

LANDSCAPES AS ARCHIVES

BIOrdinary Summer School 2023

Catrine Ljungström, Erica von Essen, Karin Ahlberg, Tomas Cole, Ivana Maček, Bengt Karlsson

Summary

The BIOrdinary Summer School titled *Landscapes as Archives* took place in Norberg, Sweden, June 19-21, 2023. Situated in Bergslagen, Norberg has a rich history of mineral extraction stretching back more than a thousand years. Mining, with its concomitant activities and afterlives, has significantly impacted landscapes and biodiversity compositions in the area. The summer school sought to advance our understanding of shifting biodiversity in so-called 'ordinary places' by learning how to notice and trace the entangled social, cultural, and biogeographical processes that have shaped and continue to mould these landscapes today.

Over the course of three days, the school brought together scholars, county civil servants, artists, and members of the public to explore these socio-ecological histories and changes in biodiversity through a mix of indoor activities (scholarly presentations, arts events and discussions) and three excursions. Guided by experts, the excursion participants learned different methods how to approach ordinary places that have experienced clear-cutting, forest fires, and the lingering afterlives of mining and species extinction as archives, appreciating the landscape as resulting from a range of intertwined anthropogenic, ecological and geological factors and processes.

Purpose & Structure

The school was organized by the research project *BIOrdinary: Biodiversity Dilemmas in Ordinary Places*. The 2023 inaugural summer school explored histories leading up to the present. It will be followed by two subsequent summer schools in 2024 and 2025, which will focus on vernacular understandings of ordinary places and their possible futures respectively.

By investigating the socioecological histories that have taken place in the landscapes around Norberg, we aimed to identify and better understand the processes that have contributed to the current biodiversity dilemmas in the area. To encourage interdisciplinary collaborations and include more-than-human perspectives in environmental history and humanities, the around thirty participants had diverse backgrounds: researchers (biologists, geologists, geographers, anthropologists, and historians), artists, county administrative board civil servants and people from the general public with an interest in these questions. The three-day program included presentations, excursions, and evening art events open to the public, which allowed us to approach landscapes through artistic and scientific methodologies, and through the eyes of locals and local civil servants.

Each day centered around a particular theme of anthropogenic activities that are entangled with biodiversity shifts. Day 1 was broadly focused on forest and forestry; Day 2 on the afterlife of mining, degraded landscapes, and toxic sediments accumulated in water bodies. Day 3 turned to the life-forms and processes of extinction and death that emerge in such disturbed places. Each day consisted of indoor talks, an excursion, group discussion, and an art event in the evening.

The three excursions shed light on various facets of socioecological histories and biodiversity dilemmas, focusing on how flora and fauna are adapting to and modifying post-mining landscapes. These excursions were conceptualized by the team at the planning stage and later coordinated with respective excursion team leaders, who further developed them. Guided by experts, participants got hands on experience, learning different methods how to "read," "listen" and sense different ecologies. With these tools, we improved our ability to approach landscapes as rich archives and to identify the historical processes that have contributed to their current biodiversity compositions.

Day program in detail

Day 1 - Industrial Woodlands Lab

The first day kicked off with talks by Lotten Gustaffson Reinius (ethnologist, Nordiska Museet and Stockholm University), Gunnel Cederlöf (historian, Linnaeus University) and Oscar Jacobsson (human geographer, University of Gothenburg). These scholars have conducted historical research on the ways landscapes bear witness to human-nonhuman relationships, and developed methods of how to "read" these histories by noticing the "unwritten archives" in landscapes transformed by flooding and agricultural practices in India and Sweden. After grounding our curiosity for reading the ordinary landscapes, we were ready for our first excursion in the ordinary landscapes surrounding Norberg.

Our first expert guide was Carl-Gustaf Thulin, whose research expertise centers on evolutionary genetics at Swedish University of Agricultural Sciences (SLU). As Carl-Gustaf Thulin specializes in evolutionary genetics, fauna restoration, and rewilding, he is involved in projects regarding Rewilding Sweden, where a possible rewilding of the European bison into Swedish forests, not far from Norberg, is explored in one of the current projects. We visited two different sites: one of a clear-felled forest, and the other of the devastating wildfires of 2014, and learned to decipher signs of rejuvenation and traces from foraging and spilling left by different animals. Among other things, we gained insight into the politics of environmental and ecological baselines and the role of hunters in curating species compositions in Sweden as well as about incentives that might motivate landowners to rewild the European bison in their forests.

Day 2 - Mines & Soils Lab

The second day of the school started with an excursion led by Richard Bindler, expert on paleolimnology and environmental change from Umeå University on the topic of ruins and the lingering toxic legacies of mining. Richard Bindler first took us to a nearby old mining site turned into an open-air museum, and later to a landscape of lakes, grazing-lands and forests, formed as a consequence of mining. We got more detailed insight in to paleolimnological methods that can "read" the history of human-landscape co-becoming through tracing minerals and other components in sediments taken from the bottom of lakes. The sediments can be dated rather precisely by the depth of the different sediment layers, which means that it is possible to get information about cultivation practices and mining activities over time, as well as ruptures, such as wildfires.

During the excursion, the socio-ecological history of this ordinary ('in terms of being heavily modified by humans, rather than undistributed') landscape became palpable: nothing of what we might have perceived as nature, like forests and lakes, would look like it does today if it had not been for the centuries of mining in the area. And the mining industry would not have existed if it was not for the specific qualities of these lands, rich in minerals, forests and waters, that preceded human presence. The human-nonhuman history that ensued continued the interplay of human activities affecting soil, waters, and landscape, and those forces in turn effecting human activities. If the first day taught us how human activities can be traced in the landscape, the second day proved that this history is not only a product of human activities but co-created by humans and non-human species along with inanimate features of these landscapes.

This theme was further explored in the afternoon by Maths Isacson, economic historian from Uppsala University, whose talk focused on ore, water and forests while showing the impact of mining industry on the Bergslagen landscape since Middle Ages. In her presentation, Elisa Lopez, anthropologist from Royal Institute of Technology (KTH), took us to the north of Sweden, tracing indigenous and industrial landscape histories of reindeer forests and ore fields in Kiruna, while photographer Angelica Harms presented her work with innovative photo techniques and methods attempting to capture unknown and yet unseen materialities of invasive species.

Day 3 - Biodiversity in Blasted Landscapes

On the final day, we turned our attention to species extinction, regrowth, and the ethics of human relations with the environment *in the present day*. The morning excursion explored the extinction of the Assmann's fritillary (*Melitaea britomartis*), guided by entomologists Claes U. Eliasson and Hans Lindmark. We visited a patch of old grazing land where the Assmann's fritillary once thrived, and was last seen five to ten years ago. The destiny of the area's fritillary demonstrated how human use of forests and grazing-lands can both facilitate and eradicate certain species, as well as diminish or increase biodiversity. In this particular case, overgrowth of grazing-lands through monoculture forestry has reduced the rich species composition of flowers that the fritillary relied on for reproduction among other things. The comparison of the small plot of remaining grazing land with the surrounding forest plantation underlined how the extinction of a species is the outcome of complex processes. We discussed the legal and political framework regulating the Sweden's forestry industry and land owners when it comes to endangered species, along with the leverage and predicament of Swedish regional and local authorities and environmental officers to enforce them.

In the afternoon, we continued the discussions inside, this time on the theme of the aftermaths of industrial ruination and how biodiversity may persist in altered landscapes. Cebuan Bliss of Radboud University, delved into rewilding projects, shedding light on its future promises and pitfalls when it comes to landscape restoration. Next was Länsstyrelsen's nature conservation officer Zsombor Károly, who works with invasive species in Norberg and its surrounding. Károly's presentation allowed participants to acquaint themselves with the institutional framework of the authority that guide invasive species classifications, surveillance and eradication projects, as well as the obligations and duties that fall on landowners whose land is inhabited by invasive species. As part of this presentation and subsequent discussion, the role of local inhabitants came forth as increasingly crucial, and so did question of citizen participation in different environmental actions and goals.

Ongoing collective thinking

Throughout the Summer School, we held discussions in smaller groups, taking notes of key ideas and topic as these came up. Archives constituted the theme for consideration the first day: What is an archive, and how can it be useful or problematic to think of landscapes as archives? On the second day we probed concepts and metaphors that help us notice and imagine the various processes that have contributed to shaping past and present landscapes along with their inhabitant composition: Can we think of sea creature as "authors" of the sea, or animals and plants as "landscape engineers"? What is the role of rituals pertaining to the environment in allowing us to assess change and continuity? On the last day we focused on de- and repopulation in ordinary places. We were tasked to formulate our own questions that would increase our ability to see and listen to entangled human, other-species and geological processes that sit or have left traces in these landscapes.

Evening activities

On the evenings of Day 1 and 2, the Summer School hosted evening activities in Norberg Gallery open to the public. On the first evening Christina Fredengren, an archaeologist from Stockholm University, talked about Anthropocene Ecopunk and how we may speculatively work towards more-than-human futures. Doctoral students Tom Ward and Björn Nordvall also opened and presented their exhibition "Watching. Being. Tracing. / Vaka. Vara. Spåra." The exhibition was

based on images and texts by fellow doctoral students that took part in method course held during the Spring term in Norberg. The exhibition remained open for the public the remaining time of the school. The second evening focused on wolves, a controversial topic in Sweden, not the least in Norberg where wolf territories have proliferated. Erica von Essen gave a talk on the concept of native invaders and species belonging, using the wolf as a case study, and local author and theater director Arne Andersson read his poems dedicated to wolves.

Themes, Outcomes and Moving Forward

The biggest take-home from the school is the value of tracing the complex intertwining of human, ecological and geological projects and processes to understand the current composition of a landscape and its biodiversity. To do so requires interdisciplinary lenses. A species disappearing from a place can be understood through expanding forestry capitalism and a lack of legislative framework and resources to protect the fritillary. But it can also be understood through the longer history of shifting agricultural practices and disappearing livestock. Natural sciences pioneer new methods for assessing past conditions, both through proxies and through finding remnants. But we also acknowledged the research challenge in pursuing such a multifaceted project, particularly as a lone researcher with a disciplinarily specific skillset. Anthropology's descriptive, holistic approach may have significant limitations when stretched through vast time perspectives, but anthropology can offer helpful perspectives to biology and other natural science methods due to its emphasis on socio-cultural questions of attachment, belonging, and emotions that natural sciences might perceive as a smokescreen but are essential factors to understanding these complex changes.

Interdisciplinary collaborations and the value of being there

A conclusion is that interdisciplinary collaborations were and will continue to be key when approaching landscapes as archives. Here, we are both referring to the various methods and approaches represented in the school, but also vernacular and indigenous ways of knowing (so-called rubber boots).¹ Many participants valued the format of a physical meeting and actually spending time with people from not only different disciplines, but also from sectors such as art and environmental management not ordinarily enrolled in research projects. This points to that more social activities than classic presentations might further cross-sectoral learning and exchange. Another appreciated aspect of the school, especially by participants who were not used to being in the field, was the chance to spend time with and learn from people who live with and are intimately acquainted with the particular phenomenon and species that we are interested in. Based on these insights, the 2024 summer school will be tilted towards learning from practitioners and the outside rather than in the solely in the field of anthropology and adjacent academic disciplines.

We want to mention one fascinating example of interdisciplinary collaboration and its productive potentialities. On the excursion the second day, we learned about sediment analysis from Richard Bindler. For many of us, these parameters (level of coal, pollen and iron) were only numbers. But to Carl-Gustaf Thulin, a speaker from the first day, these parameters served as reflection of mining activities, land usage, and husbandry, and could be used to compare the records accounted for by human historical sources. In turn, Carl-Gustaf Thulin's expertise helped Richard Bindler to gain a more nuanced understand of the sediment analysis. Lacking expertise in any of the fields, we summer school participants saw how radically different sets of data relying of different sources and vocabulary together could help us trace the complex socio-ecological histories that define Norberg and its surroundings today.

Attachment and sensorial ways of knowing.

¹ Bubandt, N., A. Andersen, and R. Cypher. 2023. *Rubber Boots Methods for the Anthropocene: Doing Fieldwork in Multispecies Worlds*. Minneapolis: University of Minnesota Press.

Discussing how we can refine our methods for apprehending and representing landscapes as archives, we stressed the importance of moving beyond classical scientific methods and incorporate multisensory worlds, worlds of affect, local embeddedness, and competences that come from different sectors of life. Moving beyond concepts of reading, identifying, and analyzing, we need to acknowledge the affective aspects of our research such as sounds, taste, and olfactory stimulation.

On a similar theme, we also discussed the relationship between ecological truth and attachments and emotions/affects to landscape that might be overshadowed by conservation practices. What are the species-specific or historical-cultural parameters that determine whether we mourn the loss of one species, such as the Assmann's fritillary, or guard against incursions by invasive species? The topic of emotion also led to discussions about how research can be ethically challenging, as individuals of a species can be killed for the purpose of research or accidentally, such as with the larvae of a rare butterfly. How can the "do no harm" ethics of the American Anthropological Association and other social science disciplines be incorporated in non-human-centered research where the value of life is differently designated?

Time and temporalities

Time surfaced as another important parameter structuring relations to the environment, and a meaningful phenomenon itself for landscape. To account for different processes, deep time meets the more shallow time captured by the Anthropocene, and everything in between.² During the summer school, we explored a range of instruments and methods to quantify and assess different forms of environmental change over time, including reading the age of trees and vegetation growth following forest fires, as we learned during the excursion on Day 1, or through sediment analysis, that we looked at during the excursion on Day 2. But when it came to an on-the-ground accessible way for people to apprehend changes in the landscape, we discussed the role of rituals, comprising seasonal repetitive events that testified to shifts in the presence of certain species or aesthetic features. This cohered well with people's cyclical or circular ways of seeing time and may be a more accessible non-expert way to read the change.

Further, living in and with landscape may enable a 'seeing' or 'reading' of changes in a way that non-residents, or even experts, do not easily apprehend. At the same time, people are prone to 'shifting baselines syndrome' (the blueprint from which people assess change)³ and 'generational amnesia.'⁴ Because experts as well as the broader public might operate with these normative baselines in mind, scientific ways of measuring change and challenge ideas of 'natural original states' are very much needed. Thus, a fruitful way forth in future research on shifting biodiversity and multi-species worlds is to think through different perspectives and take both vernacular understandings of changes with expert analyses into consideration.

Inclusive biodiversity

One question kept on haunting us and still does when it comes to the aesthetics, content, and functioning of the landscapes is: biodiversity for whom? This comes together with a set of concomitant issues: What would biodiversity justice entail in practice? How does it distribute its benefits and burdens? We discussed the multiple and potentially conflicting directions of justice that had featured, sometimes implicitly, in talks and presentations given. These included Sustainable Development paradigms, including the COP agenda, which place a somewhat heavier emphasis on future generations compared to approaches that came before. A challenge is to

² See Fredengren, C. 2016. Unexpected encounters with deep time enchantment. Bog bodies, crannogs and 'Otherworldly' sites. The materializing powers of disjunctures in time. *World Archaeology*, 48(4), 482-499; Swanson, H. A., Svenning, J. C., Saxena, A., Muscarella, R., Franklin, J., Garbelotto, M., ... & Tsing, A. L. 2021. History as grounds for interdisciplinarity: Promoting sustainable woodlands via an integrative ecological and socio-cultural perspective. *One Earth*, 4(2), 226-237.

³ Soga, M., & Gaston, K. J. 2018. Shifting baseline syndrome: causes, consequences, and implications. *Frontiers in Ecology and the Environment*, 16(4), 222-230.

⁴ Kahn Jr, P. H., & Weiss, T. 2017. The importance of children interacting with big nature. *Children, Youth and Environments*, 27(2), 7-24.

reconcile justice to future generations with justice to those living in the present, for humans and non-human species. Some people look to the past for guidance, while others stress emergent, novel, and new ecosystems and ways of living with them.

An intergenerational biodiversity justice looks to the equal distribution of costs and benefits in relation to the environment and ecosystems across generations, present and future. Within this, we discussed the concept of restorative justice, by which degradation of environmental values or sometimes extirpation of whole species, were to be undone or compensated for to those living now. This has a somewhat backward-looking orientation, examining what is owed on the basis of past harms, and perhaps how things used to be for a particular people, area, or ecosystem. A final, perhaps heretofore neglected form of justice is that of multispecies justice. In presentations on rewilding, questions around the inherent rights of the land, or 'rights of nature' as it is now conceptualized in several parts of the world as part of a new Earth Jurisprudence, were brought forward as a third component of biodiversity justice.

The ongoing problem with justice underlines that it is hard to predict the future of multi-species environmental conditions and relationships. But rather than having clear solutions for future more-than-human justice, we propose that an awareness of political relationships and ethical goals needs to be continuously reconsidered in relation to changing knowledge and environmental circumstances.

Ecography – a method to study landscapes as archives

Throughout the summer school, we explored if the concept and methodology of *ecography* would be a way forward to capture this multi-disciplinary sensibility required to gain more complex understandings of ordinary places. The term is an extension of anthropology's signature method of ethnography, which has traditionally placed human culture and activities at the fore. We believe that the term could encompass our ambition is to pay attention to and learn about a range of different processes (e.g. geological, ecological, human, industrial) that make up contemporary ordinary places. We are currently working on a publication on the concept, so stay updated.