

The Life of Permafrost: A History of Frozen Earth in Russian and Soviet Science. By Pey-Yi Chu. Toronto: University of Toronto Press, 2020. viii, 288 pp. Notes. Bibliography. Glossary. Index. Figures. Maps. \$75.00, hard bound.

Place and Nature: Essays in Russian Environmental History. Ed. David Moon, Nicholas B. Breyfogle, and Alexandra Bekasova. Cambridge, Eng.: White Horse Press, 2021. xxii, 343 pp. Glossary. Index. Photographs. Figures. Tables. Maps. \$95.00, hard bound.

The Carpathians, the Hutsuls, and Ukraine: An Environmental History. By Anthony J. Amato. Lanham: Lexington Books, 2021. xiv, 468 pp. Appendix. Bibliography. Index. Photographs. Tables. Maps. \$135.00, hard bound.

Into Russian Nature: Tourism, Environmental Protection, and National Parks in the Twentieth Century. By Alan D. Roe. New York: Oxford University Press, 2020. xiv, 344 pp. Notes. Bibliography. Index. Photographs. Maps. \$39.95, hard bound.

The field of environmental history began to emerge in the 1970s, but that process took longer when it came to the environmental history of the former Soviet Union. As late as the 1990s, apart from the pioneering work of Douglas Weiner (and a few studies of Soviet environmental degradation), environmental histories of the region remained in short supply. But anyone paying attention knows the field has changed for the better during the first two decades of the twenty-first century. Numerous specialists are now approaching the topic from a variety of different angles. The four books under consideration here, all published in 2020 or 2021, demonstrate that post-Soviet environmental history has achieved a reach and level of sophistication comparable to that of other regions. From the Carpathians to Kamchatka, as these studies indicate, environmental history is robust and flourishing, even if, as some of them reveal, environmental protections in the area lag behind.

Though all four books here clearly represent contributions to environmental history, each differs substantially from the others. The difference is perhaps most obvious in Pey-Yi Chu's engaging monograph *The Life of Permafrost*. As much a study in the history of science as a work of environmental history, this book provides a sustained examination of a problem that has long bedeviled earth scientists: the attempt to generate an agreed-upon definition of, and approach to studying, permafrost. Many would find it puzzling that a simple definition would remain elusive, but Chu's analysis reveals

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that scientists have returned to the same definitional conundrum time and again without reaching any resolution.

The Life of Permafrost explores the practical difficulties generations of Russian and Soviet scientists have faced in attempting to make sense of the phenomenon. The basic issue these geographers, soil scientists, and others struggled with was, on the face of it, fairly straightforward: is permafrost ice in the earth or is it instead frozen earth? Answers to that question are reminiscent of Werner Heisenberg's "uncertainty principle." It depends on the way you look at it. Those answers, Chu shows us, usually depended on the purpose for which permafrost was being studied. Since there were many practical engineering reasons for understanding permafrost as a substance (frozen earth)—such as railroad building, architectural difficulties, and extraction of mineral wealth—this definition tended to hold sway. It was a concept that served the purposes of those in power, and one of the strengths of this book is its demonstration that scientific study is easily driven by political and economic considerations. At the same time, it is rather refreshing that Chu does not overemphasize the political influence of the one-party state (and rather remarkably, no one involved in the political disputes over permafrost in the 1930s seems to have wound up in the gulag or worse). Instead, the book concentrates on the interpersonal and institutional politics that determined scientific priorities.

One of the problems with treating permafrost as a substance had to do with its relative permanency, an issue that Chu brings to the fore using the original Russian term for permafrost: вечная мерзлота (*vechnaia merzlotia*; eternal frozenness). Interestingly, Mikhail Sumgin, the figure most responsible for the use of this term, defined permafrost as ground that remained frozen for at least two full years, hardly an eternity. Other scientists, most notably Sumgin's rival, Sergei Parkhomenko, took exception to such a contradiction by arguing that permafrost should be understood as a function of environmental systems. Chu's approach to the history of science rejects the common conviction that science is factual, objective, and linearly progressive, accepting scientific research as embedded within politics, culture, and even personality. Readers of this book will not come away with the sense that arguments over permafrost will ultimately be resolved by a better theory or better instruments. Chu's analytical framework replaces the metaphor of science as progress with an alternate metaphor of science as dialectical conflict, showing that our conception of permafrost has developed in a long succession of theses and counter-theses, unlikely to resolve in the triumph of any permanent synthesis.

At the same time, however, Chu detects a degree of evolutionary progress here, leaning heavily on another metaphor that seems inherently contradictory to that of the unresolved dialectic: the analogy of a butterfly's development from egg to larva to pupa to adult. In conjunction with these two conflicting, if arguably co-existing, metaphors, Chu adds yet a third in the chapter titles—Mapping, Building, Defining, Adapting, Translating—to describe the dominant interests and functions taking place as the concept of permafrost develops. The three separate analogies used here strike this reader as reaching for one metaphor too far. For instance, if the coining of the English term "permafrost" as an attempted translation of вечная мерзлота

marks the arrival of the “adult” stage of the butterfly, then what are we to make of the fact that the unresolved dialectical problem is now “renewed”? I found it difficult to keep hold of so many apparently contradictory approaches to the history of the concept, but in the end it does seem that the study of permafrost may still be in its infancy, and the argument of this book generally supports the unresolved dialectic analogy more than it does the analogy of a progression to maturity. While Chu downplays any contribution this book may make to the science of permafrost, one cannot help but read it as a historian’s intervention in the scientific discourse that seeks to raise awareness of the confusions inherent in a debated scientific model. Toward the end of *The Life of Permafrost* the author rejects the notion that permafrost should be understood as permanent and calls for the creation of new terminology. Time will tell if the historian’s view injected into the scientific debates will affect any rethinking of the science itself.

Remaining in the regions of permafrost but much more attentive to the surface of the earth, the beautifully illustrated collection of essays titled *Place and Nature: Essays in Russian Environmental History* rests on the intriguing premise of physically connecting an international group of scholars with the specific places they research. Over the course of three years these scholars—hailing from Russia, the US, the UK, and Canada—gathered together at locations near the White Sea, Lake Baikal, and the Urals. The editors of the book conceived of this project as a “methodological intervention” (1) in the study of environmental history based on the assumption that to write such histories “historians need to embed themselves in the places they study” (1). While this approach may seem ahistorical to a degree—one cannot, for instance, visit ancient Rome—with respect to environmental history it is a valuable and sensible undertaking since far more than archival documents inform the topic; environmental historians must also “read” the landscapes and locations they study in order to fully understand their subject. That point is especially salient with respect to the type of essays presented here, which mostly have to do with what might be called the “place-making” that results from human involvement in nature. The experience “on the ground” that informs most of these essays renders the volume more vibrant than most essay collections, and it is very well complemented by a wealth of color photos.

The final product to emerge from these visits turns out to be something of a platypus. It unites in a single entity various parts and pieces one does not usually find together on the same animal, but like the Australian mammal it still manages to function effectively. For one thing, it focuses primarily on two Russian regions quite remote from one another: the northwest near the White Sea and the Siberian area around Lake Baikal; it also includes material on the Urals, St. Petersburg, and the Russian Far East. For another, it unites both formal, well-documented academic essays with some shorter pieces of travel writing. Finally, the aims and interests of the different environmental histories found here are quite diverse. For these reasons, it is difficult to pin down a single theme linking them together, and readers will likely take different lessons from different texts.

I would argue that the title word “Nature” holds a decidedly secondary position to “Place.” Some of these texts, in fact, make a point of complicating

the notion of “nature” in the first place, arguing that concepts like “pristine nature” or “wilderness” are misleading because of the deep impact human inhabitancy has had on shaping what we reflexively understand as “untouched” environments. “Place” is the dominant organizing concept here. All of these essays share a concern for how natural spaces become meaningful places in the eyes of those who have lived in or interacted with them. Because of this focus on place-making and the human relationship to nature, the volume manages mostly to avoid the common approach to environmental histories of the Soviet Union that emphasize uninterrupted damage to the natural environment. While such histories have validity, they often seem to overshadow the wealth of environmental diversity found in the former Soviet Union, and this volume does its part to celebrate the positive side of Russian nature. It highlights environments that are historically rich and still beautiful, even if under threat.

Specific essays should be noted for their unique contributions. Andy Bruno focuses on the region around Lake Imandra in the far northwest of Russia, concluding that under pressures that are at once local, national and global the lake succumbed to “Anthropocene conditions” (86) in which human impacts have reshaped the earth’s environment. This “glocal” approach seems especially promising. An outlier here is Robert Dale’s discussion of St. Petersburg floods, a study as much in urban as environmental history. Dale’s article demonstrates how the city of St. Petersburg had grown more resistant to flooding in the early twentieth century by comparing results of the two major flooding events that took place in 1824 and 1924. Another essay by Alexandra Bekasova and Ekaterina Kalemeneva uses turn-of-the-century travel guides to eastern Siberia to show how changes in mobility led to changes in mental maps and perceptions of Siberian Russia as a whole. The authors reveal the ways in which travel guides can help to shape a region by creating expectations and encouraging the use of particular pathways through it. Nicholas Breyfogle is particularly innovative in his discussion of the Barguzin *zapovednik* (nature preserve) on Lake Baikal. He situates human activity within a historical/environmental set of determinants that breaks down, to a degree, the idea of “human versus nature” and replaces them with “human within nature,” where human inhabitancy is understood as a constituent part of the natural world. This is the lesson we might take from the collection as a whole: human beings are not necessarily the adversary of nature. Think of us instead as the place-making animal. Now what kind of places ought we to make?

Even more deeply concerned with the interconnectedness of humanity and environment is Anthony Amato’s *The Carpathians, the Hutsuls and Ukraine*. I find this book to be at once the most impressive and the most frustrating of those under review here. To call this study exhaustive would be an understatement. By far the most in-depth examination of a single region, its more than four hundred pages explore the people and environment of a relatively small area in what is today the southwestern Ukrainian sector of the Carpathian Mountains. Intentionally limiting his focus to the material life of this region, Amato displays an encyclopedic mastery of the topic, and he does so without privileging either the Hutsul people who live there or the mountainous environment that is shaped by them and in turn shapes their way of life.

This study seems to serve as a kind of model for how to write environmental history. If so, then its central argument is that human lives and the natural environments must not be conceived of in isolation from one another. Human beings, going back to a time before written records, have molded their environment in myriad ways, and continue to do so, while those environments have informed much more about the lives of the people living within them than we typically recognize. Amato gets at this point by cycling through a series of different lenses with which to observe the Hutsuls and their world. He examines them from the perspective of outsider mapping of their terrain, with an eye to the impact of various kinds of farming and herding, from the standpoint of both global and local shifts in flora, fauna, and climate, under the impact of the 1848 abolition of serfdom, and in response to regional and economic developments as control of the region shifted hands from the Austro-Hungarian Empire, to Poland, to the Soviet Union, and today Ukraine. Many other foci, too numerous to name, come together to shape this study into the environmental “deep time” thick description that it is. Readers will come away impressed with Amato’s vast erudition, both with respect to the place and to the varied socio-economic and natural processes that created it. Practicing environmental historians will undoubtedly find many useful ideas here for how to approach their own topics.

To the degree that the Carpathians in European history are known, they occupy an interesting position in the European imagination. Many have likely felt curious about this part of Europe that seems somehow simultaneously nearby and exotic. This image of the Carpathians is never very far in the background of the book, as Amato offers repeated winking nods toward the idea of the Carpathians as Europe’s eastern, exotic other. He makes several references to Count Dracula, for example, in an effort to suggest how far apart are the external image of the region and the reality of actually living and dying in this place. Hutsul community and mountain terrain come together here almost as a single, undivided ecosystem. To characterize people and landscape as a single phenomenon, Amato makes use of some unusual vocabulary, such as referring to local areas as “tasksapes,” places shaped by and for various forms of labor, or referring to his approach as “bioregional.” The processes Amato describes are closer to haphazard than systematic. This landscape, as he is fond of pointing out, resolves itself into “patches,” like those of a quilt, each responding to different influences exerted by people and environment.

As meticulous and immersive as this study is, it still left me dissatisfied in certain respects. The back cover includes a statement claiming that the book is “accessible” and “will appeal to a wide audience.” With that point I would respectfully disagree. It will be of great interest to environmental historians and those with a specific interest in the Hutsuls and the Carpathians, but it certainly does not read like a book seeking a wide audience. While it is engagingly written at the sentence level, a certain opaqueness of argument pervades the text. In the effort to demonstrate the complexity of the environment, the trees predominate to the point that it is hard to get a sense of the forest, or the larger meaning of what is being accomplished here and why. There are many similar small mountain communities in the Carpathians. Why, the reader wants to know, did the author choose to examine this particular

region and people? At the level of the chapters themselves, Amato provides only meager introduction to the various topics, little explanation of their relative importance, and almost no internal organization. Each chapter's theme slowly emerges as a series of loosely connected motifs rather than a chain of well-constructed arguments. As a result of this lack of organization and explanation, the text feels disquietingly cryptic at times. Because of its density, the copyediting of the book must have been difficult, and indeed while the writing lacks any appreciable grammatical flaws, every chapter contains several typographical errors that were not caught.

The book's title suggests another question. Since it focuses primarily on the period between 1848 and 1939 when this region was not a part of Ukraine, why is "Ukraine" given such prominence? The answer to that question is suggested by the book's short final chapter, which describes the process whereby modern Ukraine has sought to incorporate this region as part of Ukrainian national identity (see, for example, Ruslana on Eurovision). In retrospect we can look back and see that this facile attempt to co-opt for external purposes a region's autonomous past and identity may well be something the author hopes to thwart. Although this point is never made directly, the title's otherwise odd incorporation of "Ukraine," seems to suggest as much. But the reader can only guess because the aim and purpose of the book is never clarified. In my view, the absence of a more direct exposition of aims, in addition to the lack of attention to audience, weakens what is nevertheless a fascinating study from which I learned a tremendous amount about both the Hutsul region and the great value of an exhaustively thorough environmental history.

By contrast to Amato's emphasis on methodology, Alan Roe's *Into Russian Nature* feels like a return to more familiar ground with its emphasis on environmental protection. This book offers an engaging and surprisingly optimistic exploration of a mostly disheartening topic. If each of the aforementioned studies seeks to break new ground methodologically, that is not necessary for Roe, whose research examines a fresh topic that has been surprisingly neglected: the formation of a Soviet and post-Soviet Russian national park system. Roe breaks new ground in terms of subject matter, and in a certain way *Into Russian Nature* can be read as an extension of Weiner's aforementioned work on the *zapovednik* system. The *zapovedniki* were originally intended as areas set apart from human intervention and public use. For a variety of reasons, they came under fire, and the idea of national parks that would be open to the public along the lines of western models eventually found favor. But the parks did not come into being until the 1970s and 1980s. Weiner has described how the *zapovedniki* had to struggle to survive because of their poor fit with the ideology and economic interests of the state, and Roe tells a similar story about the national parks, which faced their own set of difficulties and, sadly, never fulfilled the promise held by their original planners. But where the *zapovedniki* had Stalinism as one of their major hurdles, the national parks confronted a different set of problems that included low turnout, public resistance, and underfunding.

The history of these parks began with a buoyant sense of possibility and progress. As Soviet ideological extremism waned in the sixties and seventies, the idea that the public would be able both to contribute to the protection of

nature and to benefit from it by visiting scenic places grew popular with the public and Soviet officials, to the point that many formerly closed *zapovedniki* were now opened up for public use. This change in attitude encouraged the formation of national parks that aimed to attract expansive tourism and public recreation and thereby become economically self-sustaining. The project seemed increasingly feasible since the Soviet public was simultaneously developing a great interest in domestic tourism, which Roe illustrates by pointing to the creation of dozens of tourist clubs and the production of television programs on domestic nature travel. At this stage the promise of a national park system seemed to betoken a brighter Soviet future. The early optimism wavered, however, when the parks came into being, and it certainly did not outlast the collapse of the Soviet Union. While ultimately more than fifty national parks in Russia, and many more in other parts of the former Soviet Union, have been established, in case after case Roe demonstrates that they were unable to withstand the pressures that assailed them. Those pressures emerged at a variety of different levels. Perhaps most problematic was the state's refusal to establish a single agency responsible for park development, so that responsibility for that development had to be shared among groups with conflicting interests. Those charged with organizing parks included local officials, tourist bureaus, hunting and fishing authorities, and nature protection organizations. As a result of the state's attempt to please all parties, everyone remained dissatisfied.

Lurking in the background of this book is a question about nature protection and land use that has been raised with respect to national parks in other parts of the world. To designate an area as off-limits for human use and habitation for the greater environmental good can also be, and has been, a way to shut down use of the land by people, Native Americans for example, who had long lived on it. Who has a right to the land, and what rights does the natural environment itself possess? To what degree is humanity to see itself as separate from and inimical to the natural world? The US national park system, established long ago, has largely managed to erase the memory of alternate claims to the land. In more recent times in Soviet and post-Soviet Russia, the problem of local rights, the interests of industry, and the demand for greater environmental protection have grown all the more difficult to reconcile. Many people in the area of the parks already using the land for various purposes considered nature preservation as the removal of their own rights. Moreover, the parks were coming into being just as Soviet Russia was drawing to a close. Under circumstances of economic collapse and capitalism unleashed, environmental protection shrank to a much lesser consideration.

Roe describes how some parks were so poorly protected that they actually suffered from greater damage once they had been opened. As one concerned citizen wrote after several national parks had been declared, these were only "parks on paper." Under the rather anarchic conditions of the 1990s, locals continued to use park space as dumping grounds and industries continued to extract what they needed from the land. Roe does, however, offer a counterexample. The parks of the Kamchatka Peninsula were able in the 1990s to gain enough support from abroad to flourish. Unfortunately, these parks stand as the exception that proves the rule of mismanagement and continued damage

to natural areas that officially have been deemed national treasures. Although Roe ends his examination of the parks in the 1990s, the story of these parks did not of course end there. The book's conclusion adds some information about the intervening years, though it is not a particularly hopeful story. Even after the breakup of the Soviet Union, Russia remains the largest country in the world, containing huge amounts of terrain designated for protection and much more that ought to be managed wisely. Whether these lands will receive the stewardship they deserve remains an open question at the end of *Into Russian Nature*. One hopes Roe will continue his careful examination of the fate of these parks as they evolve—in whatever direction—during the twenty-first century.

What have we learned from juxtaposing these four excellent but dissimilar studies? I can remember reading Weiner's *Models of Nature* as a young graduate student and assuming that it had "covered the territory" of Soviet environmental history. As important as that book was, the past two decades have demonstrated the absolute naiveté of my assumption. These four studies from the 2020s provide further proof of just how much more there is to do. One can imagine, for instance, environmental histories at the same level of intricacy Amato lavishes on the Hutsul Carpathians stretching across potentially hundreds of local areas from eastern Europe to Siberia. Indeed, participants in the *Place and Nature* conferences already seem to have embarked on a number of such projects. None of these studies can be thought of as a final word or culmination. Collected together they suggest rather that we stand at the beginning of a welcome and ongoing expansion in the environmental history of this vast region.

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