

Failure is not an option

Stalin transformed the Soviet Union into a scientific powerhouse – but at a formidable cost, says *Andrew Robinson*

STALIN AND THE SCIENTISTS

by *Simon Ings*



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A decade after the 1917 revolution, Joseph Stalin told the Communist Party's youth congress: "A fortress stands before us. This fortress is called science, with its numerous fields of knowledge. We must seize this fortress at any cost. Young people must seize this fortress, if they want to be builders of a new life, if they want truly to replace the old guard."

By Stalin's death in 1953, the USSR had the biggest and best-funded scientific establishment in history. Soon after, it launched the world's first space satellite, Sputnik, in 1957, and the first astronaut, Yuri Gagarin, in 1961. By then, in the midst of the Cold War, 85 significant Soviet journals were being translated into English with United States government funding. In 1970, an extraordinary 20 per cent of scientific writing published across the world was in Russian.

However, the "cost" of this science-minded transformation

of Tsarist Russia, casually touted by Stalin in 1928, had been formidable: in death, by famine and extrajudicial executions; in human suffering, throughout the countryside, in the prison camps of the Gulag and misguided industrial projects; in massive environmental degradation. During the Great Purge of the late Thirties, eight million Russians were arrested, and one million shot. In the famine of 1946-47, two million died.

Stalin turned out to be one of history's greatest mass murderers. Still, "there was, I believe, something piteously unavoidable, something admirably human, about the way the Soviet Union faced a world of scarcity and poverty, and tried to light up its land with the fitful glow of science", argues Simon Ings.

Stalin's largely untutored faith in science derived from Karl Marx's (and Lenin's) belief that it could improve politics and government. But science, of course, like politics, is a human activity. For example, the eugenicist Francis Galton's *Hereditary Genius* appeared in the 1860s, at the same time as Marx's *Das Kapital*. Both books offer a theory for human progress. But whereas Galton thought the key lay in heredity (although genes were a concept yet to be formulated), Marx thought it lay in the environment. As a result, the first Soviet criminal code of 1919 abolished the terms "guilt", "crime" and "punishment" because

these obscured the environmental causes of crime.

No wonder the fast-developing science of genetics proved to be the most controversial field during Stalin's regime – even more than psychology, in which Ivan Pavlov had won the first Russian Nobel Prize, back in 1904. The internationally respected Soviet geneticist Nikolai Vavilov was convinced by the science of Charles Darwin and Gregor Mendel. But this brought him into conflict with his former protégé, agrobiologist Trofim Lysenko, "bare-foot" son of Ukrainian peasants, who rejected the existence of the gene and believed in the inheritance of acquired characteristics advanced by Jean-Baptiste Lamarck, as did Stalin.

According to Lysenko, suitable manipulation of a plant's environment could transform one species into another, such as wheat into rye and cabbages into swedes. It could also boost crop production, as Lysenko notoriously attempted to prove in Soviet agriculture during the Thirties with the strong support of Stalin. In 1939, Vavilov grabbed Lysenko by the collar and cursed him for ruining Soviet science. But in 1940, Vavilov was arrested, interrogated by the secret police and sentenced to death for supposed anti-Soviet activities, such as liaising with British geneticists following the Nazi-Soviet pact. Although the sentence was commuted, Vavilov died in a prison hospital in 1943.

Lysenko, by contrast, flourished and was used by Stalin to engineer a mass ejection of dissident

geneticists in 1948. Only in the mid-Sixties was Lysenkoism finally discredited in the Soviet Union.

Ings describes this and many other struggles in detail with an artful synthesis of basic science and political infighting. It seems strange, though, that he doesn't even mention either the genetic revolution implied in the structure of DNA, announced in Britain around the time of Stalin's death, or the first science Nobel Prize for a Soviet citizen, awarded in 1956. Also missing is a discussion of the space programme, post-Stalin, which is surely Soviet science's chief claim to immortality.

As to whether the Soviet Union's scientific achievements between 1917-91 were worth the cruel turmoil of the Stalin period, readers must make up their own minds.



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