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REVIEW ESSAY

Russia's Way of Building Mega Projects

Hero Projects: The Russian Empire and Big Technology from Lenin to Putin. *By Paul R. Josephson*. Oxford: Oxford University Press, 2024. 344 pp. Hardcover, $52.00, ISBN 978-0-19-769839-6.
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Big infrastructure projects are a problem everywhere. In the abstract, everyone wants them. In practice, the problems multiply. A first surprise is how difficult it is to tell a great idea from a terrible one beforehand. Next, the unexpected costs and delays pile up. Every new road, reservoir, or power plant has buried someone's backyard or displaced their ancestors' burial plot. Construction drags out. A project that has overspent its budget with completion still far in the future is surprisingly difficult to cancel. When at last commissioned, the assets start to depreciate, but the funders, who are often taxpayers, would rather spend the proceeds on other projects than set more funds aside to cover the wear and tear. There is one moment of euphoria, celebrated by champagne, backslapping, and the cutting of ribbons. Everything before that and everything after it is hell.

In that setting, how does the Russian experience stand out? This question is addressed by Paul Josephson's new book about "hero projects" from Lenin to Putin. Josephson, emeritus professor of Soviet history at Colby College, has written extensively about Russia, technology, and the environment. His "Introduction" sets out a few main ideas about the importance of infrastructure investment in Russian history. Investing in infrastructure built more than just the economy: It also built the nation and, in Russia's case, an empire. The distances to the empire's borders and the spread and diversity of its natural resources offered irresistible temptations for autocrats to embark on "hero projects" to shrink space, extract minerals, and integrate markets over an immense, unevenly settled landmass. Russian history has featured many such projects since the late nineteenth century. They became self-replicating because each project left technical and institutional legacies that favored further efforts in similar directions. Among the legacies were teams of trained scientists and engineers organized in institutes for research and design, funded by production ministries or the Academy of Sciences, ambitious to develop prestige projects. Another legacy, at least for a time, was ready supplies of slave labor organized in labor camps and available for work in construction, logging, and mining. These legacies gave rise to "technological momentum," a form of "path dependence"

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in which "present decisions are dependent on previous decisions or past experiences" rather than on current conditions (pp. 14, 21). Finally, building the empire brought Russia into conflict with its neighbors, raising the geopolitical value of infrastructural investments for rapid mobilization and for deterrence of Russia's enemies.

Five thematic chapters follow the "Introduction." Each describes a national effort of many decades to build some aspect of the country's capacity—new railways for rapid deployment of soldiers, workers, and commodities across Russia's territories (Chapter 1), mines to wrest coal and other minerals from faraway regions under inhospitable conditions (Chapter 2), canals and dams to divert Siberia's "surplus" river waters into irrigation and hydroelectric power (Chapter 3), power plants for abundant atomic energy (Chapter 4), and a great road and rail bridge to integrate Crimea into the Kremlin's economic plans by a direct link to the Russian mainland (Chapter 5). The main focus of Chapters 1–4 is on the Soviet period, but all the chapters show how the themes of Russia's hero projects were initiated in Russia before Soviet rule or survived into modern Russia or both.

The book aims to study these activities from three angles: the lived experience of those charged with carrying them out, their symbolic or "display" value to the regime, and their social and environmental costs (pp. 21–22). Two annexes illustrate these themes in photography, art, and design. The source material is provided by a vast secondary literature that includes the author's own numerous past publications, alongside published memoirs, reports, and excerpts from relevant archives that have been made available on the internet.

What is a hero project, and what makes it heroic? The reader finds out more exactly in the concluding Chapter 6. A hero project builds capacity of national significance. The scale and complexity are so great that private initiative will not do: The entrepreneur that drives the hero project is the state. A hero project builds national feeling as well as economic capacity. While most hero projects have civilian funding, they also support the quest for geopolitical prestige and influence. The spirit of the project is militarized: Under centralized command and control, the workers make self-sacrificing efforts to secure the objective—hence, perhaps, the "heroic" aspect. A hero project overcomes the resistance of sceptics and saboteurs. It must also conquer nature, represented by terrain and climate.

A short epilogue discusses the love affair between hero projects and autocratic or "strong man" rulers. The hero project symbolizes the triumph of the nation, personified by the leader. Among the drivers of the dictator's affection for hero projects is a necessary element of hubris—the overweening pride that leads eventually to a reversal of fortune. As Josephson concludes, "heroes eventually die" (p. 274).

The author's writing style is lively and discursive. There is some repetition: If the author has a point, it is hammered home and then banged again to be sure. No sentence is too long to be qualified or reinforced. The argument flows without much visible structure or direction. The density of source references is highly variable. The source materials used and their scope for omissions and biases are not discussed. Quiet passages in which the author riffs on qualitative themes are broken from time to time by lists of thousands of workers, millions of cubic meters, and billions of rubles. The numbers are provided for illustration, not calculation. The nonspecialist

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reader might puzzle over Russian acronyms (such as GES, a hydroelectric power plant) and scientific abbreviations (how radioactive is 2400 kCi?).

Several questions arise in *Hero Projects* that should be of interest to all readers—scholars and practitioners, lay and professional.

A first question is: Does the Russian experience really stand out in global experience? In places, Josephson appears to say no: "This book is not about whether capitalism is rapacious and profligate in use of resources, or whether capitalist industry is highly polluting. It is . . ." but ". . . The focus here is the Russian empire, where *these same frightful costs* of hero projects were clearly in evidence" (p. 25, emphasis added). Later in the book, the costs of Russian railway and mining projects are normalized by comparison with American experience (pp. 51, 103). The reader might infer that the Russian experience is not exceptional.

The question is hard to avoid, however. Why research, write, and publish a book such as this if the Russian experience were merely ordinary? *Hero Projects* does offer some clues, although others are missed.

Here's one clue: As *Hero Projects* suggests, Russian leaders, being autocrats, had an unusual capacity to force through bad projects while suppressing resistance. (By a "bad" project I mean one that failed to benefit society, or benefited primarily the ruler's power or prestige, or turned out to do so at excessive cost.) Once a project, good or bad, had the backing of the dictator, there was little to stop it going ahead, and too many bad projects got through. This would be the converse of the problem that infrastructure projects increasingly face in some Western societies: Rather than letting through too many bad projects, their planning rules tend filter out many good projects by making them prohibitively costly. Far from suppressing doubts and criticisms, open societies may not only require consultation with everyone directly affected but also precautions to forestall every possible social or environmental objection.[1] This suggests that modern democracies and dictatorships could be similar in facing raised infrastructure costs, but different in the quantity built. For open societies, raised costs would become a reason for insufficient building. For dictators, raised costs would be a consequence of building too many projects, including forcing through bad ones.

Hero Projects does not account for all of the raised costs of Russian infrastructure projects. On a like-for-like basis, compare the costs of canal projects in Russia to those elsewhere. Among the direct costs were casualties among the laborers. Estimates of deaths during the building of the Suez and Panama canals vary widely and are still debated.[2] At the upper bound, they were comparable to the tens of thousands suffered by the Soviet forced laborers on the White Sea and Moscow-Volga canal projects (pp. 53, 134). If so, no difference there.

[1] Dan Davis, "The Problem Factory: Preemptive Risk Aversion in Infrastructure Planning and the Role of Professional Services," Niskanen Center, March 2025, 1–20, https://www.niskanencenter.org/the-problem-factory-preemptive-risk-aversion-in-infrastructure-planning-and-the-role-of-professional-services/.

[2] For example, see Sir Arnold T. Wilson, *The Suez Canal: Its Past, Present and Future* (Oxford, 1939); Caroline Lieffers, "The Panama Canal's forgotten casualties," *The Conversation* (16 April 2018), https://theconversation.com/the-panama-canals-forgotten-casualties-93536.

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But in the Soviet case there were also indirect costs to the population at large. The laborers were not the only victims. To pay for the 600 large-scale capital projects of Stalin's first five-year plan, which included new canals, the authorities stripped the countryside of food. When the harvest failed consecutively in 1931 and 1932, up to six million starved to death.[3] These indirect victims were sacrificed to protect the planned projects, but they are overlooked in the work under review.

What was to blame for the indirectly caused deaths? One candidate is the Soviet Union's economic system of the time—a centralized command economy with markets relegated to the margins. In an economy based on voluntary exchange, the combination of excessive investments and harvest failures would have pushed up food prices, incentivizing a slowdown of construction and the release of food from stocks. But the command system delayed recognition of the food shortage and adaptation to it. As famine developed, the only adaptation that the government permitted was to demand increased effort and sacrifice until mass starvation became inevitable. Moreover, the centralized control of news was so tight that there were no public protests, and the world remained largely unaware. This experience was repeated in China a quarter-century later, under a similar economic system, when the capital projects of the Great Leap Forward induced mass starvation on an even greater scale. By contrast, the building of the Suez and Panama canals did not trigger artificial famines in society at large. This suggests that, while the direct costs of infrastructure investment may loom large in any context, the command economy had a way to multiply the costs indirectly, by prioritizing hero projects over the citizens' survival.

At the same time, the story of *Hero Projects* suggests that the system was not everything. The evidence of the decades after Stalin's death shows that policies and personalities mattered too. Khrushchev and Brezhnev shared Stalin's attachment to hero projects and remained ready to carry them through at great cost—but not to the point of mass starvation. While upholding other principles of Stalin's command economy, they moderated the pace of economic mobilization. The system was the same, but new policies and personalities made a difference. Stalin's successors also stopped using masses of forced laborers to extract resources and build infrastructure, replacing them with well-paid contract workers and youth volunteers—a practice that continues in Russia under Putin (p. 33).

Since the nineteenth century, Russia has often been taken to exemplify state-led, "big push" industrial policies. A century or more of hero projects cost Russia's people tremendous effort and sacrifice. Has their legacy left the country better off today? This seems unlikely. In the late nineteenth century, although poorer than most of Europe, Russia was a middle-income country by global standards. Russia is still a middle-income country today. This suggests that Russia did not gain any special advantage from the hero projects associated with 70 years of communism. The same is likely to be the case for the successor projects of the Putin era.

[3] R. W. Davies and Stephen G. Wheatcroft, *The Industrialisation of Soviet Russia, vol. 5.: The Years of Hunger: Soviet Agriculture, 1931-1933* (Basingstoke, 2004), 415.

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Hero Projects is original and likeable. It is thought-provoking in its virtues and its faults alike. Everyone will find something of interest, and for some it will be a stepping stone to further inquiry.

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