BOOKS: RESEARCH IN THE USSR

Thawing Science

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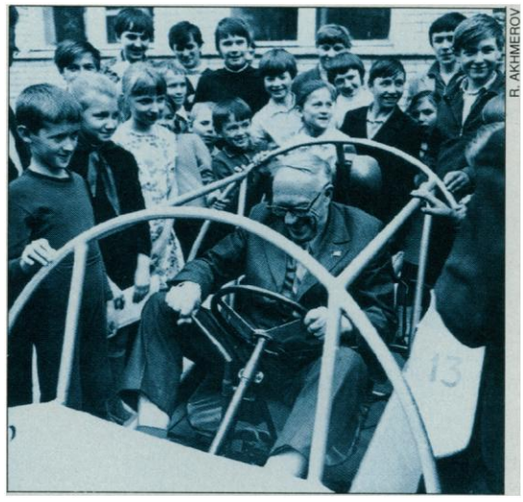
New Atlantis Revisited: Akademgorodok, the Siberian City of Science. PAUL R. JOSEPHSON. Princeton University Press, Princeton, NJ, 1997. xxii, 353 pp., illus. $39.50 or £27.50. ISBN 0-691-04454-6.

In an admirably brave social experiment, several applied mathematicians, led by the explosions expert Mikhail Lavrent'ev, pushed through the party and state bureaucracy the idea of making Siberia—Russia's Wild East—a world-class scientific center. Thus, in 1957, a new city was founded in the Wolf Ravine, subsequently renamed the Golden Valley, some 40 kilometers of bad road south of Novosibirsk. Eventually, Akademgorodok came to host 2 dozen academic research institutes, a university, and several applied laboratories, and to be inhabited almost exclusively by families of their staff. The de-Stalinization thaw had just awakened the U.S.S.R.'s last generation of sincere enthusiasts—mostly communist youth—who were ready to go voluntarily where, previously, kulaks and enemies of the people had been convoyed. Their goals: turn Kazakh steppe into arable land, develop oil fields in northern tundra, build giant dams on Siberian rivers, all the while doing fundamental research amidst taiga mosquitoes.

To younger researchers, Akademgorodok promised the rare luxury of separate apartments. To established scientists, it offered easier advance toward membership in the Soviet Academy of Sciences via new routes of administration and research. Indeed, from Siberia came some of the most important achievements in Soviet science during the 1960s. Nonconformist genius Gersh Budker had an opportunity there to realize his idea of colliding particle beams. The Siberian team (and a competing one in Stanford) built the first accelerators based on this novel principle, thus opening the main road toward later generations of high-energy machines. Nikolai Dubinin and Dmitrii Beliaev took advantage of Siberia's remoteness from Moscow hacks to institutionalize research on genetics—officially, an almost forbidden field until 1964. Mathematicians Sergei Sobolev and Aleksei Liapunov established the computing center and worked toward securing the central role for cybernetics and computer science among academic disciplines. Geologists and geophysicists participated in epochal discoveries of oil resources and in defending the unique ecology of Lake Baikal against irresponsible Moscow ministries.

Two and three decades later, scientists from Siberia (some in Moscow offices by then) occupied key places in the national scientific establishment: Aleksandr Skrinskii in high-energy physics, Roald Sagdeev in space research, Andrei Ershov in computing, Abel Aganbegian in economics, Tatiana Zaslavskaia in sociology, and Gurii Marchuk as the last president of the Soviet Academy of Sciences. However, while Akademgorodok insiders nostalgically recalled the heroic first decade of their city, they also complained about its later stagnation and surmised causes. Was it just the natural aging of the founding fathers? Or their loss of privileged access to political leadership after Khrushchev's ousting by Brezhnev in 1964? Or the return—typical of the Russian history cycle—of the tendency to centralize cultural activity in the capital? Or the general stagnation of the U.S.S.R. and disenchantment of the once idealistic generation of the 1960s? Or perhaps the very isolation of an academic population in a special city, originally seen as a major advantage?



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Forward with Soviet science. Lavrent'ev with students of Akademgorodok's science schools.

In *New Atlantis Revisited: Akademgorodok, the Siberian City of Science*, an admirably brave new book, Paul Josephson sets out to write the history of this social experiment, about which little, beyond journalistic accounts, is available in Russian and almost nothing in English. For the first time, a professional historian of science traveled to the land of permafrost, visited archives, and listened to stories from residents. To this research, he adds his insights into Soviet academic and engineering cultures, environmental problems, innovation, and development. The book deserves high praise for providing a wealth of information and for initiating the consideration of this virtually unexplored history. In a pioneering study that relies heavily on oral information and local folklore, a fair proportion of vague formulations and factual mistakes is inevitable. However, it must be said that some details could have been easily checked. And some paragraphs left me wondering whether the book had been copyedited.

My other reservation concerns the conceptual apparatus used by Josephson, which by and large is borrowed from studies of Stalinism and is inadequate for interpreting later periods of Soviet history (albeit, better models have yet to be developed). For instance, it is difficult to accept Josephson's initial assumption that the city founders—military researchers, including some unrepentant Stalinists—were motivated by a utopian dream of pure science freed "from political, financial, and moral constraints." The book downplays the uncomfortable problem of the high level of anti-Semitism in Akademgorodok by referring to it as a natural legacy of czarist Russia, even though generations of scientists had been raised during revolutionary decades when anti-Semitism was a crime and when Soviet Jews enjoyed greater opportunities for advancement into prestigious positions than anywhere else in the world.

Josephson admits that, ironically, Soviet computer science progressed better in its early years, despite ideological suspicions, than later, when cybernetics became high fashion while ideology was retrenched. This and similar serious paradoxes undermine his main conclusion that scientific decline was due primarily to party ideological control. Soviet computer specialists often attributed their failure to compete with the West to a politico-academic decision in the late 1960s to discontinue a promising line of original BESM computers in favor of reverse-engineering IBM machines. The history of Soviet computing science and industry is—without exaggeration—the crucial case. Whoever understands it will come close to being able to convincingly explain the ultimate fate of the Soviet system in general. Such a study remains to be written, but works like Josephson's pave the way.

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