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Midnight in Chernobyl: The Untold Story of the World's Greatest Nuclear Disaster
Alex Higginbotham (Simon&Schuster, paperback edition, 2020), 560 pp., maps, diagrams, bibliography, index.

Reviewed by J. E. Leonardson

At the end of March 2020, the New York Times published a report on the recent performance of China's national infectious disease reporting system. Created in the aftermath of the 2000 SARS epidemic, it gathered data from hospitals and relayed the information to Beijing, where government health authorities were to spot emerging epidemics and act quickly to stop them. Chinese officials described the system as "world-class: fast, thorough and, just as important, immune from [political] meddling," and it seemed to work as designed, smothering an avian flu outbreak in 2013. Unfortunately, it then failed miserably when the novel coronavirus and COVID-19 appeared at the end of 2019.[1]

The *Times* article came to mind a few weeks later when, locked down overseas, I began reading Midnight in Chernobyl, Adam Higginbotham's history of the 1986 Soviet nuclear disaster and its aftermath. This book is popular history at its best—an engrossing tale of politics, economics, and science as well as the acts of individuals, both squalid and brave—based on prodigious research in archives, thorough command of the secondary sources, and interviews with scores of surviving participants.

Higginbotham is a skilled writer who gives clear explanations that make technical details easy to understand. At the same, he brings to life dozens of characters, from the top ranks in Moscow down to the workers laboring at the power plant, many of whom sacrificed their lives battling the fires and cleaning up the site. Truly, this is a book that is hard to put down.

On the substantive side, the strength of *Midnight in Chernobyl* is that it puts the accident in its economic and political contexts. The explosion and fire at Chernobyl, Higginbotham makes clear, were rooted in decisions taken in the 1960s to supply the Soviet economy with cheap power generated in massive nuclear power plants equipped with enormous reactors built to a standard design, called the RBMK. Eventually, the Ministry of Medium Machine Building (Sredmash) came to control the entire Soviet nuclear industry, becoming a powerful state within the state.

Secrecy, of course, was integral to Sredmash. To cut costs, Sredmash took numerous shortcuts in the reactor design and, even as the RBMK was found to be flawed, covered up the defects rather than correct them. Meanwhile, Soviet industry supplied defective components for plant construction, which itself was rushed to meet the goals of the Five Year Plans, with the result that plants were built as shoddily as any other Soviet building.

RBMK reactors suffered accidents with horrifying frequency, but Sredmash plowed ahead

without admitting to any problems, slapped top secret classifications on its failures, and never gave nuclear plant operators full information about how their reactors operated. Instead, Moscow's propaganda portrayed the Soviet nuclear industry to be the most advanced in the world and, pointing to the Three Mile Island accident in the United States, the world's safest. Powerful and important on the one hand, and isolated from reality on the other, the apparatchiks running Sredmash came to believe their own claims of infallibility.

The inevitable catastrophe took place in the early hours of April 26, 1986. Minute by minute, Higginbotham details how a safety test at Chernobyl's Reactor Number Four—years overdue because of the rush to get the reactor on line in accordance with Moscow's deadlines—went tragically wrong. In brief, the reactor's operators, not knowing of a critical RBMK design flaw, followed the standard procedures to shut down the reactor but, instead, caused an enormous spike in thermal power. This, in turn, led to an explosion of superheated steam that destroyed the reactor and its building. Fragments of uranium fuel and other components of the reactor were sucked into the atmosphere and formed a cloud of radioisotopes that soon spread across the Ukraine, western USSR, and into Europe. On the ground, tons of radioactive graphite scattered around the plant and started to burn, as did the remnants of the reactor core, continuing to feed the cloud and fallout.

As bad as the accident itself was, Higginbotham details how the Soviet system made things worse. Immediately after the explosion, as they slowly realized what had happened, plant and local officials behaved as apparatchiks always did: they lied. Less than two hours after the accident, Chernobyl's director, Viktor Brukhonov, told Moscow that there had been a fire but everything was under control, a line that was passed all the way up to General Secretary Mikhail Gorbachev.

The scale of the accident soon became apparent but the lies continued. The day of the accident, as instruments at an institute in Kiev began to register increased radiation, the KGB sealed the devices "to avoid panic and the spreading of provocative rumors." (172) In the following days, as the town of Pripyat was evacuated and thousands of emergency troops and workers were mobilized, the Soviet government assured the people that all was under control and the radiation release posed no long-term dangers. Kiev's May Day parade went on as scheduled, despite the radiation drifting over the city.

When Scandinavian authorities and then the Western press began asking about a radiation cloud detected over the Nordic countries, TASS responded with a denunciation of the "bourgeois falsification" and propaganda that suggested something had gone wrong in the Soviet Union.(174) Finally, a show trial in the fall of 1986 fixed the blame on Brukhonov and the hapless reactor operators on duty the night of the accident.

Throughout, moreover, the KGB hovered over the investigations and cleanup, ensuring that no unauthorized information leaked out. Not until 1992, after the fall of the Soviet Union, did Moscow allow the complete truth of the accident and its causes to come out. Even then, Russia admitted only to 31 deaths from the accident, all of them among the plant personnel on the scene and firefighters who responded, and denied that the accident had affected the health of the tens of thousands of soldiers and emergency workers who worked heroically for months to contain and clean up the accident, as well as the hundreds of thousands of people in the surrounding areas.

Among the unacknowledged casualties was Valeriy Legasov, the deputy director of the Kurchatov Institute of Atomic Energy and one of the major figures in the book. Higginbotham portrays Legasov as a dedicated communist as well as a leading scientist, one who truly

believed the Soviet Union could build socialism under the leadership of educated elites such as himself. Sent to Chernobyl immediately after the accident to help direct the response, Legasov was on the front lines of the firefighting and cleanup efforts.

The experience changed him—Legasov came to see the "true scope of the decay at the heart of the nuclear state: the culture of secrecy and complacency, the arrogance and negligence, and the shoddy standards of design and construction." (322) He became a reformer, trying to change the Soviet scientific establishment from within, but his efforts failed to gain support from his fellow academicians.

Legasov's disenchantment grew as he came to realize that the "profound failure of the Soviet social experiment," which had produced a people who were "technologically sophisticated but morally untethered," was the true cause of the Chernobyl calamity. (325) Thoroughly disillusioned and his health deteriorating because of the radiation he had absorbed at Chernobyl, Legasov hanged himself in April 1988.

How, then, does *Midnight in Chernobyl* connect with China and Covid-19? Media coverage of the pandemic has often made facile comparisons of the two events though, while it will be many years before we know the full story of what happened in Wuhan in 2019, the similarities with Chernobyl are undeniably eerie. Like Sredmash with nuclear power, Beijing claimed to have built a first-rate warning system and, like the Soviet power plants, it seemed to work as designed, until the day that it didn't. The early response in Wuhan, too, was the same—officials in a secretive, ideologically-driven political system suppressed the bad news (and, like the Soviets, used the secret police to do so) that might have angered their superiors and cost them their jobs. At the national level, too, China for weeks carried on as if nothing was happening. Once the truth was undeniable, Beijing responded as Moscow had, with a massive effort to contain the disaster while, simultaneously, going on a propaganda offensive to repair its image of competence and maintaining strict control over the investigations into the start of the outbreak and further research on the virus.

China in 2020, obviously, is not the isolated, decrepit, bankrupt and technologically backward Soviet Union of the 1980s. It is this contrast, however, that makes *Midnight in Chernobyl* much more than a comprehensive history of a particular disaster. It is, rather, a case study of how repressive, one-party regimes respond to unexpected negative events. Higginbotham paints a detailed portrait of how they will, on the one hand, prioritize hiding their own failings while, on the other, propagandizing to blame others and stifling would-be reformers, like Legasov.

It should not be surprising, therefore, that Russia and Iran behaved essentially this way in the late winter and spring of 2020, combining denial, delay, and repression to hide the truth of their epidemics until the truth overwhelmed their efforts and that Beijing has arrested critics of its response. (It also is no accident that after these tactics failed, China and Iran tried to blame, respectively, the United States and Israel for the pandemic.) These behaviors are eternal in dictatorships and, indeed, much of the above should sound familiar to anyone studying such regimes. Still, analysts and collectors who work on Russia, China, Iran, North Korea, or similar states will find *Midnight in Chernobyl* an indispensable guide to understanding the inner workings and thought processes of these types of governments.

Footnote

[1]"China Created a Fail-Safe System to Track Contagions. It Failed," *New York Times*, March 29, 2020.

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The Reviewer: J. E. Leonardson is the penname of an analyst in CIA's Directorate of Analysis

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