), at <http://state.kremlin.ru/news/7495/print>.

¹⁷ The empirical material analyzed for this article includes transcripts of all the presidential commission meetings published on the Commission website (URL: <http://state.kremlin.ru/commission/20/news>) and on the main site of the “technological modernization” campaign (<http://www.i-russia.ru/>).

with the reality. The second section focuses on what can be regarded as the “flagship” project of technological modernization: the Skolkovo innovation city. The analysis pays attention to the utopian tropes of political imagining that were used to describe the development of the innovation city. However, the concrete phases in implementing the project will not be discussed in detail here. In the third section, the article discusses the political meaning of Medvedev’s technological modernization campaign.

Articulation of the Need for Change: The Pipeline as a Metaphor for the Dystopian Present

In spring 2009 the Russian leadership concluded that the main priorities it had set for economic reform – modernization and technological development – were not moving forward. As President Medvedev stated, the global financial crisis showed that “there are no substantial improvements in the technological level of the Russian economy.”¹⁸ A total technological makeover (*proryva*) was needed. Since this revival was of the utmost importance to the country, Medvedev said that he would put it under the “direct control of the president.”¹⁹ Later he stressed that the commission should accelerate decision-making on those issues that were considered among the country’s top priorities.²⁰

Economist Vladimir Mau described the main task of Russia’s post-socialist transformation as evolving “from the current industrial system to a post-industrial economy, while gradually closing the development gap with the world’s advanced economies.”²¹ Realizing this historic objective required pursuing a two-track policy. The economy must cast off the remnants of the Soviet period, including, for example, the technical regulations that supported the needs of the planned economy. Also, it must build a basis for what Mau called the “post-industrial economy” by reinforcing institutions critical for a democratic society and a well-functioning

¹⁸ Dmitry Medvedev. 2009. “Vstupitelnoe slovo na zasedanii Komissii po modernizatsii i tehnologitseskomu razvitiyu ekonomiki Rossii” [Opening address at the meeting of the Commission for the Modernization and Technological Development of Russia’s Economy]. May 15, Moscow, <http://news.kremlin.ru/transcripts/4082/>, accessed April 28, 2014.

¹⁹ Dmitry Medvedev. 2009. “Vstupitelnoe slovo na zasedanii Komissii po modernizatsii i tehnologitseskomu razvitiyu ekonomiki Rossii” [Opening address at the meeting of the Commission for the Modernization and Technological Development of Russia’s Economy]. June 18, Laboratorii Kasperskogo, Moscow, at <http://news.kremlin.ru/transcripts/4506/>, accessed April 28, 2014.

²⁰ Dmitry Medvedev. 2009. “Vstupitelnoe slovo na zasedanii Komissii po modernizatsii i tehnologitseskomu razvitiyu ekonomiki Rossii” [Opening address at the meeting of the Commission for the Modernization and Technological Development of Russia’s Economy]. July 22, 2009, Sarov, Russia, at <http://news.kremlin.ru/transcripts/4884/>, accessed April 28, 2014.

²¹ Vladimir Mau. 2010. “The State and Creation of a Market Economy in Russia.” Korhonen, Iikka and Laura Solanko (eds.) *From Soviet Plans to Russian Reality*. Helsinki: WSOYpro Ltd, 94.

market economy.²² The majority of the liberal economists and opposition politicians in Russia thought along the same lines as Professor Mau, arguing that facilitating and maintaining long-term development requires changing the political confines of the economic system.

The official discourse on technological modernization emphasized the urgency of implementing change and represented it as a matter of existential survival for Russia, raising the whole matter to a stark choice between life and death. At a meeting of the representatives of the United Russia Party in September 2010, Medvedev emphasized that “if we fail in carrying out modernization, a disintegration of the country and degradation of the economy will follow. This suits none of us.”²³ Continuing to rely on the Soviet heritage, meaning the raw material economy created by the Soviet industrialization drive, would drain Russia of the resources required to compete successfully in the post-industrial economic system, he argued.

Earlier, in his second speech to the Federal Assembly in November 2009, Medvedev referred to the time of rapid economic growth in the first decade of the 21st century and noted that:

The priority was on pushing ahead the old raw materials economy, while developing unique technology and innovative products was the subject of only random individual decisions. But we can delay no longer. We must begin the modernization and technological upgrading of our entire industrial sector. I see this as a question of our country’s survival in the modern world.²⁴

The importance of modernization in general, and the work of the commission in particular, is amplified by the use of rhetoric about the country’s survival. However, in the first official meeting of the commission, this dystopian image of a “dying Russia” was given a concrete, almost practical meaning. Medvedev stressed that the commission should focus on those spheres of the economy and industry where the elements

²² Mau, *The State and Creation*, 102–105; see also Yevgeny Yasin. 2010. “Foreword”, in Kuznetsov, B. et al. eds., *Predpriatiya i rynki v 2005-2009 godah: itogi dvuh raundov isledovaniya Rossiiskoi obrabatyvaiushchei promyshlennosti*. [Firms and markets 2005–2009: conclusions of two rounds of research on the processing industry]. Moscow: University Higher School of Economy. For a general discussion, see: Katri Pynnöniemi. 2010. *The political constraints on Russia’s economic development. The visionary zeal of technological modernization and its critics*. FIIA Working Paper 65. Helsinki: The Finnish Institute of International Affairs

²³ “Double or Quits: Russia has to succeed in Modernization.” *Russia Today*. September 27:10.

²⁴ Dmitry Medvedev. 2009. “Presidential address to the Federal Assembly of the Russian Federation.” November 12, the Kremlin, at <http://eng.kremlin.ru/transcripts/297>, accessed May 4, 2014.

of competitiveness or competition possibilities “have not yet died.”²⁵ Accordingly, five “technological breakthrough areas” were identified, including biotechnology, cleantech (new energy sources and energy efficiency), IT and supercomputing, space and telecommunications, and nuclear technologies. The priority areas were selected on the basis of four criteria: first, they should possess significant potential for Russia’s international competitiveness. Second, they should have the capacity to create a significant multiplier effect and act as a catalyst for modernization in related industries. Third, they should be linked to the needs of defense and national security. And fourth, they should have relevance for the well-being of the people.²⁶

In the subsequent debate on “technological modernization,” inherent contradictions between the above-mentioned criteria, such as the need for international competitiveness and national security, were not directly addressed. Rather, the main focus of the debate was the expected status change for Russia: technological modernization was portrayed as a chance to lift Russia higher on the ladder in the global division of labor. In the argumentation, this idea was expressed with the metaphor of the pipeline, which refers to the widely acknowledged vulnerability of Russia’s current position vis-à-vis global markets (and other players in that market).

The metaphor of the pipeline can thus be understood as the expression of a dystopian present that inhibits Russia from reaching a more mature stage of modernity. This general sentiment was expressed by Vladislav Surkov, the former first deputy to the presidential administration chief of staff, in which he mocks the symbol of Soviet-style modernization, the fast-moving train. In an interview with *Vedomosti* newspaper, Surkov argued that the leap forward has to be made because:

Today the Russian economy resembles an old armored train without a locomotive. On the train sit people with computers, wearing ties and with glamorous ladies at their side. The armor has virtually disintegrated and it [the train] is decelerating. A little bit further and it will stop altogether.²⁷

Surkov’s “old armored train” symbolizes Russia’s increasingly dilapidated capital stock. The average age of industrial equipment in 2009

²⁵ Medvedev. 2009. *Vstupitelnoe slovo*.

²⁶ Medvedev. 2009. *Vstupitelnoe slovo*.

²⁷ M. Glinki and N. Kostenko. 2010. “Tsudo Vozmozhno” – Vladislav Surkov, pervyi zamrukovoditelya administratsii prezidenta, zampredsedatelya komissii po modernizatsii” [A Miracle is Possible: interview of the first deputy head of the presidential administration, Vladislav Surkov] *Vedomosti*, February 15:10.

was 13 years, compared with 10.8 in 1990. Just 9.7 percent of industrial equipment in 1996 was less than five years old. By 2009, the share of machinery and equipment less than five years old grew slightly to 14 percent. Half of the existing stock is between 5 to 15 years old.²⁸ The 2011 report on railway transport, published as a part of the Strategy 2020 group formed with the support of Prime Minister Putin in early 2011 to develop an economic road map for Russia, shows that around 13 percent of electric locomotives and 20 percent of main-line diesel locomotives have exceeded their standard operation time. In addition, around 30 percent of busses and 40 percent of trucks are more than 13 years old, while less than 40 percent of federal highways meet current standards.²⁹

An important aspect of the general problem is that, given the lack of consistent investments in infrastructure, the main structure of the communication networks, from railways and roads to electricity and telecommunication networks, has remained largely the same as it was during Soviet times. The extent of Russia's automobile highways remained practically unchanged from 1995 through 2007. By adding local roads to these figures, the authorities have masked the actual 9 percent decrease in the country's road system. Disruptions and deficiencies in the main lines of communication cause conflict and increase costs: transportation costs in product prices are estimated to comprise 15–20 percent in Russia against 7–8 percent in other developing countries.³⁰ The peculiarity of the transportation networks created under the Soviet regime was that they were organized functionally but hierarchically, meaning that, in many cases, adjacent towns did not have direct connections, but could be accessed only via regional or federal centers. Although the Soviet political system has ceased to exist, its spatial structure legacy remains in the form of disconnections between the regions.³¹

²⁸ Elena Lenchuk. 2011. "EU-Russia Programme partnership for modernization and its role in the technological upgrade of the Russian Economy." Presentation in a seminar at the Moscow State University on Industrial modernization: Is it possible to boost innovation in Russia? October 27:11; Alan Lynch. 2002. "Roots of Russia's Economic Dilemmas: Liberal Economics and Illiberal Geography." *Europe-Asia Studies* 54:2 (January), 33.

²⁹ Doklad. 2011. "Itogovyi doklad o rezultatah raboty Ekspertnoi gruppy No.18 Reforma estestvennykh monopolii, Podgruppy Zheleznodorozhnyi transport." [Conclusions of the expert group on the reform of natural monopolies, sub-working group on railway transport] Institut Problem Estestvennykh Monopolii. December 1, at www.strategy2020.ru, accessed December 15, 2011, 5.

³⁰ Katri Pynnöniemi. 2010. "Ten-year anniversary of the Russian international transport corridors – what lies ahead?" *Baltic Rim Economies* 2.

³¹ Katri Pynnöniemi. 2008. *New Road, New Life, New Russia: International transport corridors at the conjunction of geography and politics in Russia*. Acta Universitatis Tamperensis: 1314. Tampere: Tampere University Press; Medvedev, Sergei. 1995. "USSR: deconstruction of the text (on the occasion of the 77th anniversary of Soviet discourse." In Karl Segbers and Stephen de Spiegeleire, eds., *Post-Soviet Puzzles Mapping the Political Economy of the Former Soviet Union. Vol I Emerging Geopolitical and Territorial Units, Theories, Methods*

To change this situation, some economists have argued that Russia should do away with the poorly conceived Soviet-era infrastructure, removing the wrong things located in the wrong places, and rebuilding the country in accordance with the logic of the market economy.³² Doing so will not be easy since the movement of capital (and people) in Russia has always been restricted. As Allen C. Lynch has noted, the “costs of production in Russia tend to be fairly high, quite apart from the question of Soviet legacies of inefficiency.” The high costs result from a combination of factors, the most significant being the severity of Russia’s climate, the vastness of the Russian space and the predominance of expensive land transport over cheap sea shipping options. Thus, Lynch argues that Russia’s economic geography is, in effect, incompatible with the free movement of capital.³³

In the official discourse, the use of the pipeline metaphor reflects these scholarly debates insofar as it locates the main obstacle to Russia’s economic modernization in the existing mega-structures and their incompatibility with the demands of today’s competitive market environment. The continuing problems with Russia’s public infrastructure – the roads, electricity network, pipelines, housing stock, and public facilities – undermine more than merely the prospects for economic growth; they challenge the perception of Russia as one of the great powers or even a regional hegemon. This problem is particularly acute since Russia’s position as an “energy superpower” depends on the very same crumbling infrastructure base.³⁴

Yet, surprisingly, the lack of investment in Russia’s physical infrastructure did not feature high on the commission’s agenda. In fact, the pipeline metaphor articulated the political rather than the economic constraints of technological modernization. The pipeline metaphor is a projection of the “power vertical,” according to Surkov. In other words,

and Case Studies. Baden-Baden: Nomos Verlagsgesellschaft.

³² Clifford Gaddy and Barry Ickes. 2010. *Bear Traps: Can Russia Avoid the Pitfalls on the Road to Sustainable Economic Growth?* Center for Research on International Financial and Energy Security, at <http://crifes.psu.edu/papers/bearcrifes.pdf>, accessed May 4, 2014; see also Fiona Hill and Clifford Gaddy. 2003. *The Siberian curse. How Communist planners left Russia out in the cold.* Washington: Brookings Institution Press.

³³ Lynch, *Roots of Russia’s Economic Dilemmas*, 39; see also Stephen Hedlund. 2008. “Such a beautiful dream: how Russia did *not* become a market economy.” *The Russian Review*, 67 (April).

³⁴ Dmitry Medvedev. 2010. “Soveschanie po voprosam stroitelstva ob’ektov transportnoi infrastruktury” [Meeting concerning the building of the transport infrastructure]. (April 5), at <http://news.kremlin.ru/news/7332>, accessed 31 May 2010; United Russia Party. 2009. “O Realizatsii proekta partii Edinnaya Rossiya Infrastruktura Rossii” [On the implementation of the United Russia Infrastructure project], at www.er.ru, accessed November 15, 2011; see also Pynnöniemi, *New Roads* for discussion about political meanings imposed on international transport corridors in the Russian context.

the primitive economy generates and helps to maintain a primitive political system.³⁵ The solution to this dilemma is simple: replace the power vertical – the primitive pipeline economy – with the wireless world of telecommunications, supercomputers and chatrooms. The following section discusses how this shift from a vertical political order to a new complex political system was articulated in the discourse.

The Way Forward: The Supercomputer as a Metaphor for a Complex Political System

In a lecture delivered at the Russian Academy of Sciences on June 8, 2007, Surkov articulated his vision for Russia's future political system. The main ideas expressed in the lecture surfaced later in the context of the commission.

“In our intellectual and cultural practice,” Surkov argued, “synthesis predominates over analysis, idealism over pragmatism, imagery over logic, intuition over rationality, the general over the particular.” Stemming from this, he distinguishes three “parameters of real politics” in Russia. First, the striving toward political wholeness, manifested in the centralization of power functions, that is, in the power vertical. Second, the idealization of the political struggle. And third, the personification of political institutions. Taken together, these three factors form the trunk of the metaphorical pipeline: an under-developed and decaying political system that has to be changed.

Surkov summarizes the overall contours of this change, arguing that “future history will be the history of complex systems.” Thus, logically, “the complex political system always stems from complex economics, from an economy that is formed nonlinearly.”³⁶ To survive in this new world, modernization is not enough. Russia “must become accustomed to life in a complicated, open, unstable, and fast-moving world. In this world, any equilibrium is dynamic, any order mobile and flexible – if equilibrium and order even exist,” Surkov states.³⁷ It is important to understand that this unorderly order is neither determined nor merely arbitrary. It is a space where the traditional understanding of planning and calculation or anarchy and hierarchy do not apply, but where order is produced by the emergent causality of complex life. Although Surkov refers to an undetermined future here, Russian political scientist Sergei Prozorov has argued that, in fact, current Russian politics has become “a technology of scheming” where the intriguer – the sovereign authority – “lives off the uncertainty

³⁵ Vladislav Surkov. 2010. “Vladislav Surkov vstretilsya s soobshchestvom ‘Futurussia’” [V. S. meets the ‘Futurussia’ society]. (April 7), at <http://state.kremlin.ru/news/7495/print>.

³⁶ Surkov, “Vladislav Surkov vstretilsya s soobshchestvom ‘Futurussia.’”

³⁷ Vladislav Surkov. 2010. “Russian political culture. The view from Utopia,” *Vladislav Surkov Texts 97–10*, Moscow: Publishing House Europe.

and contingency that are of its own making.”³⁸

Such centralized power is not, however, the meaning attached to the idea that the change from a primitive to a complex economy will result in the creation of a complex political system. In the context of the commission’s discussions, this change is described as an automatic one: the complex economy will generate impulses that create a complex political system. Furthermore, the process of democratization is linked to the emergence of consumerism – the production of new things on a massive scale and for the masses. Accordingly, Surkov dismisses glasnost and perestroika as “empty rhetoric” that has little relevance for the “technological re-arming of our society.”³⁹

Unlike the pipeline metaphor, the idea of a complex economy giving rise to a complex political entity is not explicitly linked to supercomputers. The metaphor works through the understanding that supercomputers are simultaneously part of the “fantastical” – the as yet unattained political reality built upon complex systems – and the elements of the Soviet inheritance that should be transformed in accordance with the needs of technical modernization. However, this metaphor opens up the contradictory relationship between the fantastical and the practical: the vision of a complex political system that has an “open government” and relies on the internet-based participation of citizens in public affairs is disconnected from the context in which supercomputers are actually addressed in the commission.

The development of supercomputers was taken up by the commission in one of its first sessions and was on the agenda several times later as well. The concrete development needs identified by the commission in this field focused on two themes: the development of nuclear and space technologies and the improvement of communication technologies across the country. However, nuclear and space technologies took precedence over other considerations, as became clear from Medvedev’s statement at the beginning of the commission’s second meeting in Sarov in June 2009.

Each of the five priority areas [...] in one way or another are linked to the [development] of nuclear technologies and to the nuclear sector. This includes the development of nuclear technologies and nuclear medicine, the creation of supercomputers, and, of course, the development of space technologies (most importantly the development of innovative rocket engines for space shuttles), and new modes of energy resources, including hydrogen energy

³⁸ Sergei Prozorov. 2010. “Ethos without nomos: the Russian-Georgian War and the post-Soviet state of exception.” *Ethics and Global Politics* 3 (4): 255–275.

³⁹ Surkov, “Vladislav Surkov vstretilsya s soobshchestvom ‘Futurussia.’”

as a separate developmental direction. Accordingly, all our priorities are interlinked with the nuclear sector. And this is not a coincidence.⁴⁰

This description suggests that technological modernization equates with the development of the nuclear sector, at the core of which is the supercomputer. As Medvedev put it: computer modelling is an integral part of the nuclear sector and therefore the most advanced supercomputers are located at the main research institutes of the nuclear industry.⁴¹ In Russia one of the key places is Sarov, a former closed city located in the Moscow region.

The discussion about the supercomputer brought to the fore an interesting fact, namely that due to the peculiarities of Soviet-era industrialization, Russia today has several intra-industry communication networks that are poorly connected to each other.⁴² In other words, Russia does not currently have a grid-of-grids that would bring together different supercomputers located at the scientific centers in different parts of the country. A second factor mentioned several times during the discussions is that the current speed of wireless networks is much lower than in the other developed countries. According to the figures presented in the meeting, the average speed of wireless networks abroad is 10 gigabytes per second, whereas in Russia it is only 10 megabytes.⁴³ These criticisms of the telecommunications infrastructure put the traditional complaints about Russia's primitive roads in a new context that better fits the era of the wireless world.

The apparent inferiority of Russia's wireless networks in the face of global competition was articulated as a problem in two senses. First, commission members noted that "supercomputer technologies" are the main technological weapons of the twenty-first century. The context of the discussion was the development of the nuclear industry (commercial and military), rather than the question of cyber wars or information-psychological warfare. In fact, these latter topics were not discussed in the meetings of the presidential commission, at least in those parts of the meetings that are publicly available.

⁴⁰ Dmitry Medvedev. 2009. "Stenograficheskii otchet o zasedanii Komissii po modernizatsii i tehnologicheskomu razvitiyu ekonomiki Rossii" [Transcript of the meeting of the Commission for the Modernization and Technological Development of Russia's economy] July 22, Sarov, Moscow Oblast, at <http://news.kremlin.ru/transcripts/4884>, accessed April 28, 2014.

⁴¹ Ibid.

⁴² For more on the evolution of computers in the Soviet Union in comparison with the West, see Ilmari Susiluoto. 2006. *Suuruuden laskuoppi: venäläisen tietoyhteiskunnan synty ja kehitys*. [The Arithmetic of Greatness: The Birth and Development of the Russian Information Society]. Helsinki: WSOY.

⁴³ Medvedev. 2009. *Stenograficheskii otchet* (June 22). It should be added that according to the Net Index provided by Ookla, the average broadband and mobile download speed in Russia is 25.5 Mbps (based on tests conducted in August 2014). See <http://www.netindex.com/download/allcountries/>

Secondly, the development of telecommunications technologies was linked to the need for improving public services, including an open government but more generally the availability of information and services for the public. In his opening address at the commission meeting in August 2009, Medvedev linked this issue to democratic development in Russia. “The quality of public services is directly linked with the state of democracy in the country and the fight against corruption,” Medvedev stated. The president expressed his dissatisfaction with the slow pace of development in this sphere and threatened to cut funding to government agencies if they failed to uphold the development goals of the administration’s “open government” project. The link between the development of supercomputers and the “open government” project was not addressed in the discussion.⁴⁴ Perhaps that would have stretched the supercomputer metaphor too far. Instead, the fantastical potential of communication technologies and other innovations to create new worlds and new citizens is the key theme of the debate surrounding the innovation city of Skolkovo.

The City of Sun and the Vanguard of *FutuRussia*

In April 2010, Surkov met with young entrepreneurs and scientists in the framework of the newly founded “Futurussia” society. Addressing the young people, Surkov explained that the meeting was to establish a “society of the friends of the City of Sun, and perhaps, its first citizens.”⁴⁵ The participants were in the vanguard of the new complex society that would be instrumental in creating the innovations and technologies that would drive the new economy.

The role ascribed to a young innovator in this scheme resembles the imaginations of avant-garde artists in the 1920s and 1930s. The avant-garde movement sought to bring “art to life.” The artist was at the same time an engineer who would animate not just a new “form of life” but a “new man.” The idea of the Soviet avant-garde movement, as described by Boris Groys, was to disconnect the link between nature and the political (human) being and replace it with a new society that would be a completely artificial (*iskustvennyy*) construction.⁴⁶ The problems of communication, most importantly, the building of “thoroughly dematerialized networks of

⁴⁴ Dmitry Medvedev. 2009. “Vstupitelnoe slovo na zasedanii Komissii po modernizatsii i tehnologitseskomu razvitiyu ekonomiki Rossii” [Opening address at the meeting of the presidential Commission for the Modernization and Technological Development of Russia’s Economy] August 31, Pokrov, Vladimirskaya Oblast, at <http://news.kremlin.ru/transcripts/5333/print>; Medvedev. 2009. *Stenograficheskiy otchet* (July 22).

⁴⁵ Surkov’s reference to the utopian classic “City of Sun” was repeated in several newspaper articles describing the meeting, but omitted from the official transcription on the Kremlin website.

⁴⁶ Boris Groys. 2013. *Gesamtkunstwerk Stalin*. Moscow: Ad Marginem Press, 7.

electricity and the radio” played a major role here.⁴⁷ The strongest parallel between our time and that of nearly a century ago, writes Matthew Witkovsky, is “the aleatory promise of the wireless world – the constitution of new forms of collectivity, more fragmented and targeted than was ever previously imaginable.”⁴⁸

The similarity between the technological modernization discourse and that of the avant-garde movement in the 1920s and 1930s should not be stretched too far. Yet, the sense of family resemblance goes beyond an attraction to wireless communications. What is also shared is the belief in the need to create a new psychological consciousness that is better suited to the requirements of the time. In the current discussions, the role models mentioned in this connection are “innovators” and venture capitalists, rather than socialist workers, but the mode of thinking is similar.⁴⁹

In an interview for *Itogi* magazine in April 2010, Viktor Vekselberg, a prominent businessman and the coordinator of the Skolkovo project, recalled a visit to the outskirts of Moscow where Skolkovo was to be built.

Recently Vladislav Surkov and I made a field trip to inspect the land. There were only fields and dirt. So we had to put our rubber boots on. And so there we were standing on the village road. There was not a single soul in sight. Suddenly a *muzhik* plodded towards us – a very typical inhabitant from the outskirts of Moscow. When walking past our group, he stopped and stared at us. ‘I saw you on TV,’ he said. ‘So, are you really going to build a Russian Silicon Valley here?’ After receiving a positive answer, the *muzhik* cheerfully exclaimed: ‘Great! Well done! Go for it! We locals have been waiting for civilization to reach us for a long time.’⁵⁰

This conversation was confirmation, Vekselberg claimed, that “our idea is consonant with the people’s frame of mind. That’s what is important!”⁵¹ Later, during a meeting of the commission in 2011, the contrast between the primitive past and the fantastic future was again concretized with a reference to mucky fields. In the meeting, a young entrepreneur and resident of the Skolkovo innovation center recalled a conversation with

⁴⁷ Wittkovsky, *Avant-Garde Art*, 18. The so-called Goelro plan, the electrification of the Soviet Union, is a good example of this drive and many of the posters for the project were designed by famous Soviet avant-garde artists.

⁴⁸ *Ibid.*, 15.

⁴⁹ Groys, *Gesamtkunstwerk Stalin*.

⁵⁰ A. Tsudodeev. “Risknem!” [Let’s take risks!] *Itogi*. April 26:10.

⁵¹ Tsudodeev, *Risknem!*

the regional tax authority. The regional bureaucrat had doubted the entrepreneur's word, who responded by arguing that Skolkovo was an "empty space" where one could make money instead of just "growing potatoes" – a reference to the previous function of the place as part of a Soviet-era agriculture institute.⁵²

Perhaps to underline the break with the past and to emphasize the truly innovative nature of the new project, an "electronic zero point" for Skolkovo was erected in an official ceremony on December 14, 2010. The "zero kilometer" was presented as something much more than a signpost planted in an ordinary field. The electronic beacon marks the exact coordinates and height of the planned buildings, and thus provides the means for the "architects and builders to produce a precise plan" of the new town.⁵³

In the context of the commission's discussions, the *innogorod* is often represented as an open space for exploration and firmly connected to global networks of innovation and experiment. At the same time, Skolkovo is territorially and administratively separated from the rest of Russia. The decision to create a special administrative regime for the development of the *innogorod* seeks to attract foreign and domestic investments for high-tech development in Russia, as the new legislation provides for special arrangements ranging from lower taxes to immigration law exemptions.⁵⁴

The advocates of the project maintain that these measures are timely and the building of the innovation city will facilitate Russia's entry into the global markets for innovative products. The idea is that the technical and qualitative standards that will be implemented in Skolkovo can eventually be extended to Russia as a whole. These plans apply not just to technologies invented by the specialists working at the Skolkovo technology center, but to the city itself, which will be used as a model when building similar energy-efficient "smart cities" around Russia.⁵⁵ The city plan and architectural objects are designed to facilitate individual freedom and an ecological lifestyle, the two objectives intended to make Skolkovo a symbol of the new type of modernization in Russia. Thus, Skolkovo is a place to experiment with ways to transgress the limits of the political regime and push

⁵² Dmitry Medvedev. 2011. "Sovmestoe zasedanie Komissii po modernizatsii i Popechitel'skogo sojeta fonda 'Skolkovo'" [Joint meeting of the Commission on Modernization and the Board of Trustees of the Skolkovo Foundation]. April 25, Skolkovo, at <http://state.kremlin.ru/news/11079/print>, accessed April 28, 2014.

⁵³ Aleksandr Hristenko. "Medvedev: nado sovmesiti tvorchestvo s umeniem delat dengi [Medvedev: it is necessary to combine creativity with an ability to make money]." *Vesti*. December 14 2010, at <http://www.vesti.ru/doc.html?id=413952&tid=86413>, accessed January 16, 2011.

⁵⁴ Cynthia Freeland. "The Next Russian Revolution." *The Atlantic*. October 2011; Glinki *Tsuda Vozmozhno*.

⁵⁵ *Description of Skolkovo City*; B. Lyauv and N. Kostenko. "Sosedni po Skolkovu." [Skolkovo's neighbors] *Vedomosti*. July 6:10.

them further, without dissolving the regime itself.

However, where the creation of the “Soviet man” was taken to its very extremes (the gulag system being the case in point), in the context of Medvedev’s technological modernization project, the formation of the new individual is based on persuasion and imitation. In this context, the avant-garde movement provides a tempting source of visual and textual tropes with which to fill the emptiness of the project. It is probably no coincidence that the architectural design of the Skolkovo Business School’s new campus⁵⁶ is inspired by Kazimir Malevich’s Suprematism, and that the building houses huge replicas of Malevich’s most famous works. Duplicating the avant-garde movement’s greatest works was perhaps intended as inspiration for the current “revolutionaries” of *Futurussia*, but within the boundaries clearly demarcated by the president’s campaign for technological modernization.

Science and Fiction: The Meaning of the Presidential Commission

“The new political strategy,” as Medvedev himself described the campaign in his second annual address to the Russian Federation Federal Assembly in November 2009, materialized in dozens of commission meetings over an almost three-year period between May 2009 and March 2012. A typical meeting of the commission started with long introductory remarks by President Medvedev, who also played a major role in the ensuing discussion on particular projects and tasks. Meetings proceeded to debate detailed reports submitted by scientists in specific fields and/or government ministers responsible for the development of specific sectors, with input from the heads of the major state-owned companies (e.g., Gazprom, Rostec, Russian Railroads) and other members of the commission. By the end of the first year (November 2009), Medvedev had issued as many as 56 instructions within the framework of the commission, of which 40 were reportedly implemented. At that time, records indicate that half of the 10 billion earmarked for the commission had been assigned to specific projects.⁵⁷

To show the domestic audience that Russia has modern factories and

⁵⁶ The new 26-hectare campus area was donated by Russian oligarch Roman Abramovich. The main building was designed by British architect David Adjaye and was constructed between 2006 and 2010. *Description of Skolkovo City on the project’s website*, at <http://www.sk.ru/Model/Gorod/Smart-city.aspx>, accessed December 27, 2011.

⁵⁷ Dmitry Medvedev. 2009. “Stenograficheskii otchet o zasedanii Komissii po modernizatsii i tehnologicheskomu razvitiyu ekonomiki Rossii” [Transcript of the meeting of the Commission for the Modernization and Technological Development of Russia’s Economy]. November 25, Moscow State University Lomonosov, at <http://news.kremlin.ru/transcripts/6108>, accessed April 27, 2014.

research facilities in every corner of the country, commission meetings rotated through a variety of locations. For example, commission members gathered on a factory floor in Obninsk (April 2010), on the premises of the innovative Kaspersky laboratory in Moscow (June 2009), at the Soviet-era industrial town of Magnitogorsk, in the former closed city and Russia's nuclear hub, Sarov, and in Tomsk, a well-known Soviet industrial and science center in Siberia. At the beginning of one of the meetings, Medvedev, perhaps half-jokingly, stated that the constant change of "passwords and meeting points" was needed so that "nobody would fall sleep during the meeting and the work would proceed more efficiently."⁵⁸

In retrospect, Medvedev's campaign for technological modernization can be regarded as one among many in the long history of abruptly interrupted state-sponsored projects in Russia.⁵⁹ Five years after the "Forward, Russia!" article spelled out the main parameters of the technological modernization project, very little of it remains in the public discourse. Even Prime Minister Medvedev himself seems to have given up using the word "modernization" when articulating the government's strategy in the economic sphere. In an article published on September 27, 2013 and titled "The time of easy decisions has passed," the term modernization is mentioned only twice. First, when he argues that the maintenance of social-political stability and economic modernization are complementary, not mutually exclusive phenomena. And second, in the context of a discussion about the importance of the freedom of private entrepreneurship and a healthy investment climate for modernization and innovation development.⁶⁰

After the spring 2012 presidential elections, the commission was re-organized into a presidential council under the newly elected president, Vladimir Putin. The task of the council, as stated in the decree establishing it, was to: "prepare recommendations for the Russian president on the main directions and mechanisms of economic modernization and innovative development of Russia, including elaborating the means for state involvement in this sphere."⁶¹ This decree also made former president Medvedev

⁵⁸ Medvedev. 2014. *Stenograficheskii otchet*. (April 27).

⁵⁹ Vlacheslav Morozov. 2010. "Modernizing Sovereign Democracy? Technocratic neoliberalism and Russia's doctrine of multipolarity". In Andreas Kasekamp. (ed.) *Estonian Foreign Policy Yearbook 2010*. Tallinn: Estonian Foreign Policy Institute; F. Krawatzek and R. Keferputz 2010. *The Same Old Modernization Game? Russian Interpretations of Modernization*. CEPS Working Document No. 337 Brussels: CEPS; Nikolai Petrov. 2011. "The Political Mechanics of the Russian Regime." *Russian Politics and Law*, 49: 2.

⁶⁰ Dmitry Medvedev. 2013. "Vremya Prostyh Reshenii Proshlo." [The time of simple decisions has passed] September 27:13, at <http://government.ru/news/6202>, accessed April 28, 2014.

⁶¹ Ukaz o Sovete po modernizatsii ekonomiki i innovatsionnomu razvitiyu Rossii [Presidential decree on the Council of Economic Modernization and Innovation Development of Russia] June 18, 2012, at <http://state.kremlin.ru/news/15690/print>, accessed April 28, 2014.

head of the council's presidium, a position vested with the power to put forward questions for consideration by the higher level organ (the council itself), and to make decisions on practical matters.

This transition from a high-profile commission that met in a variety of locations to a council that held its first, and last, meeting at the official residence of the president captures the change underway in Russia. President Putin replaced the technological modernization discourse debated in different forums and by different agencies with carefully orchestrated public events and discussions held away from the public gaze. Many of the key themes in the current discussion, especially the modernization of the military-industrial sector, were already present in the debates on technological modernization under Medvedev, but the apparent support for broader reform has disappeared.

Conclusion

Medvedev's article "Forward, Russia!" published in September 2009, and the subsequent work of the commission provoked immediate reactions in Russia and abroad. Medvedev garnered praise for opening up a discussion on problems that continue to plague Russia's economic and political development, including the three major "ills": economic backwardness, corruption and paternalism. At the same time, the article was interpreted as an indicator of the regime's unwillingness to implement far-reaching political and economic reforms. This would have required a head-on analysis of the political system created by Medvedev's mentor, Vladimir Putin, and it was clear at the time that the president was not willing to pursue this option.⁶²

But was it inevitable that the commission would fail to make a difference? The presidential instructions issued through the commission are impressive and the goals formulated for technological modernization seem straightforward and consistent. Yet, the "fantastical" seems to predominate over the "realized" in a discourse that aimed at imagining new worlds rather than a head-on analysis of the inherent contradictions of the very technological modernization endeavor.

The imaginings about Russia's future and the reflections on the country's past discussed in this article do not foresee a systemic change in Russia. Instead, the pipeline and supercomputer metaphors appeal to people's belief in technological modernization as an engine of change. The basic idea is a pragmatic one: the adoption of innovative new products and the changed routines resulting from their usage will establish conditions

⁶² Pynnöniemi, *The political constraints*; Vladimir Ryzhkov. "Flashy Sapsan Doesn't Count as Modernization". April 20:10, *The Moscow Times*; Konstantin Sonin. "Pravila Igr: Teoriya i Praktika Modernizatsii" [Rules of the Game: Theory and Practice of Modernization]. April 9:10, *Vedomosti*; Morozov, *Modernizing Sovereign Democracy*.

for the emergence of new entrepreneurs, innovators and bureaucrats who are more adept in their thinking and behavior in accordance with the needs of a post-industrial society. However, it is important to note that the visual and textual tropes taken from the avant-garde movement's rich history are mostly used in filling the emptiness of the official rhetoric. Therefore, it would be best to read the transcriptions of the presidential commission as pieces of science fiction, rather than serious speech acts aimed at changing the political-economic realities.

