Tunguska: A Siberian Mystery and Its Environmental Legacy. By Andy Bruno. Studies in Environmental History. Cambridge, Mass.: Cambridge University Press, 2022. xvi, 305 pp. Notes. Bibliography. Index. Illustrations. Photographs. Maps. $39.95, hard bound.
doi: 10.1017/slr.2024.68

On June 30, 1908, an explosion in the atmosphere over the Siberian taiga—Tunguska—flattened millions of trees of a 2,100 km² area, likely caused by an atmospheric explosion of an asteroid, which provoked consternation and confusion among local inhabitants and led to decades-long study of the causes and impacts. Some 2,000 individuals "witnessed" the event directly or indirectly: hearing bombs, feeling the earth shake, and seeing a bright object in the sky that not only flattened the forest, but shattered windows and caused waves in rivers far away. Siberian newspapers reported on the disaster that, ultimately, had small immediate human costs because of the remoteness of the site and limited efforts to populate or industrialize this area of Siberia. But its mystery and violence generated study of the region over the past 100 years that is the focus of Andy Bruno's *Tunguska*, a welcome addition to the environmental history of Siberia and, more important, to environmental history generally. Bruno traces the various efforts to understand the source of the Tunguska disaster among scientists, explorers, and fantasists, and the tensions between local environment, local people, government officials and these investigators. Bruno's approaches, explanations and analyses—of nature's agency, the social construction of knowledge, the "mystery" of the natural environment—set standards for investigation that should be considered by students of environmental history.

Several themes carry the reader through this book. One is the importance of mystery, including cosmic mystery and the mystery of the natural environment, as forces in environmental history. *Tunguska* reveals the power of non-human elements in the physical world in hiding discovery of the causes of the explosion. Nature limited study of Tunguska, contributed to the failure to find meteorite fragments, and showed repeatedly that humans can only pretend at controlling nature. Similarly, there were the usual natural obstacles to research: dry and wet seasons, forest fires, air thick with biting insects, lack of access to pack animals, and so on.

The imperative of scientific discovery shaped the balance between intrusion and preservation in Tunguska. As they sought to find evidence of a meteorite, the researchers undertook geodetic, topographical, and other surveys. They established base camps, huts, storehouses, trails, and other infrastructure, at the same time creating a kind of expeditionary culture. Using rudimentary tools, they excavated, drained bogs and other wetlands, took samples, and burned firewood.

Bruno carefully explores the social factors that were crucial in creating Tungunska. They include class and land possession, relations with the authorities, and other concerns and vulnerabilities that determine how people evaluate environmental impacts. Much of *Tunguska* focuses on a special class of people, scientists and other naturalists, who commenced in the 1920s to determine the origins of the explosion. Their arduous expeditions, often poorly funded and poorly organized, reveal the determination of a handful of individuals to study a region that they also sought to preserve. In this story, typical aspects of science: patronage, shoestring budgets, disputes and explanations among different schools of thought, and disputes between the Academy of Sciences and the expeditions shaped Tunguska. Evenki understandings of Tunguska, their assistance in reaching the site in the difficult terrain, and their exclusion from the ultimate decision to turn Tunguska into a nature preserve (*zapovednik*) played a powerful role in this history, too. Finally, voluntary activism that Bruno richly details

in a series of chapters, especially from the late 1950s, contributed to Tunguska through the Complex Amateur Expedition (KSE).

Bruno concludes *Tugunska* with an analysis of the establishment of the Tunguska State Nature Reserve (zapovednik) in 1995. If the reserve arose out of Soviet thought and scientific-technical optimism, there is now, Bruno notes, a frightened post-Soviet pessimism about civilizational clashes, population growth, and dying ethnic groups. Unfortunately, the zapovednik has ignored the Evenki for whom Tungunska, long before 1908, has been a homeland. (A nearby on-again hydropower station project may inundate Evenki homelands and trigger more catastrophic environmental change.)

By 2018 when Bruno visited Tunguska, the environment no longer immediately revealed the traces of the explosion. He reconstructed its history through a rich array of primary source documents and photographs from various archives and a series of critical interviews. The territory has faced minimal intrusions from economic and military interests, and it remains largely unsettled for much of the year. Pessimism about its future may be appropriate given climate change, forest fires and the closing of Russian civil society that has long sought to preserve and understand Tunguska. There are ultimately many accounts of Tungunska: scientific, fantastic, travelogue, unofficial, and Evenki. Bruno explores these understandings in a fair, engaged, and passionate effort to explain the mystery of Tunguska for all of them and for us.

Paul Josephson
Colby College, Emeritus

What Happened to the Soviet University? By Maia Chankseliani. Oxford: Oxford University Press, 2022. xiv, 193 pp. Appendix. Notes. Bibliography. Glossary. Index. Figures. $100.00, hard bound.
doi: 10.1017/slr.2024.69

Drawing on extensive sources from the region and abroad, Maia Chankseliani traces the fate of universities in the fifteen successor states to the USSR, a daunting undertaking. Differences among the successor states are vast: about half have retained authoritarian governance while others are semi or not quite full democracies; the Human Development Indices of the fifteen nations differ significantly as does GDP; regional military conflict has impeded the success of universities. The number of new universities has exploded (in Russia the 40 universities existing in 1991 had burgeoned to around 400 by 2011).

The purposes of Soviet higher education, which was largely divided between teaching in universities and research in institutes, were to prepare a workforce within a planned economy capable of advancing modernization and building a communist society by instilling communist morality in demonstrably loyal students. Academics enjoyed high status and comfortable living, and students were fully supported financially. State appointed rectors exercised almost unlimited authority in administration. International collaborations by Soviet universities or institutes were rare. In the 1960s the USSR did welcome Third World students and supported educational institutions in their countries to advance its ideological profile.

The collapse of the Soviet Union and demise of the planned economy launched a decade of chaos in higher education in the successor states. Public funding was curtailed or ended, socialism was replaced by marketization; competition for tuition paying students was fierce. Private universities, some with links to or funding from abroad, introduced an element of internationalization into the system as well as new models for university administration. Opportunities for study abroad further drew