An Environmental History of the Russian Steppes

In this rich and pathbreaking book, David Moon explores the environmental history of tsarist colonial settlement on the steppe lands from the eighteenth to the early twentieth century. Based on extensive research across Russia, Ukraine, Finland, and the United States, his deeply thoughtful and methodologically innovative study will long be considered a landmark of Eurasian environmental historiography. In telling the steppe’s history in entirely new, ecological ways, Moon also asks us to rethink how we understand tsarist patterns of migration, empire-building, agriculture, and science.

At the very heart of his story are the climate, ecologies, and geology of the steppe region. As Russians pushed their way south, they came across a landscape that was grassland, semi-arid, and given to periodic drought. They also found exceptionally fertile soil—chernozem. And if furs pulled Russians eastward to the Pacific, it was the rich black earth that attracted settlers south.

Moon divides the book into three interlinked thematic sections: visions of the steppe; environmental changes on the steppe; and human responses to those changes. In the opening part, Moon offers a cultural environmental history of the evolving ways that the steppe has been described, beginning with Herodotus. Russians and other Europeans who came to the region saw it as a place of absence and difference and they described it by what was missing: water and trees. Over time, however, and in tandem with the development of tsarist science, Russian scholars and officials began to examine the steppe environment on its own merits: to learn what was actually there (and how the steppe ecologies worked), and then to use knowledge for the benefit of the state economy and the region’s settlers. It was in this context that the now renowned Vasilii Dokuchaev conducted his groundbreaking research and developed his globally influential theories of genetic soil science. At the same time, Russians came to see the steppe as part of their “national space” and began to take pride in the peculiarities of the steppe world.

In the second section, Moon explores the many transformations of the steppe environment (both real and perceived) in the eighteenth and nineteenth centuries. When the settlers arrived they continued forms of agriculture similar to what they had practiced in their generally well-forested and well-watered homelands. In the process, they not only displaced the nomadic inhabitants who had lived in the region for centuries but also dismissed their pastoral ways of land use. However, to their chagrin, the settlers soon discovered that the plowing under of the steppe’s grasslands and the unpredictable water supplies meant that the black soils alone were insufficient to ensure the desired harvests each year. The settlers initially responded to the new conditions by practicing extensive farming and a long-fallow approach. However, as rates of settlement swelled and the demands of the global grain export market increased, their farming
practices put ever more strain on the soils and made agriculture more tenuous. In addition, settlers and tsarist officials perceived a wide range of environmental changes. They worried about the disappearance of native vegetation (grasses but especially trees), climate change and variability (especially shifts in rainfall patterns and more frequent occurrences of drought), and changes to the land due to human activity (anxieties about soil erosion, desertification, soil exhaustion, drifting sands, dust storms, and ravines and gullying).

The burning question for all involved was what (or who) was causing these changes to land and climate and, more importantly, what should the settlers and the officials charged with governing them do in response? A passionate debate ensued over whether and to what degree humans (versus natural cycles) were the causes of these environmental changes.

Moon highlights how Russian understandings of climate change evolved over the nineteenth century. In the mid-1800s, Russians in the steppe had come to believe not only that drought was a more frequent occurrence but that human activity was the cause. However, by the late nineteenth century, this view had shifted. “Climate change was taking place,” observers continued to agree. “But it was taking the form of cyclical changes that could be predicted. And it was caused by factors outside human control” (p. 283). In contrast, Russians came to a different conclusion when it came to explaining changes to the land—here they saw both human and natural forces at work, but the emphasis shifted over the nineteenth century “towards attributing blame to human rather than natural factors.” The cutting of trees and clearing of native vegetation seemed directly connected to the drifting sands and dust storms.

How one answered the question of causation affected the sort of remedy that different people proposed, and Moon turns to these proposed cures in the third part of the book. For much of the nineteenth century, the response of leaders, settlers, and scientists was to endeavor to reconstruct the steppe region and “fix” it by filling it with the things the settlers thought were “missing.” What this approach entailed concretely was planting trees and developing artificial irrigation and, generally, ever “more human intervention with the aim of ‘subjugating’ nature” (p. 167).

Yet, neither afforestation nor irrigation were enough to make arable farming sustainably and consistently possible for the steppe settlers. As efforts to conquer nature failed, tsarist scientists began close study of the specificities of the steppe and soon “came to understand the interconnections between the component parts of the steppe environment, and the impact of human activity on it” (p. 280). As Dokuchaev and others documented through extensive research, the precious, desired black earth had formed “as a result of the environment as a whole—the flora, (steppe grasses) and fauna, climate, topography, and parent rock, over time. The Russian soil scientists had revealed the underlying paradox for farmers in such regions: the fertile soil that produced bumper harvests in years with sufficient rainfall had formed in conditions of a semi-arid and drought-prone grassland. To change these ‘soil forming factors’ by planting trees or providing artificial irrigation, however, would, over time, change the soil. The implication was that it was better to study how the steppe environment had evolved and, on the basis of this understanding, work *with* it” (p. 281, emphasis in original). Here Moon notes a revolution in approach to the steppe environment, from conquest to adaptation.

And this new understanding of soil formation led to new types of dry farming practices designed to accumulate moisture in the soil despite semi-arid, drought conditions, such as deep plowing (and attention to the times of plowing), the use of different crops and crop rotation (especially a four-field system), and the practice of black fallow. These were innovative techniques developed initially by Mennonites living on the steppe as well as by soil scientists and agronomists. Yet, despite these new ways of thinking about soil and the natural world, and despite officials championing and publicizing the new techniques, only a minority of steppe farmers had taken up the more sustainable farming practices by the time of the Great War.

The experiences of Russians on the steppes—and the awareness of the extent to which humans might affect the natural world—also led to the development of new ideas about nature protection and conservation. Dokuchaev “realized the importance of preserving samples of ‘virgin steppe’ as a scientific and economic resource” through field research stations (p. 296). And it was in no small part from Dokuchaev’s ideas that the world-renowned Russian/Soviet system of nature protection—the inviolable zapovedniki—came into existence.

Throughout, Moon is careful to place the story of the Russian steppe into a larger global context in three ways. First, he explores the story of the steppe in the larger con-
text of European colonial expansion from the eighteenth century forward. Second, he makes important parallels with the Anglo settlers in North America and Australia. He underscores the ways that globally influential knowledge about soil and agricultural practices, which developed on the Russian steppe in response to the specific conditions of that region, came to be applied across the Atlantic on the Great Plains of the United States and elsewhere. Third, through his study of Dokuchaev and soil science, he reminds us of the tremendous importance of Russian science to the development of the global bank of human knowledge. All too often the discoveries and insights of Russian/Soviet science have been downplayed or disregarded by Western scholars—and yet, as Moon notes, the global impact of “genetic soil science” and steppe-based agronomy has been tremendous.

In particular, Moon builds on the ideas of Richard Grove’s classic *Green Imperialism* (1995). European travels to the tropics—and especially to what Grove calls “tropical island Edens”—produced rapid, dramatic, and readily apparent changes to the ecologies and climates of territories into which they moved. Confronted with these transformations, Europeans came to appreciate the extensive capacities of humans to affect the environment. This new appreciation led to fundamentally new ways of understanding the human-nature relationship and helped to usher in the beginnings of conservationist ideas. Moon sees very similar patterns in the case of Russians moving into the steppe: “Thus, as in settler and colonial societies elsewhere in the world, Russians became ‘environmentally aware’ as a result of their encounter with a new environment, and a gradual recognition that their activities were harming it” (p. 284).

In addition to his wide-ranging contributions to Russian and European history, Moon also engages with fundamental methodological and interpretive questions of environmental history. In telling the story of the steppe, he strives to move beyond the tendencies of Russian/Soviet environmental history either to fall into an environmental-determinist trap or to focus all too heavily on the human destruction of the environment. Throughout, rather than seeing humans and the environment as two separate entities, Moon offers a more nuanced analysis that views humans and human history as inextricably enmeshed and embedded in an interconnected natural world.

Moon also speaks to the much-debated question whether nature has agency in history and can be called an “actor” on the historical stage. In answering this question, Moon seconds the ideas of John McNeill from his recent *Mosquito Empires* (2010): “almost all human history is really a co-evolutionary process involving society and nature. But the degree to which this is true varies greatly from context to context” (p. 298).

Moon also offers a primer in the ways in which environmental history must be written: it cannot solely be penned from a desk, but has to be experienced by travel and immersion in the physical environment the historian is trying to study. And he has championed this hands-on, boots-muddy approach to historical study in the Leverhulme Trust-funded international research project for which he is principal investigator, “Exploring Russia’s Environmental History and Natural Resources,” http://www.york.ac.uk/history/research/majorprojects/russiasenvironmentalhistory/.

When David Moon first travelled to the steppe, he was warned that the flatness might leave him feeling “ill at ease” and indeed he did “feel disorientated, exposed, and overwhelmed by the vastness of the sky overhead” (p. ix). And from these initial, visceral interactions with the steppe landscape and climate, Moon has produced a remarkable, insightful, and intelligent book.

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