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## Perspectives

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Wilko Graf von Hardenberg

### **Making Sense of Water: A Personal Quest into the History of Irrigation**

It was a marvelous morning. A sunny day, most probably in May, not a drop had rained in the previous days, and yet the horse pastures in front of our house were suddenly swamped, covered in a film of water reflecting the sky. What better an occasion for my primary school aged self to finally launch my Playmobil® pirate ship to sail on actual water? This miraculous landscape of swamped meadows, paddock fences, and riding obstacles seemed the ideal backdrop to stage my toy figurines. Fantasy-filled images of buccaneers and maroons thriving and striving in some tropical tidal marsh filled my imagination, and there seemed to be no boundaries to what could be played out in this unexpected wet boost to reality. As soon as the real horses were put back in their stables, that is. You would not want to have to try to include oversized horses in your tall tales of piracy, even if your parents had allowed you to stay and play on the pastures while the horses were out.



**Figure 1**  
Horses on waterlogged  
pasture, 1984 (Source:  
Carola Gräfin von Hard-  
enberg)

In hindsight, I imagine that this sudden flooding might have been a more regular occurrence than the one, wondrous event I remember. Indeed, water management and the temporary, controlled flooding of fields have long been quintessential to the agricultural landscape in which I grew up. The city of Vercelli, in northwestern Italy, lies at the core of Europe's largest rice cultivation region, enclosed by the rivers Dora Baltea to the west, Ticino to the east, and Po to the south. Here, like elsewhere in the world, wet rice cultivation produces a characteristically amphibious landscape made up of waterlogged fields separated by low dikes and narrow dirt roads, every spring creating a chessboard of water and land, the so-called *mare a quadretti*. The ability to control access to water and distribute it fairly among farmers was quintessential to how this landscape came to be and, consequently, to daily life in this stretch of the plain north of the Po. In one way or another, the world surrounding irrigation features in many of my childhood memories. For instance, I remember fondly the line of willows lining the ditch marking the meadow's western boundary and with it that of my submerged playground. An orchestra of croaking frogs sitting by the ditches musically accompanied many mosquito-infested summer evenings. And grey herons flying from one rice field to the next were, some time later, the subject of quite a few rather unsuccessful photo-safaris.

I might be reading a tad too much into it, but in retrospect I cannot avoid thinking that this one childhood memory of irrigation water swamping, unrequested, our meadow gave shape to some of the research questions that, almost twenty years later, would lead me to dedicate part of my PhD to the history of conflicts over water access. How did that water come to be on those pastures on that spring morning? How was access to water regulated and controlled? How and by whom had the irrigation system been maintained over centuries? How had rice made and framed the local agricultural ecosystem?

About a meter wide and possibly just half that deep, the willow-lined ditch along the western boundary of our lot was one of the many capillaries that made up the complex irrigation system surrounding us. Derived, through the Cavo Montebello, from the famous Canale Cavour, the ditches reached virtually every field in the region. The two major canals were built within a decade of Italy's unification in 1861 and have been pivotal to the expansion of rice cultivation to the east of the river Sesia, where my childhood home stood. Grown in patches throughout northern Italy since



**Figure 2**  
Willow-lined ditch,  
1979 (Source:  
Carola Gräfin von  
Hardenberg)

the fifteenth century, rice became, in the nineteenth century, a transformative factor in the appearance of the countryside. As historian Piero Bevilacqua suggests, the canalization induced by the capitalist expansion of rice cultivation created a complex system of state-supported infrastructure that guided the development of social superstructures. In other words, agricultural practices, the way landscapes appear, and the region's systems of social interaction all depended on each other.

The quest for answers to the questions framing my research about the history of water management in the region has led me to effectively attempt to translate the historical materiality of water distribution around my hometown into text. Yet translating the complexity of a landscape into the written word is never an easy task. New questions arise at every single step: What is a landscape? How shall we make clear to the reader what it entails? What role may a willow play in it? And the mosquitoes? Or the frogs? And, finally, how can the local vernacular or technical vocabulary, developed over centuries to describe this specific landscape, be translated into English so that it is understandable to a broader audience? But the issue is even more wide-reaching than this and affects the matter of writing history itself. Indeed, the core question is how can the historian's experience of a place be translated into

historical understanding? The way I look at the archival record is influenced by my own embodied knowledge of the landscape I am describing. And the landscape I experienced is necessarily a contemporary one, with its wide fields, big machinery, and laser-levelled lots. The issue of how to convey the distinctive features of a rice field in the 1930s to the modern reader when my view of the place is filtered by childhood memories, the way it looks in the current day, and archival research is, unfortunately, one that I fear I have not yet been able to answer satisfactorily. Nonetheless, I have tried to find a way that makes clear how history has shaped the landscape at the same time as the landscape has shaped history.

Building upon the idea that power and its relational distribution among actors gives shape to agricultural landscapes, I focus on one specific angle: the interaction of rules, regulations, and conflicts. In particular, I look at the role of the centralization of water management by a few users' co-ops in the rationalization of water use and how this impacted during the years of the Fascist regime the landscape and its management. Humans transform the material aspect of ecosystems through the rules they impose on them and the conflicts that are produced by these same rules. Reading into many small acts of defiance or personal gain, such as breaking a floodgate or diverting a ditch, or long-lasting court cases brought forward by some of the richest landowners in the region in an attempt to preserve their feudal rights to water, I've tried to reconstruct the day-to-day interactions of farmers and agricultural workers with the swampy landscape of rice cultivation in order to understand why certain fields were irrigated and not others. What was the historical and legal context that shaped the routes of canals and ditches and the motive behind certain fields receiving less water than others? In the end, why were our meadows flooded on that sunny day in May?

Closer to town, maize takes the place of rice. A dry crop substitutes one requiring the flooding of fields. Due to the long-term influence of the miasmatic theory of malaria propagation, and in line with a long history of bans, provincial regulations first promulgated a century and a half ago limited the area in which rice could be grown. Such regulations are still in place. When the ones for the area around Vercelli were first drafted, they determined that there could be no rice fields within 4,200 meters of the town. By the beginning of the twentieth century this distance had been reduced to 2,400 meters, and by 1971 to just 500 meters. At the dawn of the twenty-

first century, the distance had been reduced to just 200 meters. Possibly by force of habit, the shift in legal obligations took a long time to become reality on the ground. Well into the 1980s, when I was a child, there were no rice fields in the area around my parents' house, a bit more than a kilometer as the crow flies from the town's borders. And even now there are none directly adjoining our former lot. Nevertheless, since many of its ditches predate regulations, the capillary irrigation system also reached the area surrounding our house. Water was everywhere, but the feeling of a farm in the middle of a rice-growing area, with the Alps looming towards the north, reflected for kilometers in the submerged fields, would be very different to that of our horse farm, surrounded by corn, which at the height of summer overshadows the horizon. Only in the aftermath of that one day in May, did our meadows also end up mirroring the sky. As far as I can tell, this memorable micro-flood was most probably due to human error, as were many previous floods I have encountered in my research. I doubt, however, that anybody opened the floodgate out of malice or defiance in this instance. A worker in the users' co-op might just have misread the instructions for the day, thus providing me with multiple days of watery playing bliss.

In conclusion, I must admit that I don't have any answers to the questions I have raised. For instance, I don't know how to translate the legal concept of *emphyteusis*,<sup>1</sup> which played a primary role in so many court cases about access to irrigation water, in a way that makes it clear how the legal mechanism materially affected the landscape. I am also still wondering how to fully include the history of labor in my narrative. What sources do I need in order to combine the history of how irrigation has transformed the landscape over time with that of the struggle of the workers to obtain more rights during the dark years of the Fascist dictatorship? Neither do I have a good answer yet as to how I can bring to the forefront the role of the willows in keeping together the banks of the ditches and how they resisted the cementification of the rural landscape promoted by the Fascists as part of their rationalization policies. In the 1980s, when I roved the area as a child, a row of willows was still a normal and cherished view in the flat, water-crossed landscape. Nowadays, more than 30 years later, the trees can still often be seen from a passing train as occasional symbols of a new sensibility towards how landscapes look and their eco-systemic

1 According to the Webster's Unabridged Dictionary of 1913, an *emphyteusis* is a "real right, susceptible of assignment and of descent, charged on productive real estate, the right being coupled with the enjoyment of the property on condition of taking care of the estate and paying taxes, and sometimes a small rent." It is probably unnecessary to say that this definition seems rather unsatisfactory to me.

balance. I still do not yet really know how my experience of these landscapes has affected how I understand them historically, besides the fact that it has spurred me to try to understand the connection. What I can say is that archives alone will not be able to give us all the answers about how a place looked, felt, and worked in the past. Historians need to make their affective and emotional connections to the subject of their research explicit. Meaningful translations of the language of place into historical narratives can only be produced by walking, living, and inhabiting the land.

### Further Reading

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