“Do Not Move Camarina!”
Italian Wetlands
from Reclamation to Restoration

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“Do Not Move Camarina!”
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Preface

Wetlands have been, throughout the centuries, even the millennia, the sacrificial scapegoat of the European landscape – a “landscapegoat”, as Giblett brilliantly named it. Expelled from the horizons of western space, most wetland areas of Europe began to know the fate of drainage since the late Middle Ages. Also in virtue of the more effective technologies available, the practice of land reclamation eventually witnessed its historical apex in the course of the 1900s, and to such extents that, by now, swamps and marshes have come to constitute true ecological rarities within the Western European environment. The second part of the last century, however, also happened to attend a curious and rather radical veer in attitudes towards wetlands, whereby the latter ones, also in virtue of improved ecological understanding of their virtues and importance, got to be progressively revaluated, and to even be considered among the earth’s most fundamental ecosystems. Following such developments, concrete actions and plans to preserve the few remaining marshes, and even engage with the restoration of those that had previously been deleted, have begun to spread internationally and rapidly grow in popularity.

Italy can safely be seen as a paradigmatic example of similar events. The history, even starting with the Roman colonization, of land reclamation across the peninsula – and the Po Plain in particular – surely stands out as one of the richest and most intense we have record of. Furthermore, land reclamation in Italy was ever associated with more than just economical productivity. The country’s roots in Catholic monasticism, its role – since the renaissance and through the work of such figures as Galileo – as a primary cradle and breeding ground for the modern science of hydraulics, and its ever-lasting agricultural vocation, have all contributed to load the local history of drainages and reclamations with additional symbolism, facets, and complexity. Not the least, land reclamation revealed, for centuries, as perhaps one of the most prominent means of political control and organization of the Italian territory. The
significance of the Italian case has certainly not decreased with the eventual end, due to saturation, of the practice of wetlands drainage. On the contrary, at least in some ways, the country has – in the two last decades – newly proposed itself at the forefront of water management and governance. In this sense, then, we can conclude that, as much as wetlands – in virtue of their shifting significations and role for human communities – constitute an ideal and most profound subject for the study of human-environmental relations, Italy represents an optimal and most appropriate site for the study of wetlands throughout history.

Based on Italy itself – and, more precisely, the already-mentioned Po Plain – the genesis of the work here presented has been twofold. On the one hand, it was conceived as a thesis in fulfilment of the requirements for a Degree of Master of Arts in Anthropology. On the other one, it was explicitly thought from the outset as a contribution to Prof. Gísli Pálsson’s own comparative research on Icelandic wetlands. In virtue of this latter aspect, the study was undertaken as to come to represent a general and yet informative introductory outlook on the complex and multilayered cultural history of Italian wetlands – from the reclamations of the past, until the developments of the present. The idea of being somehow part of a wider context, and the mission to provide a broad and sufficiently exhaustive insight into a subject which, on the contrary, revealed itself as being overwhelmingly elusive and vast, informed this work structurally, from its very inception. We are aware that, for that sake and purpose, not little had to be sacrificed in terms of local perspectives and specificity. We hope, nonetheless, to have sufficiently counterbalanced that loss, by gaining at least as much on other sides of the inquiry.

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Part I

Wetlands: Theoretical Hybrids
Introduction:
Do not Move Camarina

“Do not move Camarina” decreed a notorious oracular response of Antiquity. And the anecdote – first narrated by Servius – probably represents one of the first recorded episodes of ecological misreading and disaster, featuring wetlands as a central component.

The inhabitants of the Sicilian colony of Camarina – so the tale goes – weary of the continuous pestilences, addressed the oracle to know whether or not they were to drain the surrounding marshes, blamed to be source and cause of the disease. “Do not move Camarina” had been the god’s answer. The Camarineans decided to follow their own mind nonetheless, and proceeded to reclaim all the adjacent swamps. The pestilence disappeared, but before long the town – no longer encircled and protected by the impassable wet terrain – was besieged by enemy forces, and totally razed to the ground.

The sad story of the people of Camarina and their shortsightedness is veiled in the mists of legend and myth. It does also sound strikingly modern, however, in its nearly prophetic ability to forerun and anticipate – with no less than 2,500 years of advance – an analogous parable of despise and eventual revaluation in the perception of marshlands and their often-beneficial functions. What the Camarineans ended up learning in the most tragic manner, in fact, has eventually also become – after centuries of ever further drainages, reclamations, and increasing evidences of unforeseen setbacks and shortcomings – a widely accepted conclusion among present-day environmental scientists and ecologists: far from being obnoxious and unproductive wastelands, “wetlands have frequently been lost to activities resulting in only limited benefits or, on occasion, even costs to society” (Turner et al. 2003: p. 12).
Admittedly, a certain disagreement is still found among scientists in regard to what does actually constitute a wetland (*ibid*; p. 1), leaving room to more than fifty different definitions currently in use (Dugan 1990: p. 9). Wetlands’ own dynamic character and ever-shifting boundaries, it has been suggested (Mitsch and Gosselink 2007: pp. 29-30), do largely account for this state of things, inherently posing particular problems and difficulties to any classification effort. As a broadly recognized general definition, acknowledged and ratified worldwide by governments and other organizations, can anyways be taken the one elaborated by the Ramsar Convention on Wetlands. It establishes that

wetlands are areas of marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six metres.

(Ramsar Convention on Wetlands 1994)

The history of wetlands as ambiguous and elusive spaces, refractory to being bridled in dominant mapping and classificatory schemes, however, extends very far beyond the efforts of contemporary scientific practice. Already in ancient times, indeed, different authors repeatedly referred of the difficulties and frustrations encountered in giving a geographic (the Greek term “geographein”, in its literal meaning of “earth writing”), cartographic shape to swamps and bogs (Traina 1988: p. 51). With even harsher contempt and despise, the Gallo-Roman rhetor Sidonius Apollinaris – active in the very decades that witnessed the definitive fall of the Roman Empire – wrote of the marshy town of Ravenna and its thriving economy as a cradle of *adynata*, i.e. impossible things, paradoxes baffling the natural and rational order of the world. Such sort of difficulties, generally posed by marshes to systematic attempts of classification and representation, are well resumed, in a meta-historical perspective, by Giblett:
[...] generally, wetlands are an anomaly in a classificatory order predicated on a hard and fast
distinction between land and water, time and space, or perhaps more precisely, their
representational systems: the timelessness of maps and the spacelessness of history do not
lend themselves to the changing nature of wetlands. (Giblett 1996: p. 4)

It probably is well beyond verification to establish whether the frequently
encountered horror for wetlands does actually stem – as Giblett explicitly states –
from this ambivalent character that defies neatly bounded categorizations and framing
in a rational view of order, from the fact “that wetlands are neither strictly land nor
water” (ibid: p. 3). Or, more precisely, wetlands are in effect both things at the same
time: land that, rather than obeying to the logics of endurance and permanence typical
of solid bodies, follows the same flowing and shifting dynamics as the river of the
Heraclitean aphorism, making it impossible – as Thoreau already noticed (1962, VIII:
pp. 99, 160, 167) – to step into the same wetland twice. Similarly, it could also be
wondered – and this question is, on the contrary, certainly more open to empirical
scrutiny – how consistent a share of those sentiments of horror and abhorrence
actually is wetland-specific, and not just a broader and more diffused cultural aversion
for wild, untamed, uncultivated spaces at large. It is our impression, for example (and
some instances in the course of this study can stand to support the claim), that a
comparative cultural history of European wetlands and forests, from the Middle Ages
to the times of modernity, could highlight – besides obvious differences – an
extraordinarily high number of convergence points. Whatever the case, anyways, the
fact remains that, over the centuries of European and more generically Western
history, the treatment accorded to the marshes in popular imagination, religious
cosmologies, artistic representations, and dominant political and territorial discourses
has been negative and openly hostile more often than not.

Just as a few more examples: differently from such subjects as ruins, oceans,
skies, mountains and deserts, wetlands have always been frowned at, and hardly ever
received any attention in landscape painting traditions (Giblett 1996: pp. 12-13). In
that extraordinary collection of symbols, collective imaginary representations, and
psychological readings, which is Les Structures Antropologiques de l'Imaginaire,
Gilbert Durand associates swamps and marshes with the fear of the “black water”. It
is the “water of the dead, imbued with the nightly terrors, saturated with all the
Slimy, deadly, and black-watered is also the marsh that the Catholic Dante depicted as
fifth Circle of his Inferno, where the souls of the sullen are imprisoned in eternal
damnation. And overwhelmingly swampy is Hell in the Puritan Milton’s masterpiece, *Paradise Lost*. Again, however, the inspiring model of both eminent poets should ultimately be found in ancient Greece. Styx was the name of the bog in Dante’s *Inferno*, precisely as the river that, in Classic mythology, wound around the underworld and abode of the dead for nine times, before converging together with the other infernal rivers into (perhaps not so surprisingly) a great marsh. Still in ancient Greece – as the story of the Camarineans clearly suggests – found strong endorsement and support, if not its very origins, the belief that wetlands themselves exhale pestilence, disease, and death. And since the times of the Hippocratic medical school, the miasmatic theory which identified malaria contagion with the “bad air” (the literal meaning of the word “malaria”, in fact) rising from wetlands prevailed across Europe. It became eventually dismissed only in the 20th century, on the wake of the discovery that the vector of the disease had to be sought not in swamps, but rather in certain parasites carried by the anopheles mosquitoes (Giblett 1996: p. 103).

As Howarth points out, however, “the ambiguous and also evolving cultural status” of wetlands began to know some changes in the 1700s, when the previous and nearly exclusive perceptions of horror and aversion gradually got to lean “toward

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1 The water was more nearly black than blue; / And we, in company with that dark stream, / Went further down, following a difficult path.
It goes into the marsh which is called Styx, / That sad brooklet, when it has tumbled down / To the bottom of that long sloping hill.
And I, who stood there looking down intently / Saw people covered in mud, there in the swamp, / All naked, and with anger in their faces.
They struck each other, and not only with their hands, / But with their heads and chests and with their feet, / Biting each other to pieces bit by bit.
The good master said: ‘Son now you see / The spirits of those who were overpowered by anger; / And I would also like you to understand.
That underneath the water there are people sighing: / It is they who make the water bubble on top, / As you can see, whichever way you turn.
Stuck in the slime, they say: “We chose to be sad / In the sweet air enlivened by the sun, / And our hearts smouldered by a sullen smoke.
Now we are sad instead in this black filth” / That is the hymn they gurgle in their throats / And cannot even get the words out properly.’
So we described a long arc round the bank / Of that stinking pool, between the dry and the soft / With our eyes turned towards those who were swallowing the mud:
And so we came to the foot of a tower at last. (Alighieri 1998: Inferno VII, 103-130, p. 76)

2 Milton’s Hell, indeed, is a place riddled with

[...] lakes, fens, bogs, dens and shades of death,
A universe of death, which God by curse
Created evil, for evil only good,
Where all life dies, death lives, and Nature breeds,
Perverse, all monstrous, all prodigious things,
Abominable, inutterable, and worse
Than fables yet have feigned, or fear conceived,
Gorgons and Hydars, and Chimeras dire.
(Milton 1952: II, 621-8, p. 42)
more positive values, of beauty, fertility, variety, utility, and fluidity” (2001: p. 58). Even though, by the author’s own admission, establishing “how and why these shifts occur is a problem that vexes today’s cultural and environmental historians” (ibid: p. 59). In this sense, it is probably noteworthy to remind how not just wetlands, but roughly at the same time wilderness at large, did apparently enjoy a similar shift of attitudes and process of revaluation. If as far as the 18th century “wilderness” and “waste” were almost synonyms in English language (Cronon 1996b: p. 70),

[...] by the end of the nineteenth century, all this had changed. The wastelands that had once seemed worthless had for some people come to seem almost beyond price. (Cronon 1996b: p. 71)

A wave of mutating attitudes that found in the pre-Romantic and Romantic movements – and in Kant and Burke’s theorizations of the sublime – the most proxime conceptual inspirations, and that, ultimately, came to constitute the very roots the of modern environmental and ecological conscience (ibid: pp. 72-73).

It is in this at least partly renewed context, that are placed also the writings and views of the first American conservationists, and their unprecedented defence and extolling of marshes and bogs. John Muir (1838-1914), who celebrated in swamps “the beautiful blendings and communions of death and life, their joyous inseparable union” (1992: p. 70). Aldo Leopold (1887-1948), in whose youth the acquaintance with sloughs and their following loss seemed to almost have the significance of a true rite of passage:

[...] my first doubt about man in the role of conqueror arose when I was still in college. I came home over Christmas to find that land promoters, with the help of the Corps of Engineers, had dyked and drained my boyhood hunting grounds on the Mississippi River bottoms. The job was so complete that I could not even trace the outlines of my beloved lakes and sloughs under their new blanket of cornstalks. (Leopold 1947: p. 282)

And, above all, Henry David Thoreau (1817-1862), the marsh-wanderer, often referred to as lover and patron of wetlands, who saw in the swamp a refuge and a “temple” (1962, IV: p. 449), a sanctuary to “annually go on a pilgrimage” to (1993: p. 197).

It would be misleading, however, to see in those – and in the other – voices that started rising in favour and open praise of wetlands an overarching revolution, or a dramatic veer in dominant attitudes towards land management. Quite on the contrary, as it had been the case over the previous centuries, extensive works of drainage and reclamation continued being undertaken in the Western world at a much higher rate than ever in past, motivated by urban pressure, agricultural expansion, hydropower
demand, and propelled by advances in technological means and hegemonic ideologies of progress and modernization. Therefore, in just one century, the global wetland cover could still be reduced by as much as 50% (Fraser and Keddy 2005: p. 448), without much concern, preoccupation, or expressions of opposition and dissent to hinder the process.

Compared to such historical background, present-day wetlands can be said to enjoy quite a more favourable status, at least within academic and scientific circles. It is ecologists and environmental scientists, in fact, who have largely been the promoters of a new outlook that establishes wetlands as some of the earth’s most important and beneficial ecosystems. In particular, it has been pointed out, swamps and marshes stand out for biological variety and biomass production (Fraser and Keddy 2005), which makes them very sensitive biodiversity hotspots. Similarly, they perform important metabolic functions of waste treatment, for which they have deserved them the label of “kidneys of the environment” (Niering 1985). Some approaches of environmental economics, furthermore, have concentrated on the goods and services daily provided by wetlands to human communities, and attempted to set a price on their use-value (Turner et al. 2003: pp. 9-13). It is true that a number of criticisms have been repeatedly addressed to the practice of flattening nature on dollar bills (Brennan 1992; Kelman 1981; and also Ackerman and Heinzerling 2002), and perplexities over the final estimates’ accuracy remain more than legitimate. Similar studies, nonetheless, have had the merit of underlining in the most intelligible terms (economic advantage) the often misrecognized and underrated worth of wetlands and other ecosystems, and to reveal – as in the legend of Camarina – that wetland drainage has not always represented the most profitable and foresighted option – not even from an entirely anthropocentric point of view. In this perspective, for example, a 1981 research concluded that for each hectare of wetlands reclaimed in the US, the yearly economic loss related only to flood damages and the wetlands’ lost ability to act as buffer zones, amounted up to US$ 11,000 (reported in Moran 2006: p. 82). Similarly, a seminal and much-cited study aiming to price-tag the many services provided by all of the earth’s ecosystems, estimated that the average yearly value of the functions performed by wetland areas (such as waste treatment, flood control, drought recovery, water supplying, etc.) corresponds to some US$ 14,785/ha – against the mere US$ 92/ha associated with croplands (that often replace pre-existing and reclaimed marshes) (Costanza et al. 1997: p. 256).
It is also on the wake of this new awareness, then, that since the last decades of the 20th century, wetlands have become object of increasing efforts of protection and conservation, or even – in areas from which they had been previously displaced – of actual rehabilitation and restoration. The international treaty signed at Ramsar, Iran, in 1971 by 18 nations – which have grown up to 158 over the years – probably represents one of the most important landmarks in that direction.

Again, the scope and impact of such shifts in the attitudes toward wetlands should not be excessively overplayed, in the terms of talking of an authentic revolution. At least two considerations, in fact, advise caution. Firstly, as already mentioned, the positive revaluation of wetlands here sketched has largely been promoted by and confined within the scientific and academic field, and come only to a certain extent to touch on the world of policy-makers and political activists. There still remains to be proven, in other words, whether and in what ways the broader popular and collective imaginary has been affected at all. Secondly, although important initiatives to preserve and restore wetlands have undeniably been taken, statistical figures reveal that the rate of wetland loss in the United States – and not unlikely, at the global level too – does still outweigh that of wetland gain (Fraser and Keddy 2005: p. 449).

The fact remains, nevertheless, that the signification of wetlands in the Western world has actually undergone – not so dissimilarly to what happened in our opening tale, and as Howarth already remarked (2001: p. 65) – rather consistent and evident shifts, likely more radical and dramatic than the ones experienced by other manifestations of nature. In this sense, then, the alternating parable of wetland areas, their perception and management, can still stand as an exemplary case study of mutating values and praxes in human-environmental relationships, and of the forces subtending and driving that change.

It does in no way appear inexact to claim that the history and perception of wetlands in Italy has mostly followed the same trajectory that we have just tried to delineate with respect to a broader Western context. Rather, it might even be stated that of that very trajectory the Italian case represents one of the most extreme and emblematic exemplifications. On the one hand, indeed, the territory of the Italian peninsula has been, throughout the centuries, site of most extensive and radical reclamation undertakings, which hardly may find a match in any other European country. In 1992, for example, it was reckoned that the total area affected by
drainages amounted to 5,223,996 ha (Medici 1992: p. 125; see also Appendix 3: “Quantitative trends in Italian land reclamations”), accounting for a good 17.5% ca. of the overall national territory. A quick glance at the peninsula’s morphology (see also Appendix 1: “The Po Plain in the Italian geographical context”), mostly dominated by mountainous ranges, may probably give an even stronger impression about the magnitude of such figures, and the scope of the operations of environmental transformation, carried out throughout the years. On the other hand, at the same time, Italy has also become a site of high interest for those more recent trends in wetlands revaluation, of which we made mention. This latter aspect has mainly taken the shape, at least in the last two decades, of ongoing projects directed at restoring wetland environments, especially in riparian contexts, and a renewal – for which Italy resulted at the forefront at the international level – of policies for the governance of water. Although similar developments cannot rightfully be seen nearly as dramatic and far-reaching as the previous reclamation undertakings, they remain an interesting reality nevertheless – one, which poses, again, the Italian instance as one of the most prominent cases in a European context for the study of wetlands and water management practices.

Contrasting attitudes toward wetlands, the practices of resource and territorial organization into which they have translated in the course of history, and how they have unfolded and developed in the Italian geographical context, do also constitute the central focus of the present study: yet another, albeit small, testimony of the increasing interest that has surrounded swamps and mires in contemporary scientific and academic activity.
Albeit often neglected, it is not out of place to recall how the strange marriage of wetlands, geography, and anthropology is far more ancient and unitary than it would superficially seem. It dates back, in fact, to the early ethnographic construction – identifiable, for instance, in such a classic text as Aristotle’s *Politica* – of a sense of alterity and otherness to contrapose to the Hellenic *polis*, already orientated in an agrarian perspective. The “discovery of the stranger” encountered in the first geographic and ethnographic reports of the Greeks, it should in effect not be forgotten, largely passed through wetlands, and the liminal and alien populations of marsh- and lake-dwellers that, instead of partitioning and cultivating the dry earth, lived of the swamps’ spontaneous products (Traina 1988: p. 78).

Ethnography, thus, appears already entangled and involved with the fluid domain of the marsh at the very moment of its first inception, some centuries BC. It was the ethnographic report itself, in return, that from the very start contributed to a particular ideological construction of wetlands as negative otherness, priming a “tradition” meant to span and endure over two millennia. The anthropological interest for wetlands that informs also this study, then, more than an incursion into all-new territory, can actually be seen as an eventual homecoming, largely triggered and facilitated by the growing awareness for swamps on the one hand, and the renovated momentum of ecological anthropology on the other.

After a quite considerable hiatus parallel to the spreading of postmodernist and culturalist perspectives (Descola and Pálsson 1996: p. 1), in fact, nature, ecology, and the environment as disciplinary subjects have literally been rediscovered within anthropology over the last twenty-five years (and, perhaps not too accidentally, the trend has also coincided with accruing concerns for an overhanging ecological crisis of global proportions). In this period of time, the renewed interest for the study of
human-environmental relationships in a cross-cultural perspective, joint with a higher degree of cooperation across department boundaries, has spawned a number of original works, which have contributed to put back the “problem of nature” at the forefront of anthropological and social scientific discourse. A systematic review of such contributions surely exceeds the scope and aims of the present discussion (for an essential but still insightful outline, however, see for example: Croll and Parkin 1992; K. Milton 1993; Descola and Pálsson 1996; Cronon 1996; and Ingold 2000). For the sake of brevity, then, we will limit ourselves to only a couple of considerations that seem to emphasize and encapsulate better than others the specific role played by anthropological theory in this new wave of ecologically-oriented research.

**Anthropology, advocacy, and policy-making**

The new project of environmental anthropology was undertaken from the start on the ground of urges and priorities informed by an explicitly political agenda. The fact that the issue of human-environmental relations had “become a major political and ethical concern of peoples and governments” suggested that anthropologists should not shy away from their duties “as citizens and scholars”, but enter the debate (Descola and Pálsson 1996: p. 12). Similarly, it was stressed how environmentalism could become another important field of advocacy, similar to others in which anthropologists already engaged (K. Milton 1993: p. 12), with the prospect of significant mutual benefits (*ibid*: p. 2), and the opportunity for anthropologists to actively make their “knowledge count” (*ibid*: p.13).

It has been greatly encouraging to record how this new form of active engagement has translated, in numerous circumstances, into admittedly beneficial contributions to projects of development, biodiversity protection, and resource management, and not just another avenue for pursuing a “moral career” in anthropology – according to a formulation suggested by Roy D’Andrade (1996) in a hotly debated article. In particular, the discipline’s insistence on the importance of local stakes and participation, and valorisation of indigenous knowledges (Orlove and Brush 1996: p. 3).

3 Important examples, in this context, are the CAMPFIRE program for wildlife management in Zimbabwe (Borrini-Feyerabend et al. 2004: pp. 37-41; Sterner 2003: pp. 417-420), and the sustainable form of co-management of forest resources in the Himalayan region of Kumaon, India, described by Agrawal (2005).
have proven able to actually impose themselves as important complementary perspectives and an effective fix to policy-making approaches that all too often in the past had assumed mechanistic, a-contextual, a-consensual, and ultimately ruinous views of the environment, its dwellers, and its resources (Dove and Carpenter 2008: p. 3). In this sense, moreover, it is also highly significant to record how – on the basis of the problematically subjective and value-specific character inherent to any definition of sustainability – repeated recognition and acknowledgement of the relevance of anthropology and other related disciplines for environmental policy-making has actually been attested from within the natural sciences too (see, for example, Lélé and Norgaard 1996).

Environmental anthropology, in sum, has progressively demonstrated on its very testing ground to have “something novel to say”, and to be able to contribute its specific assets, even to contexts of research and policy-making, traditionally believed to belong uniquely to the field of economics and natural sciences. And this, undoubtedly, has constituted a first and most relevant source of legitimacy for the discipline’s very enterprise.

The nature-culture divide: anthropology, modernism, and new epistemologies

If the credibility of ecological anthropology has largely been built through successful instances of on-field, practical involvement, the second major contribution that we would like to emphasize and outline has primarily invested, on the contrary, the theoretical and speculative levels of the nature debate. By questioning and challenging one of its most structural tenets, in fact, anthropological reflection – and, to a certain extent, related work in the social sciences and humanities (in particular, the Reinventing Nature seminar of 1995 (Cronon 1996a)) – has struck at the very foundations of the Cartesian paradigm that for long subtended and shaped Western scientific discourse. And with this move it has provided both empirical evidence and new momentum to a long-standing quest for epistemological alternatives and redefinitions.

Descartes’ essentialist dichotomy between res cogitans and res extensa – it has been repeatedly remarked – represented the culmination and crystallization of a
worldview and gnoseological system definitively connoted in a dualistic and mechanistic sense. The distinction encompassed and simultaneously informed all a series of binary oppositions, which were to become prevailing within all modernist and positivist conceptions in western thought: subject-object, mind-body, spirit-matter, culture-nature, etc. Nature itself came to be consequently identified as the arena of inquiry for the unbound “thinking mind”, the reservoir of univocal matters of fact to be disclosed and objectively known, detached from and independent of the fragmented and erratic realm of subjective human values (Latour 2004). And in this, the typically modern ideology of Naturalism could find its ultimate postulate and foundation, that is, the belief in the existence of a “pristine Nature outside of history and human context” (A. Escobar 1999: p. 1), source of universal and a-historical truths.

Recent work in environmental anthropology has heavily attempted to challenge and overcome the dualistic status of Cartesian and modernist ontology. Such attacks have largely taken the shape of severe criticisms of the nature-culture dichotomy in particular, perhaps most explicitly in Descola and Pálsson (1996), and finding their most complete epistemic and conceptual systematization in Ingold (2000). An admittedly central role has also been played, in this sense, by comparative ethnography and the ethnographic evidence – also recalled and emphasized by Latour (2004: p. 43) – that “the nature-society dichotomy was utterly meaningless” among numerous non-western indigenous people (Descola and Pálsson 1996: p. 7).

Besides their undeniable accomplishments in questioning and reshaping outdated views and assumptions, similar efforts and contributions this far might have revealed the only shortcoming of not being able to elaborate a coherent praxis and working methodology for the study of human-environmental from a non-objectivistic, non-dualistic perspective. This notwithstanding, however, the impression endures that the renovated project of ecological anthropology has largely succeeded in bringing a welcome breath of fresh air into a stale debate, and laid valid foundations for a thorough epistemological rethinking, that appears meant to rapidly extend well beyond the original disciplinary borders.
Wetland ethnographies: first steps in a new genre

We made mention, in the opening of this chapter, of the historical link that ideally connects ethnography and wetlands, and the prospect of seeing it re-established under the aegis of present-day environmental anthropology. Instances in that direction are still far from numerous, but have clearly begun to surface in the specialized literature, published across Europe\(^4\).

Although not precisely focused on wetlands, Strang’s ethnographic inquiry of water management and governance in the Stour Valley, Britain (2004) offers a first case worth of mention. The study, which mostly relies on semi-structured interviews and textual analysis of divulgation material, embraces both the practical concerns arising from the issue of water governance – such as deregulation and privatization of water services – and more theoretically oriented analyses – perception, cognition, and symbolisms of water, with hints toward a pan-human perspective. And it is especially in the latter set of considerations that the author touches – despite peripherically – on aspects that appear directly relevant also to the discursive construction of swamps and marshes\(^5\). Reasons of interest for Strang’s work, however, do not all exhaust there. It does also provide, in fact, a valuable model of working methodology and theoretical framework to apply to the social study of ecological and environmental issues. In particular, two are the major strengths that can be detected in the approach followed by Strang. Firstly, it does skilfully link practices of resources usage and management to their symbolic and cognitive dimensions, in a perspective that convincingly convey a sense of change and dynamism, highlighting the transformations taking place in the field of water governance, and the impact exercised by contemporary environmental discourse on policy-making. Secondly – and by no means less importantly – in so doing, Strang proves rather successful in the arduous task to articulate and interweave inside the same text global and local, macro and micro dynamics and perspectives – notably, one of the toughest challenges posed to contemporary ethnography (Marcus 1986: pp. 169-172) and ecological studies (Biersack 2006: pp. 4, 16-17).

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\(^4\) Besides the more strictly ethnographic works here reviewed, it is also worth mentioning the rapid proliferation of projects aiming at the sustainable management and exploitation of wetland areas, coordinated by or at least involving directly anthropologists. Examples inside of Europe include the IMEW (2004) and the Wetlands II Project (2005).

\(^5\) For example, in several passages, Strang remarks the positive connotations – both in the bodily terms of “health”, and the economic ones of “wealth” – of “flowing water” (ibid: pp. 120-121, 124-126), opposed, by definition, to the stale waters of the bog.
Also dominated by the theme of water, actually situated in a geographic setting characterized by the enduring prevalence of lakes and swamps, but informed by a wholly different academic tradition and outlook, is Manceron’s ethnography of the rural community of Dombes, Southern France (2005). The study, in effect, rather than looking at the most recent advances in ecological anthropology and questions raised by contemporary environmentalism, mainly draws its theoretical and analytical framework from Weberian concepts of social stratification and Simmel’s sociology of conflict. This translates, in practice, into a thorough analysis of social hierarchy, and class and status relations inside the small community of Dombes, and of possession of water as the principle structuring the formers. Water and its multiple uses are well present throughout the pages, but uniquely in their quality of sources of material and social capital, of contested terrains whose mastery is a matter primarily of social prestige, and always outside of a larger ecological perspective. Thus, the ecosystemic specificities of the ethnographic location, its environmental characteristics and possible worth, the role of ecological discourse and activism in their management and redefinition, only seldom come to the foreground, and always subordinated to what remains the main analytical focus of the study: class and status conflict within the rural community of Dombes. Conflictual social relationships and exhibitions of status and prestige, in fact, seem to represent, throughout the text, the only thing Manceron is really interested in, the only interpretative lens employed, the end towards which all else is aimed, even when the discourse touches on such aspects as long-enduring forms of water management or resource exploitation. In this sense, it seems legitimate to conclude that the study – which is actually grounded on a prolonged period of fully immersed participant observation, in accordance to the canons of classic ethnography – certainly remains a well-crafted ethnographic portrait of a disappearing rural society, which, however, by exhausting its focus on intra-communitarian interactions, tells us little on wetlands, and even less on human-environmental relationships.

Certainly more in line with the trends, goals, and perspectives of current environmental anthropology is the work of Breda (2000, 2001). Both ethnographies, which focus on the reality of North-Eastern Italy, are indeed informed by the ongoing debate on the nature-culture divide, and will to overcome modernistic conceptions of nature, as well as by a militant, politically-engaged take on the anthropological and ethnographic practice. The latter element translates, in one case, into an instance of explicit environmental advocacy and opposition to policies of development and
modernization, planned at direct expense of the remaining wetland areas of Veneto’s inland. And, in the other, nearly into a late example of “salvage ethnography” (Augé and Caulleyn 2006: p. 25; Clifford 1986a: pp. 112-113) aimed at “rescuing in writing the knowledge of old people”, that “vanishing lore” (ibid), which had once been woven around the world of the marsh, and has definitively been displaced by the advance of reclamations. In this context, then, Breda’s interest primarily lies in the ethnographic recording and mapping of a so-called wetland “ethnoscience”: that is, of those indigenous knowledges, and forms of classification and representation, which, while once vital, have eventually lost their own historical and material referent. As the author states:

[The] research would like to display some particular aspects of those knowledges: strong and vital knowledges that have not been abandoned, but have been deprived of the physical anchorage upon which they could exercise. Knowledges of nature with no longer nature.

(Breda 2000: pp. 7-8)

Breda’s work can appear partly outdated, as much as an ethnographic practice envisioned as “cultural salvage” is clearly fading and decreasing in relevance and popularity (Clifford 1986a: pp. 112-113). Similarly, it remains strictly ethnographic and locally bound in its scope, lacking that sort of multilayered micro-macro articulation, whose importance we highlighted in reviewing Strang’s study. Nonetheless, it does undeniably manage to touch on a number of issues brought to the forefront by the most recent advances in environmental anthropology, and to present interesting and well-researched case-studies from the North-Italian reality.

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6 “[La] ricerca vorrebbe mostrare alcuni aspetti particolari dei saperi: saperi forti e vitali che non sono stati abbandonati, ma cui è stato toltò l’aggancio fisico sul quale esercitarsi. Saperi della natura senza più la natura”.
The Present Study:
Goals and Relevance, Methods and Theories

Rather than as an exhaustive ethnographic investigation of some specific wetland location in Italy, the present study has been conceived from the outset as to offer – through an interdisciplinary and task-oriented rather than subject-based approach – a general, diachronic insight into the long and multifaceted history of Italian wetlands and their management, from the times of Antiquity to the present day. Some qualifications and introductory remarks, however, are due, in order to better outline the actual scope and focus of the research.

There is a very strong link – it has been remarked (Bevilacqua and Rossi-Doria 1984: p. V) – between the history of Italy as a country, the history of its agriculture, and the history of its reclamations. Reverting the perspective, it could be highlighted how the history of land reclamation in Italy has started with and run parallel to the country’s recorded history itself. In this sense, then, the history of Italian reclamation easily comes to cover a time-span of over two millennia.

In a similar vein, it could be stressed how the Italian peninsula, along the nearly 1200 km from the Alpine chain to the African Sea displays as much variety of physical conditions, as it is found in other regions of the Earth over a range of 3 or 4 thousand km [...].

(Gambi 1986: p. 207)

Such an extreme variety of conditions and settings have ever posed, undoubtedly, very different challenges and constraints in regard to resources exploitation, modes of production, and economic development, likely contributing to the country’s highly diversified internal history (see, for example, Wickham 1981: p. 1; and, in closer regard to agricultural and reclamation history, Bevilacqua 1996: pp. 22-23).

We emphasize with some detail similar factors, as a way to underline how an overarching and all-encompassing cultural history of reclamation and wetland

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7 “[...] lungo i 1200 km quasi dalla catena alpina al mare d’Africa squaderna una varietà di condizioni fisiche quanta se ne trova in altre regioni della Terra su di un arco meridiano di 3 o 4 mila km [...].”
management in the Italian context would represent, by very definition, a cyclopic and out-of-scale enterprise, probably requiring some years of work from an entire research team. The impossibility to face such a challenge evidently calls for a narrowing of the scope of enquiry.

As a first compromise in that direction, we decided to channel our efforts onto the highly emblematic instance offered by the Po Plain, North Italy (see Appendix 1: “The Po Plain in the Italian geographical context”; and Appendix 2: “Po Plain, Po catchment and Casalmaggiore”). The rationale for such a choice was manifold, and – we believe – substantially convincing. The Po Plain, indeed, has played a fundamental role as one of the most important and influential areas in the peninsula – demographically, economically, politically – even since the times of antiquity (Wickham 1981: pp. 10-11). Such a primacy is far from lost nowadays, as a few figures can easily demonstrate. Furthermore, the region in question stands out in the Italian panorama for having been, throughout the centuries, target and site of the most massive anthropic interventions and man-induced environmental transformations, which the country has known (Gambi 1981a). It has been repeatedly underlined, indeed, how the impressive agricultural fortune of the Plain can by no means be explained by “the wealth of its lands’ ‘natural’ state” (Cazzola 2003b: p. 11). Rather, it has always necessitated of the indispensable premise of a patient and centuries-long work of hydraulic and territorial rearrangement, so large in scope and proportions to nearly match the case of the Netherlands, and hardly find any other significant equivalent in all of Europe (Cazzola 1990: p. 12). On such grounds, then, we found it more than licit to propose the Po Plain as a highly representative and insightful case study in the history of Italian wetlands and reclamations.

A second compromise, on the other hand, was adopted in respect to the very character of the overview we decided to offer. In this sense, rather than embracing the issue of wetland management as a whole, we have chosen to concentrate on a single and dominant aspect, that of drainage and reclamation, thus reading the modern

8 In this sense, it just seems sufficient to mention that the Po watershed area hosts some 16 million ca. of inhabitants (nearly 27% of the whole Italian population) dislocated over the territory with a density of ca. 225 inhabitants/km² (against Italy’s average of 188 inhabitants/km²), includes the two metropolitan clusters of Milan and Turin, and affects the country’s economy contributing around 40% of the overall GNP (AdbPo 2008a: p. 51; 1999: p. 61). Note that – however highly indicative – the mentioned figures do not refer to the precise area of the Po Plain (which, not constituting a juridical or administrative district, is seldom mapped as such through census and demographic data), but to the largely overlapping territory occupied by the Po catchment area (see Appendix 2: “Po Plain, Po catchment and Casalmaggiore”, for a visual display of the difference between the two areas).
history of the Italian territory as the progressive deletion of the wet, hybrid nature of wetlands and the constitution of a dry and homogeneous space. Also in that perspective, however, we did not set out to compile an extensive and linear report on the history of land reclamation in the Plain – which would have remained an over-demanding duty – nor have we followed some episodes or aspects in particular, in the attempt to neatly map out their full unfolding. We rather privileged, although without neglecting a principle of chronological succession altogether, a looser presentation of selected themes, which – in our opinion – stand out for relevance and significance.

Tyler argues that a “post-modern ethnography” is one finally freed and subtracted from the urges of mimesis, of describing, of scientific realism, an ethnography that aims at “evoking” rather than faithfully “representing”, an ethnography that is necessarily “fragmentary”, because “life in the field is itself fragmentary” (1986: pp. 129-131). Likewise fragmentary and aimed at “evoking” also results our history of land reclamation. And some readers may well be disoriented by some unconventional choices, like, for example, the little space dedicated to the often-celebrated Roman interventions, contrasted with the unusually thorough and intensive analysis of Benedictine monasticism – a chapter often overlooked in the existing literature. And yet again, our primary goal is not to lay out an articulated and comprehensive representation of land reclamation in all its stages throughout history, but rather to highlight some of its major ideological and discursive aspects, sketching out what – in our reading – represented a latent thread of ideal continuity.

Whereas a good deal of our efforts of analytical redefinition were aimed to limit the scope of inquiry, in one case we found ourselves compelled to move in the opposite direction. From the start, all our attention had been selectively placed on the subject of wetlands and, consequently, drainage and reclamation. As research went on, however, it became indisputably clear that land reclamation, throughout the Po Plain history at least since the Middle Ages, had just constituted a part within a broader set of practices and territorial interventions commonly referred to as “water management”9. And if, on the one hand, it appeared that to a certain extent the latter followed the former – that is, that more integrated efforts at managing and controlling the waters substantially responded to the environmental challenges posed by ever-

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9 Besides the activity of reclamation itself, problems of water management in the Po Plain have been given, for example, by the regulation of river discharge, the alteration of riverbeds, flood prevention, the planning of irrigation cycles, etc.
accruing reclamations – on the other it became clear that, for analytical purposes, it would be impossible to consider the two disjointedly. Therefore, we have gradually opted for an enlargement of perspective, and for considering such elements as water management and catchment planning as structural components to the study of wetland reclamation and management in the Po Plain context.

Finally, it was always our intention not to limit our diachronic insight to the more or less recent past, but to extend it and make it inclusive of contemporary developments. In this light, we identified in the practice of wetland restoration, and in the several projects undertaken in that sense, one of the most promising themes worth to explore. Also from the standpoint of recent environmental anthropology, in fact, ecological restoration shows a number of attractive characters: it inherently questions and challenges simple assumptions about the straightforward “nature of nature”; as other scientific practices, it rests on a negotiated and conventional set of definitions and praxes daily enacted by certain categories of expert professionals; it stands in close connection with bureaucratic and political élites, thus representing a good testing ground for the influence of ecological discourse on policy-makers; finally, it constitutes a valuable window to project the social study of wetlands into the future, both because restoration activities can be expected to increase in magnitude and frequency over the next years, and because the survival of wetland ecosystems altogether also depends on the success of those very projects. Furthermore, once we started directing our attention towards that field, we could appreciate how ongoing or upcoming wetland restoration attempts have been conceived in the context of integrated management plans regarding the entire Po watershed: another instance where the issue of wetlands appears inextricably entangled with a larger perspective of water management and governance.

In the light of such considerations, therefore, we opted to offer, in the second section of the study, an excursus on contemporary Italian water management, focusing in particular on the integrated themes of wetland restoration and catchment-level planning. It is with respects to this part of the research – which benefited from ethnographic interviews and on-site reconnaissance, as well as document and discourse analysis – that we decided to openly include into our perspective the small municipality of Casalmaggiore, situated not far from Parma but within the Lombard province of Cremona, on the northern bank of the river Po (also see Appendix 2: “Po Plain, Po catchment and Casalmaggiore”). The reason for such an interest was
essentially motivated by the fact that one of the four pilot-projects of wetland restoration proposed in the Po watershed context had actually been submitted and presented by the town administration of the municipality in question. In this sense, then, we deemed that focus on that local context would have availed the study, by offering a closer and more grounded insight into one of those experiments of ecological restoration, which we actually had identified as emblematic and most promising analytical loci.

Consequently, in order to enhance the internal continuity and coherence of the presentation, we saw as a good option to include Casalmaggiore also into our history of reclamations in the Po Plain, possibly making it the very epicentre and focal point of that overview. Above all other considerations, indeed, a similar move could have constituted a valuable way for better articulating macro and micro perspectives – whose importance we emphasized before – and structuring the whole study around a strong sense of place and locality. Unfortunately, in the end, this ambitious plan has proven not fully viable. This has been mainly due to the fairly anomalous history of Casalmaggiore in the reclamation panorama, the lack of sufficient primary sources for informing such a locally-bound historiography, and, hanging over all other reasons, pressing time constraints. Although, eventually, we could weave but a minimal fraction of our overall historiographical effort around the township of Casalmaggiore and its region (commonly named “the Casalasco”), we decided nonetheless to still include them, whenever possible, as referents of concrete exemplifications and instances.

Summing up what has just been exposed, we can finally delineate with good precision the borders and goals of the present study. As already foreshadowed, it is configured as consisting of two main parts, or thematic blocks. The first one is dedicated to a diachronic overview of the practices of land reclamation and water management in the Po Plain since the Roman Age until the times of fascism and the Second World War. The historical perspective we have tried to outline lies quite far from a chronological sequence of data and events. Rejecting the deterministic views that seem still dominant in Italian historiography, and want reclamation to have merely represented an ineludible response to demographic factors on the one hand, and scarcity of arable land throughout the Italian peninsula on the other, it rather attempts at digging deeper behind the massive phenomenon of land reclamation in the
Plain, and analyzing it in all its complex articulations. Especially, it is conceived as an attempt to investigate such questions as: what did motivate, over the centuries, the numerous land reclamations in the Po Plain? Where did they find their symbolic and discursive legitimacy? Who did promote them? Whom did they benefit? Are specific trends or threads of continuity identifiable? What is the overall “meaning” and function of the territorial transformation known as “reclamation”? What does it tell us about human-environmental dynamics?

The second section, instead, is dedicated to the issue of wetland management within the Po Plain in recent and contemporary times. Special attention is given to institutional policies and organizations for the governance of water; the impact of new forms of planning, which affect ever-larger territorial units, until including the whole catchment area of the river Po; and to the increasing popularity of projects of ecological restoration and rehabilitation as a new frontier in watershed management, and wetlands’ significations. In particular, the section is intended to tackle – largely recurring to the ethnographic method – such questions as: what has been the impact of ecological science and environmentalism on contemporary territorial planning in the Po Plain? How do bureaucrats think of nature and its relationship to anthropic activity? What is the conception of nature that subtends these forms of environmental planning and the practice of ecological restoration? Can it be actually considered a radical departure from earlier modernistic outlooks? And likewise, can wetland restorations be seen as an opposite equivalent to the earlier reclamations, a sort of anti-reclamation trend and “return of the wet”? Are there significant differences in the models of territoriality embodied by reclamation on the one hand, and ecological restoration on the other?

It is our conviction that the approach just delineated stands out – at least to some extent – for introducing some elements of novelty into the study of reclamation and wetlands in the Italian context. It has been remarked that, despite its prominence and fundamental importance, the “epos” of Italian reclamation has largely been removed from the most established portraits of national history (Bevilacqua and Rossi-Doria 1984: pp. 56-57). The remark appears rather appropriate, and investigating the causes of such a lack in official representations would actually constitute an extremely interesting subject of inquiry in itself. The scale of the removal seems to have affected, for a long time, also the social sciences. To our knowledge, basically no contribution outside traditional historiography has touched on the subject of
reclamation this far, or tried to interpret and assess its significance in the country’s history beyond trite deterministic and modernistic conceptual schemes. The present study, albeit admittedly incomplete and just embryonic, is also intended as a first, preliminary step in the direction of compensating that deficiency.

Secondly, an additional element of innovation can be claimed in regard to the focus of our ethnographic investigation. Differently from previous ethnographies of wetland locations, in fact, and their debt to the past and “disappearing cultures”, it is our aspiration, within this research, to lean forward over the future. Also in this sense, is to be read the programmatic choice to make the experience of wetland restoration a significant part of our analysis. It constitutes, in fact, an attempt to explore a new theme in anthropological literature, until now neglected; to increase interdisciplinary exchanges between the social and natural sciences, at the same time offering another ethnographic portrait of techno-science in practice, in the consolidated tradition of the sociology of science (Latour and Woolgar 1979); to establish an ideal link, finally, between the wetlands of today and those of tomorrow.

**On narration and data collection**

The study here presented is the fruit of almost one year of intensive fieldwork carried out in Italy, mostly between Bologna – whose University libraries proved most valuable sources of documentation and texts on the history of land reclamation – and Casalmaggiore. From another perspective, however, the present study is also the outcome of the different theoretical approaches, which we attempted to conciliate and merge: anthropology, human geography, philosophy, environmental history, and analysis of policies and governance.

Anthropological theory and its current outlooks on the study of human-environmental relationships – as we already partly reviewed them – constituted the solid conceptual backbone of our inquiry. Besides that, nonetheless, we were also induced to significantly borrow (as it will be better motivated below), and apply throughout our inquiry in the overall, the analytical language and heuristic tools of some strands in human geography and the history of philosophy. Policy and governance analysis, moreover, represented a valuable general framework, in which
to contextualize the last part of the study, pivoting on contemporary water management schemes and restoration practices. A historiographical perspective, finally, provided *in primis* a “genre” of reference, somehow replacing ethnography “as a way of writing”. The final product, indeed, certainly resembles more, in its narrative construction, an environmental history (as we have come to know the genre, especially through the works of Cronon and Worster), than a “wetland’s ethnography” of the kind as those previously reviewed. This, in spite of the all the same substantial importance of participant observation and ethnographic inquiry as *methods* in the course of our research (for the distinction, see, for example, Wolcott 1999). In delineating the exposition of our study as a historical narration, we consciously made a theoretical – even before than methodological – choice to underline the elements of continuity, which could be individuated almost as underlying threads even across the centuries. We took a similar stance, it should be pointed out, certainly not in order to propose retrospectively modern – or modernistic – readings on the past, but rather to tease out, unpack, and emphasize the living endurance, the persistence, the influence on the present of the past itself.

As to the activity of data-gathering *per se*, for most aspects, we followed the old adagio that “for an ethnographer *any* document that proves valuable as a source of information can rightfully be considered an archive” (*ibid*: p. 59, italics in original). Of that archival inquiry, bibliographical research and investigation certainly represented a very large share, also on the basis of a twofold motivation. Firstly, not being especially motivated to accurately reconstruct any specific local history or individual biography in particular, we were able to refer to the numerous and often excellent contributions already existing, for effectively reconstructing the diachronic unfolding of the Po Plain’s land reclamations, in their general lines. Secondly, given the strong relevance that discourses and their analysis appeared to hold for our research, by so doing we could, so to say, catch two different aspects in one stroke. The study of that historiographical literature, in fact, often turned into a sort of meta-analysis, whereby, besides historical “facts” themselves, the focus of inquiry was also placed on their *representation*, their discursive rendering, and the ideological and conceptual outlooks that arguably subtend them. In fewer but still not negligible instances, moreover, and especially when required by a critical assessment of discursive formations, we extended our investigation beyond that body of existing literature, to embrace primary sources themselves. Particularly in the last part of the
study, finally, our text analysis perspective also included, as a fundamental component, programmatic, administrative, and divulgatory documentation, relative to ecologist groups, policy-making authorities, water management agencies.

The last part of the study, as foreshadowed, also benefited from participant observation – in the concrete guise of reconnaissance visits to the site of Casalmaggiore in particular, but also other relevant institutional organisms relevant to the ambit of research – and ethnographic interviews. The latter ones were conceived as unstructured – although mildly piloted around a few leading questions and lines of inquiry – face-to-face conversations with selected exponents of the local ecologically-oriented scientific and administrative élites. Recorded conversations – each of which preceded by another meeting, or, in one case, lengthy phone presentation – were altogether three, adding up, however, to several hours of recorded material, given the availability of all informants to remarkably long interactions. The informants selected and thus interviewed were:

- Andrea Agapito Ludovici, biologist, and responsible for WWF Italia’s water programme;
- Christian Farioli, forester, technician for the Po Catchment Authority with particular competences on ecological restoration projects;
- Uber Ferrari, agronomist, head of Casalmaggiore Township’s Office for the Environment, and supervising the restoration project proposed by that township.

The informants were selected so as to represent the scientific outlooks of militant ecologists, policy-makers, and administrators. Combining an exponent of the Po Catchment Authority and one of Casalmaggiore’s local government, furthermore, looked especially promising, representing the two extremes of a same territorial scale (in which the catchment authority is the largest, municipalities the smallest units of planning and administration), and being the two cooperating around the project of ecological restoration, which we have mentioned.

Certainly, it could be easily pointed out that the interview sample selected may hardly be representative of larger realities, skewed as it is towards representatives of certain social stances and categories. It stringently reflects, however, both the personal interests of who writes for contemporary institutional environmental discourses, policies, and methods of governance, and the theoretical inclinations of
the present work at large, which, as we will shortly see, through the concept of territory makes of the political one of its pivotal foci of interpretation and inquiry.

**Beyond objectifications and dualisms:**

*The new ontological and epistemological foundations of human-environmental studies*

We briefly spoke in an earlier chapter of the critical dissatisfaction of new environmental anthropology with the Cartesian epistemic paradigm, and of the efforts made to actually overcome it. We also made mention, in that context, of the difficulties still encountered in turning the fruitfulness of such conceptual orientations into an effective methodological and analytical guideline. It is now time to spend some words in that regard, especially in reference to what implications the issue can have for the present study.

Environmental anthropology and comparative ethnography, we said, have been able to reinforce their critique with significant empirical and experiential substance, and there certainly lies one of its fundamental achievements and novelties. Dissatisfaction with the dualistic and ambiguous character of the modernistic philosophical building, however, is known to have long preceded these fairly recent efforts. It has represented a more or less continuous thread in Western thought, indeed, at least to the times of Husserl’s phenomenological school, until even becoming a theme for pop culture and cult literature (enough to think, above all, to Robert Pirsig’s best-selling and widely celebrated *Zen and the Art of Motorcycle Maintenance*). Within anthropology itself, Bateson’s systemic vision (2000) arguably provided an early and highly original attempt to move beyond the model of Cartesian dichotomizations.

The refutation of modernism, Cartesianism, and their philosophical assumptions also found an exhaustive and persuasive formulation since the late 1970s, in the work of French scholar Edgar Morin. It is probably worth of notice to recall that, even

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10 For brevity and simplicity’s sake, we will refer to the synthetic presentation offered in the collection of lectures and articles *Introduzione al Pensiero Complesso* (Morin 1993), and more precisely to the 1976 article “Tracciato e disegno”, there included (pp. 13-55). For a more detailed insight into Morin’s thought and ideas, instead, see 1977, 1980, and 1986.
before establishing himself as a world-leading epistemologist, Morin’s own career had actually begun in the field of social anthropology, authoring one of the very first ethnographic studies of contemporary French society (1967). And the work of Morin on epistemology itself, probably not so accidentally, did in fact anticipate a large number of themes and insights developed by later anthropology or anthropologically-oriented studies – from the redefinition of the triangular relation between ideology, science, and politics, to the sharp criticism of the binomial and reductionist character of the Cartesian epistemic paradigm. As much as Bateson, moreover, also Morin did largely draw on the new outlooks brought about by cybernetics and system theory in his approach, which culminated with the notion of “complexity” or “complex thought”. But differently from the homeostatic natural world of Bateson (Dove and Carpenter 2008: p. 60), Morin’s complex cosmos – while certainly showing a tendency to self-organization, such as expressed in the emergence of life itself – preponderantly remained “not a perfect machine, but rather a process on the way to disintegration”, a cosmos where ideas “of muddle, of entanglement, of disorder, of ambiguity, of uncertainty” are inexorably implied (1993: pp. 10-11).

A few passages in particular stand out for effectively illustrating and condensing Morin’s critique of the Cartesian conception, and its factitious dichotomy between res cogitans and res extensa11:

[...] western science has been founded on the positivistic elimination of the subject, according to the conception that objects, existing independently from the subject itself, can be observed and explained as such. [...] The subject is excluded, as perturbation or noise, precisely because it is not describable in accordance to the criteria of objectivism. [...] Expelled by science, however, the subject gets its revenge in morals, in metaphysics, in ideology. In ideological terms, it is the basis of humanism [...]. In moral terms, it is the indispensable site for any ethics. In metaphysical terms, it is the ultimate or originary reality that reflects the object as a pale ghost or, in the best hypothesis, a miserable mirror of the structures of our intellect.

In all these fields, gloriously or infamously, implicitly or openly, the subject has been transcendentalized. [...] To the positivistic elimination of the subject responds, on the other pole, the metaphysical elimination of the object; the objective world dissolves in the subject that thinks it. (Morin 1993: pp. 37-38)

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11 “[...] la scienza occidentale si è fondata sull’eliminazione positivista del soggetto sulla base dell’idea che gli oggetti, esistendo indipendentemente dal soggetto, potessero essere osservati e spiegati in quanto tali. [...] Il soggetto viene escluso, come perturbazione o come rumore, precisamente perché è indescrivibile secondo i criteri dell’oggettivismo. [...] Ma, scacciato dalla scienza, il soggetto si prende la rivincita nella morale, nella metafisica, nell’ideologia. In termini ideologici, è il supporto dell’umanesimo [...]. In termini morali, è la sede indispensabile di ogni etica. In termini metafisici, è la realtà ultima o prima che rimanda l’oggetto come un pallido fantasma o, nella migliore delle ipotesi, un miserevole specchio delle strutture del nostro intelletto. Su tutti questi versanti, gloriosamente o vergognosamente, implicitamente o apertamente, il soggetto è stato trascendentalizzato. [...] All’eliminazione positivista del soggetto corrisponde, all’altro polo, l’eliminazione metafisica dell’oggetto; il mondo oggettivo si dissolve nel soggetto che lo pensa”.

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In this context, it could also be interesting to briefly draw a parallel with the ethnographic practice, and its evolution in the last three decades. In the so-called “self-reflexive twist” that revolutionized ethnography since the 1980s, in fact, can be identified the first, manifest symptoms of anthropology’s dissatisfaction with the positivistic ideology that had informed the discipline since the times of Malinowski and Radcliffe-Brown. Whereas, as Layton remarks,

Classic ethnography sought to separate the writer from the people (s)he was writing, to separate the subjective experiences of the anthropologist from the ‘objective referent of the text’ (Layton 1997: p. 211)

the reflexive approach to ethnographic writing

[...] locates cultural interpretations in many sorts of reciprocal contexts, and it obliges writers to find diverse ways of rendering negotiated realities as multisubjective, power-laden, and incongruent. In this view culture is always relational, an inscription of communicative processes that exist, historically, between subjects [...]. (Clifford 1986a: p. 15, my emphasis)

And although such a twist admittedly stemmed from a wholly different philosophical and theoretical tradition – post-modernism, post-structuralism – it is worth recalling how ideas on the reflexive and relational character of any analytical effort also found an earlier proponent in Morin:

Epistemology needs to find a point of view that can consider our own cognition as an object of cognition, that is, a meta-viewpoint [...]. At the same time, such a meta-viewpoint must enable the critical self-awareness of cognition, also enriching the reflexivity of the knowing subject. (Morin 1993: p. 43)

This theory presupposes and explicates an ontology that not only poses the accent on relationship at expense of substance, but does also place emphasis on the emergences and interferences, as constitutive phenomena of the object. (ibid: pp. 47-48)

Undeniably, in virtue of their encompassing and highly anticipatory qualities, persuasive argumentations, and insightful criticisms, the formulations of Edgar Morin are still able to exercise a strong appeal. They provide an exhaustive and pervasive framework, indeed, for recasting the urgent epistemological and ontological debates on “the nature of nature”, society, scientific knowledge, and their reciprocal articulations, which have more recently traversed the discipline of anthropology. An overwhelming, ineludible question, nevertheless, remains, that is, how to effectively turn such perspectives into an actual new-scientific practice. In sum: what would embracing Morin’s paradigm of complexity entail at a grounded, methodological

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12 “L’epistemologia ha bisogno di trovare un punto di vista che possa considerare la nostra stessa conoscenza come oggetto di conoscenza, vale a dire un meta-punto di vista [...]. Contemporaneamente, questo meta-punto di vista deve permettere l’auto-considerazione critica della conoscenza, arricchendo nello stesso tempo la riflessività del soggetto conoscente”.

“Questa teoria presuppone ed esplicita un’ontologia che non solo pone l’accento sulla relazione a scapito della sostanza, ma pone anche l’accento sulle emergenze, le interferenze, come fenomeni costitutivi dell’oggetto”.

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level, besides the often and loudly invoked move to a truly inter-disciplinary approach (for example, 1993: pp. 7-8)? How to transpose into the very fabrics of any analytical effort – including the present one – the conceptual and theoretical shift from a substantial to a relational ontology? Would it provide a way out of the familiar and yet irreconcilable perspectives of (natural) realism and (subjective) idealism, which, under the guises of environmental determinism and cultural relativism, still dominate most approaches to the study of human-environmental relations (Descola and Pálsson 1996: pp. 11-12; Latour 1995)? Would it offer a viable mean, in the end, for reframing and solving the central issue of present-day environmental anthropology, that is, the antiquated and misleading nature-society divide?

A valuable effort to translate a non-substantial and non-dualistic epistemology and ontology into an effective working methodology was provided by Latour (1995), whose cornerstone concept of “network” holds the strong practical advantage to be, in the author’s own words, “less rigid than that of system, more historical than that of structure, more empirical than that of complexity” (ibid: p. 14). Latour, essentially, advocates an anthropology of the contemporary world devoted to the “empirical study of networks” of humans and non-humans (ibid: p. 63), and their activities of “mediation” and “purification”. The excavation of such networks, in the first place, does unfold the processes by which hybrids and quasi-objects – “cyborgs” in Haraway’s terms (1991), i.e. hybridized, part natural/part cultural objects/subjects, muddles of biology, techno-science, politics, etc. – are produced and have come to proliferate in Western modernity. Secondly, it does tease out the procedures of depuration and separation, by which the very process of hybrids production is occulted, things neatly redistributed between the domains of Nature and Society, and the separation of powers between the two Houses reassessed\(^\text{13}\). Finally, it explores the conventions that subtend the construction and assembling of “our human collectives and the non-humans that surround them” (Latour 1995: p. 129). Rather than perpetuating a notion of multiple cultures as different representations of a single nature – which, in its transcendence, represents the ultimate source of truth that only our Science has the faculty to grasp – the delusion of “mononaturalism” would be abandoned (2004: pp. 29, 33), thus finally granting internal coherence and symmetry

\(^{13}\text{The experience of the laboratory, which creates man-made events in order to successively conceal the human and social interference and present them as self-occurring natural laws, clearly represents a paradigmatic example of the networks’ actions of mediation and depuration}\)

An interesting reworking of Latour’s conceptual approach, introducing elements of high relevance also for our own research, is presented by Swyngedouw (1999). Not only does Swyngedouw sketch some useful guidelines “for undertaking the archaeology” of socio-natural quasi-objects (p. 448) – in the specific case of his study, Spain’s modern waterscape. While all of Latour’s attention for hybridization and natures-cultures networks in their maze-like character is retained, Swyngedouw does also heavily rely on Smith’s analysis of the construction of space as a by-product of labour and human activity (1984), thus better emphasizing their placement in a process of historical and geographical production (pp. 446-447). In this sense, then, Swyngedouw’s can be seen as a successful proposal to effectively enrich Latour’s own approach to natures-cultures networks and their study, with an additional spatial dimension, partly overlooked in the original model (in regard to Latour’s neglect for “place and place-based practices”, see also A. Escobar 1999: p. 14).

Similar considerations and insights have brought us fairly close, in the end, to a preliminary definition of the theoretical framework and approach that will also inform the present study. The previously sketched “anthropology of networks” advanced by Latour, and the spatial re-elaboration foreshadowed by Swyngedouw, certainly represent very close models for comparison and inspiration. Especially, they stand out for their aspiration to uphold a non-essentialist, relational, and process-oriented view of nature-society interactions, and ability to translate into a viable empirical practice the study of that “web of facts, actions, interactions, retroactions, determinations, uncertainties” which, in Morin’s words, constitute the very stuff of complexity (1993: 10). Furthermore, equally in line with Morin’s own sharp critique of academic compartmentalisations, as well as with more recent exhortations at cutting across scientific boundaries (for example, Biersack 2006), the study in question will be configured as a markedly interdisciplinary enterprise. In particular, a conscious attempt will be made to blend anthropology, history, and geography into a single coherent approach, applied to the first part of the research. Frequent references to policy analysis, and environmental and ecological science, furthermore, will complete the theoretical picture in the second section.
In the next subchapter, through a critical review of the concepts and terms that we will choose to employ throughout our analysis, we will delve even deeper in defining and delineating the theoretical guidelines that inform the present study.

**A discussion of words:**

*nature, environment, territory and landscape*

*in a critical perspective*

Rather than an idle and self-important exercise at creating fictitious distinctions, the following excursus – entirely aimed at defining a coherent set of working terms – is substantially motivated by three main reasons. Firstly, the very fact of merging and integrating different disciplines and traditions, each of which armed and equipped with its own instruments and analytical tools, sometimes in mutual contradiction, sometimes redundantly overlapping, imposes terminology as an ineludible issue to face. Secondly, it is our pressing concern to avoid the danger of inadvertently falling into the same pitfalls, which we attempted to avert in the elaboration of a non-dualistic, non-reifying, non-essentialist theoretical approach. In this sense, then, also the appropriation of words employed nearly as equivalent in common practice, comes to appear as a non-neutral choice, but riddled with meanings, risks, and implications. Third, in so doing, we will have the opportunity to further clarify and dig deeper into some of the epistemic problems that we reviewed in the previous pages.

We feel rather inclined to agree with Hornborg, as he establishes a connection between contextualism and monistic epistemology on the one hand, and Cartesian dualism and the tendency at “disembedding”, at abstracting subjects/objects from that network of relationships which forms their “context”, on the other (1996: p. 51). The link between dualism, modern science, and the “removal of the context”, after all, accompanied the modernist project even since its dawn, which largely coincided with the emergence “of new ways of seeing” (A. Escobar 1999: p. 6).¹⁴

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¹⁴ Severing and isolating a handpicked object from its surrounding context, indeed, was the essence of the pictorial revolution of linear perspective. But linear perspective went even farther in defining and reinforcing the a-contextual scopic regime of modernity: it reified those handpicked objects within a representational frame, which symbolically and practically separated and excluded the subject, and annihilated the relational and positional character of the spectator’s gaze, which became detached and wholly independent of her standpoint (Panofsky 1961: pp. 38-40). In this regard, it is also noteworthy...
Since its very genealogy, then, the problem of modernism and its most spectacular debacles has been one of lack of attention for the contextual placement of things, of privileging single elements and discrete units, taken in isolation from their surroundings and relational webs. In this sense, it appears notable how the environment itself, the “world of nature”, has most often constituted an instance of such a poorly neglected and overlooked contextual frame (Gambino 1997: p. 16). This way, indeed, can be read and explained the ruinous failure of several projects and schemes, which were thought possible to be linearly imported from one to another environmental setting, disregarding all considerations of their inherent differences and specificities (in this respect, see especially Scott 1998; and also Giblett 1996: pp. 220-222, in narrower reference to setbacks in imperialistic wars, due to not accounted environmental conditions).

Also on the wake of similar considerations, we feel the urge to adopt an outlook and terminological set that are not only apt to convey the anti-essentialist and process-oriented view we outlined above, but do also succeed in re-establishing the idea of the subject-context, organism-environment interrelationship, as the fundamental and inseparable unit of a monist conception. Notably, the point was long anticipated by Bateson, who, in his criticism of Darwinian biology and evolutionary theory, got to remark:

> Darwin proposed a theory of natural selection and evolution in which the unit of survival was either the family line or the species or subspecies or something of the sort. But today it is quite obvious that this is not the unit of survival in the real biological world. The unit of survival is organism plus environment. We are learning by bitter experience that the organism which destroys its environment destroys itself.  
> (Bateson 2000: p. 491, italics in original)

Successively, drawing equally on anti-Darwinian “developmental biology” and on Gibson’s “ecological psychology”, Ingold reprised the same notion, underlining how both those approaches

> [...] take as their point of departure the developing organism-in-its-environment, as opposed to the self-contained individual confronting a world “out there”.  
> (Ingold 2000: p. 4)

And it is in the latter scholar’s conceptualization of the notion of “environment”, that we can find a first workable and valuable definition that is in syntony with the theoretical tenets exposed this far.

to draw attention on the striking similarities between similar tenets of linear perspective, and the modernistic “regime of the aquarium” outlined by Pálsson (2006).
The view of environment elaborated by Ingold results highly appealing for our purposes, in virtue of two essential reasons. Firstly, it displays those positional, contextual, relational characters, whose importance we earlier assessed:

[...] “environment” is a relative term – relative, that is, to the being whose environment it is. [...] Thus my environment is the world as it exists and takes on meaning in relation to me. (ibid: p. 20)

Secondly, in contrast to previous views of nature as something essentially external to human life and historical time, it is conceived as an intrinsically dynamic, ongoing, and wholly historical process:

If environments are forged through the activities of living beings, then so long as life goes on, they are continually under construction. [...] Thus when I spoke above of “organism plus environment” as an indivisible totality, I should have said that this totality is not a bounded entity but a process in real time: a process, that is, of growth and development. [...] We tend to think of nature as external not only to humanity, [...] but also to history, as though the natural world provided an enduring backdrop to the conduct of human affairs. Yet environments, since they continuously come into being in the process of our lives – since we shape them as they shape us – are themselves fundamentally historical. (ibid)

On the ground of these characteristics and theoretical advantages, the so-defined notion of environment will inform the discussion and presentation developed in the following chapters, and will be preferred to the much more slippery term “nature”. It is difficult, in effect, to erase out and purge in a few sentences the centuries of history and ideological accretions that have accumulated in such a word. We can deconstruct the substantial ontology that subtended the institutions of Nature and Culture throughout the age of modernity, and accept to reconstruct natures-societies as the assembled collectives of non-humans and humans. But the weight of those two terms at the sides of hyphen will keep burdening. We can embrace a relational and fluid view of nature, but the word will still echo with a plethora of predetermined expectations, with the transcendental call of the primeval origins. It is the very “natural-ness” of nature (a theme that we will have a chance to better explore in the last section), which poses an unsurpassable problem. Because, by definition, it seems to give us no other choice but agreeing with K. Milton, when she argues that, as offshoot of the same natural nature, “a dam built by people is as natural as one built by beavers” (1996: p. 223). Or with Worster, as he recalls that, despite frequently neglected by history-writers, the glories and falls of human civilizations have necessarily occurred on the ground of nature (2005). But would this not just make abruptly crumble all the building that we tried to slowly and patiently erect throughout many pages?
Whatever treatment we try to reserve to it, nature keeps being loaded with the pretence and expectation to be natural. But as much as Milton does for nature, so also Ingold can claim, by very definition and semantics (the French environ), that “just as there can be no organism without an environment, so also there can be no environment without an organism” (2000: p. 20). But would the same statement be equally tenable, if we substituted “nature” for “environment”? No, it would just feel more “natural” to say that, without an organism, there can be nature nonetheless. Semantics and history do not simply vanish. And however recycled, refined, and redefined, the word “nature” still appears less apt to lend itself to a truly relational and contextual view, than to dissolve the whole living world, humanity included, into the all-encompassing epistemic tautology that “all that is real is natural; and all that is natural is real”. And it does so, in particular, as compared to the term “environment”, which, in contrast, does entail and rest on notions of “context” and “surroundings” in its very etymology. Privileging environment over nature thus appears as a sound and nearly obliged strategic choice: the former term inherently conveys the very outlook we have tried to establish and uphold, while the latter seems to remain inexorably, dramatically imbued with the same implications as we have attempted to deconstruct and vowed to avoid. Consequently, we will refer to environment rather than to nature throughout the following pages, and redefine the study of what Latour envisioned as “natures-cultures”, as human-environmental complexes, relations, interactions.

In return, however, we are left with the question of what will happen to nature, following its dismissal. Ingold conceives of nature, in distinction from environment, as the

[...] reality of the physical world of neutral objects apparent only to the detached, indifferent observer, and the latter [i.e. environment] reality for the world constituted in relation to the organism or person whose environment it is. Only for a subject that can totally disengage itself from its life in the world can reality for coincide with reality of. [...] It may be a feature of the human condition that we can switch back and forth between engagement and disengagement, between outward-directed action and inward-directed thought.

(Ingold 1992: p. 44, italics in original)

But that appears to be, in many relevant ways, no less than the “nature” of philosophical realism as subjected to the scientist’s scrutiny (see also Ingold 2000: p. 20). Which then means – also given, as Ingold himself seems to concede, that our ability to “switch back and forth between engagement and disengagement” represents an ultimate cognitive question (Hofstadter 1979) rather than a granted certainty – that it is also an ideology of nature, a discourse on nature charged with values, relations of
power, and broader implications, very far away from a mere “physical world of neutral objects”. And this is precisely the acceptation, which we will assign to “nature” – ideology, discourse, system of practices and of ideas: nature as virgin ground to be conquered and submitted by a civilizing crusade; nature as the scientific realm of “matters of fact”; nature as primeval naturalness; etc.

This far, then, we have introduced a distinction between the words “nature” and “environment”, preferring in common practice a definition of the latter, as more apt to sustain the theoretical perspective we have been developing. We are now going to elaborate on two additional notions, whose application will constitute a fundamental component to the present study, that is, “landscape” and “territory”. Coherently qualifying and distinguishing the two concepts, however, will turn out even harder than in the previous case. Partly, because both words are not seldom encountered as synonyms or even equivalents to environment in common practice. Partly, because they have mostly been developed within other disciplines – namely geography and its sub-branches – thus coming to pose all a series of theoretical issues at the very moment of their re-adaptation to a different intellectual framework. And partly, finally, also due to the nearly total lack of references to the latter notion – that is, territory – in anthropological literature. In effect, whereas such an imported concept as landscape has recently and rather rapidly found citizenship in the discipline’s daily vocabulary (see, for example, Ingold 2000; Lai 2000; Stewart and Strathern 2003; Hirsch and O’Hanlon 1995), the same cannot be said of territory, which remains confined within the domains of geography and politics, and no anthropologist has apparently felt the drive to adopt and adapt to her practice.15

It is curious to notice, however, how we were persuaded of the opportunity and necessity to adopt and develop that extra concept, precisely on the grounds of considerations expressed by a renowned anthropologist. In an already mentioned criticism moved to Latour, A. Escobar objects that the latter’s theory of “natures-cultures” networks overlooks important factors, such as “the relations of power among networks […] place and place-based practices” (1999: p. 14). Especially in the light of a structured approach that aims to be enriched by a stronger geographical and spatial dimension, we are keen to embrace a similar remark. And in this

15 The only notable exception we are aware of is offered in an article by A. Escobar (1998), where, however, problematic use and implications of the term are not passed under a systematic scrutiny, but rather taken as a given.
perspective, then, “territory” aptly comes to represent the keystone concept, by which the entangled themes of power, space, and place can be better incorporated into the analytical discourse.

The twin terms “territory” and “territoriality” have been presented as

[… the defining concepts of political geography in that they bring together the ideas of power and space […]. Territory and territoriality mutually presuppose one another. […] Territoriality is activity: the activity of defending, controlling, excluding, including; territory is the area whose content one seeks to control in these ways. (Cox 2002: p. 1, my italics)

The idea of territory, then, would be grounded on the cardinal notions of space and power – and that relationship would be so structurally tight, to even echo and be embedded, as Farinelli points out, in the word’s very etymology, as the effective synthesis of terra (land, earth) and terrore (terror) (2006: p. 69).

Also other takes on territoriality encountered in geographical literature rest on the same two pillars, although with varying degree of nuance. Thus, for example, Sack presents territoriality as “a spatial strategy to affect, influence, or control resources and people, by controlling area” (1986: p. 1). By posing the accent on “resources and people” rather than “area and its content”, such definition makes more explicit and draws attention onto the very important point that territorial activity is programmatically intended to affect and control human life’s no less than physical elements’ spatial allocation. The picture of space that comes out after including a similar territorial perspective, then, becomes deeply different from the one based on distances and metrical properties, typical of earlier positivistic geography. Rather, it is a model of space saturated with social relations, meanings, reasons, and highly conditioned by the exercise of power:

Territoriality points to the fact that human spatial relationships are not neutral. People do not just interact in space and move through space like billiard balls. Rather, human interaction, movement, and contact are also matter of transmitting energy and information in order to affect, influence, and control the ideas and actions of others and their access to resources. Human spatial relations are the result of influence and power. (Sack 1986: p. 26)

Still other definitions of territoriality shift the focus from power, exclusion, and spatial domain, to other dynamics, such as organization, communication, and labour (for example, Gambino 1997: p. 34). Following similar perspectives, then, the concept of territory comes to be identified with – or, at least, barely distinguished from – the very idea of “second, humanized, or socialized nature” (the equation is rather explicit in Turri 2002: pp. 14-16), recurrent in a number of approaches inspired by Marxist literature and political ecology (see also Biersack 2006). We are inclined to disagree with these sorts of views. Certainly, labour and organization play a pivotal
role in the establishment and continuous maintenance of the territory (Sack 1986: p. 19), and as such they constitute structural components of the latter. We reject, however, any pre-conceived and clearcut distinctions\(^\text{16}\) between a first and pristine, and a second and manipulated nature, as residuals of those ideologies of nature and theoretical inclinations we opted to avoid.

Harvard biologist Lewontin quite effectively describes “environment”, as “nature organised by an organism” (1982: p. 160). Following in this line, we would be disposed to say that territoriality is a form of such organization, a way for individuals and societies to organise and appropriate their environment. Such a view displays several points of convergence with a definition offered by Raffestin, according to which\(^\text{17}\)

Territoriality is […] the set of relations that societies, and obviously the people belonging to them, entertain with the physical and social environment in order to satisfy their own needs […]. Territoriality constitutes a relational model in evolution […]. (Raffestin 2005: p. 22)

It does also find elements of syntony with the view of territory foreshadowed – but not systematically developed – by A. Escobar:

The territory is seen as the space of effective appropriation of the ecosystem, that is, as those spaces used to satisfy community needs and for social and cultural development. […] Thus defined, the territory […] also embodies a community’s life project.

(A. Escobar 1998: p. 71, italics in original)

On the ground of all the considerations presented this far, then, a specific characterization of the concept of territory begins to emerge, one also capable of establishing and defining the analytic distinctions that separate territory from landscape and environment. Human territoriality, according to such an outlook, is a relation model which implies not only organization but also appropriation from the part of a human individual or collective agent. It entails not only perspectives of awareness and dwelling therein, but also “takes an act of will” (Sack 1986: p. 26), a display of plans and intentions. And, finally, in its character as a strategy of organization, appropriation, and, in sum, control, the territory is a project that explicates and constructs in- and out-bound relationships of power and hegemony.

We would like to draw some attention particularly on the last-mentioned element. Reference to such a conceptualization of territory, in fact, finally provides us with an

\(^{16}\) Distinctions which, despite their dualistic simplism, are anyways revealing increasingly fuzzy, problematic, and untenable, as it can be gathered from a critical reading of both Biersack (2006) and Smith (1984).

\(^{17}\) “Territorialità è […] l’insieme delle relazioni che le società, e naturalmente gli uomini che vi appartengono, intrattengono con l’ambiente fisico e sociale per soddisfare i loro bisogni […]. La territorialità costituisce un modello relazionale in evoluzione […].”
adequate analytical tool for incorporating and putting in a spatial context the important dimension which, admittedly, was still missing from our framework: namely, that of political power and its exercise. Notably, the interlink of power, space, and the exercise of the former within and over the latter, and the importance of considering territories not as containing areas but as integrated ensembles of “men and things”, had also been explored and established by Michel Foucault, through the notion of governmentality:

I do not think this is a matter of opposing things to men, but rather of showing that what government has to do with is not territory but rather a sort of complex of men and things. The things with which in this sense government is to be concerned are in fact men, but men in their relations, their links, their imbrication with those other things which are wealth, resources, means of subsistence, the territory with its specific qualities, climate, irrigation, fertility, etc. […] What counts essentially is this complex of men and things […].

(Foucault 1991: pp. 135-136)

Famously, Foucault also underlined that “space is fundamental in any exercise of power” (1986: p. 252). If we are to take that indication literally, however, the accent should be posed not so much on space as a blank surface upon which power and governmental goals are inscribed, as on the very spatial and geographical dimensions taken by the practices of “the conduct of conducts”18 (Huxley 2007: p. 191). And it is precisely on those dimensions that we can cast some light by adopting our conception of territory, and exploring the relations of power that subtended certain territories’ construction and diachronic evolution. In this perspective, then, we will generally conceive territories as spatial, power- and politics-driven coalesced forms of human-environmental government and organization. Similarly, we will chose to adopt and employ the expression territorial regime, as referring to how rationalities of government, as well as different production regimes (Gudeman 1992; Pálsson 2006), explicate in territories, also determining their construction and development.

If, as we have seen, many accounts agree in identifying the distinctive trait of the territory in the political, the same can safely be said of the visual in regard to landscape. Naveh, for instance, goes as far as to trace the “visual-aesthetic connotation of landscape” to the Bible and the Book of Psalms (1990: p. 3). More conventionally, the birth of the landscape is associated with the pictorial sensibilities that developed across Europe, from Italy to the Netherlands, between the 1400s and 1600s (Hirsch 1995: p. 2; Raffestin 2005: p. 63). It has been remarked, along those lines, that landscapes are necessarily “born inside and from the territory” (Gambi

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18 “Les conduire des conduits”, that is, the expression by which Foucault resumed and essentialized the act of government (1982: pp. 220-221).
1986: p. 208), after the representational intervention of the gaze, the way of seeing of a particular subject (Raffestin 2005: p. 10).

There is also another recurring theme, however, in landscape-related literature, besides the centrality of the visual and aesthetic factors. A number of authors from different backgrounds, indeed, have concurred in emphasizing the profoundly and inherently historical dimensions of the landscape, and, consequently, its nearly “textual” character. In the panorama of Italian geography, Lucio Gambi surely represented the most authoritative proponent of that outlook, repeatedly underlining how landscapes can be read as perceptible projections – although often incomplete – of societies’ structure, economic organization, political system, etc. (1981b). Still in the historically-oriented tradition of Gambi, Sereno describes landscape as “an ongoing process”, “a succession of stages” which “does not reach the climax” (1989: p. 183). Similar perspectives have been developed also inside of anthropology – Stewart and Strathern, for example, have noticed how the “landscape becomes a form of codification of history itself, seen from the viewpoints of personal expression and experience” (2003: p.1). And they have become particularly prominent also within the multidisciplinary approach known as historical ecology (Balée and Erickson 2006: pp. 1-2).

Within the anthropological tradition, however, it is Ingold who can likely be credited, again, for offering the most extensive review and analytical treatment to date of the landscape concept (2000). Also in Ingold’s take, time and duration remain fundamental elements. Thus, in virtue of its prominent historical dimension, the landscape is seen to represent an essential point “of topical contact between archaeology and anthropology” (ibid: p. 189; and also p. 208). Similarly, and in line with other considerations reported above, the landscape as an ongoing process and product of dwelling “is never complete”, “is perpetually under construction”, “is always in the nature of work in progress” (ibid: p. 199). Landscapes, then, come to be identified with a display of solid and perceptible features, generated and enduring over time, ”a pattern of activities ‘collapsed’ into an array of features” (ibid: p. 198). In the concept of landscape, consequently, all emphasis comes to be placed on perceptible form – the embodied form that the process of being-in-the-world progressively assumes – whereas in that of environment the focus was put on function and functional relationships (ibid: p. 193). Any pictorial, visual, or representational primacy in regard to landscape, on the other hand, is rather firmly rejected by Ingold,
on the ground that similar stances and the characterization of landscape primarily as a symbolic construct rest on and reiterate the criticized dualistic division “between inner and outer worlds – respectively of mind and matter, meaning and substance” *(ibid*: p. 191). Ingold’s landscape, on the contrary, is activity as much as it is form, is auditory as much as it is visual.

As revealed earlier, we do admittedly hold certain sympathy for the views of Tim Ingold, and, also in virtue of that, we are inclined to embrace most of his analysis and redefinition of the concept of landscape. We are forced to at least partially disagree, however, with respect to such a wholesale and unconditional rejection – apparently motivated by mainly ideological and philosophical priorities – of the visual as a prominent and characterizing aspect. We concur that the scopic element as grounding and defining principle of the landscape should not be uncritically universalized. Ingold’s brilliant and highly succinct own definition of landscape, nonetheless, does elicit a remark. If landscape, in fact, is “the world as it is known to those who dwell therein” via dwelling and engagement *(ibid*: p. 193), then it is hardly disputable that, at least in the Western world, the landscape is likely to become a strongly and mostly visual entity. Because that world, in effect, is known by and engaged with gazing or visually-based practices – such as painting, photography, and geography – rather than other means and senses (a similar view seems to be implicit also in Stewart and Strathern 2003: pp. 2-3). Rather than the visual-aesthetic foundations of the Western landscape *per se*, then, what actually should be target of caveats and criticism is the positivistic tradition that, in geography as elsewhere, concealed the activity of the gazing subject and the modalities of her gaze in the final representation, thus denying the act of seeing as a relational way of experiencing and engaging with the world, and pretending to establish the “totalitarianism of the eye” as the objective essence of the landscape’s reality (Raffestin 1997: pp. 132-133; and also Farinelli 2003: p. 56).

We have lingered considerably long on discussing issues of theory and method. We have done so, largely in the conviction that – contrarily to the empiricist tenet that holds framework and fact to be entirely disjointed from each other – there is a strong and necessary “self-reflexive relation between framework and object of analysis” (A. Escobar 1999: p. 25). As there can be no organism without environment, so there can be no subject of inquiry without methodological framework, because the former cannot be constituted without the latter. In the following pages, we will proceed to
weaving together all the threads that we have identified this far, in the attempt to successfully reconstruct the fabric of complexity around the long and winding history of wetlands and reclamation in the Po Valley.
Part II

Drawing Borders:
Land Reclamation in the Po Plain
Flat Horizons and Straight Lines:
A Brief Landscape Intermezzo

From the borders of the straight asphalt line designed by the already-Roman Via Emilia, or through the unwashed windows of the local trains that still trot parallel to the road, the attentive eye is immediately given a first and enduring taste of the flavour that the Po countryside has developed in the course of its long history. It is an unbroken and uninterrupted sequence of orderly fields and cultivations, which extends from the outskirts of the urban sprawl of Milan all the way eastwards to the Adriatic Sea, and expands in northerly direction until meeting the very roots of the Alps. But the visual order of this vast stretch of land – derived from the near-mathematical principles of Renaissance perspective and Cartesian grids – is, by design, best to be grasped and appreciated from a vantage point well elevated above the ground and the dust of streets, one that can disclose “the view of an absolute ruler” (Scott 1998: p. 57). Thus, observed from an airplane seat – as many times I was given opportunity to do – the Plain gets to display all its staggering and meticulously crafted qualities of geometry, linearity, regularity. They are especially evident in the straight design of its roads and canals; in the square form of the fields, whose monotony is occasionally interrupted by the emergence of a colonial house in their midst; in the rigid, grid-like patterns of colours and lines that draw with manifest precision the borders of the different crops and cultivations.

Perhaps surprisingly, the keyword here remains history. Because nothing else, but a conscious and far-ranging diachronic insight, could actually more aptly convey the deep sense of the morphology of that portion of countryside, and of the dramatic transformations that engendered it. According to geologists, the physical surface of the Plain took shape over a period of ca. thirty million years, as the outcome of a process of detritus sedimentation. The glacial and fluvial debris gradually filled the tectonic depression that had formed in consequence of the collision between the
European and African plaques, thus giving eventual birth to the flat lowlands that
stretch south of the Alps (Saltini 2005: p. 10). And it is this particular geomorphology
that would have favoured, in the following millennia, the evolution over the Plain of a
hydrographical network characterized by very frequent floods, continuously shifting
riverbeds, and enlarging depressions lying underneath the level of the waters (ibid:
pp. 15-20). All characters that inevitably favoured, in return, the formation of an
overwhelming myriad of valli – marshy hollows filled with stagnant waters, impaired
from discharging – all across the lowlands of the Po.

It is against such a backdrop that the history of the Plain’s agricultural landscape
should be conceived and assessed. And not as a way of celebrating once again – and
again uncritically – the emergence of a second, anthropic “nature” as an original and
peculiar cultural construct. We already know not only that any agricultural practice
entails by definition an active rearrangement of the environment, but also that even
the existence and endurance of wilderness as such ultimately relies on human choices
and relational patterns (Cronon 1996b: pp. 80-81): that is, it is not and cannot be
“pristine nature” without a culture. The focal point, rather, seems to lie in the accruing
scale and magnitude of the transformations that were induced over the centuries, and
on the highly tense models of human-environmental relations that fostered them.
Transformations that have substantially altered the structural qualities of the spaces in
question, decreeing the historical transition from an environment largely dominated
by wetlands and free-flowing waters, to a territorial configuration inherently based on
geometrical and “dry” space, inexorable regimentation of water fluxes, and the
programmatic expulsion from the solid land of that “wet”, hybrid element represented
by wetlands. In order to give an idea of the scale of the drainage operations that
invested the Po Plain in the course of its long history, we can recall a few figures
previously mentioned. We already said that, in fact, in 1992, the total area of land
reclaimed by drainages was reckoned to amount, at a national level, to some
5,223,996 ha, i.e. 17.5% of the entire Italian territory. It could be mentioned, at this
point, that almost two-thirds of these reclaimed surfaces are located in northern Italy,
that is, for the very most, within the Plain itself (Medici 1992: p. 125; see also
Appendix 3: “Quantitative trends in Italian land reclamations”).

Similar numbers surely place the case of the Po Plain as one of the most radical
and systematic instances of wetland drainage in the whole of Europe, and – we restate
the conviction – are hard to ponder and assess, if not in a diachronic perspective able
to contextualize, historicize, and account for the networked complexity of their unfolding. The following chapters are dedicated precisely to the pursuit of that aim. Inevitably, the overview will not possibly touch on all the innumerable issues and facets that have distinguished the millenarian history of land reclamation in the Po lowlands, nor to give a nearly exhaustive account of that very history. Simply, our priority will be to at least draw a first sketch of a hypothetical human-environmental history of the Po Plain vanished marshlands, in line with the theoretical guidelines we elaborated above.
Ancient Reclamations, Roman *Centuriationes*,
Modernistic Interpretations

It is a view shared by many that the season of land reclamations that will affect and shape the Po Valley throughout the centuries had in many ways been primed and anticipated already during antiquity, by hand of the Roman world and even of the italic populations which inhabited the peninsula in pre-Roman times. According to such views, land reclamation would have played a relatively significant role already for the Etrurians, among whom water and rhabdomancy also occupied an important cultual position (Bignardi 1969: pp. 294-295). And reclamation – for both “hygienic” and agrarian purposes – would have been somewhat of an inescapable exigency for the Romans themselves, who had to cope and come to terms with marshlands within the very borders of Rome (*ibid*: pp. 296-297).

That awareness of the artificial character – or, if it is preferred, the “constructed naturalness”, as Cicero already remarked – required by agricultural production was well spread among Roman agronomists appears indisputable. Columella above all, for instance, insisted on the necessity of the agricultural field to be *created* before it can be cultivated: only by drainage and ploughing could *rudis* or *silvestris* land be turned into and created as *cultus*¹ (*ibid*: p. 298). And equally indisputable is the existence and diffusin, in the Roman world, of a specific and highly structured model of territorial arrangement – known as *centuriatio* – aimed at the creation, allotment, and organization of an agrarian surface.

The practice of *centuriatio* undoubtedly stands as one of the features of agricultural Rome, which above others have caught the eye of later observers, and solicited modernistic readings of Italian agricultural development since its very inception. What the territorial model of *centuriatio* practically entailed was the

¹ The three terms respectively stand for “rough”, “woody”, and “cultivated”.
extreme geometrization and linearization of the landscape, the systematic and universal reproduction of a form which, as Sereni insightfully remarked, “even becomes the sign of the juridical condition of the defeated populations and conquered lands” (1999: p. 44). By centuriatio, in fact, it is intended the parcellation of an agricultural area – usually newly-conquered lands awaiting for colonization – into square allotments (named centuriae), of the equal and strictly standardized surface of 200 jugers\(^2\), whose borders were delimited by canals or roads. By the means of centuriatio, in sum, a tight orthogonal net of cardines and decumani\(^3\), intersecting at every 710 m ca., was superimposed onto a more varied and diversified landscape. Additional ditches ran parallel to the main axes, favouring the drainage of the marshy areas, and the irrigation of the fields (Calzolari 2000: pp. 398-399; Capogrossi Colognesi 1982: pp. 105-133).

Not surprisingly, the territorial arrangement deriving from centuriatio was also impressed upon the lowlands of the Po Plain, once the Roman colonization of the area at expense of the earlier Celtic settlers had been completed\(^4\). We are told, indeed, that having achieved uncontested domination over the lands of North Italy enabled the Roman government to undertake, starting already in the 2\(^{nd}\) century BC, an extensive enterprise of territorial planning and reorganization, coordinated by newly-founded urban centres and entailing a massive deployment of energies, which eventually translated into the emergence – by means of centuriationes and structural works of hydraulic defence – of a new “reclamation landscape” that arrived to touch on the very lands in closest proximity to the Po River (Calzolari 2000: p. 385).

It has been precisely the millenarian endurance of land arrangements and landscape features impressed by the Romans’ interventions onto different areas of the Po Valley (Calzolari 2000: p. 384; Cazzola 1989a: pp. 225-226; Sereni 1999: pp. 50-52), joined with the intents of radical rationalization and the conception of a strictly geometric and functional space that seem to subend the model of centuriatio, what in many cases has lead historians and analysts towards a\(^5\)

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2 Corresponding to ca. 50,4 ha.
3 Respectively north-to-south and east-to-west transportation axes.
4 The foundation of the colony of Ariminum (Rimini) in 268 BC and the victory on the Celts at the battle of Castidium (Casteggio) are pointed at as the defining initial and conclusive moments of that process of conquest (Bottazzi 2000: 397; Calzolari 2000: p. 381).
5 “[Solo la] interpretazione modernistica delle strutture agrarie antiche ha generato nella mentalità corrente l’idea che tutti gli spazi acquitrinosi fossero stati da sempre soggetti ad accaniti lavori di bonifica”.
modernistic interpretation of ancient agrarian structures, which has fostered in contemporary mentality the idea that all wetland areas had always been subjected to obstinate reclamation works. (Traina 1988: p. 16)

An ideological reading and interpretation that would have often produced an excessively idealized picture of the Roman world “as an era of agrarian rationalism, where modern economists found a model or at least a comparison” (ibid) and ended up offering “yet another almost ‘mythological’ characterization of the Roman world: that of the Roman reclaimer” (Traina 1990: p. 44). Similar caveats are not intended to deny altogether the relevance of irrigation, land drainage, and other rationalization practices and technical innovations as important elements in Roman, and more generally ancient agriculture (Traina 1988: pp. 16, 109). What is objected, rather, is their later overplaying and modernistic rendering, directed to reinforce a substantially ungrounded and misleading view of the classic world as “committed to ‘integral’ reclamations in the modern sense” (ibid: p. 109; and also 1989: p. 44).

The prominence and primacy of Roman hydraulic technology has actually been solidly attested in regard to spring captations, dykes, and both tunnelled and elevated aqueducts (Lombardi 2003: p. 259). Not the least, its very advanced stage of development is also testified by the treatises of the time, and in primis by the attention and strikingly foresighted considerations reserved to aqueducts management and maintenance in Frontinus’ exemplary text (2004). It has been legitimately pointed out, on the other hand, that technical limitations were more evident and pressing for what pertains to land reclamation and river embankments, and often hindered the scale and magnitude of the territorial interventions the Roman colonizers could engage with.

It is undeniable that a deep and eminently ideological sentiment of aversion towards wetlands and other marginal areas, not directly exploitable for agricultural purposes, was already vastly spread in the classic world. Thus, the *boukolos*, i.e. the brutal and uncivilized shepherd inhabiting the mountainous and marshy regions at both the geographic and symbolic borders of society and history, became a literary trope, in every sense analogous to the modern “villain” (Traina 1988: p. 25). Similarly, already in the 1st century BC, Varro explicitly advised the farm to be implanted away from marshlands and their pestilences (1947: 1.11.2). Such stances – as well as other declarations of opposition and defiance against a hostile and untameable environment encountered in classic literature – however, mostly remained confined to an essentially ideal and nominal level, and seldom found an
implementation as “actual actions on the territory” (Traina 1988: p. 26), largely because of the technical limitations of the time. As Wickham remarks, in fact,

many of the Italian rivers were anyway untameable with Roman techniques. The Po plain was never cleared of swamp and scrub woodland. [..] Roman settlement tended to avoid valley-bottoms, and seems to have been normally thickest in the upper plains and hills on the edges of mountain country (Wickham 1981: pp. 12-13).

Therefore, while an ideal and totalizing refusal of the wetland was probably already well rooted in the urban conceptions of antiquity, the reality of everyday life must have been somehow quite different from that paradigm. Not only did the Roman interventions forcefully restrict themselves to the hydraulic control of only the least problematic areas – and in this sense, the fact that a term equivalent to the modern *bonifica* (whose first appearances in the documents date back to the 12th Century AD) was actually absent in the classical world (Traina 1988: p. 109) can be already quite revealing. In the matter of facts, wetlands – whether officially accepted or not – did also continue to play an important role for rural economies (*ibid*: pp. 25, 49, 102-106; 1989: p. 43; and also Calzolari 1986: pp. 37-38), and to constitute an integral part of the landscape throughout the Roman Age, not the least in the Po Plain. Even within the strictly controlled and manipulated territories converted to *centuriatio*, indeed, patches of marshland and woodland could not be entirely eradicated – not even when anthropic control over the environment reached its apex during the Imperial Age – and had to keep coexisting with the nearby cultivated lands (Bottazzi 2000: p. 401).

The region of Casalmaggiore itself, in this sense, can be seen as representing a confirmation and emblematic instance of the limitations encountered by Roman reclamations and *centuriationes*. Although early Roman settlements were already present on the ground since the 3rd century BC (Bonaglia 1995: pp. 90-94), in fact, it has been pointed out that the “often-excessive and misplaced emphasis” put on the techniques of territorial rationalization employed by the Romans certainly could not apply to an area as refractory to interventions as the Casalasco (*ibid*: p. 88). In spite of a few attempts at reclaiming certain limited zones, therefore, the region was for the most left out of the process of *centuriatio* (Bertinelli Spotti 1996: p. 43), and remained “generally covered with swamps and marshes” and characterized by a form of economic exploitation mostly based on hunting, fishing, and gathering (Bonaglia 1995: p. 98).
In conclusion, then, it would seem licit to embrace a perspective according to which the influence and impact of Roman land reclamations get substantially reduced. There remains the fact, nonetheless, that throughout the times of the Empire, anthropic pressure on the regions of the Po Valley kept relatively high and capable to exercise at least a certain degree of territorial and environmental control. The demise of the Empire and the fall of the Roman world, in turn, fostered a period marked by the more scattered settlement patterns and profoundly different sustenance activities privileged by the Germanic invaders, which certainly contributed to favour a new advance of marshlands, scrublands, and “wild nature” across the Po Plain (Andreolli 2000: pp. 416-417) – although, admittedly, the extent of such mutations remains hard to quantify (Wickham 1981: p. 13).

A new agricultural era – of which reclamation and water management will constitute fundamental and enduring cornerstones even until the 20th century – however, loomed in the horizon. It was destined to begin already in the early Middle Ages: a revival that found in the new monastic orders born within Christianity some of its main promoters.
“Ora et Labora”:
Benedictine Monasticism and Land Reclamation

Since the first appearance of Lynn White’s influential and provocative paper, *The Historical Roots of Our Ecological Crisis* (1967), Christian cosmologies and worldviews have been put under fire by the attacks of environmentalists and ecologically-oriented scholars. The Old and the New Testament, as much as the readings to which they have been subjected since the foundation of the Church of Peter, have been repeatedly pointed at as the ultimate, deep sources of a typically Occidental pattern of human-environmental relationships that – many elements would seem to suggest – has eventually gone entirely astray.

White himself wrote of “the victory of Christianity over paganism” as “the greatest psychic revolution in the history of our culture” (1967: p. 11) – one meant to definitively reshape our relation with the physical world. Differently from all previous cults, in fact, Christianity "not only established a dualism of man and nature, but also insisted that it is God’s will that man exploit nature for his proper ends” (*ibid*). Furthermore, “by destroying pagan animism, Christianity made it possible to exploit nature in a mood of indifference to the feelings of natural objects” (*ibid*). Such a radically anthropocentric *weltanschaung* would have found its conceptual premises and justifications in those elements that more intimately characterize the Judeo-Christian cosmology, i.e. its notion of time as linear and non-repetitive, and its peculiar story of creation. A creation that was planned “explicitly for man’s benefit and rule”, as underlined by the fact that, by naming all the animals, man did actually establish “his dominance over them” (*ibid*). And indeed, in the Judeo-Christian view, it is a fact that “although man’s body is made of clay, he is not simply part of nature: he is made in God’s image” (*ibid*).

According to White, it was not even necessary to wait until the Modern Age or the 18th Century’s technological revolution for seeing in action the outcomes of the
spreading of similar conceptions, which step after step, in a handful of centuries, had turned prevailing over paganism across Europe. Already as early as the 7th Century AD, in fact,

[...] certain northern peasants were using an entirely new kind of plow, equipped with a vertical knife to cut the line of the furrow, a horizontal share to slice under the sod, and a moldboard to turn it over. The friction of this plow with the soil was so great that it normally required not two but eight oxen. It attacked the land with such violence that cross-plowing was not needed, and fields tended to be shaped in long strips. [...] Man's relation to the soil was profoundly changed. Formerly man had been part of nature; now he was the exploiter of nature. Nowhere else in the world did farmers develop any analogous agricultural implement. Is it coincidence that modern technology, with its ruthlessness toward nature, has so largely been produced by descendants of these peasants of northern Europe? (ibid: p. 10)

Following White's ground-breaking essay, attempts to relate modern and contemporary ecological issues and attitudes towards nature to the Christian foundations of the Western world have been numerous, sometimes insightful, in spite of a lingering tendency to univocal simplifications of what, on the contrary, present themselves as extremely complex and multi-faceted phenomena. Thus, in the first place, the fact cannot go unnoticed that the passages most frequently cited as proofs of a typically Christian exploitative and dominative relationship with nature, as well as the whole Biblical tale of creation, are part not of the New, but of the Old Testament, which inevitably leads one to wonder what is the actual place of the broader Judaic legacy, and what, instead, the specific weight and contribution of the actual teachings of Jesus and the action of His Church.

Secondly, although of course generalizations are often ineludible, it should be pointed out how any reference to Christianity as a monolithic and homogenous entity results by force vague and somehow misleading. Under the same label, in fact, are gathered an incredible multitude of religious and cultural manifestations, spanning

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6 Worster, for example, endorses Lynn White's view that Christianity “has maintained a calculated indifference, if not hostility towards nature” (1985: p. 27), and explicitly identifies with “objectivity” and “a technological or mechanistic picture of nature” the “gifts” brought about by Christian conceptions to the very birth and development of Western science (ibid: pp. 28-29). The same point is reprised by Groh and Groh, who also insist on Christian contributions to the formation – propelled not least by the notions of optimism and progress that more inherently characterize Protestantism and the Reformation – of a distinct “physic-teleological paradigm” (1990: p. 35), and a true “program of optimism”, whose apex was touched with Leibniz’s “best of the possible worlds” (ibid: p. 26).

7 Valid examples can be provided by the covenant, found in Genesis (1: 28), between God and the primeval couple Adam and Eve:

Be fruitful, multiply, fill the earth and conquer it. Be masters of the fish of the sea, the birds of the heaven and all living animals on earth

or the one (Genesis 9: 1-2), following the Flood, between God and Noah:

Be fruitful, multiply and fill the earth. Be the terror and dread of all the wild beasts and all the birds of heaven, of everything that crawls on the ground and all the fish of the sea; they are handed over to you. Every living and crawling thing shall provide food for you, no less than the foliage of plants.
over two millennia of history, and embracing as different geographical locations as
the grasslands of Ireland and the coasts of Anatolia – just to keep on European soil.
To additionally complicate things, moreover, there is the fact that, as Binde aptly
remarks (2001), even within the same Creed, that of the Roman Catholic Church, it is
possible to identify not just one and consensual, but at least three different attitudes to
and conceptualizations of “nature”. And not all of them are oriented towards absolute
mastery and domination – milder forms of cooperation and stewardship, that
acknowledge the environment’s vulnerability and its sensitivity to the activity of man,
and preach to act accordingly, being also present (Binde 2001: p. 18). Nor do they all
unanimously establish the clearcut, irreconcilable dualistic separation between man
and nature, mind and matter, which, more than anything else, would supposedly
characterize the Western world and set it apart from other extra-European societies
(ibid: pp. 21-22; see also Descola and Pálsson 1996: pp. 6-7).

Finally, it is to be stressed how incomplete and incautious might appear any
attempt that aims to definitively trace back the cultural and philosophical roots of the
techno-scientific thought characterizing Western modernity, without taking into any
account whatsoever the enormous ascendancy exercised on the latter by the Graeco-
Roman legacy. In the first place, in this sense, it is probably worth reminding how the
influence of the Classic writers on the protagonists of the Italian Renaissance – and
consequently, as already assessed, on the very foundations of Western modern
techno-scientific culture – has already been long established and taken as hardly
indisputable8. Similarly, it is probably licit to tribute the Greek and Classic world in
general with intuitions and innovations, whose impact on the following history of
ideas has probably revealed no lesser than the one produced by the advance of
Christianity itself. Thus, if the passage from a cyclical to a linear experience of time
and history is generally seen as an eminently Judeo-Christian revolution, the
authoritative analyses of Italian leading geographer Franco Farinelli attribute the
genesis of the modern geographical space – characterized by geometry, homogeneity,
continuity, and isotropy – already to the Greeks – first in the figure of Ulysses, then
123). In this sense, then, it appears at least easier to agree with Passmore, as he
opposes the view of an immediate and direct cause-effect relation between the

8 Panofsky, for example, explicitly insists on the Italian 1400s character as a “rinascimento dell-
antichità”, i.e. a renaissance of antiquity (1960: p. 205).
teachings of the Old Testament and the exploitative and manipulative attitudes towards nature typical of Western modernity, and substitutes the simple label “Christian tradition” with more nuanced and inclusive ones, such as “Graeco-Christian” or “Stoic-Christian” (1975: pp. 130-132).

Besides the long digression, it is evident that finding definitive confirmation or confutation to all theories that identify in some derivation of Christian thought the ultimate source of the ecological crisis challenging contemporary Western man lies well beyond the goals and the scope of the present work: we will gladly leave the task and the spotlight in the ongoing discussion to other and better ones. What remains relevant to our discussion, instead, is highlighting, on the ground of the ascertained and available historical records, what the direct influence of movements and ideologies originated at the heart of the Christian world has been in shaping the history of land reclamation in Italy, and in the construction of the country’s territory and agrarian landscape.

It has been pointed out that the millenarian adventure of land reclamation in the eastern part of the Po Valley has substantially known three main historical phases, three moments of acceleration: the first one, taking place between the 11th and 13th centuries; the second one, in the 16th century; and the last one, begun in the early 1800s and coming to embrace large part of the 20th century too (Cherubini 1996: p. 18). Christianity alone may not be deemed as the primary responsible for modern exploitative attitudes to nature. It seems a fact, however, that Christian monks – especially belonging to the Benedictine order – were one of the major driving forces behind that first grand period of reclamation – in Italy, and not there only.

Consensus among historians about the way the Italian Peninsula presented itself in the early 8th century, and entered the era commonly labelled as “High Middle Ages”, seems to be rather unequivocal. It was an environment that – although not entirely receded to the state of wilderness and “semi-primitiveness”, depicted by the ideological biases of the Illuministic tradition (Fumagalli 1985b: p. 97) – remained vastly dominated by incolto\(^9\), having the advance of woods, forests, and marshes had re-conquered large stretches of land (Chiappa Mauri 2002: p. 28; Wickham 1981: pp.

\(^9\) The term commonly used in Italian historiography to refer to all wild, uncultivated lands.
12-13). This applied with no exception also to the Casalasco area, “in large part submerged by water” and covered in woods (Ghinzelli 2001: p. 7).

The preponderance of uncultivated lands, however, and the fact that they heavily limited the agrarian economy of the High Middle Ages (Fumagalli 1985a: p. 15), should not be confused with total depopulation or lack of any anthropic activity in the woody and marshy regions of the Po Plain. Although sparse, in fact, rural settlements were not entirely absent, and the surroundings did actually sustain the possibility of subsistence and household-level economies, where the products of hunting, fishing, and gathering integrated and complemented the fruits of the sporadic agricultural work (Chiappa Mauri 2002: pp. 28-29). In this sense, a position of clear prominence was held by the wood, which – contrarily to the stereotype that wants the medieval man only feeding of the corn of the plains and starving at the borders of the forest – provided the peasants with a wealth of edible products and played a central role in the economic reality of the time (Andreolli 2002: pp. 123-124). But in such a sparse social and economic context, also wetlands did come to acquire a place of not secondary relevance. As Squatriti remarks:

Early medieval cultivators, and even landowners, made more intensive use of the wetlands and their erratic wealth of resources than their predecessors had. […] This outlook in effect normalized the wetlands. […] early medieval people assigned to them more prominent economic roles than they had had for centuries. […] in the wake of the Western Empire’s dissolution arable agriculture lost the primacy it had long enjoyed and the watery wilderness gained importance in food and other essentials’ production, as did the incolto generally. (Squatriti 1998: pp. 74-75)

Actually, it was precisely the opportunities offered by the marshy environment and the search for economic alternatives to agricultural work that attracted parts of the population to settle in the lowlands along the Po River, to make a living out of fishing, hunting, and pig-farming (Fumagalli 1985a: p. 98).

The state of things just depicted was destined to undergo profound alterations by the 1200s, the century that most historians identify as the turning moment for the transformation of the Italian landscape in an agrarian sense. To that period, in fact, date some daring attempts at land reclamation, from west to east of the Po Plain (Cherubini 1996: pp. 20-22), as well as the preoccupation to protect from the water the lands conquered, by regimenting and controlling the unpredictable course of the rivers through the reinforcement of embankments and other hydraulic works (Fumagalli 1985b: p. 107).
Although the activity of the 13th century did in effect represent an unprecedented peak, it should most appropriately be seen as the culmination of a trend of colonization of *incolto* already in action throughout the later part of the High Middle Ages (Fumagalli 1985a: p. 18). Documents testifying a constant combat with waterlogging and the methodical excavation of ditches, in fact, are relatively abundant already for the 9th and 10th centuries (Squatriti 1998: pp. 76-77). In spite of the geomorphological difficulties encountered, for instance, the presence of “*terre campivae*” (cultivated lands) surfacing in the region of Casalmaggiore is already mentioned in original documents prior to the 1000s (Guardigli and Stadiotti 1991: p. 13). Similarly, another anonymous document from roughly the same period attests the emerging practices of flood prevention and river waters control10.

Affirming that the Christian monks – and especially those adhering to the rule of St. Benedict – were the only and unique force behind this earlier phase of land reclamation and agrarian reconversion would probably be far-fetched and inexact. That they did represent “a determining pivot for the reorganization of the economy and the territory in the High Middle Ages” (Montanari 2002: p. 72), however, is an attested and well-supported claim (see also Andreolli 2000: pp. 420-421). What is left to establish, rather, is probably that through their action of domestication of the land in a sedentary and productive sense, the Benedictines became the artificers in a pan-European context of a cultural and economic revolution possibly comparable – for the magnitude of its implications and long-term consequences – to the one which Max Weber later attributed to the Protestant reformers of Northern Europe.

Some doubts and questions still surround the historical figure of St. Benedict from Norcia, and the writing of his influential Rule (Pricoco 1995: pp. XXX-XXXI). As for the text of the Rule itself, it was seemingly written over a period of time supposedly ranging from 530 and 560 (*ibid*: p. XXXV). Its diffusion appears to have been neither immediate nor linear: it was only after the 8th century, and largely through the intermediation of Columbanus and the movement of Irish monasticism, that it began to prevail over the other rules of the Christian Fathers (*ibid*: pp. XLIV-XLV). It must have been sufficiently well established, anyhow, by 817, i.e. the year of the Council

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10 Il marchese Bonifazio fu il primo a dar norma come diffendersi dai rispettivi fiumi del Mincio, Adda, Po come pure da tutti li altri fiumi di rapina per mezzo delle arginature, il che pure incominciosi a praticare anche da quelli di Casalmaggiore. *(Marquees Bonifazio was the first one to establish a norm of how to defend from the respective rivers Mincio, Adda, Po, as well as from all the other ones, by means of embankments, which also was begun to be done by those living in Casalmaggiore).*
of Aix-la-Chapelle for the restored Holy Roman Empire, where it was solemnly elected as “worth to be followed by all the religious of the West” (Ferrabino 1989: p. 9). The fact is that, already by the 9th century, the Benedictine influence over the agricultural and cultural life of all of Europe had begun to be immense.

Admittedly, chronicling with punctuality the many events and developments of Benedictine monasticism can represent an arduous task, given the lack of archival records of most monasteries – especially the smaller ones (Fasoli 1989: p. 97). In spite of the many gaps, however, it has been established how the Christian monks were a primary force behind the process of medieval land reclamation and cultivation in England (Darby 1956: p. 5; Jandolo 1989: p. 31), the Netherlands (Materné 1989: pp. 85-89), France, where the Benedictine work of reclamation was remembered by the historian Hippolyte Taine as “the grandest that history remembers” (cited in Jandolo 1989: p. 31), as well as the rest of Central Europe (Penco 1989: pp. 67-69). As for Italy itself, as well as for important works of reclamation and ploughing in the provinces of Verona, Milan, and Brescia (Chiappa Mauri 2002: p. 38), the Benedictine monks – and the most direct continuators of their tradition, the Cistercians – are credited with having primed the massive season of land reclamations that will affect also in the centuries to come the territories of Venice (Ciriacono 2006: p. 171), Nonantola and Modena (Fasoli 1989: pp. 102-105; Jandolo 1989: pp. 45-46), and Pomposa and Ferrara (Cazzola 1989b: pp. 101-102; Fasoli 1989: pp. 98-101; and Jandolo 1989: pp. 47, 49). The fundamental contribution of Christian monasticism to the works of reclamation and irrigation is attested also for the province of Cremona in the 11th century (Bertinelli Spotti 1996: p. 53; Chiappa Mauri 2002: p. 38), and some elements suggest it in regard to the Casalasco region too.

Although that remains the feat they are most renown for, the Benedictines did arguably not limit to undertaking important actions of land reclamation. They are also celebrated for their works of embankment and hydraulic defence, for having first introduced the practice of three-yearly crop rotation (Loffi 1996: p. 81; and also

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11 A document dating back to 835, for instance, refers that:


(As the island of Cicognara neighboured with the district of Casalmaggiore [the nuns of the convent of St. Giulia] acquired a small patch of land, which, inasmuch as they wanted to reduce it to cultivation as the one of Cicognara, had to be dug in order to divert the limy and noxious waters away from it).

12 Penco, for example, refers to those along the river Po and its tributaries, in the provinces of Piacenza, Parma, Modena, and Mantua (1989: p. 74).
Jandolo 1989: pp. 38-39), and for their entrepreneurial successes, already characterized in a proto-industrial and proto-capitalistic sense (Loffi 1996: p. 81). All elements, which have induced the claim that “only in the beginning of the 18th century another agronomic revolution will be seen, comparable to the Benedictine one” (ibid).

If the direct contribution of Christian monasticism to the conversion in an agricultural sense of the European and Italian landscape throughout the Middle Ages is ascertained, then, it would be consequential to tease out how that same monastic movement affected the wider social and cultural context – to outline, in sum, what elements in the Benedictines’ Christian conception were capable to foster such a regular activity of transformation of the physical surroundings, and, possibly, how they do relate to the discussion on “Christianity’s attitudes towards nature”, which opened the present chapter. Establishing such nexuses can be seen as even more relevant, as the following remark is taken into consideration:

It can be doubted that the powerful drive, which can be seen behind the lively agricultural medieval activity from the 7th century, could have ever occurred without the example of the monks, who dedicated themselves at the same time to the missionary action and to the works of ploughing. (Prinz 1983: p. 97, my italics)

Benedictine monasticism, in sum, would have effectively represented a force, whose influence extended well beyond the borders of the cloister, and capable of producing such enduring large-scale effects on European pre-modern societies, to be possibly accounted, without exaggeration, “among the factors of ‘transformation of the world’” (ibid: p. 123). Unfortunately, again, the paucity or original documentation and primary sources can hinder any attempt to reconstruct a full portrayal of this stage of medieval religious culture. Some significant indications and insights, however, can possibly be drawn from the work of other scholars, and from the reading of the Rule itself.

Benedict’s Rule is generally assumed to have constituted a radical break with the previous monastic experiences born within Christianity, and especially with the Desert Fathers of the East. Both Eastern and Western pre-Benedictine monasticism, indeed, presented themselves as “strongly individualistic” (ibid: p. 10) experiences, as forms of actual “denial of any society” (Salvatorelli 2007: p. 27). Even in their collectivized variants, even in the milder versions that in the West purged the movement of the virtuosic and self-mortifying excesses that characterized its Eastern

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13 “C’è da dubitare che la spinta potente, che si intravede dietro la vivace attività agricola medievale dal VII secolo, si sarebbe mai verificata senza l’esempio dei monaci che si dedicavano allo stesso tempo all’attività missionaria e ai lavori di dissodamento”.

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– and more ancient – counterpart, they continued to preserve all of their “ascetic-individualistic” connotations (ibid: pp. 28-31). And in this sense, they largely translated into a refusal of the surrounding world with all of its “busy activities” (Prinz 1983: p. 13), in its very annihilation and obliteration by hand of an abstract ideal of perfection, superimposed on the physical limits of reality.

In a stark contrast with this background, it has been remarked how all of the Rule of Benedict14


And such pragmatic characters of flexibility and adaptability, in effect, can be easily noticed even by the layman, at his first reading of the Rule. Thus, for example, in chapter 40 Benedict concedes that monks may be allowed to drink wine as long as it is not to satiety, because, after all, that is the custom of the time15. Similarly, the very writing of the Rule, philologists concur, appears to be the product not of a unitary process of creation ex nihilo, but rather of an ongoing work of synthesis and correction, grounded less on theorizations and abstract ideals of perfection, than on actual “field experience” (Pricoco 1995: pp. XXXIV, XXXVIII).

In such a renewed perspective, the whole relationship of the monastic enterprise with its surroundings mutates, and with deep implications. The world, for the Benedictines, ceases to be something to be denied and levelled out by an abstract and individual ideal of perfection, and rather becomes matter to be acted upon and perfected, not the least through collective effort. The aim of Benedictine monks remains that of “honouring God”, but this does no longer entail “a merely negative sacrifice” from the part of the individual, but rather “a positive action” by the community (Salvatorelli 2007: p. 114). Monasticism, in this sense, can be seen as evolving from the “radical segregation and refusal of the world” – typical of the earlier times and in particular of its Eastern variants – to being “active configuration of the world” (Prinz 1983: p. 119).

14 “Tutta la Regola porta l’impronta di uno spirito che non costruisce a priori, secondo un ideale astratto e un piano rigido, ma vede la realtà com’è e cerca di adattarvisi, traendone il frutto migliore”.

15 Licit legamus vinum omnino monachorum non esse, sed quia nostris temporibus id monachis persuaderi non potest, saltim vel hoc consentiamus, ut non usque ad satietatem bibamus, sed parcius, quia “vinum apostatare facit etiam sapientes.

(Although we read that wine is absolutely not for monks, however, for in our times it is not possible to persuade the monks of that, let us at least agree about this, not to drink until satiety, but with more moderation, because “wine makes go astray even the wise”).
This radical veer in attitudes does perhaps find its neatest and most remarkable expression in the new Benedictine “work ethic”, which shortly ended up acting “as a pioneer cultural operation” (ibid: p. 97). As Prinz insightfully remarks\(^\text{16}\):

\[\ldots\] since Plato and Aristotle to Cicero, man the worker, the producer, received scarce attention. This applies in particular to physical labour – Virgilius’ “labor improbus” – which for an ideal of life oriented in aristocratic sense was considered socially demeaning and was substantially a sign of lack of freedom (“opus servile”). (Prinz 1983: p. 89)

And if a process of at least partial revaluation was already underway with St. Augustine, it is, however, not until the advent of Benedictine monasticism that physical, manual labour gets elevated to unequivocally positive connotations, to a status of acknowledgement of its moral and religious dignity (ibid: pp. 89-92).

The explicit recommendation that the monks undertake themselves the rural work in the fields\(^\text{17}\) is subtended and accompanied in the Rule by a genuine dread and aversion for idleness. “Otiositas inimica est animae”\(^\text{18}\), writes Benedict (Pricoco 1995: p. 222), and prescriptions abound on how to avoid it. Thus, in the hours that are not dedicated to manual occupations, the monks should solicitously consecrate themselves to reading and intellectual work (ibid: pp. 222-226). Similarly, a suiting occupation should be found for all those who are too negligent for reading, or too weak for physical work, so that they might best express their industry too (ibid: p. 226). This way, in sum, laboriousness and industriousness seem to become values per se, in the timeframe of a day which – although consciously avoiding excesses and keeping an eye of regard for the weaker ones (ibid: p. 224) – for the first time in the history of Christian monasticism was marked with metronymic, clock-like precision\(^\text{19}\) (Salvatorelli 2007: p. 102).

\(^{16}\) “[…] da Platone e Aristotele a Cicerone l’uomo lavoratore, il produttore, ha ricevuto scarsa attenzione. Ciò vale in particolare per il lavoro fisico – il ‘labor improbus’ di Virgilio – che per un ideale di vita orientato in senso aristocratico era considerato socialmente avvilente ed era in sostanza un segno di mancanza di libertà («opus servile»)”.

\(^{17}\) Si autem necessitas loci aut paupertas exegerit ut ad fruges recollegendas per se occupentur, non contristentur, quia tunc vere monachi sunt si labore manuum suarum vivunt, sicut et patres nostri et apostoli. 

(If the exigencies of the place or poverty require that they personally take care of reaping the harvest, let them not grieve for it, because then they truly are monks, if they live of the work of their hands, like our fathers and the apostles).

\(^{18}\) “Idleness is the enemy of the soul”.

\(^{19}\) The reference to such instruments as the metronome and the clock, and the conception that they imply of time as a uniform, standardized, mechanical, and quantifiable unit, essentially abstracted and independent from the cycles and rhythms of nature, is far from casual. Taking the argument and investigation farther, in fact, it has been suggested that such a view of time – typical of European modernity – as well as the very invention of the mechanical clock did actually arise within Benedictine and post-Benedictine monasticism, and precisely out of the exigency to establish a precise and universal timeframe (applicable to the hours of darkness as much as to those of sunlight) for coordinating the monks’ collective activities. Also in this sense, therefore, the monastic experience of
On the ground of these considerations it could be stated, very rawly, that through their activity – which still remained inherently bound to a spiritual quest – the Benedictines did succeed in redefining all previous conceptions of monasticism, reconverting the ascetic experience in a productive sense, and largely contributing, in doing so, to pave the way to some of the developments that will characterize Europe in the ensuing centuries. Evidently, it would be incorrect to pretend to make of those monks some Western capitalists ante litteram – although some of them are still celebrated for their entrepreneurial talents (see, for example, Higounet 1989: pp. 125-126; and Patzelt 1989: p. 159). The fact remains, nonetheless, that also in its relation to economic activity and enterprise, the rise of the Benedictine conception represented something of a real turning point. A first hint in the direction of a renewed attitude can be given by the fact that, already in the Rule, the cellarius – i.e. the administrator of the monastery’s goods and belongings – appears to be the second most important person, just after the abbot himself (Salvatorelli 2007: p. 100). But the idea of a transition is probably best conveyed – although not without the hue of some ideological flair – by Prinz20:

No more the squalor of the dwellings, the poverty and the primitiveness of the clothing and of everyday items are presented as the appropriate environment for monastic asceticism; now, on the contrary, the hagiographers digress in enthusiastic descriptions of the richness and artistic realization of the monasteries, of the beauty and fecundity of the terrain that surrounds them. (Prinz 1983: p. 98)

If laboriousness and industriousness did get to represent values in themselves, however, it would probably be highly unjust to say the same of wealth and material accumulation. After all, in effect, the Rule contemplated as one of its fundamental pillars the ban and absolute absence of individual private property from Benedictine monasteries (Salvatorelli 2007: p. 128). Economic and material security, rather, represented an important requisite, “a means to make possible […] the work of spiritual edification, of eternal salvation” (ibid: p. 130).

It is not wholly unlikely that essentially economic considerations were also partly behind some of the works of land reclamation that the Benedictines undertook. A merely economic interpretation, however, would admittedly be partial and limited. Two additional aspects, instead, should be considered. The first one is easier to

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20 “Non più lo squallore delle dimore, la povertà e la primitività dell’abbigliamento e degli oggetti d’uso; ora, al contrario, gli agiografi si diffondo spesso in entusiastiche descrizioni della ricchezza e della realizzazione artistica dei monasteri, della bellezza e della fecondità del terreno che li circonda”.

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ascertain, but surely not less significant. Despite the many peregrinations that brought Benedictine monks to the far corners of Europe on missionary activities, Benedictine monasticism imposed itself as an ideology marked by an acute sense of *sedentism*: in this regard, indeed, Salvatorelli even gets to speak of “radical coenobitism” (2007: p. 127). If a sentiment of aversion for hermits and roaming ascetics was already spread in late-imperial Rome (Pricoco 1995: p. xiv), the contrast between the “corrupted” straying monks and the “virtuous” coenobites is explicitly expressed – and largely by means of stark moral judgements – in the Rule of Benedict. And the Rule itself provided to re-configure monastic life in strictly sedentary and stationary terms, prescribing as the fundamental vow for each member of the cloister never to abandon the community he had decided to belong to (Salvatorelli 2007: p. 128). But the Rule notably went even further, putting forward a settlement pattern and a spatial, territorial conception that ruled out the very idea of any erratic movement, being so firmly based on notions of permanence and rootedness. In chapter 46 of the Rule, it is stated:

> The monastery, moreover, must be built, if it is possible, so that there is all that is necessary, that is water, the mill, the crop, and that the different occupations are carried out inside the monastery, in order for the monks not to be forced to go roaming outside, which does not benefit at all their souls. (Pricoco 1995: p. 262)

In these lines, then, it even seems plausible to speak of a Benedictine revolution not only in a productive, but also geographical sense, which paved the way to modern territorial conceptions as marked by fixity, immobility, permanence, and enduring attachment to a delimited area. And combining the two, it should become evident how similar outlooks could easily blend into and foster a view of the environment already oriented in an agrarian perspective, with its characters of stability, predictability, and attachment to a specific, circumscribed estate: all elements that might have induced the followers of Benedict to perceive their *incolto* as areas to be conquered to

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21 In this regard, Chapter 1 of the Rule reads:

> [Gyrovagi] tota vita sua per diversas provincias ternis aut quaternis diebus per diversorum cellas hospitantur, semper vagi et nemum stabiles et propriis voluntatibus et guilae illecebris servientes et per omnia deteriores sarabaitis. De quorum omnium horum miserrima conversatione melius est silere quam loqui. His ergo omissis ad coenobitarum fortissimum genus disponendum, adiuvante Domino, veniamus. (Pricoco 1995: p. 136)

> ([Those roaming monks] go for all their life across different lands and demand hospitality for three or four days at time in the cells of different monks; they are always around and never stable, subjected to their own wills and to the temptations of gluttony and they are worse in everything than the very Sarabaites. About the miserable conduct of those all is better to keep silent than to speak. Let us leave them aside and with the aid of the Lord come to order the strongest species of the coenobites).  

22 “Monasterium autem, si posit fieri, ita debet constitui ut omnia necessaria, id est aqua, molendinum, hortum vel artes diversas intra monasterium exercentur, ut non sit necessitas monachis vagandi foris, quia omnino non expedit animabus eorum”.

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cultivation, rather than immediately exploited for their possibilities of hunting and gathering.

Given the paucity of primary sources, on the other hand, it is harder to establish beyond doubts of arbitrariness how heavily did other ideological and symbolic considerations matter on the “crusade” that the Benedictines engaged against the wet element in their lands. Some concrete indications, nonetheless, can be gathered also in that direction. It has been remarked, for instance, that

> The elimination of vast woody areas has also the aims, in the Germanic countries on their way to converting to Christianity, to eradicate the tenacious superstitions and the heathen cults in many cases related to the woods […] (Penco 1989: p. 65)

and that

> this work of reclamation and colonization of the monks acquired in this way a more distinctively religious and sacred meaning for the victory […] on the “desert”, intended in its traditional biblical sense of place of damnation and desolation, where the demonic powers triumph. (ibid)

Similar words are spent about Montecassino – where Benedict from Norcia himself erected the first monastery of his new order – whose ancient pagan temple was not destroyed, but “reclaimed” through labour “into Christian oratory” (Jandolo 1989: p. 30). Finally, commenting on the lands reclaimed by the monks of Thorney in the 12th century, William of Malmesbury is told to have stated:

> Amidst horrid marshes where shrubs entangle forming an inextricable wood, a plain of most green grass attracts the gaze for its fertility, without any obstacle hindering the pace of the traveller. No stripe of land is laid fallow: here the land nourishes fruit-bearing trees, there the vineyards crawl on the soil or reach up to high pergolas. In this place cultivation races with nature: what the latter has forgotten, the former makes rise. And what to say of the beauty of the buildings whose unshakable foundations have been cast over the marshlands? […] This island truly is the dwelling of chastity, the house of honesty, the school of those who love the divine wisdom. Here it is, in sum, an image of Paradise that makes already think of Heaven. (cited in Penco 1989: p. 66)

Considerations of this sort would seem to suggest, in conclusion, that whereas wilderness still held a prominent cultual and spiritual value in ancient and pagan times

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23 “L’eliminazione di vaste zone selvose ha anche il fine, nei Paesi germanici in via di conversione al Cristianesimo, di estirpare le tenaci superstizioni ed i culti pagani legati in molti casi ai boschi […]”.

“[…] quest’opera bonificatrice e colonizzatrice dei monaci acquistava in tal modo un significato più spiccatamente religioso e sacro per la vittoria […] sul ‘deserto’, quest’ultimo inteso nel suo tradizionale senso biblico di ambiente di condanna e di desolazione, dove trionfano le potenze demoniache”.

24 “In mezzo a stagni orridi in cui gli arbusti si avviluppano formando una macchia inestricabile, una pianura di erbe verdissime attira gli sguardi per la sua fertilità, senza che alcun ostacolo arresti il passo del viaggiatore. Nessuna striscia di terra è lasciata a maggese: qui la terra porta alberi fruttiferi, là le vigne strisciano sul suolo o si slanciano su alti pergolati. In questo sito la coltura gareggia con la natura: ciò che questa ha dimenticato, l’altra lo fa sorgere. Che dire della bellezza degli edifici le cui fondamenta incrollabili sono state gettate sulle maremme? […] Quest’isola è davvero la dimora della castità, la sede dell’onestà, la scuola di coloro che amano la divina sapienza. È qui, insomma, un’immagine del paradiso che fa già pensare al cielo”.

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(in regard to wetlands as loci of religious cults, for example, see Traina 1988: pp. 84, 99-101, 108), and the desert – be it the Egyptian wastelands or the empty solitude of a cell – became the preferred setting by early Christian monasticism – the backstage over which those ascetics fought against demons and other evil apparitions (Salvatorelli 2007: pp. 28-29) – through the Benedictine action, well-tilled, orderly, fruit-bearing agricultural land ideally came to represent the spiritual and religious landscape of medieval Christianity. It is a definitive and most far-reaching shift in perspectives: “nature” ceased altogether to be intrinsically valuable, to constitute something to be honoured and enjoyed for its bounty and spontaneous abundance. On the contrary, it got to acquire its worth, both in symbolic and economic terms, only inasmuch as it was transformed, sublimed and “redeemed” – accordingly to the Biblical dictates – by anthropic activity. In some way, it might even be possible to claim that what became to be valued was not nature itself, but rather the very human labour that, through the works of reclamation and ploughing, got to be embodied and embedded into the agrarian landscape – that labour, through which the medieval monks reached that “sense of nature’ that otherwise they deemed devoid of any value” and operated “a reconquest, a redemption from the condition of sin” (Penco 1989: pp. 65-66).

Besides the evidently deep implications of such an upturn, care should be taken not to force modernistic or later interpretative models onto them. Benedictines’ mutated attitudes to work and their urge to physically intervene on and transform the surroundings may well have contributed to paving the way to European modernity. They kept being inscribed, however, in a worldview and cultural context sui generis, which would be highly mistaken to assimilate to proto-modernism. The facts that human labour – rather than science and technological implements – remains to be esteemed as the founding and structuring force of the agrarian landscape, and that the Benedictines’ labour in the fields is not supposed to proceed as a single and disjoined entity, but in parallel to the study of texts and an assiduous activity of prayer – according to the renown dictate ora et labora25 – already seem to constitute essential points of divergence. Furthermore, contrarily to White’s reading of Christianity, Benedictine’s nature does not yet appear as an altogether worthless and irreconcilably

25 “Pray and work”. Although the posthumous genesis of the formula is recognized (Lentini 1989: p. 197), ora et labora – “comparing work and prayer” (Jandolo 1989: p. 43) – can still be seen as a convincing synthesis of the essence of Benedict’s teachings.
alien entity, which can righteously be subjugated and dominated for the sake of man’s welfare. Rather, nature, as much as man himself, represents imperfect and flawed matter, which nevertheless can be transfigured and sublimed by the spiritual and redeeming actions of prayer and patient labour. And in this perspective, reclamation and ploughing cease to be mere agricultural techniques and become “a foundational idea” (Jandolo 1989: p. 29). The term *bonifica* – which, significantly, does not appear in the documents until the 12th century (Traina 1988: p. 109) – is thus to be intended in its etymological sense of *bonum facere*, i.e. “making, turning into good”, as equally applicable to both man and land. It comes to represent, in fact, that process by which land and man alike *co-develop* to realign with a Christian ideal of religious and cosmic order: it comes to identify with the making of the *Opus Dei*26 (Ferrabino 1989: pp. 9-10). And in this sense, it is probably highly revealing how – differently from the standard iconography of missionaries wielding the cross and the book – Benedict from Norcia is depicted by Pope Paul VI as accompanied, in his mission of Christianization, also by the plough27:

>With the cross […] he gave consistency and development to the regulations of public and private life. […] With the book, then […] he saved with providential solicitude […] the classic ancient tradition, transmitting it whole to posterity and restoring the cult of knowledge. It was with the plough, finally, that is with the cultivation of the fields and other similar initiatives, that he succeeded to turn desert and wild lands into fertile fields and graceful gardens; and by joining prayer and material work, according to his famous motto “ora et labora”, he dignified and elevated human labour.

(Paul VI1964)

It would seem rather grounded to claim, in sum, that Benedictine reclamation and attitudes to nature – although anticipating it in some important aspects – appear still very far and distinct from the mechanistic and only production-oriented conceptions that will characterize European high modernity. In them, in fact, it should be recognized not a sense of absolute domination and manipulation, but rather of environmental stewardship, that somehow strictly recalls Lansing’s analysis of Balinese society and irrigation. Lansing explains that

According to Balinese belief, the order that one sees in the world does not occur naturally or spontaneously. When left to itself the natural world is though to be in a state of maximum disorder, as for example in uninhabited jungles or along the seacoast. In contrast, water mountains have been shaped to fit the most exacting principles of sacred geometry; they are triumphs of order. […] For this to be achieved, both the water mountain and the desires of the

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26 "The Work of God”.

27 “Con la croce […] diede consistenza e sviluppo agli ordinamenti della vita pubblica e privata. […] Col libro, poi, […] salvò con provvidenziale sollecitudine, […] la tradizione classica degli antichi, trasmettendola intatta ai posteri e restaurando il culto del sapere. Fu con l’aratro, infine, cioè con la coltivazione dei campi e con altre iniziative analoghe, che riuscì a trasformare terre deserte e inselvatichite in campi fertillissimi e in graziosi giardini; e unendo la preghiera al lavoro materiale, secondo il suo famoso motto ‘ora et labora’, nobilitò ed elevó la fatica umana”.

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farmers who sustain its artificial shape must be aligned to far more rigorous patterns than they would take if left to themselves. All this is a question of engineering, not magic.

(Lansing 2006: pp. 123-124)

It is in their striving after a principle of religious and cosmic order, which does not emerge spontaneously, but has to be made and created by human activity, and which is required to sink its roots and reflect in the individual man and in his environment alike, that Benedictine conceptions strangely resonate with Lansing’s rendering of the Balinese case.

A radical breach in the practices of land reclamation – one probably revealing of mutating environmental sensibilities – was, however, destined to take place in the late Middle Ages, at the threshold of modernity.
The Renaissance:
Institutions, Techno-science, and the Quest for Predictability

[Water is an element] of unstable nature, inconstant in its movements, dominated by the winds, and subjected also to the Ocean, to the Planets, to the accruing of rains, and to the growing of rivers, which very often floods the countryside, breaks the embankments, and besieges the cities, or miserably submerges them. [...] the qualities of water that have been spoken of do not stay harmful, if they get to be known, and with knowledge tamed through the laws of Architecture. (Barattieri 1656: p. 1)

[Waters] serve as nourishment to men, animals, and plants, serve to irrigate the countryside, whereby they are made fecund, and abundant of the fruits of the earth. With water are cleansed wool, linen, silk, and all sorts of cloths; [...] again they serve for navigation, which makes very convenient the trades of all sorts of stuffs, which by other means would be so costly that they would be impossible to carry out. (ibid: p. 10)

So reads Giovanni Battista Barattieri’s treatise, Architetture d’Acque. Although the text in question dates back to the mid 17th century, the themes and issues outlined by our quotation had begun to rapidly spread in quite earlier times. On the one hand, the recognition of the fundamental importance of water for a great deal of human activities, and in particular for agricultural and economic welfare. On the other, water’s potential to represent an ominous threat and source of destruction. And the divide between the two opposite alternatives, being given by man’s capability to govern and control – through knowledge and ingenuity – the fluid dynamics of the vital but treacherous element. Already for nearly two centuries before Barattieri’s treatise had such a conception been acquiring clear shape: we see it already at work, in fact, laying the ground to Modernity, during that period of artistic, scientific, as

28 “[L’acqua è un elemento] di natura instabile, ne’ suoi moti incostante, dominato da’ venti, e soggetto al Mare anco, a Pianeti, al crescere delle pioggie, e al gonfiarsi ne’ fiumi, che ben presto allaga le campagne, gli argini rompe, e le città assedia, o infelicemente sommerge. […] le qualità dell’acqua che si son dette, non restano danose, se vengono conosciute, e con la conoscenza ammaestrate con le leggi dell’Architettura”.

“[Le acque] servono di nutrimento agli uomini, agli animali, e alle piante, servono per irrigare le campagne, dal che si rendono dovitiose, e abbondanti dei frutti della terra. Si purgano con le acque le lane, i lini, le sete, e ogni sorte di drappi; […] servono poi ancora alle navigationi, con le quali si fanno comodissimi li traffici d’ogni sorte di merci, che per altro sarebbero si dispendiosi, che si renderebbero impossibili a praticarle”.

67
well as agricultural thriving (Saltini 1984: p. 285), commonly known and referred to as the Renaissance.

A preliminary qualifying consideration, despite being apparently self-evident, seems to be in place here. The imposition of historical labels and pre-packaged definitions, in effect, can risk altering the perception of certain phenomena, in a way that underplays or denies any continuity, in favour of discrete isolated units. Thus, the impression may be conveyed that thoroughly revolutionary and distinctive periods in artistic and cultural history – such as the one undoubtedly represented by the Renaissance (Panofsky 1960: p. 42) – do happen like in a void, disjoined from and almost independently of their wider context, from which, instead, they are claimed to represent a moment of radical breach and departure. Therefore, for example, the Manichean characterization – typical of much post-Illuministic historiography – of a Medieval Age marked uniquely by darkness, barbarity, ignorance, and religious obscurantism, opposed to a Renaissance enlightened by humanism, civil progress, cultivation of every sort of art and knowledge. Or the nearly demiurgic faculties that are assigned to specific elements – such as, as a simple and yet very common instance, technology itself – which come to be portrayed as the sole and uncontested agents of change, capable of fostering – pretty much like the God of the Genesis’ tale of creation – the emergence of an altogether new world.

Such a problematic relationship of disruption versus continuity certainly poses itself, as interpretative or historical accounts are given in regard to the transition on Italian (and more generally European) soil from the Middle Ages to the Renaissance. Taken for granted that this has actually constituted “one of the most hotly debated issues in modern historiography” (ibid: p. 5), and – for evident constraints of space and scope – it cannot be fully outlined and debated in the present work, we can nonetheless attempt to tease out some of its implications and less unequivocal facets for what pertains to the practices of land reclamation and water management. Evidently, our intention is not to diminish the significance of the Renaissance and its innovations, nor to deny its peculiar characters and simply view it as a mere continuation of the Medieval Age. We find it important to highlight, however, how certain socio-economic processes and cultural attitudes, rather than coming out as a revolutionary breach, were on the contrary underway or being fostered already in previous centuries.
The epoch begun with the 15th century artistic and economic thriving, has been characterized as an “Age of Man” marked by an increasingly “aggressive” attitude towards nature, according to the consolidated and prevailing opinion that the world had been created for the sake of man and that the other – vegetable and animal – species are subordinated to his wills and necessities.

(Zagli 2002: p. 326)

If, indeed, also in medieval times principles and pre-conditions for an anthropocentric view of the world could be found, as emphasized above, in the acutely man-centred conceptions of Christianity, throughout the 1400s and 1500s such a perspective got to enrich of additional elements. Thus, the philosophers and intellectuals of the Renaissance found the reasons and justifications for the primacy and cosmic centrality of man no longer on solely theological bases, but also in the pre-Christian teachings of the Classics – as emblematically displayed in Leonardo’s renown drawing of the Vitruvian Man (see Fig. 1), which literally establishes man as “the measure of all things”.

Fig. 1: By literally representing man “as the measure of all things”, Leonardo’s Vitruvian Man epitomizes humanistic anthropocentrism

29 “[...] un atteggiamento che si fa sempre più ‘aggressivo’ nei confronti della natura, secondo la consolidata e prevalente opinione che il mondo fosse stato creato per il bene dell’uomo e che le altre specie – vegetali e animali – fossero subordinate ai suoi voleri e alle sue necessità”.
The very notion of progress ceased to be something uniquely – or mostly – pertaining to religious edification and spiritual elevation, and came to be increasingly charged with historicist and worldly connotations. In this shift of perspectives, also the contraposition between the “wild” and the “domesticated” sharpened, the advance of cultivated lands being perceived as inherent to the idea of human and historical progress itself (Zagli 2002: p. 326). A trend that will find its definitive culmination with the Enlightenment, and the Illuministic sense of moral obligation to convert any wilderness into agricultural field (ibid: p. 327).

In this light, it is probably not so surprising if the Renaissance – and the 1500s in particular – is commonly pointed at as an incredibly fecund and intense season of drainages and reclamations, and not at a merely regional but truly international level (Fiocca et al. 2003: p. xv). A new prolific wave of reclamation interventions, in fact, invested at full strength Holland, Northern Germany, France, England, as well as Italy itself (Ciriacono 2003: pp. 4-7). Also in the Po Valley, this renewed rush of land colonization efforts assumed an unprecedented magnitude, coming to affect very vast areas of the lowlands of the Plain, which was literally transformed into an uninterrupted “building yard” (Cazzola 2003a: p. 28). Among the structural factors and “macro” contingencies that contributed to foster developments on such a large scale, historians have pointed out, among others: the demographic explosion with its increased pressure on food resources; inflationary trends favouring real estate investments; and a noteworthy worsening of climatic conditions that concerned all of Europe (the so-called “little Ice Age”) (ibid: p. 20).

Such an intensification of reclamation efforts unquestionably constituted an unprecedented quantitative peak, which can in and by itself distinguish and set the Renaissance apart from all earlier experiences. At the same time, nonetheless, it is also important to place emphasis – as argued above – on those elements that, instead, seem capable of tracing a trajectory of ideal continuity back at least to the late medieval period. In this regard, then, it appears especially pertinent the remark that already

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30 In this sense, it is probably highly revealing how the aesthetic sense of the 1500s frowned at the idea of a purely “natural” landscape, finding instead its ideal in the orderly, man-built, agricultural countryside (Camporesi 1992: p. 120).

31 “[…] dal XII secolo in poi nasce e si afferma una mentalità utilitaristica che punta alla resa sempre maggiore delle terre, che non tollera, in via di principio, quegli spazi che erano legati ad una economia meno produttiva”:
from the 12th century onwards rises and progressively asserts itself an utilitarian mentality that aims at the ever-increasing yield of agricultural lands, that does not tolerate, as a matter of principle, those spaces that were related to a less productive economy.

(Fumagalli 1985b: p. 124)

And this inevitably ended up translating, on the ground, into a radicalization of the exploitative patterns, and a more and more systematic assault – for the first time entailing embryonic forms of long-term planning and interventions coordinated on a considerably larger scale – on incolto (Fumagalli 1985a: p. 18).

The late medieval crusade against wild and uncultivated areas might well have not benefited yet from the reading of Vitruvius, or the spreading of a new humanism, or the genuine philosophical conviction to live in a cosmos, in which man is the ultimate measure and end of all things. Certainly, nonetheless, it got to be equally characterized – both at the ideological and institutional level – by actual traits of near fanaticism which, if on the one hand did probably not yet constitute a methodical and systematic anti-naturalistic worldview, on the other seemed to largely act as a prelude to the following centuries’ developments. Especially, but not only, in times of hardships and famine, in fact, woods and forests even before wetlands regularly became the object of virulent campaigns of ideological and religious criminalization (Andreolli 2002: pp. 139-140). Extensive works of deforestation inexorably followed, of such extent as to even endanger the very existence of the woody cover of vast regions of the Country, and to consequently solicit the very first initiatives of safeguard and protection (Fumagalli 1985a: p. 29). Notably, among such initiatives to protect woods and forests got to be accounted the deliberate choice of wetland reclamation as a preferable means for conquering new terrain to agriculture (ibid).

And, indeed, a considerable wave of reclamations traversed the Po Plain throughout the 1100s and 1200s (Cherubini 1996: pp. 22-24). If, as we tried to establish, monastic orders were a major driving force behind it, urban and administrative élites undoubtedly were – as it will be better argued in the next chapter – the other. Thus, already in the 12th century, in the province of Ferrara, local landowners were disposed to grant consistent economic incentives to all those colonists and farmers, who actively enganged with works of drainage and land reclamation (Bacchi 1985: pp. 137-138). At the same time, substantial steps were taken by several city governments across North Italy to promote a rearrangement of landed property that could bring about – through a decrease in fragmentation, the rationalization of tenure, and the constitution of larger holdings – more favourable
conditions for reclamation and the agricultural reconversion of the land (Cherubini 1996: p. 75).

It appears, in conclusion, that a clearcut trend towards the elimination of those wild areas that were deemed as not sufficiently productive, and their transformation into agricultural spaces, was already taking consistent shape during the 1100s and 1200s. Such an evolution, however, could not be devoid of consequences in the balance of human-environmental relationships\textsuperscript{32}:

The rural space is progressively turned into cultivated fields, which must be defended (whereas such a necessity did not apply to the previous uncultivated areas) […]. Cultivated fields, roads, artificial canals need to be defended from the floods of the rivers and the overflows of the great marshlands: therefore a tenacious work is undertaken to embank the former and reclaim, as far as is possible, the latter ones. (Fumagalli 1985b: p. 107)

An endless struggle, therefore, was embarked on, destined to oppose man to his environment on growingly antagonistic terms, as definitively irreconcilable entities. By continuous and mutually destructive loops of drainages and floods, \textit{incolto} and cultivated lands were alternatingly turned one into the other, “reclaimed” now by the labour of man, then by the dynamics of nature (\textit{ibid}: p. 112). It already was a practical enactment – with a few centuries of advance on its theoretical and systematic counterpart – of that Cartesian dualism, which will constitute the philosophical foundation of Occidental Modernity. A notion of “order” ceased to be a cosmic or divine principle, which required the co-development and alignment of both man and “nature” for being achieved, and began to identify more and more with a uniquely man-made construct, a grid of expectancies and favourable physical dynamics, to be by every mean superimposed upon the surroundings. In the perspective of our discussion, then, what appears as the real specificity of the epoch started with the Renaissance is not so much the radicalization of the fight against \textit{incolto}, and of settlement and exploitative patterns. It rather seems to lie in the evolution of those institutional arrangements and technical know-how, which made it possible to create that form of anthropic order over the apparent erraticism of nature, and to extensively transform the environment, without having to excessively suffer from the unforeseen, and often disastrous, backlash of the elements.

\textsuperscript{32}“Lo spazio rurale è trasformato progressivamente in campi coltivati, che bisogna difendere (mentre prima tale necessità non riguardava le aree incolte) […]. Campi coltivati, strade, canali artificiali necessitano di essere difesi dalle alluvioni dei fiumi e dai rigurgiti delle grandi paludi: perciò ci si accanisce in un’opera assidua di arginatura dei primi e di bonifica, per quanto possibile, delle seconde”.
What ensues from our argument, and we deem especially important to stress, is that if on the one hand improvements in hydraulic knowledge and technical know-how became crucial requisites for the realization, in the 1400s and 1500s, of grander projects than ever in the past (S. Escobar 1980: p. 94), on the other hand those very improvements responded directly to needs and exigencies arisen already in the course of earlier centuries, and long awaiting for a solution (Fumagalli 1985b: p. 109). And exactly this virtuous synergy of material interests and theoretical research contributed to shape the Renaissance as an especially vibrant and fecund season in the arts and sciences of water management (Fiocca et al. 2003: pp. xi-xii)\textsuperscript{33}.

It has been stated that, from the Renaissance onwards “the ‘domestication’ of nature came to stand for nothing else than the conversion to agriculture of wild lands” (Zagli 2002: p. 326). We are inclined to disagree with a similar outlook. The destruction of more wild areas, the conquest of further terrain, the creation of new agricultural fields certainly represented facets of primary importance to the definitive “taming of nature”. There is another major preoccupation, however, that, before coming to strictly characterize all of the Modern Age, appears to be at play – and probably to find its deepest conceptual and philosophical foundations – already in the Renaissance. During the late Middle Ages (from the 12\textsuperscript{th} to the 14\textsuperscript{th} century ca.), the mechanic clock had known a relentless diffusion – especially in urban and trading centres – and its image of time as a uniform, abstract, quantifiable, and essentially “unnatural” entity had come to inform European urban societies (Landes 1984: pp. 71-87). The Renaissance, on its own part, became known also as the age witnessing the birth and consolidation of linear perspective, that is, of a “completely rational” and “purely mathematical” model of space (Panofsky 1961: p. 37; see also 1960: pp. 122-127; and Farinelli 2003: p. 13). In such a cultural and cognitive context, then, it should result hardly coincidental if the experiences of water management of the 15\textsuperscript{th} and 16\textsuperscript{th} centuries got to be largely shaped and defined by the assiduous search for and attempts at the construction of a pattern of predictability, of a hydraulic model whose dynamics could be forecast, standardized, replicated – and therefore governed

\textsuperscript{33} Other factors, of course, actively contributed to the thriving of Renaissance hydraulics and water management. Among others, two in particular should be mentioned, strongly favouring and characterizing the overall diffusion of a techno-scientific culture during that age: the rediscovery and profound study of Classic authors and treatises (Fiocca et al. 2003: pp. xi-xii; Escobar, 1980: p. 94); and the transfer and diffusion, on a truly international and European scale, of knowledges, techniques, and inventions, favoured by the increased movement of people and capitals, and later by the popularization of printing (Ciriacono 2003: p. 7, 2006; Keller 2003).
with a higher degree of certainty and regularity (about Western science and philosophy as characterized by the “attempt to reformulate systems of knowledge in order to bracket uncertainty”, chance, and risk, see also Scott 1998: pp. 321-322).

It is worth appreciating how this fact does manifestly represent a major shift in attitudes and approach. For Classic Antiquity, as much as for early Christianity, “nature” had represented a force over which man could gain no definitive control, whose sudden fury could not be placated unless by a supernatural intervention (Traina 1988: p. 33; Binde 2001: p. 23). As well as a quest for new arable lands, in the Renaissance reclamations, embankments, works of fluvial control, seems to be present an anxiety – and the belief in the actual possibility – to finally subvert such a state of things, or at least securely escape from its harshest consequences. Thus, the grandest works of environmental rearrangement undertaken in the 1400s and 1500s appear directed to subtract the land not only from stagnant waters, but also from the backlash of unforeseen and potentially disastrous floods. Their pivotal goal, in sum, becomes to superimpose a model and a grid of predictable hydraulic behaviours, of man-made order and regularities, where before all was left to the (apparent) randomness of the elements, in an erratic and fractious state of – to employ an expression still very common in historical literature – “hydraulic disorder”. Also in this sense, then, water management becomes – as it will more extensively argued in the next chapter – a foundational and structural passage in the construction of the territory and society of Modern Italy. It is not an exaggeration to claim that in some respects Italian hydraulics since the Renaissance do in effect appear “ahead of their time”, represent an organizational and techno-scientific avantgarde, which seems able to anticipate – for good or ill – issues and characters of the forthcoming Age of Modernity.

It is sufficient just a quick glance at some of the hydraulic projects undertaken in the lands of the Po across the 15th and 16th centuries, to be able to appreciate the qualitative difference, the daring and cutting-edge nature that radically set them apart from all previous ones. Rather than representing, indeed, isolated and sparse attempts merely aimed at subtracting new spaces from the water, so that they can be later
converted to agricultural purposes, they fall into a wider, more holistic and ambitious planning perspective, into what Cazzola defines as a colossal work of reordering of water’s discharge through several large catchment basins, mainly constituted by the Po and its branches and some other large watershed systems. (Cazzola 2003a: p. 23)

Thus, massive enterprises directed at rearranging whole basins, or modifying the geomorphologic configuration of vast regions, especially affected the easternmost part of the Valley, from the Venetian and Ferrara coastline to the provinces of Reggio-Emilia and Parma (ibid: pp. 28-33).

Unquestionably, increased theoretical and technical proficiency in hydraulic matters represented an essential requisite for the undertaking of similar enterprises. And in this sense, the forefront character of the Italian Renaissance hydraulics is ascertained beyond legitimate doubt. So, for instance, Ciriacono stresses the fact that up to the late 16th century, Italian hydraulic technology – and the Venetian one in particular – probably lagged behind no other in Europe, not even the Dutch (2006: p. 164). Not a less emblematic claim, Cioc explicitly traces the roots of the modern Rhine altogether to the ideas borne and developed within the Italian Renaissance, and their quick spreading across Europe (2002: pp. 37-38). Saltini reminds how Lombardy’s irrigation systems reached the apex of their perfection in the 1500s, and were then meant to become example and paradigm for all other Northern European countries (1984: p. 302). Maffioli, finally, has shown – in stark contrast with a view that held Italian science as dead and suffocated by obscurantism after Galileo – how this glorious tradition in hydraulics kept playing a most prominent role in Italy’s scientific development also after the 1500s, finding in the figure of Benedetto Castelli – Galileo’s own pupil – the actual initiator of the scientific school of fluvial hydraulics (1994, and in particular: pp. 1, 2, 18, 37).

Among all, three in particular stand out for scope and relevance, and deserve an explicit mention: the attempt to divert the limy waters of the river Reno from discharging into the segment of the Po affecting the province of Ferrara, with all the ensuing theoretical, technical, and political disputes that opposed that town to Bologna (Fiocca 2003: pp. 148-153; and also Cazzola 1987: pp. 56-57); the extensive works carried out – often in mutual competition – by the Venetian Republic, on the coast in order to prevent the Lagoon to disappear cause of the chronic silting up (Fiocca 2003: pp. 157-161; Ciriacono 2006), and in the hinterland for exhaustively reclaiming and converting to agriculture the wet areas of the interior (Cazzola 2003a: pp. 28-29); and, finally, the arduous reclamation and hydraulic rearrangement (destined to continue for nearly four centuries more) of the Burana region, situated at the borders’ intersection between the provinces of Ferrara, Mantua, and Modena (Cazzola 2000a; 2003a: p. 30; Fiocca 2003: pp. 157-161).
We deem it of the highest significance, however, to underline how, in identifying the reasons of the Italian Renaissance successes in water management, several scholars have emphasized the importance of the role played by institutions, at least in partial contrast with a view that would hold technology as the nearly univocal engine of change and “progress”. The point is quite explicitly and effectively formulated by Ciriacono:

[...] however essential was the role of technology, which is considered as the keystone of the development of civilizations [...] we cannot disregard what the institutions represented and the role that they played. Only coherent political strategies, and precise economic goals pursued by conscious élites and relatively supportive populations, could carry out during the 1500s reclamation projects of relative importance, wisely employing the technologies developed in that field. (Ciriacono 2003: p. 3, my italics)

The relevance of such political and institutional contributions can probably be best understood and appreciated, once the following aspect is carefully considered and taken into account, i.e. the ineludible character of social cooperation that the hydraulic complexity of the Po Plain imposed onto any large-scale reclamation and defence work. Precisely that complexity worked to thwart all efforts of isolated farmers or households, and contributed to foster peculiar forms of “forced solidarity” – so typical of the Po society to nearly seem to constitute their anthropological uniqueness (Bevilacqua and Rossi-Doria 1984: p. 11) – which became even more necessary and involving growing numbers of people, as the interventions of water management increased in scale and ambitiousness (Cazzola 2003b: p. 12, italics in original).

It is in this perspective that we should read and contextualize the consolidation and proliferation of an institution sui generis, devoted to the hydraulic management and territorial transformation of a specific water district – the so-called consorzio, i.e. an organized association “that establishes among all the landowners of a district (consortes) a forced solidarity in the management of hydraulic interests” (Cazzola 1987: p. 46). Although the existence of consorzi in the Po Valley is attested already in earlier times, it is throughout the 15th and 16th centuries that they knew their most rapid expansion and affirmation as agents of

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36 “[...] per quanto essenziale sia stato il ruolo della tecnologia, che è considerata la chiave di volta dello sviluppo delle civiltà [...] non possiamo prescindere da quello che hanno rappresentato le istituzioni e il ruolo che esse hanno svolto. Solo delle coerenti strategie politiche, e delle precise finalità economiche perseguite da élites consapevoli e da popolazioni relativamente solidali, hanno avuto modo nel corso del Cinquecento di venire a capo di progetti di bonifica di relativa importanza, impiegando sagacemente le tecnologie sviluppate in questo campo”.

37 For example, in the province of Mantua, the rise of consorzi (specifically named “digagne” from the word “diga”, i.e. dyke) is traced back to already the 1200s (Aliani 2004: p. 13). For a more general picture of early experiences of consorzi, instead, see for example Sereni (1999: pp. 110-111).
change of the territory. It is noteworthy, as Cazzola underlines in regard to the case of Venice, that consorzi could be born out of the independent initiative of several landowners joined in a cooperative effort, as much as out coercion from the part of a superintended political authority, which put forward proposal for the creation of a new association in a specific district, in line with its broader view of hydraulic policy (1987: pp. 46-47). And whereas their spontaneous emergence as institutions for the management of a common resource probably remains one of the consorzi’s most fascinating and outstanding characters, this latter political dimension of external coercion should by no means be overlooked. And not only because, as Sereni remarks, even these associative enterprises would have been insufficient in promoting the grander works of reclamation and rearrangement, without the crucial support of feudal lords, ecclesiastic institutions, townships’ administrations, and their availability of starting capital (1999: p. 111). But also as it does shed additional light on an important reason why it is only by the Renaissance – that is, by the moment when the states of Northern Italy were eventually capable to reinforce their power, and extend it over a wider territorial scale than in the past (Cazzola 2003a: p. 20) – that larger hydraulic undertakings could actually be incentivized and promoted with effectiveness.

Although a detailed institutional analysis of the internal workings and operations of consorzi in their historical development still seems to be lacking, their uniqueness as a potential case study in the panorama of water management institutions can hardly be underrated. Given their traits of self-organization, relative independence from other powers, representativeness of their individual members’ stances (Cazzola 1987: p. 50), and stable persistence over a long period of time (and actually up to the present), in fact, they appear to fall with striking precision into Ostrom’s ideal characterization of successful, long-enduring institutions for the management of common property resources (1990: pp. 88-102). Furthermore, also another additional element is identifiable, which brings the experience of consorzi into close resemblance with the scheme developed by Ostrom. It is the emergence – recorded in particular by the 16th century – in the context of conflict-resolution mechanisms, of a new class of independent social actors, external to the consorzio itself, but acknowledged to possess the authority for dispensing judgements and settling disputes pertaining to the consorzio’s very activities.
The formation around the different consorzi of the Po Plain of a body of technicians and administrators equipped with particular experiences and competences in hydraulic matters, in effect, is indicated by Cazzola as one of the fundamental developments, which accompanied the maturation of Renaissance water management (1987: p. 50). And if the emergence of such a class of experts was stimulated from the very start by economic reasons – such as the already hinted need for impartial arbitration on the numerous disputes between landowners (S. Escobar 1980: pp. 89-90) – its political and social influence became progressively more manifest and prominent. Of particular relevance as a proof of the leading role of water management in Northern Italian society, however, is especially to note how a similarly and widely recognized “public role” was granted to technicians in hydraulics, long before than in any other field (ibid: p. 92, italics in original).

But it would probably be limiting and partial to reckon this aspect of Italian water management uniquely as a precursor of later institutional and administrative developments. Also its broader cultural and philosophical implications, indeed, can be deemed as immense. Because in this semi-official institutionalization of a particularistic category of experts and technicians, approved on the ground of their factual (in its strictest sense of “pertaining to the facts”) and then scientific competence, there seems to be witnessed a first, early ratification of that “Bicameral Constitution”, which Latour comes to outline as the distinctive trait of the modernist conception, and whose foundations he symbolically traces to the parallel and symmetrical development of Hobbes’ political philosophy and Boyle’s experimental science (1995: pp. 42-43). Thus, already within the framework of the Italian Renaissance water management, we believe to witness the constitution of two houses – that of the raw “hydraulic facts” (unrepresented), and that bringing together the “speaking humans” (associated in and represented by the consorzi) – along with the emergence of “a small number of handpicked experts”, who

[...] can make the mute world speak, tell the truth without being challenged, put an end to the interminable arguments through an incontestable form of authority that would stem from things themselves. (Latour 2004: p. 14, italics in original)

Technicians are nominally excluded from and external to the assembly of political representation. And yet that very assembly must resort to them, in virtue of their “competence” (S. Escobar 1980: pp. 89-92, italics in original), of their apparent objectivity and impartiality (ibid: p. 114), of their ability to end all disputes by lending “indisputable facts” a voice. This way, despite the formal separation of social
matters and natural facts into two separate domains, which should supposedly remain such, in reality it occurs that “water’s theoretical and technical handling as a physical object, [...] enters after short in tight relation with its aspect of social object” (S. Escobar 1980: p. 93, italics in original), in that short-circuit of authorities and competences which, according to Latour, will become the trademark of modernism’s shaky foundations.

The strangely “prophetic”, already nearly modernistic character of Renaissance water management, however, seems recognizable also in another significant respect – and we trust that the reader will excuse us if the theorizations of Bruno Latour will be brought, again, into the discussion. Anticipating the drifting trajectories of later techno-scientific development, in fact, 15th and 16th century Italian hydraulics appear already largely configured as an ongoing collective, “real-life” experiment. Maffioli asserts that it would be improper to qualify Renaissance hydraulics as an exact science. It was essentially an empirical and technical subject [...] developed outside of the universities by professional engineers and practical mathematicians [...]. (Maffioli 2004: pp. 39-40)

But it is precisely this practical, “on the field”, experimental character that, in our opinion, does constitute a reason of primary interest. Latour suggests that, following on from a “science age”, we have eventually entered an “experimental age”, marked by “collective experiments” of unclear protocol, whose borders – differently than in the past – extend far beyond the narrow walls of the laboratory (2003: pp. 31-32). Instances drawn from the history of Renaissance hydraulics seem to counter that, without the need to wait for SARS epidemics, GPS devices, and the era of “post-science”, already at the threshold of the age of modernity, collective and out-of-laboratory experiments were undertaken – with unclear protocols and ambiguous aftermaths, and yet potentially affecting the life of hundreds, maybe thousands of people. In this light, indeed, can be read the 15th and 16th centuries “experimental” attempts to modify river beds, channel fluvial waters, and reorganize entire watersheds – already modernistic in scope and hubris, and yet “a-scientific” in their lack of a legitimized consensual procedure and certainty about the outcomes. And if many of such experiments did apparently turn out successful, that was not necessarily always the case. Thus, for example, the long-standing diatribe that saw the towns of Bologna and Ferrara – and their lands’ peasants – disputing around the waters of the Reno and their immission into the Po was itself the unexpected consequence of previous interventions, unforeseen floods, and hydraulic mismanagement (Bevilacqua

At first sight, similar references to a supposedly modernistic character ante literam of Renaissance water management might appear strained and improper. We firmly believe, on the contrary, in their ground. Because, in effect, essentially modernistic were already the premises and conceptions that subtended the hydraulic vision of the 1400s and 1500s, so permeated by the will – if not yet the blind conviction – to sever every bond of reliance between man and his surroundings. The contingencies and fluctuations of a disorderly “nature”, bearers of famines and starvation in earlier centuries, would have been eluded thanks to the anthropic activity of agricultural production, with its stable and secure reserves of food supplies. The threats and erraticism of the rivers would have been governed by ingenuity, by the imposition of man-made predictable and orderly patterns. But in fact, although concealed and denied behind this illusory dream of total detachment, emancipation, and control, a more entangled and interdependent relationship between man and his environment was actually being fostered. One that would have triggered, in the following centuries, a continuous escalation towards ever-larger fixes, ever-tighter control. Thus, if the floods and hydraulic disasters of the High Middle Ages could substantially pass unnoticed, absorbed by the marshy buffers along the rivers’ banks and ensued by no relevant social or economic consequence (Fumagalli 1985b: p. 107; Squatriti 1998: p. 72), the situation had already radically modified – and not without being wholly unnoticed by the contemporaries – by the 1600s. The recognition that the highly manipulated and regimented rivers of the Po Valley were breaking their banks more often than ever before, threatening densely populated and highly productive areas, indeed, quickly found expression in a true literature of terror, which forecast with dread a doom of catastrophic inundations and the sudden return to a world of “uninhabitable marshes” (Ciriacono 2006: pp. 131-132), thus betraying the slippery premises of the modernist dream, even before modernity had fully taken shape.
Reclamation and Territory: An Excursus on Hegemony, Parasitism and the Birth of the Modern State

Territory is a complex word. In the Codex Justinianus it is derived from terror, and indeed still today it stands for the range defined by the exercise of jurisdiction, the application of both political power, and, perhaps no longer, the power on life or death. But inside of it does echo also the word earth, so that territory may really be the term where earth and terror meet mingle and merge, until becoming indistinguishable: provided that, however, together with earth is intended also water, according to that synecdoche from which depends, before all else, the name of our entire planet.

The qualification is not secondary because in a certain sense, the determining one, the entire history of modern territory consists [...] of the deletion of its amphibious nature, that is, in the passage from the domination over the water network to the domination over the road network, from the regulation of liquid fluxes to that of solid movements, in the transition in sum from the fluid logic of hydraulics to the logic of the bodies and indeed of the modern territorial centralized state, which is that formation that by definition does not move.

(Farinelli 2006: p. 69, my italics)

[...] the topographic map is not only the faithful portrait (the copy of what exists) but also the precise model [...] of the territorial centralized nation state, so that its nature involves directly and immediately the essence of the latter. If the city [...] relies from the 1700s on the mathematical plan, it is the entire territory that begins even earlier to assume the properties, which in Euclidean geometry relate to that ambit, i.e. continuity, homogeneity, isotropy. [...] Precisely the transformation of the natural datum into a continuous and homogenous extension, that is, composed of only one substance, is the sense of the intricate operations that from the second half of the 1400s have turned into dry land the wet and marshy land of the Po Plain [...] : operations that we usually resume with the word “reclamation” but that should be better termed “water management”.

(ibid: pp. 78-79)

We extensively reported these two passages by Farinelli38, as they appear able to brilliantly encapsulate and introduce what will be the central object of this chapter,
that is, the structural importance of land reclamation and water management in the construction and consolidation, within the Italian context, of particular centralized forms of territoriality, which progressively evolve towards the modern state’s configuration. However, as we can recall from the earlier critical review, and as Farinelli’s quotation reminds us, the complex word territory must be understood as extending well beyond the mere physical datum, being, indeed, synthesis of both terra (land) and terrore (terror): the constructed site where models of environmental and social organization merge and coalesce. Thus, on the one hand, land reclamation represents an instrument to act upon the environment, in order to modify it, homogenize it, submit its dynamics to stricter models of control and abstract patterns of thought. But at the same time – as we hope we will convincingly show – it also constitutes an effective tool for the reorganization of rural societies and economies, in line with the hegemonic political views, which will eventually lead to the modern territorial state’s establishment, and its large-scale enterprises of human-environmental organization.

Scott remarks that

[…] the modern state, through its officials, attempts with varying success to create a terrain and a population with precisely those standardized characteristics that will be easiest to monitor, count, assess, and manage. […]

[…] many state activities aim at transforming the population, space, and nature under their jurisdiction into the closed systems that offer no surprises and that can best be observed and controlled. (Scott 1998: pp. 81-82, my italics)

In the Po Valley context, it is beyond reasonable doubt that the many episodes of wetland drainage and hydraulic rearrangement acted in an analogous way, even before the modern state had fully begun to take shape, and rather paving the way to its own affirmation. It is no mere coincidence, in fact, that the explicitly transformative power exercised by land reclamation not only on a geographical space, but also on the very distribution and arrangement of landed property, got repeatedly emphasized and extolled by Arrigo Serpieri (1957: pp. 163-167) – probably the most influential Italian
agronomist of the 20th century – who even saw in the bonifica the keystone for the integral social and economic reformation of the entire Italian countryside (1929). We highlighted in the previous chapter how the techno-scientific ideology, which began to emerge in the 1400s, reinforced and actualized on the ground a view of environmental dynamics as regular and predictable patterns, subjected to man-induced order and control. And we saw how the broadening activity of water management constituted a pivotal mean for beginning to reconvert and restructure the environment of the Plain in that sense. Now, we would like to point out how, in a not dissimilar way, those very practices of water management and land reclamation did also represent, at the same time, effective exercises of power and social control, devices of government in the hands of the hegemonic political élites.

Giblett claims that “a critical history of wetlands’ drainage could quite easily be entitled ‘Discipline and Drain’” (1996: p. 3). Although it is not evident how far Giblett means to take the witty comparison, in many ways no remark would seem more appropriate. And it is true that – as Cazzola notices (1990: p. 19) – despite its prominent role as a cardinal principle of social, administrative, and institutional organization, the highly structured activity of water management in the Po Plain never came to foster literally despotic forms of government and control, in the guise of the oriental “hydraulic societies” described by Wittfogel (1957). But there remains the fact, nevertheless, that the long history of drainages and reclamations in Italy is continuously characterized by a desire for and aspiration toward social, as well as hydraulic mastery. In this sense, then, it becomes hard to distinguish and separate a discourse on wetlands and reclamation, from a discourse on power and its rationalities of discipline and government. Reclamation ceases to be merely a tool for manipulating and submitting recalcitrant and unpredictable hydraulic patterns: it comes to represent also a device of government of the rural masses, an instrument for fostering and promoting moral order and enhancing social control.

We already made mention of the Graeco-Roman aversion for the marginal spaces of the wood and the wetland, seen as lairs of uncivilized and untrustworthy villains, brutal and unassimilated barbarians, who refused the order and morality of urban and agricultural livelihoods (Traina 1988: p. 25). Not so dissimilar are the terms, in which Nicolaj described, at the very dawn of the 19th century, the vague and obscure figures of fishermen and woodmen who operated in the Pontine Marshes, and were so determined to perpetuate the “perverse rationality” of their economy, to actively
engage – against all laws and sanctions – in actions aimed to reinforce the “hydraulic disorder” and marshy state of the plain (Nicolaj 1800: p. 169, cited in Bevilacqua and Rossi-Doria 1984: p. 32)\textsuperscript{39}. It has been noted – and with all the solemnity that usually accompanies the enunciation of a historical “fact” – that hydraulic disorder and the loss of arable lands due to advancing waters regularly derive from times of political decadence and social instability (Bevilacqua and Rossi-Doria 1984: pp. 5-6). But also the converse axiom, albeit more tacitly, has been implicitly and repeatedly suggested throughout history: that is, that social order is fostered, at least favoured, by hydraulic one, and regimenting and converting to agriculture a water district will also translate into a tighter and more orderly form of social organization. And precisely this tenet seems to inform the rationality of government at work in the proto-modern and modern seasons of Italian drainages. The stance, after all, should not be seen as necessarily striking or unusual. Giblett in particular, indeed, already advanced similar considerations:

It is as if the drainage and discipline of the wetlandscape had a salutary and necessary connection with morality, the former producing the disciplining and draining of the unruly recalcitrance of the indigenous populations, the latter restraining evil and inducing good morals.  
(Giblett 1996: p. 111)

We are trying to establish the perspective, in sum, that the straightforward aim of land reclamation is not merely the imposition of a rational and predictable model onto environmental dynamics. It is also intended to act, in fact, as an executive means of

[...] programmes and practices of government [...] that attribute causal effect to space and environment and that seek to manipulate these towards governmental ends.  
(Huxley 2007: p. 185)

But if a similar perspective is embraced, then, there remains to outline what political influences, what vested hegemonic interests, what and whose exercises of power actually worked to build and establish the reclamation territory of the Plain.

A first and indispensable premise seems to be implied by such an analytical stance, i.e. the necessity to strip the long history of Italian drainages since the Middle Ages of that ineludible and deterministic connotations, which keep to be commonly encountered in a lot of literature and celebrative accounts. Similar views render the reclamation of always more land for creating agricultural space as the sole and only inescapable way to feed entire populations in a peninsula originally poor of arable ground – that is, the linear and necessary outcome of objective environmental

\textsuperscript{39} Notably, a (still unsuccessful) attempt to reclaim the vast area of the Pontine Marshes became one of the main enterprises undertaken by Pius VI during his pontificate, begun in 1775 (Bevilacqua and Rossi-Doria 1984: pp. 32-36).
constraints coupled with historical demographic trends. We would like to uphold the perspective, on the contrary, that the relentless conversion of wetlands into croplands became the privileged avenue to sustenance and development, on the ground of precise cultural and political assumptions – not always unanimously shared, but inexorably imposed by the hegemonic élites – which perceived them as preferable and more functional.

As support to such a preliminary claim, it could be pointed out how wetlands – contrarily to the ideological outlook that commonly depicts them as unproductive and hostile habitats, unsuitable for human needs – have actually represented around the world, from the far Palaeolithic to the present day, viable sites for economic exploitation (Nicholas 1998). Relatively wealthy marshland economies are attested – however frowned at in the official accounts of their contemporaries – in Greek and Roman times, and not only as marginal or foreign realities, but also at the very heart of the “civilized” rural countryside (Traina 1988: pp. 78-79, 103-106). The advance of woods and marshes was not only hindered, but even favoured – in virtue of settlement and production patterns, and dietary preferences – by the Germanic invaders who occupied the Po Plain following the fall of the Roman Empire (Andreolli 2000: pp. 416-417). And self-sustaining instances of wetland exploitation – guaranteeing modest but secure revenues, and occasionally even enabling micro-networks of trade and commercial exchange at null investment costs (Bevilacqua 1996: pp. 34-35) – also persisted in several areas of the Po Plain until the late 1800s and early 1900s (ibid; Cazzola 1996: pp. 71, 234, 238). Also these latest forms of traditional and communitarian exploitation, based on hunting, fishing, and simple crafts, however, were eventually displaced and cancelled in nearly their totality by the ineluctable advance of the reclamations (Cazzola 1989a: pp. 238-239; 1996: pp. 243-245, 249), with violent waves of resentment spreading among the local peasants accompanying and greeting the eventual arrival of “progress” (ibid: pp. 74-77, 246-247)40.

Progress, development, necessity, in effect, have often been wielded instrumentally as powerful arguments and rationales behind the drainages of Italian history. Such readings, however, have merely disguised and camouflaged behind the seeming “naturalness” of resources and demography the ideological truths, which

40 Similar episodes – involving open refusal and sabotage acts from part of the local populations, and the consequent necessity to recur to coercion and military strength – have also been reported, for example, in respect to the drainage of the Oder Marshes in 18th century Germany (Blackbourn 2006: pp. 38-40).
subtended the dominant practices of water and territorial management over the centuries. In our view, on the contrary, land reclamation constituted a manifest expression and chief operative device of evolving and radicalizing *territorial regimes*, which invariably held as centre and structuring principle the city, and as corollary the parasitical pressure exercised by the latter on the countryside’s resources and food supplies. Analytical and critical discussions of the asymmetric and exploitative relationship between political centres and rural peripheries represent in no way a novelty in the panorama of either social or environmental sciences. They range from Max Weber’s classic and influential work (1958), to Rees’ enlightening presentation – carried out in the terms of contemporary ecology and sustainability discourses – of cities as inherently parasitical and entropic entities (1997). For our present purposes, however, a passage by Scott seems to wrap up things rather nicely and effectively:

> Seen from the center, the royal court or the seat of the state, this process [i.e. redesign rural life and production from above] has often been described as a “civilizing process”. I prefer to see it as an attempt at domestication, a kind of social gardening devised to make the countryside, its products, and its inhabitants more ready identifiable and accessible to the center.

(Scott 1998: p. 184)

Scott’s characterization appears to aptly embrace most elements that, in effect, we encounter at work also in the programmes and rationalities of government that, through “disciplining and draining”, progressively shaped the Po Plain over at least one millennium of its history. More in detail, it could be stated that the territorial regimes of the Po reclamation hinge on four mutually reinforcing and stable tenets: *agrarianism*, *sedentism*, *predictable order*, and *urban centralization*. We speak of agrarian territorial regimes, in the sense that they strongly endorse agriculture as the privileged form of production, not only in virtue of the greater economic security it is able to provide, but also of its perceived superior moral quality and benefits to social prestige. Sedentary, in virtue of the spatial perspectives, settlement patterns, and land relationships they work to implement, directed – perfectly in line with and indeed following the Benedictines’ “geographical revolution” – towards notions of fixity, immobility, permanence, and attachment. Furthermore, they pursue an ideal of predictability and order in the management of environmental dynamics and human populations alike: random and scattered settlement patterns and submerged economies are targets of moral aversion and reformative policies, as much as the “hydraulic disorder” that deranges uncultivated areas, and water management the pivotal means to stabilize, rationalize, and govern both. Finally, they are explicitly city-centred, in
the sense that the transformative and shaping forces which act upon the territory, whatever their guise, inevitably stem from the urban core, in a centre-to-periphery radial movement: the territorial models and essentially parasitical needs of the city and its urban élites are made dominant and inexorably imposed onto the countryside.

As Mioni remarks, in effect:


And again, analogously and somehow complementarily:


A territorial configuration based on the exploitative and parasitic city-countryside bipolarity quite integrally characterized – as hinted earlier too – the Italian peninsula already in the times of the Roman domination. And if throughout that age, due to technical deficiencies, it could never be translated into a very extensive operation of agricultural conversion of wetland areas, at the same time it surely contributed to their utter marginalization from the economic practices (Traina 1988: pp. 25) and geographical discourse (ibid: p. 51) of the dominant urban conceptions. And after somewhat of a hiatus, coinciding with the Germanic invasions, similarly uneven balances of power between city centres and rural peripheries undoubtedly re-emerged as a continuous and distinctive thread already in the High Middle Ages. The sense of such a reprise is effectively conveyed by Wickham:


By the 1200s, such a state of affairs had even got to know a more or less definitive and systematic ratification, in the form of the various food-rationing laws

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41 “[…] i mutamenti in questione non si sono mai innescati dall’interno della campagna e della società contadina, ma sono stati in qualche modo provocati o pretesi da quella urbana o dalla città in senso lato, la cui esistenza è possibile sono in quanto la campagna produce alimenti e popolazione che possono essere sottratti”.

42 “le campagne infatti sembrano giocare quasi dapprima, in Italia, un ruolo passivo, come di campo di azione di fattori esterni e di ‘oggetto’ di trasformazioni indotte da esigenze estranee alla loro realtà economica e sociale, e le loro strutture insediative e produttive non sono quasi mai stato in grado di determinare e condizionare […] neppure i modi del proprio sviluppo”.
promulgated by the North-Italian Communes. Through such policies as “the orientation of the local production towards the urban market and the ban of exportation of foodstuffs from the city to the rural markets” (Cherubini 1996: p. 63), indeed, those legislations actively contributed to decree and officialize the countryside’s subordination to the needs of the city, and establish the monopolistic role of the latter – as it was already pointed out by Max Weber (1958: p. 201) – as the privileged destination for and centre of consumption of foodstuffs and other trades.

So, by means of edicts and statutes, the political power and the interests of the city became one of the main drives behind that relentless crusade against wetlands and incolto in general, which began assuming its most radical character from the late Middle Ages:

The city Statutes of the 1200s and 1300s reveal a common will to transform the natural environment […] It almost seems to be in front of a fight without quarter against wild nature, a fight that displays unjustified aspects of radicalism and intransigency […] The orientation is in the direction to sow as much grain as possible, to plant domestic trees, to eliminate the wild plants that do not bear fruits edible by man. (Fumagalli 1985b: pp. 104-105)

We thus witness the proliferation of a number of injunctions and regulations imposed on the countryside, often at open disadvantage of local communities and their traditional forms of communal exploitation of natural resources (Cazzola 2003b: pp. 13-14). Analogously, behind the cloak of flood defence, also the implementation of the necessary hydraulic works, although planned and solicited by the communal administrations, end up burdening on the rural population’s shoulders – with the occasional co-participation of those landowners, whose possessions were directly affected by the works undertaken (ibid: pp. 12-13). Such is for example the case, at least by the 16th century, of the Province of Cremona and Casalmaggiore itself, where:

Hydraulic works were realized at expense of the rural communities more directly exposed to the floods of the Po […]. Every year each community had to muster a force of labourers, equipped with shovels, hoes and oxen, for the execution of the reparation works [of the embankments and works of defence] ordered by the city magistracy. (Aliani 2004: p. 23)

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43 “Gli Statuti cittadini del ‘200 e del ‘300 rivelano una comune volontà di trasformare l’ambiente naturale […] Sembra quasi di trovarsi di fronte ad una lotta senza quartiere contro la natura selvaggia, una lotta che presenta aspetti di radicalismo e di intransigenza ingiustificati […] L’orientamento è nella direzione di seminare cereali il più possibile, di piantare alberi domestici, di eliminare le piante selvatiche che non danno un frutto commestibile per l’uomo”.

44 “Le opere idrauliche venivano realizzate a spese delle comunità locali, più direttamente esposte alle inondazioni del Po […]. Ogni anno ciascuna comunità doveva inviare un contingente di uomini, muniti di badili, zappe e buoi, per l’esecuzione dei lavori di riparazione [degli argini e delle opere di difesa] ordinati dalla magistratura cittadina”.

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We believe that it can be worth to report and briefly linger on a few emblematic instances of such directives that had as target the countryside, and as goal to explicitly establish and decree where and what is to be felled, what and how much to be sowed, etc.⁴⁵:

Rubric 41 of Modena Statutes from 1327 commands to the farm-owners of a large part of the territory to “plant or have plated three fig trees, and as many mulberry, pomegranate, and almond trees”. […] So in Piacenza Statutes of the 1300s it is prescribed that everyone, out of the city, in whatever place, must plant four domestic trees. At the same time, it is ordered to fell along the roads all of “the woods, forests, and thickets”. […] Moreover, rubric 27 of book VIII of Reggio-Emilia Statutes, in 1268, points out that have to be hacked down the poplars, elms, oaks in the territory of Rivalta, which are situated on the southern and eastern sides within the distance of one perch from cultivated lands. […] The qualification that must be felled those trees placed on the east and south makes us realize that the aim was to remove every obstacle to the penetration of sunlight in the hours of the day of most intensity. (Fumagalli 1985b: pp. 105-107)

We reckon in similar examples two main sources of interest. On the one hand, as also Fumagalli points out, they certainly provide a concrete idea of the radicalism and fanaticism that already from the late Middle Ages characterized the fight – or perhaps it would be more fitting to call it a “crusade” – against incolto, and the forced ruralization of the countryside. On the other, they also cast some revealing light on the means and forms assumed by the city’s dominion over the latter. Of course, it would be far-fetched and premature to uncritically equate these earlier episodes drawn from proto-capitalist Italy to the systematic use – characterizing the modern age and Foucault’s analysis of its governmentality (Gupta 1998: p. 312) – of economy and statistics (etymologically, the “art of household management” and the “science of the state”) as grounding tactics and strategies of rule. Nonetheless, it appears licit to at least draw attention on three elements, which seem to already hint at the remote emergence of new rationalities of government and resource management.

The first one is the detailed and meticulous character of the prescriptions imposed by an administrative urban centre onto the countryside, with their growing ambition to minutely steer and shape the cultivation practices carried out across the latter. The second, their botanical and numerical accuracy, by whose means rural ecosystems are

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⁴⁵ “La rubrica 41 degli Statuti di Modena del 1327 ingiunge ai conduttori di fondi agricoli di una grossa parte del territorio di “piantare o far piantare tre alberi di fichi, e altrettanti gelsi, melograni, mandorli. […] Così negli Statuti trecenteschi di Piacenza è disposto che ognuno, fuori città, in qualunque luogo, debba piantare quattro alberi domestici. Nello stesso tempo, si ordina di abbattere presso le strade tutti i “boschi, busconi, et cesoni”. […] Ancora la rubrica 27 del libro VIII degli Statuti reggiani, nel 1268, precisa che vanno abbattuti i pioppi, gli olmi, le querce del territorio di Rivalta situati entro la distanza di una pertica dagli appezzamenti coltivati, sul lato sud e sul lato est. […] La precisazione che vanno abbattuti gli alberi collocati a mattino ed a mezzogiorno ci fa comprendere che si voleva togliere ogni ostacolo alla penetrazione della luce solare nei periodi giornalieri di massima forza”. 

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decomposed in an array of separate and discrete elements, some of which are destined to be erased, and others to be nurtured in accordance to the rigid parameters of a purely quantitative vision. And finally, third and last, is the emergence of a new specific scopic regime of the countryside hinging on criteria of greater visibility: the shelter and hiding offered by woods and scrubs are progressively removed, the strategic spaces of the fields and transport routes, human labour and territorial fluxes, made accessible to the eye’s scrutiny – a development whose significance cannot be seen as solely economic, but utterly political.

The reader may have noticed that, just short above, we took the opportunity of labelling as “proto-capitalistic” the socio-economic milieu of the late-medieval Po Plain municipalities. The definition was far from accidental, and it seems worth to further elaborate on it. In fact, besides the evident role played by urban administrations and their first experiments of centralized territorial rearrangement, entrepreneurial initiatives and lucrative investments acted as the other major drive in the territorial and agrarian transformation of the Plain since the 1200s.

Firstly, dwelling on this complementary facet can enable us to better appreciate the synergy of forces and networked processes behind the relentless destruction of incolto and drainage of wetlands. In this sense, then, it seems worth to mention how land reclamation represented since the Middle Ages a fairly common entrepreneurial activity, undertaken by urban landowners in order to accrue their properties’ revenues (Cherubini 1996: p. 66). And – especially during the 16th century, under that set of circumstances and historical context usually referred to as “return to the land” (Cazzola 1987: p. 60) – in the Eastern Po Valley it even came to represent an effective means of financial speculation. Through reclamation, in fact, private investors were enabled to realize highly lucrative profits, converting to arable land and then reselling terrains that had originally been acquired for very low costs as incolto (Cazzola 2003a: pp. 27-28). Private enterprise and broader considerations of “public utility”, in sum, quickly began meeting and intersecting, engendering that relationship of continuous vibrant tension which – often in mutually reinforcing terms, sometimes in more oppositional ones – has ended up largely characterizing the history of Italian land reclamation (Mioni 1999: p. 62). What remains to be greatly emphasized, however, is that – whether in the form of centralized planning or private initiative, or a synergy of both – the transformative forces acting upon the countryside inevitably
stemmed from the city. In either case, it was the needs, programmes, and conceptions of the urban élites to be imposed upon the periphery and shape the territory.

Secondly, drawing attention on some of the aspects of these proto-capitalistic forms of investment can help to more accurately delineate and characterize the territorial regimes that shaped and modelled the Po Plain over the centuries. In particular, it does strongly contribute to reveal and tease out the presence of an actual and overarching ideology of the land and agriculture, at work in the construction and management of the territory. It has been repeatedly highlighted, indeed, how already in the urban conceptions of late-medieval Italy – as much as it had happened in the Roman world of earlier times – the fact of land possession came to be regarded as a matter of social prestige, even before than of alimentary security (Wickham 1981: p. 86; Cherubini 1996: p. 66). Which led to increasing expenditures in the countryside and the concentration of most landed property in the hands of fewer urban citizens, even despite the fact that higher profits could have been obtained by investing in different sorts of activities (ibid). Analogously, an openly ideological preference for the practice of agriculture tended to displace and push aside other economic enterprises, contributing to orient the territorial configuration of the Italian lowlands in a distinctively agrarian direction.

In the latter sense, the case of Venice is probably most emblematic. Despite being the Italian amphibious and mercantile centre par excellence, indeed, Venice was invested too, throughout the 1500s, by an intense current of entrepreneurial interest in agriculture and landed investments, on the wake of ideologies and theorizations popularized, above all, by Alvise Cornaro (S. Escobar 1980: p. 119), and at the open

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46 It would probably be not misleading – and, on the contrary, it could constitute a theme worth to be developed in further research – to link the evident favour accorded to agriculture at expense of other activities, to the explicit dietary preference, and consequent prioritization in cultivation, granted to specific products rather than others. It is also in this sense, in fact, that we should interpret the undisputable place of privilege occupied by corn and vine – dry cultivations by definition (Bevilacqua 1996: p. 31), highly reminiscent of Christian symbolism, and widely celebrated in ecclesiastic liturgy – from the late Middle Ages, throughout the Renaissance (Fumagalli 1985a: p. 17; Cherubini 1996: p. 25; Ciriacono 2003: p. 4), and until the progressive diversification for mercantile purposes that took place only from the early 19th century (Cazzola 1989a: p. 232). As heavily charged with symbolic connotations also appears to be the debate around the diffusion, witnessed from the 1500s, of the eminently wet cultivation of rice, which for long was held responsible – often unjustly – of being the direct cause of “numerous diseases”, and blamed and opposed for “polluting the air” (Bevilacqua 1996: pp. 40-41). So, in spite of its higher yields and economic advantages (ibid: p. 40), rice kept being openly rejected by political authorities and dismissed in favour of wheat (Ciriacono 2006: p. 30) at least well into the 19th century, when the reasons of square economic productivity eventually came to prevail in dominant discourses, and rice crops experienced an unprecedented expansion across the Po Plain (Bevilacqua 1996: pp. 50-51).
detriment of its historical mercantile vocation. In a radical upturn of perspectives, the stances of which Cornaro became spokesperson were characterized by a marked rejection of sea and trades (the historical pillars on which Venice’s wealth and power had been built), and the unconditional moral extolling of “sacred agriculture” and its peaceful stability:

I have acquired possessions I did not have when I was born, even though my family was very rich; and I have acquired them with the better and more laudable means than all others, which is by sacred agriculture: and not by means of arms, and struggles, and damages to others; nor by the means of traversing the ocean with countless dangers for one’s life; that is by other means plenty of flaws. (cited in S. Escobar 1980: p. 120, italics in original)

It is probably not irrelevant to remark how such an agriculture-oriented “paradigm shift” rapidly translated, on the ground, into an unprecedented wave of investments, almost parasitical in their speculative character and actively solicited and supported by the state (ibid: p. 124). Their target was the previously neglected Venetian hinterland, their goals the reclamation of vast portions of wetlands and their definitive conversion into arable fields.

We have tried to sketch, although within the inevitable constraints of brevity, the forces and dominant ideologies, which informed the territorial regimes of the Po Plain. We have emphasized, especially, how an agricultural countryside was largely constructed – since the late Middle Ages – as a product of the politico-economic interests and symbolic conceptions of the city-dwelling hegemonic élites of Communal North Italy. On the ground of these contextual premises, it now seems time to newly shift the focus onto the fact of reclamation itself, highlighting its role in the processes delineated as a potent instrument of territorial transformation, social control, and political power. The “intricate operations” of drainage and water management that invested the Po Plain – it was insightfully pointed out in our opening citation – acted to transform the environmental datum into a “continuous and homogeneous” space. But – we are now inclined to add and qualify – continuity and homogeneity are also attributes of the “social space” produced and designed by the activity of land reclamation.

The control, regimentation, canalization of water fluxes may appear to be the more immediate and evident goals of any water management undertaking. With this,

47 “Ho riacquistata la roba, senza la quale nacqui, se ben gli miei fossero ricchissimi; e la ho acquistata con il miglior mezzo e più laudabile di ogni altro, che è il mezzo della santa agricoltura: e non con mezzo di armi, e sforzi, e danni d’altrui: né con il mezzo di passare mari con infiniti pericoli della vita: ovvero con altri mezzi pieni di contrarii.”
however, one should not lose from sight that another major outcome is entailed in the
territorial reconfiguration promoted by land reclamation, that is, the specular and
symmetric regulation of human fluxes and anthropic activities. Land reclamation,
indeed, ends up acting as a check against erratic movements, settlement patterns,
modes of production. It eliminates the apparent randomness and uncertainty of
hunting and gathering, substituting them with the regular and easily quantifiable
revenues of agriculture. It shrinks the spatial range of the production area, eliminating
the straying and roaming required by foraging across common-property lands, and
attaching production to the strictly localized unit of the privately-owned field. Finally,
given the necessity to mobilize, equip, and coordinate impressive amounts of labour
for its very actuation and ensuing maintenance (Cazzola 1990: p. 19), it “canalizes”
social forces towards common and administrative aims, thus contributing to the
creation of a large workforce at disposal of the state and its goals of “public utility”.

In the same perspective, should also become evident the potential and capability
of land reclamation to absorb and assimilate alien and recalcitrant spaces into
hegemonic territorial practices. Wetlands drainage does not only promote an action of
homogenization of a physical surface, uniforming and integrating the once-hybrid
space of the marsh into the dominant solid earth’s extension. It does also apply a
similar treatment to hidden and fleeting economies, to local and hardly traceable
forms of resource exploitation such as the ones hosted by swamps, which are
displaced and re-assimilated into the open spaces of vertical control and taxation.
Scott underlines the difficulties encountered in pre-modern times in extending a fiscal
regime over common-property resources and other activities than agricultural
production (1998: p. 38), and recalls that, rather than upon considerations of sheer
productivity,

The state’s case against communal form of land tenure […] was based on the correct
observation that it was fiscally illegible and hence fiscally unproductive. (Scott 1998: p. 39)
From this standpoint, then, land reclamation comes to provide a tool for rearranging
entire communities of producers-consumers, drawing them from a position of fiscal
marginality, and making them into a population of taxpayers. It transforms areas
previously sterile of fiscal yields, into parcels of land prone to be mapped, monitored,
and subjected to the logics of that determinant device of state-building (Pedratti 1996:
p. 238), which is the state cadastre (see also Scott 1998: pp. 44-47, 282).
The territory progressively built through the activity of reclamation is also one—we are inclined to suggest—where new and different forms of sovereignty and control can be enacted. Denying wetlands, land reclamation erases out the most valuable hideouts of the lowlands (about marshes as hideouts and sites of resistance and rebellion, see Giblett 1996: pp. 205-226). Specularly, it removes some of the most consistent hindrances to the rapid movement of troops, and consequent military control of the territory (Andreolli 2000: p. 433). And, finally, at the micro level of everyday life, it does foster—as already suggested earlier—a new scopic regime of the countryside. Breda remarks how, in common folk-expressions and idioms, entering the marsh implied an act of penetration, descent, immersion (2000: pp. 65-66). The activities hosted by the wetland take place like in a submerged and concealed underworld. But it would be hard to claim the same in regard to the agricultural fields—perhaps cultivated as corn monocultures!—that progressively got to cover the Po Plain. Land reclamation contributes to enlarge the domain of the gazing and controlling eye, removes the obstacles that stood on its way, takes it to embrace further displays of human labour, production, and movement across the plains. Altering the environmental and visual configuration of an area, land reclamation indirectly becomes a means of social monitoring based on spatial characteristics, thus granting truth to the spread ideological belief that draining wetlands promotes morality—the morality fostered, indeed, by enhanced forms of control.

Finally, through the excavation of ditches and building of canals, land reclamation substitutes with the rationalistic (Giblett 1996: p. 72) and mercantile (Scott 1998: pp. 58-59) logics of the straight-lined grid, the earlier fluid and elusive nature of the wetland’s hybridism. It draws neat and permanent boundaries, where before lied the shifting, mutable, and transient borders of the marsh. And it is in virtue of this ability to draw enduring boundaries, foster location-bound settlement patterns and modes of production, and enhance territorial control, that land reclamation can safely be seen as structurally contributing to a fundamental development in European modern history. That is, the formation of models of economic production and political organization that are not only territorial, but, moreover, territorially fixed (Gupta 1998: p. 309) and immobile.

It is undeniable that the full potential of land reclamation as an instrument of human-environmental administration will be unleashed only in the later age of modernity, in the hands of the fully constituted territorial state, and fuelled by the
ideologies of “high modernism” and the possibilities disclosed by technological progress. We hope to have shown, however, that the activity of land reclamation in the Po Plain is expression of city-centred and agrarian-oriented territorial regimes, which sink their roots considerably deeper in the layers of history. In this sense, land reclamation got to represent – in virtue of the models of territoriality it contributed to implement, paving the way to the modern state – a foundational moment and structuring element in the consolidation of that very power entity, which it was intended and designed to serve.
What is high modernism, then? It is best conceived as a strong (one might even say muscle-bound) version of the beliefs in scientific and technical progress that were associated with industrialization in Western Europe and in North America from roughly 1830 until World War I. At its center was a supreme self-confidence about continued linear progress, the development of scientific and technical knowledge, the expansion of production, the rational design of social order, the growing satisfaction of human needs, and, not least, an increasing control over nature (including human nature) commensurate with scientific understanding of natural laws. High modernism is thus a particularly sweeping vision of how the benefits of technical and scientific progress might be applied – usually through the state – in every field of human activity. […] one might say that the high-modern state began with extensive prescriptions for a new society, and intended to impose them. (Scott 1998: pp. 89-90)

We start with saying that the imposition of precise historical and conceptual labels will not be the central concern of this chapter. Consequently, we will leave aside the question whether or not different state experiences of modern Italy (the present analysis will be extended to the 1940s) can safely and entirely be defined as “high-modernistic”, as a theoretical goal substantially beyond the scope of our inquiry. Said this, the fact remains that Scott’s above-cited characterization of high modernism as an ideology storming the Western world, across both national and political boundaries, can still constitute a most valuable frame and guideline for better interpret the Italian case, and assess its relative specificities.

Already in the previous chapter, we outlined and stressed the importance of land reclamation as a means for the actualization of the state’s territorial vision, and modern state-building itself. The trajectory we traced, however, mainly referred to times when the very idea of the state as a fixed, and markedly territorial entity was still at the larval stage – at most, a process under construction – and the Italian peninsula fragmented in a plethora of duchies, principalities, lesser kingdoms, etc. In this chapter, instead, we will be mostly concerned with the complementary and directly ensuing continuation of that story, that is, the equally structural and indissoluble relationship between land reclamation, and the fully-constituted modern
unitary state, for the first time embracing the ideal borders of the Italian national community, in that territorial construction known as nation-state (about state-building, nation-building, and the eventual encounter of the two in modern Europe, see also Gupta 1998: p. 309).

Mioni explicitly identifies in the decades from 1860 to 1880, coinciding with the political – and hence economical – unification of the Italian peninsula, a neat line of historical demarcation, between a static “before”, when territorial transformations proceeded at a very slow pace, and an “after”, when the rhythm of their actuation became progressively faster (1976: pp. 13-14). And such a remarkable increase in velocity, Mioni argues, was inherently determined by the very logics – we would be inclined to call them “discourse” – that subtended the territorial interventions of the new unitary state – logics, which set development as their primary and uncontested objective (ibid: p. 13). It would first be in a developmental perspective, then, that we are invited to see the territorial mutations affecting modern Italy. But already in radical anthropological thought, the discursive distinction, which not only separates, but should even oppose “development” to “colonialism”, has been subjected to trenchant criticisms (see, for example, A. Escobar 1995). And with a certain wit, Giblett concludes that “modernity is colonialism at home; colonialism is modernity away from home” (1996: p. 71). So that, in the end, also the efforts of development and “modernization” carried out by the modern Italian state could be crudely reconducted – at least to a certain extent – to that same matrix. Hence, development and modernization as an operation of inward and domestic colonization, undertaken by an urban intelligentsia, which “conceives of its mission as the dragging of a technically backward, unschooled, subsistence-oriented population into the twentieth century” (Scott 1998: p. 96).

Over the last decades, we have become largely acquainted – and not least within anthropology itself – with such expressions as “domestication”, “socialization”, “humanization of nature”. And certainly, from the standpoint of our theoretical approach, similar takes mostly represent remnants of philosophically slippery and mutilating ways to conceptualize human-environmental relationships. In the context of the present discussion, nonetheless, it would seem interesting to highlight a revealing asymmetry: a rather popular and frequent discourse on the “socialization of nature” has hardly been matched – if not for a handful of more or less explicit exceptions (for instance, the already-cited Scott 1998 and A. Escobar 1995; and
Ferguson 1994) – by an analogous one on the “naturalization of society”. And yet, it is precisely by such an expression that we can synthetically label the ideological accretion, which often appears to subtend and inform the discourse of modernist development.

By the “naturalization” of society, indeed, we basically refer to a set of discursive practices, by which the models of understanding, description, prediction, and manipulation of “nature” – the objective and objectively knowable “nature” of rational Positivism, to be more specific – are linearly transferred and applied to human communities. A set of practices, in sum, by which human society could be discovered and constituted “as a reified object that was separate from the state and that could be scientifically described” (Scott 1998: p. 91). The bulk of such practices can be outlined as including: the re-construction of a human community as “population” – population that “is not just the sum of individuals inhabiting a territory, but an object itself” (Elden and Crampton 2007: p. 7), a statistical aggregate of rates of death, fertility, literacy, healthiness, wealth, etc. The praxis to chart and describe communities in accordance to such statistical and demographic indicators, following the same criteria of simplification and rationalization previously employed in forests management (Scott 1998: p. 91) – because, in effect, the scientific population is nothing else but the ensemble of its demographic and statistical figures. The faith that, as it had been the case for forests, such figures can be employed – under the guidance of science and its laws – for the rational and prescriptive design of better and wealthier human societies, in the pursuit of an inevitable destine of progress (ibid: p. 92). The inclination, finally, to establish a mechanistic cause-effect relationship between an environment and its inhabitants, in a nearly “‘magical interpretation’ of space” (Huxley 2007: p. 195), which tends to “naturalize” and “de-politicize” the causes of situations of declared underdevelopment and “backwardness” (Carter 2006: p. 624).

It should appear evident how the modern and modernistic take on development is programmatically shaped and structured by the very definition of society as a “naturalized” entity. Modernist development itself, indeed, assumes its own legitimacy as a purely statistical and demographic fact: it comes to stand, in other words, for the process of numerical design, enhancement, and improvement of some – or all – of the figures, which represent and constitute society as a population. Such trends as the increase of the GNP, literacy and occupational rates, or the decrease of
mortality rate and criminality rates, thus, become the solid core of the modernist view of development. Given this as a rather manifest aspect, however, it is on the last of the practices mentioned above, that we would like to channel our attention, i.e. the “naturalization” and “de-politicization” of underdevelopment undertaken through the identification of spatial and environmental causes.

If development became the grand ideology and political scheme of the Italian national state, in fact, the plans for its successful actuation in the countryside were projected to pass, from the very outset, through the challenge and defeat of a villain in the plot: notably, malaria. A “malaria-blocks-development” narrative (Packard 2001) was thus thoroughly embraced by the unitary state, as an increasingly holistic framework for contextualizing, representing, and tackling the issue of the countryside’s underdevelopment. As Carter succinctly puts it,

In this narrative, insalubrious rural and urban landscapes, underutilized agricultural potential, unproductive labour […] were all bound together as a public health problem. Eliminating malaria was the first step towards creating landscapes of health and prosperity. (Carter 2006: p. 622)

Among the state’s authorities, malaria got emblematically and programatically labelled as “the disease of rural depopulation”, and believed to be “a disease of the terrain” (Novello 2003: p. 58) so intrinsically related to swamps, to even allow for the systematic and automatic equation of the two (Carter 2006: p. 646). “Backwardness” and underdevelopment, therefore, were easily recast not simply as an issue of public health, but more structurally as spatial and environmental problems. Which, as a logic consequence, asked for interventions of spatial and environmental re-arrangement as their fix. Inevitably, land reclamation came to be identified as the instrument offering such a fix. The very semantics of the term bonifica – previously employed to designate a number of cases of land and cultivation improvements – consequentially began to shift by the mid 1800s, becoming definitively entangled with ideas of sanitation, hygiene, and environmental healing, in rural and urban settings alike Mioni (1976: p. 182).

Albeit fundamental for the evolution of land reclamation throughout the 19th and 20th centuries, it is not our intention to linger here on the technical developments, which rendered viable and feasible operations of wetland drainage, previously believed unthinkable. In this sense, may it be sufficient to recall how the application to the activity of land reclamation of steam power and mechanical engines made for a truly epochal turning point. The spreading employment of water-scooping machines,
in fact, enabled the drainage of increasingly wider portions of marshland than ever in the past, it cut down the times required by the finalized reclamation of an area to just a few years, and, for the first time, it permitted to intervene even on the districts situated below the catchment drains’ level (*ibid*: p. 196). Analogously, we are not going to accurately chronicle and map out the intricate legislative acts of the post-unification state in matters of wetlands, malaria, and reclamation, and assess their relative efficacy. For our purposes, instead, we can just briefly dwell on the highly representative instance – being the first organic attempt at systematizing the activity of reclamation in a comprehensive national economic framework – offered by the so-called “Law Baccarini”, initially proposed in 1878 and finally promulgated in 1882. The law divided the interventions of reclamation in two categories, on the basis of their degree of “public utility”, that is, of their claimed importance in the fight against malaria (Mioni 1999: p. 74). And, in an attempt of decentralization, it recognized to private entrepreneurs and already existing *consorzi* (i.e. land-owners associations) an important role in the projected works’ actuation. First-category reclaims were financed for 75% of their cost with public money, and directly handled by the state, which was to mobilize and associate the affected land-tenants, and supervise the works. Second-category ones, on the other hand, were left entirely to private initiative, although public incentives could still cover up to 30% of the costs of realization (Mioni 1976: p. 200).

Having sketched and established this basic and strictly indispensable background, our aim would rather be to tease out and emphasize a few aspects, which appear particularly pertinent with regard to the discussion that opened the present chapter, or to our treatment of wetland drainage as a pivotal administrative and governmental tool. The first element worth of notice, despite quite self-evident, is the complete construction of the Law Baccarini and necessity for land reclamation undertakings around a precise narrative, which provides them with both an objective principle of self-justification, and an inner structuring logic, in the overriding terms of sanitation and “public utility”.

More revealing, probably, is to point out and emphasize the shortcomings of modernism’s “blind intelligence” in its approach to numerous cases of human-environmental planning, such as the one in question. As earlier stated, it is not among our goals to assess in detail the greater or lesser efficacy of the campaigns of reclamation and sanitation that the Italian state engaged against malaria. That it did
not make for a clearcut and indisputable success, however, can be gathered by the remarks of earlier commentators. Novello, for example, concludes that

Also the effects of hydraulic reclamation had been overestimated. In the early 1920s, in many drained areas, the instances of infection even happened to increase. (Novello 2003: p. 233)

But, even more than in this raw fact, it is by dissecting it in its uneven geographical distribution, that we come across the factor of highest interest, appearing, indeed, as a clear testimony and denounce of the limitations of modernist developmental models and their overly simplifying analytical assumptions. The context, we suggested earlier, is the great absence from the laboratory-inspired modernistic and positivistic frameworks. It is dissolved in the aggregate statistical figures that, pretending to construct and photograph a national population, often end up representing no actual local reality; or in the establishment of mechanistic cause-effect relations – such as the one between space and inhabitants – which are treated as so “naturally” universal to be validly applicable to any situations, however diverse they might be. Thus, it should be stressed, it certainly cannot be denied that the Law Baccarini locally produced some truly spectacular outcomes in terms of agrarian “development” and malaria control. They became such, however, only in the regions of the Po Plain itself, where the state-sponsored opportunities of massive funding could be profitably received and coupled with an adequate institutional network and technical know-how, built in the course of the centuries and already present on the ground (Cazzola 1987: p. 53). While the results remained literally unimpressive, if not utterly null, in the Mid and Southern sectors of the country, where, on the contrary, the struggle against malaria actually constituted more of a social and health emergency (Bevilacqua 1996: pp. 67-68).

Also in the light of the uneven and generally scarce achievements of those state-sponsored campaigns, it has been suggested that the fight against malaria constituted little more than a plain ideological cloak behind which was concealed “the restoration of capitalism in the countryside” (Mioni 1976: p. 200). Under the excuse of public utility, in sum, the state could have granted economic coverage – and consequently rendered risk-free – to cyclopic operations that at each of their stages (financial, technical, agricultural) mostly benefited private investors (ibid; and also 1999: pp. 71-74). Although we do not see valid reasons for rejecting a similar outlook in its

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48 “Anche gli effetti della bonifica idraulica erano stati sopravvalutati. Nei primi anni Venti in molte aree prosciugate si verificò addirittura un aumento dei casi d’infezione […]”
entirety, we are nonetheless inclined to disagree with its reading of the struggle against malaria merely as an ideological means at the service of “big capital”, and not also, at least to a certain extent, as a state end in and by itself. We find it hard, in effect, not to recognize in the mobilization around wetlands of a discourse on hygiene, health, and sanitation, a rather manifest example of the “Discipline and Drain” logics, a significant “part of the general move in the nineteenth century to police, regulate and place under surveillance the life of populations” (Giblett 1996: p. 120; and also Foucault 1979). Nor to place it in any connection with the practices of statistical gathering, handling, and monitoring (as it is suggested by the reading of any report on the anti-malaria campaign, such as the one by activist Angelo Celli (1908)), by which, as we have seen, the population of the modern state is first and foremost constituted and individuated as an object. Once again, then, the practice of land reclamation on Italian ground comes to directly intersect and overlap with the fundamental themes of state-building, and social government and control. And in this sense, it is probably far from accidental that the specific weight of land reclamation as a top-down enterprise, explicitly aimed at channelling and containing social as much as hydraulic “disorder”, got to increase to unprecedented levels throughout the 19th and early 20th centuries, even outside and independently of the anti-malaria framework.

The Po – and generally Italian – countryside of the 1800s, in effect, got to be markedly destabilized by the rapid growth of a large rural proletariat, lying in a state of misery, unemployment, or only semi-employment (Cazzola 1996: pp. 216-217). Having effectively organized themselves in syndicates – also thanks to the cohesion and cooperativeness required by hydraulic work itself – those roaming, labour- and land-thirsty masses had come to represent a serious revolutionary threat to the established social and political order (ibid: pp. 46-47, 105-106, 163). In that context, then, the continuous undertaking of ever-larger works of drainage, by which new temporary work and arable land could be created, became the pivotal and most usual means to withstand and respond to the social pressure and often-violent demand for labour in the countryside. Already by the end of that same century, the function of social and political stabilization played by land reclamation had become so established, to be officially accepted – *de facto* if not *de jure* – as a common
governmental praxis (Mioni 1999: p. 74), even to the most paradoxical and contradictory consequences\footnote{“[…] a un certo punto le grandi bonifiche capitalistiche non hanno potuto più arrestarsi e sono dovute proseguire anche quando la loro convenienza economica si è ridotta o annullata, col solo obiettivo di dar lavoro ai braccianti, di appoderare e quotizzare nuovo terreno, di sdrammatizzare la tensione politica e ricomporre la struttura sociale”.
\footnote{To give a concrete idea in this regard, it could be mentioned, for example, that just in the years between 1900 and 1915, Sereni counts no less than 238 separate and isolated cases of rural agitations and insurrections (1975: p. 225).}}:

\[\ldots\] at a certain stage the grand capitalistic land reclamations could stop no more and had to be carried on even when their economic convenience had reduced or disappeared, with the only goal to give work to the farm labourers, to create and share new arable land, to decrease the political tension and recompose the social structure. (Mioni 1976: p. 201)

And in fact, the grand reclamations of the capitalistic state did not stop, but rather accelerated in the first two decades of the 1900s, under mounting social pressure and accruing peasants’ mobilizations\footnote{To give a concrete idea in this regard, it could be mentioned, for example, that just in the years between 1900 and 1915, Sereni counts no less than 238 separate and isolated cases of rural agitations and insurrections (1975: p. 225).}. So, whereas the terrains officially assessed as “marshy”, and thus identified as reclamation sites, amounted to 764,000 ha and 1,079,000 ha, in 1865 and 1903 respectively, they came to abruptly leap to an overall total of 1,816,000 ha, by 1915 (768,000 ha of which constituted by already finalized drainages). While by 1930, under the further impetus given to bonifica by the newly constituted fascist regime, those same figures even arrived to spike up to such peaks as 2,750,000 ha, distributed across the national territory (ibid: p. 211).

It has been observed that the legislations and interventions promoted since 1924 by the Italian fascist regime (1922-1943) in matters of land reclamation essentially introduced little or no novelty, and rather represented a direct continuation of the examples set by the previous national governments (Novello 2003: p. 15). The framework elaborated by the post-unification state, in effect, would have anticipated and included most of the elements, which also contributed to the regime’s own take on land reclamation. Thus, such aspects as state-sponsored incentives to public investments (ibid: p. 272), the discursive prominence of the anti-malaria struggle as a rationale for wetlands drainage (ibid: pp. 282-283), and the resort to land reclamation for channelling malcontent and stabilizing the social turmoil of the countryside (Bevilacqua and Rossi-Doria 1984: p. 61; Serpieri 1929: pp. 196-197), although fundamental in the fascists’ approach, would have already been largely forerun – as we actually saw – by earlier state experiences.
The observation may certainly strike a valid point—it does so, at least, as long as we attain ourselves to the historiographical analysis of land reclamation in its more properly technical aspects. We believe, however, that the perspective quite radically changes, once the focus of inquiry is broadened, and the fascist re-reading of the “Discipline and Drain” set in its wider ideological and discursive context. The regime’s take on land reclamation might well not stand particularly out for innovation and originality. It does undeniably display, nonetheless, an unprecedented degree of exasperation and radicalization in its reworking of previous themes and conceptions, whereby the ideological currents that for long ran deep in Italian history, are definitively explicated, manifested, and rationally reorganized into a grand Italic narrative. And it is true, as Carter remarks, that the role of “a sweeping historical narrative”—according to which “land reclamation, rural development, and improved health were seen as interrelated outcomes of malaria control” (2006: p. 233)—was already played by bonifica, even before the fascists’ involvement. On the other hand, however, it does also seem necessary to insist on the constitutive differences that separate that narrative from the fascist one, and on the place occupied by land reclamation inside them. After all, the plain fact should not go completely unnoticed that they were engendered in political contexts—a liberal-bourgeois nation state on the one hand, a totalitarian dictatorship on the other—where the pervasiveness of state ideology, the range for state manipulation of individuals and collectives, and the exercise of unconditioned state power on the population, stretched to different extents.

We emphasized in the previous chapter the developing and unfolding in the Po Plain of territorial regimes that, radiating from the urban core, found in the agrarian reconversion of the countryside one of their primary tenets and objectives. Also the fascist experience of human-environmental management positioned itself in that wake, actually representing the moment of its ideological and programmatic culmination: the country’s “agricultural vocation” (Mioni 1976: p. 25)—or rather, its Po Plain variant, exported and imposed as a prototype onto the rest of the peninsula (Novello 2003: p. 227)—was definitively celebrated as and assumed to the status of a national ideal. The fascists’ model of territoriality, indeed, found its privileged field of application in the countryside, where it came to be configured as the authoritarian and declared attempt towards the realization of a rationally designed and centrally planned (Serpieri 1929: p. 198) national and agrarian utopia (see also Carter 2006: p. 636)—or, as it has been succinctly defined, rural totalitarianism (Mariani 1976: p. 68).
It is quite an emblematic fact, that the whole fascist policy on the issues of drainage and the countryside in general was effectively resumed under the rather eloquent label of *bonifica integrale* (which could roughly be translated as *integrated*, but also *total* land reclamation). Technically, by such label was meant a novel and more holistic approach – elaborated by the most renown technicians of the time – which aimed\(^{51}\) to overcome the fragmentation of the public interventions on the territory and intend land reclamation as an undertaking that had not only to ensure hydraulic arrangement and sanitation, but also, at the same time, implement the agrarian and social transformation of the territory affected by the works.\(^{51}\)

\[(\text{Cazzola 2000: p. 510})\]

In this sense, Arrigo Serpieri – certainly the most prominent theorist and promoter of *bonifica integrale* – cared to neatly distinguish between two distinct phases in the reclamation enterprise\(^{52}\):

1) to free the land from the obstacles that hinder better human coexistence: negative phase;
2) to build, set up the works that enable that better coexistence: positive phase.\(^{52}\)

\[(\text{Serpieri 1929: p. 193})\]

The first phase included such activities as the felling of forests, or, evidently, the drainage of wetlands. The second, instead, more or less coincided with the ensuing process of land colonization: the allotment and distribution of the new available fields, the construction of works for its maintenance and of the human settlements, etc. It is this second phase that, according to Serpieri, had been largely overlooked in earlier undertakings, making the fruits of land reclamation appear disappointing, compared to the hopes that preceded them. The principles of *bonifica integrale* meant to rectify such a state of affairs. Therefore, they insistently and consciously stressed the fundamental importance of that second, positive phase and its implications\(^{53}\):

\[\text{Just think […] what profound repercussions not only of economic sort, but also moral, intellectual ones, in sum, on the whole human life, can have the choice of the mode of colonization, meaning with these words the way human inhabitations, and hence human communities, family unites, are distributed on the ground.} \]

\[(\text{ibid: pp. 195-196, italics in original})\]

The approach of *bonifica integrale*, in sum, deliberately and thoroughly aimed at the human-environmental reorganization of entire districts, in a perspective that can

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\(^{51}\) “[…] di superare la frammentazione degli interventi pubblici sul territorio e di intendere la bonifica come opera che doveva non solo assicurare la sistemazione idraulica ed il risanamento igienico, ma anche, simultaneamente, operare la trasformazione agraria e social del territorio interessato dalle opere”.

\(^{52}\) “1) liberare la terra dagli ostacoli che si oppongono alla migliore convivenza umana: fase negativa; 2) costruire, edificare le opere che consentono quella miglior convivenza: fase positiva”.

\(^{53}\) “Pensate […] quali profonde ripercussioni non solo economiche, ma morali, intelletuali, su tutta, insomma, la vita umana, può avere la scelta del modo di colonizzazione, intendendo con queste parole il modo col quale le abitazioni umane, e quindi i gruppi umani, le unità famigliari, sono distribuiti sul suolo”.

\[105\]
be synthetically resumed as agricultural colonization. Again, as the last passage by Serpieri clearly shows, the accent was posed on a sort of ecological – but highly schematic and stylized – view of the relationship between man and his surroundings, where spatial and environmental patterns were attributed determining causative properties on social organization. Until here, nevertheless, the impression remains that the specific novelties introduced by the fascists’ take on *bonifica integrale* are rather scarce. It is undeniably true that the “nearly ecological vision” (Carter 2006: p. 634) of Serpieri’s theorizations surely appears endowed with a more conscious and self-aware understanding of the placement and effects of land reclamation in the state’s policy-making. Besides that, however – and as we already foreshadowed – its constitutive elements remain basically the same, as those that characterized the previous approaches promoted by the post-unification state, including, not the least, a special regard for land reclamation as a fundamental fix to malcontent and uproar in the countryside:

In our very dense population working the fields, a large share is represented by occasional workers, wage-labourers [...], poor men who roam from one region and nation to the other, without ever any certainty about tomorrow [...]. How, if not by bonifica integrale, can this miserable proletariat be brought to adhere again, with stable and continuing relations, to the mother earth, giving it ease of life, subtracting from society venomous seeds of social disgregation? (Serpieri 1929: pp. 196-197)

It has been even suggested, in effect, that the very notion and idea of *bonifica integrale*, rather than constituting a revolutionary innovation of the fascist regime, did actually sink its roots already in the preceding decades, and by the regime it was simply borrowed and propagandized (Novello 2003: p. 211).

An additional aspect, however, is present in the theoretical formulation of *bonifica integrale*, which, on the contrary, stands out as strictly peculiar to the fascists’ take.

We cite again from Serpieri’s programmatic exposition:

When one says “to realize better social coexistence” a goal is set where to economic values are necessarily joined the highest spiritual values.

This must become most evident when one reflects on the fact that the works of bonifica integrale also regard men’s health, the vigour of the race. (Serpieri 1929: p. 195, my italics)

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54 “Nella densissima nostra popolazione lavoratrice dei campi, un grosso contingente è rappresentato dai lavoratori avventizi, dai braccianti […], poveri uomini randagi dall’una all’altra regione, dall’una all’altra nazione, senza mai sicurezza alcuna del domani […]. Come, se non con la bonifica integrale, può riportarsi questo miserando proletariato ad aderire di nuovo, con rapporti stabili e continuativi, alla terra madre, dando ad esso tranquillità di vita, sottraendo alla società germi venefici di disgregazione sociale?”

55 “Quando si dice “realizzare una migliore convivenza sociale” si pone un fine nel quale ai valori economici si affiancano necessariamente i più alti valori spirituali. Ciò non può non apparir evidentissimo quando si rifletta che le opere di bonifica integrale riguardano anche la sanità dell’uomo, il vigore della razza”.
The concept of land reclamation thus enriched, in the fascist view, of one more objective and motivation, which partly overlapped with but ultimately transcended that of public health: the strengthening, consolidation, and eventual triumph of a so-calledItalic race, later redefined by Mussolini in the Spenglerian terms of civilization (Spengler 1957). And it would be misleading, we believe, to consider this last element just as a late add-on, or peripheric embellishment. It did in fact constitute, rather, a grounding and fundamental ingredient to the entire fascist take on the issues of reclamation and agriculture at large.

It has been repeatedly and long remarked that ruralism and agrarianism became, at least since 1927, the central and pivotal tenets of Mussolini’s political and national vision, filling that ideological gap, which had characterized the fascist movement for several years (ibid: p. 43). The roots of such a development, however, can certainly be traced to even earlier times. Already in a 1924 speech, for instance, Mussolini’s imperialistic and pseudo-revolutionary rhetoric overtly passed through the extolling of Italian rurality and the idealization a new social figure – the fascist “farmer-soldier”, constituting the solid backbone of the country’s and regime’s stability:

“We must render Fascism a mainly rural phenomenon. At the bottom of the cities nested all the remnants […] of old parties, old sects, old institutions. Italian people are mainly rural: out of four million fighters, certainly three and half were rural. Rural fascists are the most solid; rural soldiers are the most disciplined. They can be asked for resistance to fatigue, endurance of hardships and an absolute discipline.”

(Mussolini, “Vivere pericolosamente, 2 August 1924”, in Mussolini 1934: p. 226)

Mussolini’s exaltation of ruralism and anti-urban stance certainly echoed a deeper and historically engrained cultural aversion for nomadism (Mariani 1976: p. 85), of a similar kind as we have already encountered in the previous pages. They did also largely rely, however, on the Spenglerian consideration that “fertility is a political force”, whereas modern city life appears to negatively affect birth rates, thus weakening the potency of the nation itself (ibid: p. 82). Interestingly, with such a

56 It remains an open and multifaceted historical dilemma, whether the fascist era did actually make – as it claimed – for a radical upturn in the city-countryside territorial relationship, for the first time privileging the latter over the former. Or, as Treves holds (1980: p. 321), if the regime’s ideologies of ruralism and urban aversion in reality simply hid a political scheme, still aimed to support industry and cities at direct expense of the countryside. In the declared impossibility to shed additional light on a similar riddle, we can only proceed with our analysis of the fascist agrarian narrative and some of its implications, believing that it does represent, anyways, a fundamental chapter for the understanding of land reclamation in Italy.

57 “Bisogna fare del Fascismo un fenomeno prevalentemente rurale. In fondo alle città si annidavano tutti i residui […] dei vecchi partiti, delle vecchie sette, dei vecchi istituti. Il popolo italiano è prevalentemente rurale: su quattro milioni di combattenti, certamente tre e mezzo erano rurali. I fascisti rurali sono i più solidi; i militi rurali sono i più disciplinati. Si può chiedere loro la resistenza alla fatica, la sopportazione dei disagi e una disciplina assoluta.”
move, the ideal of national “development” pursued by the previous liberal state, with all its apparatus of indexes and rates, was drastically simplified, and the concept of population further “naturalized”, being essentially reduced to a crop-like entity, defined by the most basic of demographic factors: plain and sheer population number.

So, indeed, theorized Mussolini:

I state that not the fundamental, but prejudicial datum of the political and hence economic and moral power of the nations, is their demographic potency. (Mussolini 1927: p. 15)

In this broader context, then, it appears more evident how the doctrine of bonifica integrale was in effect plotted to become, in the intentions of the regime, not only a more technically integrated approach to the practice of land reclamation, but, in effect, a truly total political and national fact. Coordinated operations of land reclamation and colonization were meant to represent, indeed, the pathways to the extensive ruralization and agricultural reconversion of the country. And, consequently, fundamental and obligatory steps in the accomplishment of the nation’s highest destiny, in accordance to the anonymous but very revealing slogan, Bonificare la terra per bonificare l’uomo, bonificare l’uomo per bonificare la razza, i.e. “to reclaim the land, and with the land the men, and with the men the race” (cited in Carter 2006: p. 634). It is highly significant, in this regard, that the 1928 law on bonifica integrale – known with the emblematic name of “Law Mussolini” – was actually declared “the regime’s fundamental law” (Mariani 1976: p. 66), underlining its supposedly cardinal role for the realization of Mussolini’s war-agrarian national scheme.

In the fascist experience of land reclamation, in sum, the typically high-modernist obsession with the technocratic and rational design of environments and societies, their disciplining and regimenting into superimposed predictable patterns, thoroughly blended with an ideological view, where the triumph of “the nation” had displaced that of “progress” as ultimate goal and objective. And also in this light, it probably is not secondary to emphasize and appreciate the prominence that land reclamation could hold for the regime, not only as a technical device in the implementation of agrarian policies, but also in virtue of its potential as a discourse of propaganda. The multifaceted symbolisms of bonifica integrale, in fact, could effectively epitomize and convey nearly everything the regime claimed to uphold and stand for: discipline,

58 “Affermo che dato non fondamentale, ma pregiudiziale della potenza politica e quindi economica e morale delle nazioni, è la loro potenza demografica”.
order, fertility, affluence, masculine willpower, state and national potency, the archaic and nostalgic celebration of Italy’s agricultural and rural heritage, and, at the very same time, the futuristic exaltation of machinery, technique, technology, and their efficacy as instruments of power and dominion. In the fascists’ discourse, land reclamation could thus come to offer a concrete, dynamic, and tangible symbolization to both the regime’s efficiency, and triumphing ideological principles. In this perspective, then, it is not nearly surprising that the fascist state employed its most extensive drainage enterprises of reclamation – in primis, the one directed at the drainage of the notorious Pontine Marshes59 (Mariani 1976: pp. 60-61; Caprotti 2007) – as a privileged subject and example for internal propaganda. Similarly, it even seems licit to suggest that the highly fractioned and linearly geometric fields and estates generated by mechanical reclamation came to stand, in the fascist experience, not only as more rational and functional principles of agricultural management and design (Mioni 1999: pp. 58, 63). Those newborn landscapes dominated by partitioning and straight lines, in several respects, also got to represent a living and enduring panegyric to the regime’s political activity aimed at restoring – through will, technique, or whatever other means – notions of order and discipline over erraticism, anarchist convulsions, lack of structure.

Following such considerations, it can result particularly interesting to dwell on some extracts from two “scientific” reports on the drainage of the Pontine Marshes, as effective illustrations of the role of land reclamation in fascist discourse. A first passage from 1935, for instance, provides an insightful re-reading of the typically high-modernist nature-society dichotomization, and its resolution in the belief “that it was man’s destiny to tame nature to suit his interest and preserve his safety” (Scott 1998: pp. 94-95). In particular, should be noticed and emphasized the war-like and marshal treatment of human-environmental relations, the strongly gendered characterization of those two poles, and the resort to authoritarian male action as the only check against the negative manifestations of female nature’s unbound freedom:

[

[…

] such a rich and varied animal life was the consequence of nature free in all its manifestations, a triumphant nature: but unfortunately nature’s triumph concealed the defeat

59 For the following discussion, we will shift our geographical focus from the Po Plain, to also include the bonifica of the Pontine Marshes, situated in the region of Lazio, not distant from Rome. The reclamation of the Pontine Marshes, in fact, unquestionably stands out as the most significant case study, for representing the regime’s most massive undertaking in terms of reclamation, one of Mussolini’s own main five objectives (Giblett 1996), a highly propagandized case by Italian (regime-controlled) media of the time (Mariani 1976: pp. 60-61), and attracting a great deal of international coverage and attention (Caprotti 2007: p. 146).
of man and his activities […] nature had too strong an ally in malaria and the vast army of *Anopheles*. But finally there had to be the appearance of He who would tilt the balance of the centennial struggle by submitting to man, and He came, saw, and won.

(Lepri 1935, cited in Caprotti 2007: p. 149)

Equally – if not more – dense of suggestions can result the considerations of the two following celebratory passages, authored respectively by Mazzocchi Alemanni in 1938, still in regard to the Pontine reclamation, and by Carli in 1940, pertaining to the drainage of vast districts in the provinces of Mantua and Cremona, and thus directly affecting also Casalmaggiore:

Where the bursting waters brought the tragic disorder, whereby the plain rotted in the deadly marsh, today there is a vast, orderly network of collecting and draining canals, which gathers and discipline them, pouring them out into the sea, by natural fall or by the pumping of water-scoopers.
Where the wild thicket and the insidious mud and the intricate ponds dominated lethal, today stretch asphalted straight tracks and inter-property roads, harmoniously lie regular fields, rich of fruits, green of lush lawns, traversed by the thick web of canals and dykes, which develop for over thirteen thousand kilometres.

(Mazzocchi Alemanni 1938: p. 320)

The gigantic work of land and social redemption, named *bonifica cremonese-mantovana*, with its 53,000 ha drawn from the marshland in fifteen years of tenacious, brave and ingenious labour, with the hundreds of kilometres of its canals, with the vibrant might of its artefacts, with the roaring of its powerful machines and the slow flowing of the waters – no longer anarchic and errant – to the great streams of the Po and Oglio, is about to celebrate its inaugural ritual. […] for the modernity of some of its installations and the vastness of the reclamation district, it already accounts in the history of hydraulic engineering. It was the year 1923, when Eng. Giulio Chiodarelli, who was meant to assume the direction of this ingenious and peaceful battle from the beginning and maintain it till the victorious conclusion, already had in the archives the signed ministerial authorization to the general project […]

[ […] *bonifica cremonese-mantovana* […] is an eternal monument that men of Mussolini’s time have erected to the health and the labour of a proudly agricultural race.

(Carli, “La bonifica cremonese mantovana”, in *La Voce di Mantova* 17th March 1940, cited in Aliani 2004: pp. 142-144)

Also in these instances, the blurring of a series of conventionally modernistic dualisms and antitheses – whereby negative and positive terms are contrasted, and the
latter come to prevail on the former ones – may easily be the feature that first strikes
the reader’s attention. Thus, through the intervention of bonifica integrale and healthy
manly labour, sterile, insidious, treacherous, deadly, disorderly, wild nature is finally
and beneficially replaced by the emergence of an orderly, fertile, harmonious,
soothing, man-governed landscape, which appears to constitute the regime’s new take
on the classic pastoral trope (Carter 2006: p. 636). It is of the highest interest,
however, also to record and linger on the meticulous attention and positivist
celebration of those items, which have enabled the domination of “malevolent
nature”, and the emergence of the new anthropic and benign landscape. If
authoritarian male action, in sum, constituted the first tenet of fascist praxis and
ideology, the incidence of technocratic approaches – collecting and draining canals,
straight tracks, regular fields, web of canals and dykes, mighty artefacts, powerful
machines, etc. – as means of dominion and manipulation, here comes to be openly
identified and extolled as a second fundamental one.

But the most revealing passage to be found in Mazzocchi Alemanni’s report
probably is the one falling under the subtitle “The method”. “The method” we are
succinctly told “has been that of the concentration of the means and acceleration of
the times” (1938: p. 326, italics in original). It is the ideology – no more so “ingenious
and peaceful” – of the blitzkrieg. And in fact, in line with the regime’s declaredly
imperialistic and conquering vision, also the activity of land reclamation assumes the
contours of an actual war – a successful one, which sets a positive precedent also for
the military enterprises to come61:

[...] it must be recalled that the mass of workers [...] constituted a mass of soldiers in full
war, exposed to the most lethal perils. It must not be forgotten that the conquest of the Pontine
Agro has cost its casualties. If the times had been slowed down, such sacrifices would have
been enormously vaster, and perhaps they would have been so discouraging, to make give up,
as in the past, to the brave attempt.

(Mazzocchi Alemanni 1938: pp. 327-328, italics in original)

Land reclamation, in sum, has truly developed into a form of internal warfare for the
extensive rural reconversion of the country, for cultivating a numerous and prolific
rank of faithful and disciplined potential soldiers, through which the imperial destiny
of the Italic civilization shall eventually be achieved.

61 “[...] occorre ricordare che la massa di operai [...] costituiva una massa di militi in piena guerra,
esposta ai più letali pericoli. Non devesi dimenticare che la conquista dell’Agro Pontino ha costato i
suoi morti. Se si fossero rallentati i tempi, tali sacrifici sarebbero stati enormemente più vasti, e forse
avrebbero talmente scoraggiato da far sospendere, come nei tempi passati, l’audace tentativo”.
It would be limiting to claim that similar accounts just betray “antagonistic”, “competitive”, or “conquest-bound” relational patterns between people and environment. Rather, the antagonistic tension has also become evident between the state, its ends, and its subjected population. It is significant, in this sense, to cite also the considerations that close Mazzocchi Alemanni’s report:

It is not always the case of convenience from the standpoint of individualistic economy, but, often, and it is the case of Agro Pontino, of convenience that we may say economic yes, but from a standpoint which is social and, that is, of the Nation.

(Mazzocchi Alemanni 1938: p. 331)

And similarly mused Mussolini himself, probably inspired by his socialist background: “if the 19th was the century of the individual […] it can be thought that this is the collective century, and therefore of the State” (1939: p. 47). In the mature fascist vision, thus, the State and the Nation as super-organic entities have come to completely absorb and override the individual existence, which gets to be programmatically disposed and engineered from above, for the actuation of higher and transcendental goals – a stance visibly at work not the least in the regime’s holistic approach to “socio-ecological” manipulation. It is a wholesale but consequential radicalization and deformation of the modernist dream, which does also make a void of its originary philanthropic premises. Even the “Enlightenment belief in the self-improvement of man”, gradually evolved into the modernistic trust “in the perfectibility of social order” (Scott 1998: pp. 92-93), indeed, has substantially disappeared from the scheme. The ultimate and declared aim of the state is no longer to promote whatever an abstract, simplified, even a-consensual ideal of “progress” or human welfare: the triumph of the nation-state has eventually remained the only overt end of the nation-state itself. And in that self-referential drift, the Italian experience of modernization rapidly degenerated into one of the crowning and most dramatic failures of modernism and its dangerously totalizing premises, whereby, in a warning spiral, Fascism did truly reveal itself as “the boys’ own wet daydream of modernity and modernization which became a nightmare” (Giblett 1996: p. 115).

For the Benedictines, at the dawn of the Italian epos of wetlands and drainages that we briefly tried to trace, the practice of land reclamation – we can recall – held a precise religious value, as a means of individual as well as collective redemption. At

62 “Non si tratta sempre di convenienza da un punto di vista di economia privatistica ma, spesso, ed è il caso dell’Agro Pontino, di convenienza che potremo, sì, dire economica, ma da un punto di vista sociale e cioè della Nazione”.

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the end of our journey, following a centuries-long parable, a spiritual component is newly claimed to the drainage of wetlands, in the fascist theorizations of *bonifica integrale*: it is the spirituality of the obscure designs of Race and Nation, embodied and implemented by the totalitarian state. Along that trajectory, the individual, from protagonist of his own salvation, has been reduced to an unconscious and mere pawn in the actuation of the nation-state’s own intangible diagrams (Mariani 1976: pp. 70-71). And thus probably become, at the same time, one of the greatest social and philosophical enigmas in the age of modernization, technique, and instrumental rationality.
Part III

Shifting Borders:
Multivocality
and Anti-Reclamations
Floods:
The Shifting Borders in Environmental Narratives

The region of Veneto and, together, the Province of Mantua, besides those due to the qualities of courage and laboriousness of their populations, in these last fifteen years owe another fortune, of the highest importance, to the initiative and care of the State: that is, the royal decree, law 5/5/1907 that restored, after centuries, the Magistrate for Waters […]. Local care for a certain stream, deemed particularly insidious, was no longer sufficient: systematic, coordinated, overall, radical care was needed: it was necessary to face the mighty problem in all its parts and all its complexity, and gradually solve it as a whole, and quickly. Haste, indeed, was required: the evil habits of the Venetian rivers were worsening ever more. Every inundation was paving the ground to new inundations to come. Every inundation was becoming more disastrous. 

The passage refers to the reconstitution, after its demise since the fall of the maritime Republic of Venice, of the Magistrate for Waters, which the Italian parliament rapidly approved in 1907, on the wake of the disruptive floods that had stormed the region of Veneto in 1882, 1895, and, especially 1905. The newly established organism was meant to provide better coordination between the many water management institutions present on the territory, and therefore guarantee more effective hydraulic control (see also Novello 2003: pp. 127-129). The episode, although not particularly relevant for our purposes in and by itself, does anyways stand as forerunning and epitomizing many of the developments, which will characterize Italian water management and land reclamation since the second half of the 20th century, and upon which we will focus in the following pages.

1 “Il Veneto e, insieme, la Provincia di Mantova, alle fortune che sono dovute alle doti d’intraprendenza e di laboriosità delle proprie popolazioni, un’altra, di somma importanza, ne devono, in questi ultimi quindici anni, all’iniziativa ed alla cura dello Stato: il regio decreto legge 5 maggio 1907 che ripristinava, dopo secoli, il Magistrato delle Acque […]. Non bastava la cura locale di un determinato corso d’acqua ritenuto insidioso: occorreva la cura sistematica, coordinata, complessiva, radicale: bisognava considerare ed affrontare il problema poderoso in ogni sua parte ed in tutto il suo complesso e risolverlo per gradi nell’intero assieme, e speditamente. Era infatti da far presto: le attitudini malefiche dei fiumi veneti andavano aggravandosi sempre più. Ad ogni piena erano minacce nuove costituite per le piene successive. Ogni piena si faceva più disastrosa”.

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In a stimulating comparative analysis, Cronon underlines a simple and yet fundamental aspect about environmental narrative: “where one chooses to begin and end a story profoundly alters its shape and meaning” (1992: p. 1364). No remark could more suitably apply to the history of land reclamation in Italy. Was the rendering of that story meant to span, say from the Dark Middle Ages to 1936, when the Pontine Marshes were finally “tamed” and “subdued”, it could easily be portrayed as an irresistible tale of progress, civilization, emancipation from a hostile environment and a meagre subsistence economy. Easily could it be portrayed – to say it with one word – as a “tale of recovery” (Merchant 1996).

Integrating the events and developments that followed, in the course of just a handful of decades partially subverts that very perspective. On the one hand, floods and inundations – of the Po in particular – became more frequent and detrimental than they ever used to be – even more than the ones leading to the restoration of the Magistrate for Waters in 1907. On the other hand, not only did the last reclamations undertaken turn out unable to produce the social and economic bounties that had been recklessly promised (Mioni 1999: p. 75). They also began to be increasingly understood – as in the case of the Camarineans’ tragic downfall – as co-responsible for the inundations and precarious environmental balances which, with unforgiving regularity, unsettled the Po lowlands since the conclusion of World War Two. And, although until now similar drifts have not led to a thorough and radical rethinking of the experiences of the past, significant changes in the conception of land reclamation’s role, and water management schemes have admittedly started to take shape nonetheless. In particular, if nothing else, it can be witnessed that the relentless reclamations of the past have eventually left room to the most paradoxical – and till just a few decades earlier utterly unexpectable and unthinkable – conclusion imaginable. That is, the rise – even at the vertexes of the state administrations – of new doctrines, which proclaim the opportunity and desirability of a true sort of “anti-reclamation”. From systematically destroyed and cancelled as they were, therefore, wetlands have suddenly got to be – at least to a certain extent – not only preserved, but even cultivated.

It is a complex, multifaceted, and multilayered story, which could be narrated from a multiplicity of angles and perspectives. We will embark in the enterprise, once again, privileging the standpoint of politics, policies, and governance. Not because we believe it to necessarily make for the aptest stance. But rather, driven by the question
as whether a new way of conceiving and constructing territories and landscapes – different from the previous, modernist ones – can actually be seen as emerging from these rapid, and at times contradictory developments.
The Paradoxical Nature of Land Reclamation: Uniform Space, Hybrid Territories

[...] it is certain that, never as much as in this moment, we have the precise sensation, the profound conviction of the social value of *bonifica*: the latter is done not for the individual interest’s sake, but for the interest and progress of the community. [...] And I believe that the dream of all of us, that of having a redeemed Italy, will come true only by a grandiose enterprise of *bonifica*, enterprise that shall entail all of the facets of *bonifica*, as it has been defined over the last three decades. *Bonifica* that will range from the most important technical works to the most daring social innovations [...]. *Bonifica* that will constitute, as rightly says our Teacher, Prof. Serpieri, the true and thorough agrarian reformation of this renewed Italy. (ANBI 1992: pp. 33-34)

Thus, in 1947, the then-Minister for Agriculture and Forests, Antonio Segni, opened the second congress promoted by ANBI (the National Association for Land Reclamation) in San Donà di Piave². And for our purposes, those words – as much as many similar ones, which could be reported – retain the fundamental quality to strongly illustrate and draw attention onto an important factor. It certainly is safe and licit to suggest, as we just did above, that from the second half of the 20th century the Italian peninsula at large began to know a consistent veer in the approach to water and wetlands management. On the other hand, however, the fact cannot be let go unnoticed that those changes occurred neither immediately and disruptively, nor following the univocal and irresistible trajectory of innovation that some would have probably hoped for. Quite on the contrary, in effect, and as the stance of Antonio Segni most clearly reveals, elements of substantial continuity with the more or less recent past characterized at first the steps taken by the new Republican State.

² “[...] è certo che, mai come in questo momento, noi abbiamo la precisa sensazione, la profonda convinzione del valore sociale della bonifica: essa è fatta non per l’interesse dei singoli ma per l’interesse e il progresso della collettività. [...] E credo che il sogno di tutti noi, di avere un’Italia redenta, si attuerà soltanto attraverso una grandiosa opera di bonifica, opera che comprenda tutti gli aspetti della bonifica, come è stata definita in questo ultimo trentennio. Bonifica che andrà dalle opere tecniche di grande importanza alle più audaci innovazioni sociali [...]. Quella bonifica che costituirà, come ben dice il nostro Maestro, prof. Serpieri, la vera e profonda riforma agraria di questa Italia rinnovellata.”
Evidently, the country that emerged from the ashes and rubble of Second World War was very different from the one shaped and ruled by Mussolini and his authoritarian regime. And, equally evidently, such inherent differences could not leave untouched also the very domain of land reclamation, which had been so central and structural among the fascists’ preoccupations. Gone were the irrationalistic drifts and culminations of the modernist project, and their racial and nationalistic factual translation; gone was the totalitarian conception of land reclamation as an instrument of brute power, designed for driving the rural transformation and population growth of the country. Said this, nonetheless, it does appear indisputable and in many ways less obvious that a sense of engrained continuity was retained by the post-war Republican state in matters of reclamation. The influence newly exercised by the technicians of *bonifica integrale*\(^3\) and their “technocratic option” during the first years of the post-war reconstruction (also well tangible in the citation which opened the present chapter) was highlighted especially by Teresa Isenburg (1981: pp. 146-150; see also Cazzola 1986: pp. 438-439). Similarly, Mioni underlined how not only the framework of *bonifica integrale*, but even the models of social and settlement organization that they promoted, kept being adopted without redefinitions – and despite revealing largely outdated – all the way into the 1960s (1999: p. 75). Finally, it has been pointed out how also the link between *bonifica* and social and political stabilization was re-established and tightened all throughout the fifties, with new reclamations being continually undertaken as an emergency fix to turmoil and unemployment in the countryside (Isenburg 1981: pp. 80-81, note 9; and also Cazzola 2000b: pp. 511-512).

The years of the second post-World War thus opened under the sign of a virulent reprise of drainages and reclamations. Just in the southern region of the Po Delta, for instance, more than 25,000 ha of surviving marshes were wiped off and converted into agricultural fields between the 1950s and early 1960s (*ibid*). And large consideration and support were still accorded to a view of *bonifica integrale*, which remained imbued of many of those aspects that had characterized it in the first decades of the century: *bonifica integrale* as a premise and instrument toward social

\(^3\) Besides the already-mentioned name of Arrigo Serpieri, such group included personalities who had already been long invested with responsibilities at the national level, such as Jandolo, Brizi, Petrocchi, Ronchi, Ramadoro, Casini, and, later, Manlio Rossi-Doria, who, instead, had behind a wholly different background of opposition to the regime (Isenburg 1981: p. 82).
redemption and civil progress\(^4\), as *deus ex machina* for solving every problem of the Italian countryside\(^5\), *bonifica integrale* as synonymic with the agrarian reformation the rural part of the country was eagerly waiting for\(^6\).

As we already foreshadowed, it is not our intention to systematically track all the more significant developments that accompanied the Italian state’s approach to wetlands and water management after 1945 – a most interesting and promising history nonetheless, which for the largest part still awaits to be written. For the moment, suffice it to say that the Po Plain’s season of reclamations practically came to a definitive halt in the second half of the 1960s, under profoundly altered conditions and structural contingencies. Among these, certainly should be accounted the radical restructuring of the agricultural enterprise, which, in the frantic years of the Green Revolution, also invested with full force the Italian countryside.

A first idea of the shift of perspectives that had begun taking place in not even a decade can be acquired, for example, by comparing the words uttered at the third reclamation congress at San Donà di Piave (1962) by agronomist Remigio Baldoni, to

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\(^4\) At the third land reclamation congress, promoted by ANBI at San Donà di Piave in 1956, the Minister for Agriculture and Forests of the time, Emilio Colombo, explicitly stated that:

Here it is to be realized that not only has the activity of reclamation fostered agricultural development, but […] has also primed a complete development of civil life. A sign that *bonifica* is not only a maker of agricultural development, but also of broader economic activities and civil development.

(Colombo 1956: p. 79)

(Qui si constata che l’attività di bonifica non ha promosso soltanto il progresso agricolo, ma […] ha dato l’impulso ad un completo sviluppo della vita civile. Segno che la bonifica è matrice non solo di sviluppo agricolo, ma anche di più vaste attività economiche e sviluppo civile).

\(^5\) Browsing through the publications of the farmers’ publishing division, […] a very high number of articles dedicated to the agrarian reformation are encountered […]. The discourse carried out was monotonously the same: only by first accomplishing *bonifica* the way could be paved to the solution of the social question of the countryside: a way that, without shocks and disruptions, could modify the production and tenure relations.

(Isenburg 1981: p. 145)

(Sfogliando le pubblicazioni periodiche del Ramo editoriale degli agricoltori, […] si incontra un numero elevatissimo di articoli dedicati alla riforma agraria […]. Il discorso svolto era monotonamente lo stesso: solo compiendo in primo luogo la bonifica si apriva la strada alla soluzione del problema sociale nelle campagne: una strada che, senza scosse e senza sconvolgimenti, poteva modificare i rapporti produttivi e contrattuali).

\(^6\) This was, indeed, the perspective supported *in prmis* by Arrigo Serpieri at the 1947 reclamation congress, held at San Donà di Piave:

[...] too many Italians, even nowadays, are now aware of what an admirable instrument not only of economic, but also of social progress is the *bonifica*, as it is to be intended today. If that was better known, perhaps it would not appear unacceptable the thesis of the substantial identity between *bonifica* and agrarian reformation: or, more precisely, that an effective agrarian reformation cannot be else, but *bonifica* characterized by certain particular social connotations.

(Serpieri 1947: p. 41)

([...] troppi italiani, anche oggi, non sanno quale meraviglioso strumento di progresso non solo economico, ma sociale, sia la bonifica, così come oggi va intesa. Se ciò fosse meglio noto, non sembrerebbe forse inaccettabile la tesi della sostanziale identità tra bonifica e riforma agraria: o, per meglio precisare, che una riforma agraria vitale non può essere se non bonifica caratterizzata da taluni particolari connotati sociali).
the already-cited speeches given in the same institutional setting by Serpieri, Segni, and Colombo in the preceding years:

There is none who does not see [...] the modern necessity that agriculture assumes always more the shape of an industry; an industry that is vital and yields appropriately. By now, the agricultural dynamic must follow this road, if it is to survive. The concepts of land as a capitalistic investment that is secure, even if not profitable, and of the field as a refuge and protection against the worker’s unemployment, are over. The capitals that flow – and that hopefully will keep flowing to the land, because all of the Italian countryside, and bonifica in particular need great capitals to update and transform themselves – these capitals must bear fruit as any other man’s activity. The same can be said of labour; today, it seeks no more a refuge in the countryside, but new and dignified conditions of life, at least such as those that industry can offer [...]. (Baldoni 1962: p. 105, my italics)

Pondering over a similar stance appears important not only because it underlines that spreading urge for a technocratic reorganization and modernization of the agricultural practice in an overly productional sense, which largely characterized the rural history of the late 20th century. It does also seem to betray – and in several ways probably anticipate – with an unprecedented veer in attitudes with respect to the past, mutating perceptions of and faith in land reclamation as a model of spatial organization and territorial control. Land reclamation thus is no more a demiurgic means for stabilizing and transforming societies, for promoting their peaceful and orderly coexistence and economic and civil progress. Rather, from this moment, it is the very conception of bonifica integrale that necessitates updating and gradually transforming itself, in order to keep up to the pace of the broader transformations affecting the social – as well as environmental – context. The question remains open, however, and would probably deserve to be investigated in further depth, whether such a gradual loss of the blind faith in bonifica as a structuring and transformative principle was actually due to mutated socio-economic and technical conditions. Or, more simply, it had to be abandoned because – as it also has been suggested – by the 1960s the activities of reclamation had eventually come to fully saturate their potential range, no vast lowland areas of marshes and incolto being any longer available to be reclaimed (Agapito Ludovici, personal communication), turned into fields, and, essentially,

7 “Non vi è chi non veda [...] la moderna necessità che l’agricoltura assuma sempre più la fisionomia di una industria; di una industria che sia vitale e che renda adeguatamente. Ormai la dinamica agricola deve seguire questa strada se vuole sopravvivere. I concetti della terra quale investimento capitalisticо sicuro anche se non redditizio, e del podere quale rifugio e protezione contro la disoccupazione del lavoratore, sono finiti. I capitali che affluiscono – e speriamo affluiranno continuamente alla terra, perché tutta la campagna italiana e specialmente la bonifica hanno bisogno di capitali e di capitali ingenti per aggiornarsi e trasformarsi – questi capitali devono dare il loro frutto come ogni altra attività dell’uomo. Lo stesso diceasi per il lavoro; esso non cerca più oggi un rifugio nelle campagne, ma nuove e dignitose condizioni di vita, almeno quali l’industria gli offre [...]”.

8 Reference is to an informal conversation, held in Milan in February 2008, with the Head of WWF Italia’s Water Program, A. Agapito Ludovici.
justify a political view hinging on the notion of *bonifica integrale* as ultimate redeemer of the Italian countryside.

A few more words will be spent in the next chapter on the processes of re-conceptualization and redefinition of the role of *bonifica integrale* and its executive agents on the ground – the many *consorzi di bonifica* scattered over the country – and on the direction they have taken, especially over the last two decades. For the moment, we decided to only tease out some of the major elements of continuity in the practice of reclamation during the post-war years, and not merely for upholding an idea of coherence with the theoretical inclinations of the present study, but mostly to shed light on a fundamental aspect for the understanding of today’s role of *bonifica* in the Italian context. Some time ago, Bevilacqua and Rossi-Doria overtly lamented⁹

[... the scarce consideration and the feeble presence of the events of land reclamation in the historical reconstruction and Italian culture. Confined in ambiti of almost exclusively technical expertise, land reclamation has been nearly banished from the general horizon of our past, almost as though it had not been one of the most powerful triggers of the country’s development. A removal of extraordinary magnitude, which profoundly marks [...] a great part of the national culture.](Bevilacqua and Rossi-Doria 1984: p. 57)

The complaint is certainly grounded and insightful, and it does actually open up to several theoretical questions, which could profitably be applied to future research, especially in a comparative perspective: why, in the first place, such a removal? And why have analogous activities of drainage, water management, and “hydrophobic” attitudes (Zwart 2003) become a source of national pride and identity in different contexts, such as the Dutch one? Could, perhaps, the political reading, which we tried to establish, of the Po Plain reclamation as manifestations of “colonialist”, anti-democratic, and parasitical territorial regimes possibly offer a first, potential answer?

Larger and comparative questions aside, at present we will have to limit ourselves to notice that, however grounded and insightful, the above remark nonetheless does only cover but one side of the whole story. Because, if on the one hand the quasi-complete removal of *bonifica* from the most visible records of national history and celebrations certainly makes for a puzzling lack, on the other hand also the opposite appears as true. That is, the experience of Italian land reclamation as a whole, and of

⁹ “[...] la scarsa considerazione e la debole presenza della vicenda delle bonifiche nella ricostruzione storica e nella cultura italiana. Confinata in ambiti di competenza quasi esclusivamente tecnica, essa è stata come bandita dall’orizzonte generale del nostro passato, quasi non fosse stata una delle leve più potenti dello sviluppo del Paese. Una rimozione di straordinaria portata, che segna profondamente [...] tanta parte della cultura nazionale”.
its modernistic variant more in particular, although no longer enjoying the status of national narrative, because eventually snubbed in favour of industrial and hydroelectric development (Isenburg 1981: pp. 12-13), has nevertheless retained that of “sacred cow”. Never has that experience, indeed, been subjected to retrospective criticism, or to a healthy process of radical and thorough rethinking, never dissected beyond the square surface of numbers, agricultural yields, and flat economic productivity, and analyzed in its deeper but less evident implications. Thus, as we have seen, even after the disaster of Second World War, the discourse on reclamation kept being carried on in essentially the same terms, and by the same voices, as just one or two decades earlier. And even when the institutional circles of Italian bonifica finally started to renew themselves, such renovation always came from within, in the mild form of some necessary “upgrading” to mutated circumstances, and never in the guise of a more radical questioning of the past and its meanings. And in this sense – and as a concrete evidence of the unmovable and unquestionable place of the experience of bonifica in the Italian institutional context – it appears to be rather telling that the legal framework of land reclamation and water management in contemporary Italy remain the ones established by the Royal Decrees n. 1775 and 215 of 1933 (WWF Italia 2005: p. 9; Gruppo 183 ONLUS 2006) – that is, laws not only outdated, but even promulgated at the apex of the fascist rule over the country.

Yet, we believe, a thorough rethinking and reassessment of the historical activity of bonifica – one extending beyond the borders of the most committed environmental circles – would have been and would be a desirable undertaking. And not in order to diminish or deny altogether the reclamations’ more or less well recognized role as “triggers of development”. In that sense, in fact, we could even assume as valid the notion that

The patrimony of technical innovations – accumulated in other countries and America in particular in the previous decades […] – after 1950 found in the lands that had been reclaimed the most suitable environment for its employment (Bevilacqua and Rossi-Doria 1984: p. 73)

Which, consequently, led to a nearly twofold increase of land reclamation’s specific weight on agricultural productivity (ibid). Rather, a critical rethinking on the past experience of land reclamation would be welcome, in virtue of the ambiguous, even paradoxical legacy, which the Italian bonifica, by most standards, has left behind.

10 “Il patrimonio di innovazioni tecniche – accumulatosi in altri paesi e specialmente in America nei precedenti decenni […] – trovò dopo il 1950 nelle terre di bonifica l’ambiente più adatto alla sua utilizzazione”.

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Land reclamation – we already had the chance to point out several times and under several guises throughout this study – can be defined as an operation of ordering and simplification of space and substance. By reducing and uniforming, it does eliminate the problematic and aberrant “nature” of specific areas, the monstrous and unsettling hybridism of their being both land and water. It recreates space as a continuous and homogeneous extension, where mono-substantial solid earth substitutes the former hybrids of land and water. But in their attempt to simplify, purify, and de-contaminate hybrids, many instances of land reclamation – and, as we shall argue, the Italian bonifica certainly represents one dramatic exemplification – in practice end up merely replacing a typology of hybrid for another. The problematic promiscuity of land and water typical of wetlands is thus expelled, only to leave room to a new generation of equally ambiguous – although for entirely different reasons – hybridized forms, true cyber-territories now composed of solid earth and anthropogenic energy. Such is the outcome, in effect, of the mechanical variant of the bonifica operations undertaken since the 19th century through the systematic use of steam- and electricity-engined water-scooping machines.

A more than legitimate question, at this point, could easily be raised. We spent, in fact, a consistent deal of words and reflections in the first part of this study, aiming at reassessing and re-establishing the indissoluble and inseparable nature of human-environmental complexes, their inherently and mutually relational, interactive, and retroactive character, their co-evolutive dynamics. Is not the emergence of cyber, man-engendered and man-sustained hybrid spaces simply a development in line with those very tenets, simply another instance of that larger “reinvention of nature” (Haraway 1991) that has been characterizing the contemporary world? Certainly it is, and, in effect, the fact that the reclaimed lands of Italian bonifica have become caught in increasingly layered and tighter loops of action and retroaction can just be reasonably taken as further support to our stances, and to the theoretical soundness of considering the relational complex of organism and environment as a unitary agent in the diachronic process of evolution. But what is, then, the problematic nature that we have denounced as typical of the cyber-territories of the Italian reclamation?

It is not our intention to venture into the purely philosophical and epistemic question of which is the difference – if any difference is present at all – between the lands reclaimed via water-scooping devices, and those drained by the more ancient and traditional means of dykes, ditches, and canals. It could be wondered, in effect,
whether they should not be thought of as practically equivalent, being implied in both
cases the installation of and the total reliance of a certain territorial configuration
upon man-made technological implements. Leaving similar dilemmas aside, the
formulation of a first embryonic answer to the previous question could be attempted,
by recasting the issue in the pragmatic terms of resources governance, and economic
convenience and rationality – a possible case-study to come for environmental
economists and policy analysts. In such a perspective, then, a first paradox of the
Italian reclamations’ legacy could be identified with the fact of having realized and
maintained an intrinsically costly and conflict-riddled (given the competing interests
and stakes in the usage of available energy pools) model of territorial construction and
organization. And indeed, especially in a reality characterized by an ever-heavier
energetic deficit, such as the Italian state has historically been, the implicit
shortcomings accompanying a similar scheme could be emphasized and questioned.

The legacy left behind by the reclamations’ season, however, is charged also of
another, more evident, and much larger paradox – one, which is inherent to the very
foundations of modernity and of the modernist illusory dream, and that the aftermath
of the Italian bonifica blatantly explicates and renders manifest. Already in 1973,
subverting the ecological anthropology’s wisdom of the time (Dove and Carpenter
2008: p. 19), Clifford Geertz had the occasion to speculate:

It used to be thought that, although environment might shape human life at primitive levels
where men were, it was said, more dependent upon nature, culture-evolutionary advance,
especially technical advance, consisted of a progressive freeing of man from such
conditioning. But the ecological crisis has divested us all of that illusion; indeed, it may be
that advanced technology ties us in even more closely with the habitat we both make and
inhabit, that having more impact upon it we in turn cause it to have more impact upon us.

(Geertz 1973: p. 199)

The project of modernity did actually always try to realize in practice what had first
been postulated in theory: the total, ontological detachment and separation of man
from “nature”, his emancipation and elevation above the constraints of the physical
world and environment, finally tamed and completely subdued to human needs. Such,
arguably, was to be also the grand scheme and expectation behind the capitalistic
reclamations, and the bounties of enhanced agricultural productivity, which they
delivered. The eventual outcome in terms of broader human-environmental relations,
however, has turned out to be a rather different one.

It is much of a frail and precarious balance between human colonization and
environment, the one that has been established over the reclaimed lands of the Italian
peninsula. Rather than decreeing the unconditional mastery and emancipation of man upon and from environment, indeed, they seem to represent an apex in the entanglement of their relationships. “The lives of the ancients might have been entangled” writes Latour “but ours are even more so” (2003: p. 35) – and, in the present context, no remark could come out as more appropriate. Thus, in a radical overthrow, almost a historical nemesis, of the premises of the modernist project, the human-environmental configuration fostered by the Italian bonifica has eventually come to be one marked by ever-tighter, literally visceral and vital, interdependencies. The very existence of the peninsula’s reclaimed lands as such, in fact, far from representing a definitive datum, constantly relies upon anthropic implements and interventions, on what Caprotti aptly calls “technological support networks”, i.e. “a series of systems to sustain” a certain environmental configuration (2006: p. 150). Technological support networks are, to start with, the webs of ditches, canals, and other systems that enable the continuous discharge of water. And also, as an even more extreme instance, the numerous impianti idrovori (water-scooping machines), pivotal to the drainage of morphologically depressed areas.

A first idea of the intrinsic and by now inextricable link of mutual dependence between territory, energy, and technology characterizing some areas more than others, as well as of the frailty and hazardousness of that equilibrium, can be given by the words – written from a genuinely technical standpoint – of Eng. Eugenio Negri, responsible for the Consorzio di Bonifica Navarolo, located in Casalmaggiore:

[the territory’s hydraulic security] today is sufficiently guaranteed by the presence of reclamation works; such security, however, is exclusively entrusted to the reliability of water-scoopers, reliability that, in turn, is linked to the certain availability of electricity for their alimentation […].

(Negri 2003: p. 353)

And the risks, stakes, and implications carried by such a structural connection have grown even acuter and more dramatic, from the very moment that many of the areas of mechanical reclamation have lost – as Bevilacqua and Rossi-Doria already noticed (1984: pp. 76-77) – their predominantly agricultural orientation, becoming wider hotspots of urbanization and industrialization:

11 “[la sicurezza idraulica del territorio] oggi è sufficientemente garantita dalla presenza delle opere di bonifica; tuttavia tale sicurezza è affidata esclusivamente all’affidabilità degli impianti idrovori, un’affidabilità che a sua volta è legata alla disponibilità certa di energia elettrica per la loro alimentazione […].”

12 “Le opere gestite dal Consorzio di bonifica oggi non hanno più come obiettivo fondamentale lo scolo e l’irrigazione dei terreni agricoli; infatti, il territorio di cui si sta parlando ha subito profondi mutamenti […]; se, malauguratamente, nel corso di un evento di pioggia particolarmente intenso o particolarmente prolungato, le idrovore degli impianti di pompaggio del Consorzio di Bonifica
The works managed by the Consorzio di Bonifica [Navarolo] nowadays have no longer as fundamental objective the drainage and irrigation of agricultural areas; indeed, the territory in question has undergone deep changes [...]; if, during a particularly intense or particularly prolonged episode of rain, the water-scooper of the Consorzio di Bonifica were to remain inactive cause of an unfortunate accident, it would no longer be only some thousands hectares of agricultural terrain to undergo the flood, but houses, factories, deposits, roads, hospitals, power-centrals; in short: the estates, productions structures, economy and population of the entire territory would undergo incommensurable damages. Therefore we can surely state that the marriage Bonifica-Agriculture today has definitely been substituted by the marriage Bonifica-Territory [...].   (Negri 2003: pp. 348-350)

In this light, then, the Italian bonifica easily comes to appear as epitomizing many of the characters of modernistic human-environmental regimes, with their weaknesses and paradoxes cloaked behind the veils of productivity and production ideologies. Born as a transformative attempt to dissect and separate – dry land from humid water, male man from feminine nature – in reality the bonifica has accentuated the entanglement and reciprocal reliance of man, nature, and technology. Indeed, as an implication of the Italian reclamations, man, nature and technology have been dragged into a closed loop of interdependency, whereby reclaimed areas can keep existing as substrata to anthropic activity, only as long as they are sustained by technological support networks, which however are themselves, in return, the deliberate and conscious product of anthropic activity (see Fig. 1).

![Diagram](image.png)

**Fig. 1:** The closed loop of technological-environmental-human interdependencies that land reclamation has engendered in vast areas of the Italian peninsula.
And, by definition, the areas subjected to mechanical reclamation (i.e. via waterscooping devices) are those more radically exposed to the implications of such a pattern: because of their inherent and more aleatory reliance on energy supplies; and because, usually, they are those areas located underneath the level of the waters, and thus more susceptible to rapid and dramatic floods.

Just a few numbers and figures might be sufficient to most aptly create an impression of the magnitude reached in several areas of the peninsula by the interdependency between human, environmental, and technological factors, and of the potential vulnerabilities to which a similar construct may be exposed. In this sense, it just is enough to think that, across all of Italy, water pumps for hydraulic defence lift up and discharge an average of 3,272 m$^3$/s of water per second, 2,692 m$^3$/s of which in the only northern regions – that is, in the Po Plain itself (Medici 1992: p. 125). As a simple and yet effective comparison, it could be kept in mind that the celebrated Niagara Falls discharge, in a drop more than 1,200 m wide, a yearly average of 2,407 m$^3$/s, while the average flow of the Icelandic waterfall of Dettifoss – considered as Europe’s mightiest in terms of water volume – is a mere 200 m$^3$/s. Translated into practical terms, this means that, were the water-scoopers to suddenly cease in their activity, some areas reclaimed and drained with so much effort and over such long times, such as, for example, the Pontine region itself, would return to a marshy state, as shortly as in one week (Rosenthal 2008).

We found it appropriate to linger on these numerical exemplifications of the potential hazards inherent to the territorial configuration promoted by the Italian *bonifica*, not as a way to indulge once again – as the late-Renaissance commentators already provided to do – in a catastrophic literature of bad omens and terror. But rather, in order to emphasize that, far from having merely been a technical tool for enhancing agricultural productivity and at most inducing social change, the whole experience of land reclamation has more broadly fostered a peculiar and specific typology of encompassing human-environmental relationships, characterized by accrued entanglements and reciprocal dependencies. And such a development – we argue – instead of being taken as a “natural” and unavoidable datum of history, would have rather necessitated and benefited from a more thorough and critical appraisal and rethinking – a sort of enterprise, which, this far, only militant environmentalism has seriously attempted to engage with. Besides a few rare exceptions, instead, “naturalizing history” has kept being the more usually and commonly adopted
response and way out of the riddle posed by the eventual aftermaths of land reclamation. Thus, in the final page of their still outstanding review of the modern history of *bonifica* throughout Italy, while dwelling on the hazards that threaten the reclaimed lands of the peninsula, and voicing for a more unitary legislative and planning effort to face them, the already-mentioned Bevilacqua and Rossi-Doria conclude⁰¹³:

> With this final remark on the essential link between *bonifica* and soil defence can be closed this introduction […], throughout which […] the clear conscience has emerged […] of the unity of problems between the mountain, which is to be conserved, and the plains, which must be conquered and defended.  

(Bevilacqua and Rossi-Doria 1984: p. 78)

This is, in sum, the view suggested even by two of the country’s brightest scholars, and most enlightened exponents of, respectively, environmental historiography and the land reclamation circles: just yet another rendition, in simple geographical terms, of trite and worn post-Romantic and modernistic dichotomic *clichés* – a venerable, sublime, ideal nature on the one hand, intrinsically worth to exist as such and thus to be preserved; and one other nature on the other hand, adverse, hostile, ready to backlash, but still productive and bountiful, if first tamed and conquered by the “natural” and inevitable work of colonization of human courage and ingenuity. Fairies and mistresses, as children stories did not miss to point out already a long time ago.

And as to sponsoring, to end with, a new literature of catastrophism and disaster, it in definitive appears as a basically superfluous task – at least, one not requiring the greatest efforts or imagination: the recent course of events, indeed, has already supplied enough of raw material. Because, in effect, the history of the Po Plain in particular, after the Second World War, is, for a relevant portion, the history of its rivers, its floods, its disasters. It began with the inundation of the rivers Reno and Po in 1949 (Cazzola 2000b: p. 511). And then, again the Po in 1951 – when more than half of the Rovigo Province, in southern Veneto, got submerged with unimaginable havoc by meters of raging water (*ibid*) – 1953, 1957, 1959, 1966, 1968, 1974, 1979, 1994, and, finally, 2000 (Tomasi 2004: p. 446) – when, in five days of flood, it even came to harvest eighteen human lives, in the north-western regions of Italy (Alifraco and Tomasi 2004: p. 8; Giordani 2004: p. 81; see also Appendix 5: “Images from the great inundations of the Po, 1951-2000”). And it is not exaggerated to claim that, if water management and territorial schemes and conceptions have known any process

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⁰¹³ “Con questo richiamo finale all’essenziale legame tra bonifica e difesa del suolo può chiudersi questa introduzione […], nella quale […] è emersa la chiara coscienza […] dell’unità dei problemi tra la montagna che va salvaguardata, e le pianure che vanno conquistate e difese”.
of renewal over the last decades – although a slow one, riddled with bureaucratic and institutional *impasses* and inefficiencies – that has occurred, for a significant part, on the wake of similar emergencies, and their detrimental consequences. Not coincidentally, the influence of floods and floods’ consequences as a major drive behind actual policy-making and long-term hydraulic planning, has been emphatically captured and insisted upon also by one of the informants interviewed:

> Probably sooner or later something will be done for real, because the situation is always so much worse – we are wasting plenty of money destroying the territory, the rivers, etc. – that I don’t know... the next serious flood that comes, here happens a mess.  

(Andrea Agapito Ludovici)  

Of course, it would be incorrect, as well as malevolently biased, to establish a straightforward causal connection between the extensive land reclamations and the inundations of the Po. Disastrous floods, in effect, are documented since the times of antiquity and the Roman colonization (Squatriti 1998: p. 72). Certainly, that both the frequency and the magnitude of the inundations have accrued since the 19th century and throughout the 1900s appears as a very plausible claim. But still, on the other hand, it is also true that rather than in the activity of *bonifica* itself, the most direct causes are usually identified with the more and more rigid regimentation and canalization imposed upon the river for navigation purposes (WWF Italia 2005; Christian Farioli, personal communication), and, at least more recently, with mutating precipitation patterns, likely due to the effects of climate change (Alifraco and Anelli 2004: pp. 231-232).

However not so univocal, nevertheless, a twofold linkage between reclamation and floods can still be realistically established, without the risk of being accused of incorrectness and partisanship. In the first place, riparian marshes are renowned for acting as effective buffer zones, capable to retain and absorb like sponges vast amounts of water, and therefore regularize riverine flows (AdbPo 1999: p. 83; and

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14 “Probabilmente prima o poi si farà veramente qualcosa, perché la situazione è talmente sempre peglio – stiamo buttando tantissimi soldi a distruggere il territorio, i fiumi, ecc. – che non lo so... la prossima alluvione che viene sería succede un macello”.

15 In this context, although it should not be taken as a definitive and indisputable datum, it is nonetheless noteworthy to notice, for example, that an increase in the frequency of the Po’s inundations has been detected by morphological analyses, carried out in the Province of Parma. Thus, the number of relevant floods appeared to be, respectively, only 6 throughout all the 19th century, 8 between 1900 and 1946, and 11 from 1947 to 2000 (Tomasi 2004: p. 446). More safely attested and documented is, instead, a clear and worrisome trend of increase of the volumes of water discharge, in occasion of the 20th century’s flood events of the Po (Giordani 2004: p. 80; see also Appendix 4: “Increase of water flow throughout the 20th century’s flood events of the Po”).

16 Reference is to a recorded interview, held in Parma in April 2008, with the Po Catchment Authority technical expert, Christian Farioli.
The nearly total disappearance of similar areas – due to the activity of reclamation and related models of hydraulic management – can thus be seen as directly responsible for several phenomena – such as, for instance, quicker times of flood propagation – and, consequently, for at least contributing to the accrualment of the outcome of flood episodes. Secondly, and definitely more dramatically, it is the very spatial model of the Po Plain reclamation – as we already suggested – which has radicalized and exasperated the human-environmental relationship in regard to water, rivers, and their hazards, even to paradoxical and self-defeating conclusions. As Bevilacqua and Rossi-Doria are ready to admit, and as recent history has emphasized, in fact, the agricultural and settlement spaces created by the *bonifica* through competitive and aggressive stances of land conquest and colonization, stand out not only for wealth and productivity, but also for the vulnerability to the dynamics of their surroundings, inundations in particular: 

Due to their very origins, morphology, relation in regard to the flowing waters, the *bonifica* resorts are entirely or in large proportion exposed to the menaces of floods, both the recurrent and exceptional ones. The damages that they undergo [...] increase in proportional relation to their investments and production potential. (Bevilacqua and Rossi-Doria 1984: p. 77, my italics)

According to the analysis we briefly tried to sketch, then, vulnerability, accrued entanglement and interdependency, shifting borders, and new hybridisms, constitute the ambiguous and contradictory part of the legacy left behind by land reclamation season, in terms of human-environmental relations within Italy, and the Po Plain in particular. Ambiguous and contradictory, at least as compared to the premises and promises of absolute mastery, control, separation, and detachment, celebrated in the modern and modernistic schemes. If, as we have suggested, substantial continuity with the past at first, and the lack of a thorough rethinking and reassessment later, have characterized the approach to that experience in the decades following WWII, a certain shift in discourses and practices appears to have definitively taken shape in the last twenty years. A shift that – it is appropriate to stress – does not hold wetlands and reclamation as such as the primary objects of attention and concern, but rather as partial elements within much larger policy frameworks of water management and

17 “Per le stesse loro origini, la giacitura, il rapporto in cui sono rispetto alle acque fluenti, i comprensori di bonifica sono per intero o in proporzione elevata esposti – più di qualsiasi altra parte del territorio nazionale – alle minacce delle alluvioni, sia ricorrenti che eccezionali. I danni che essi ne subiscono [...] crescono a mano a mano che in esse si accrescono gli investimenti e le potenzialità produttive”.

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hydraulic defence. A shift, furthermore, which seems to hint at a consistent redefinition of the borders of “nature”, and elucidate the characters of new regimes of territorial construction.
In 1606, the Province of Cremona – at the time, part of the Duchy of Milan – set out to undertake a massive work of hydraulic re-arrangement of its territories. Notably, the preliminary studies to such enterprise also implied an accurate reconnaissance visit to the lands and hydraulic network lying under the rival Duchy of Mantua (Petracco 1997: pp. 105-112). Petracco remarks, in this respect, that

> The ample scope of the 1606 project […] certainly testifies in favour of the competences of the engineers of the time, who […] did not miss the ability to study the problems in their totality, with the good sense of judging the necessities of the territory, evaluating them on the grounds of its hydro-geological characteristics and not only in the political perspective of the juridical-administrative repartitions. (Petracco 1997: p. 112)

In a perspective which, for our purposes, does not appear so dissimilar, Cazzola narrates that

> […] in 1756 a convention among Ferrara, Mantua and Modena established a criterion for settling centuries-long hydraulic controversies and sharing the reclamation and maintenance expenses among all the interested subjects of the three states. It was practically the birth of the still-standing inter-provincial consorzio di bonifica of Burana, even though its formal constitutive act still had one century and half to wait. (Cazzola 1987: pp. 47-48)

> […] in 1892, King Umberto I had consecrated with his signature the act of will that represented the overcoming of those historical borders: the constitution of the inter-provincial Consorzio di Bonifica of Burana.

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18 “L’ampio respiro del progetto del 1606 […] depongono senza dubbio a favore delle competenze degli ingegneri del tempo, i quali […] non mancavano della capacità di studiare i problemi nella loro globalità, col buon senso di chi giudicava le necessità del territorio valutandole sulla base delle sue caratteristiche idrogeologiche e non soltanto con l’ottica politica delle ripartizioni giuridico-amministrative”.

19 “[…] nel 1756 una convenzione tra ferresi, mantovani e modenesi stabiliva il criterio per appianare secolari controversie idrauliche e per ripartire le spese di bonifica e manutenzione degli scoli tra tutti gli interessati dei tre stati. Nasceva in pratica di qui l’attuale consorzio interprovinciale per la bonifica di Burana, anche se il suo atto costitutivo formale avrebbe dovuto attendere ancora un secolo e mezzo”. “[…] nel 1892, Re Umberto I aveva consacrato con la sua firma l’atto di volontà che rappresentava il superamento di quegli storici confini: la costituzione del Consorzio interprovinciale per la Bonifica di Burana. L’acqua, vitale e mobile elemento che attraversa stati e nazioni e riconosce come unico confine solo la forza di gravità che la mantiene in moto, aveva dovuto per secoli piegarsi alle logiche dei confini stabiliti dagli uomini […]”.
Water, vital and mobile element that cross states and nations and recognizes as only border
the force of gravity, which keeps it in motion, had for centuries necessitated to bend before
the logics of man-established boundaries […]

(Cazzola 2000a: p. 9)

Similar episodes and considerations – which, apparently, would simply represent
an untimely plunge back into the past – do, in reality, hold a striking sense of
contemporary relevance and actuality. Firstly, because they draw a historical trend,
which is also recognizable in the latest redefinitions of Italy’s approaches to the issues
of water management. And secondly because, at the same time, in the words of their
commentators, they give a first impression of the discourses and stances that have
accompanied the unfolding of that trajectory.

“The valley rules the stream” was the renowned conclusion that Hynes drew in his
seminal essay The stream and its valley (1975) – an expression essentially meant to
summarize and establish the role of the catchment area in determining the ecological
properties of a river. As Giller and Malmqvist further explicated:

The river ‘catchment’ or drainage basin is the natural unit of landscape […] and it
encompasses the entire area of land drained by the various tributaries and the main river.
 Movements of water and elements through the catchment link various components of the
system; biotic and abiotic, terrestrial and aquatic, plants and soils, atmosphere and vegetation,
and soils and water. Landscape features also tend to govern water movements within
catchments […].

(Giller and Malmqvist 1998: pp. 4-5)

In the light of similar considerations, then, at least the last five centuries of Italian
water management might interestingly be read as a history of ecological ideas, before
the very birth of ecology itself.

As we remarked earlier, in fact, the activity of land reclamation experienced a
significant qualitative change already from the Renaissance, when it ceased to consist
of sparse and sporadic drainage interventions, and grew into the reordering and
rearrangement of entire districts and catchments. Thus, already in the 1500s, the
emergence of a literally inter-provincial and inter-state scope to the practice of water
management – largely relying on a true and real “diplomacy of water” – is amply
registered and documented (Cazzola 2003a: p. 21). The trend increased over the
following centuries – as also testified by our opening citations. And it eventually
came to reach an apex after the political reunification of the peninsula and in the early
20th century, on the grounds that20

20 “La gestione della bonifica, man mano che le opere e i progetti assumevano dimensioni sempre più
vaste, non poteva che coinvolgere a scala sempre più ampia problemi di gestione integrata del
territorio. […] La necessità di unire e coordinare gli sforzi dello stato e dei privati in tema di intervento
idraulico-agrario […] spingeva alla fusione e unificazione di numerosi piccoli consorzi in entità
The management of land reclamation, as the works and projects gradually assumed ever-growing size, had to imply at an always-larger scale issues of integrated management of the territory. [...] The necessity to join and coordinate the efforts of the state and privates in matters of hydraulic-agrarian interventions [...] pushed towards the fusion and unification of numerous small hydraulic and drainage consorzi into institutions, which were better technically and legally equipped to face the complex problems of water management, reclamation and colonization plans [...]. (2003b: p. 16)

Similar guidelines, principles of higher ecological integration, and the definitive consecration of drainage basins as the fundamental units for contextualizing the works of reclamation, notably became also one of the more “revolutionary” technical innovations of the fascist bonifica integrale. Thus, for instance, in 1922, Angelo Omodeo – a technician of the time – stated\(^\text{21}\):

\[\ldots\] each drainage basin, included between the mountain range and the sea, is so limited and restricted, to constitute a non-divisible hydrological organism, whose problems, even the most diverse, overlap and cannot ignore one the other.

Therefore, a single organic directive must overview the mountainous areas’ management, reforestation, the artificial lakes, the production of energy, the river embankments, irrigation, land reclamation: tasks and functions of different institutions, but coordinated in a single system.

(Omodeo 1922: p. 26)

And finally, as already suggested, also the latest developments in the Italian water- and reclamtion-related policy-making can be seen as ideally inscribed, in some relevant ways, in this same historical course, of which they have come to constitute – although after an interval of several decades – a sort of definitive finalization. In the years between 1975 and 1985, in fact, through the joint legislative efforts of both the state and regional administrations, the still numerous consorzi di bonifica spread over the country were further assembled and re-districted into only 200, larger entities, entirely “defined on the ground of the catchment basin of relative competence” (Cazzola 2003b: p. 18; see also Medici 1992: pp. 121-122)\(^\text{22}\). Also in that case, the giuridicamente e tecnicamente meglio attrezzate per affrontare i complessi problemi di gestione delle acque, dei piani di bonifica e colonizzazione [...]."

\(^{21}\)“[...] ogni bacino fluviale, compreso fra il crinale montano ed il mare, è così ristretto da costituire un organismo ideologico non scindibile, i cui problemi, anche più disparati, si sovrappongono, e non possono ignorarsi a vicenda. Quindi, un’unica direttiva organica deve presiedere alla sistemazione montana, al rimboschimento, ai laghi artificiali, alla produzione di energia, alle arginature, all’irrigazione, alla bonifica: compiti e funzioni di enti diversi, ma coordinati in un solo sistema”.

\(^{22}\)The latest redefinitions of the modalities, roles, and functions of bonifica (quite peculiarly, still labelled as integrale) in the Italian context have involved more than just the definitive legal and operational identification of reclamation districts with drainage basins. The significance of those other developments – which, however, extend beyond the scope of the present work, and will consequently only receive but a brief mention – would definitely constitute another highly promise thread of research, not the least in an analytical perspective focused on the impact of mainstream environmental discourse on reclamation-related policy-making. In this sense, in fact, it appears interesting to notice how the primary functions of the bonifica – besides the more traditional ones of irrigation and maintanace of the drainage apparatus, and in line with the contemporary and “unanimously shared need for a strong policy of natural resources” – have been recast in the terms of “the conservation and protection of the land” and “usage and safeguard of the waters” (Medici 1992: p. 121) – thus creating, however, an evident overlap of competences with other administrative organisms (Gruppo 183 ONLUS
driving rationale – wholly embraced and restated also by the National Land Reclamation Association (ANBI) in recent documents – was the identification, for water management and territorial planning purposes, of hydrographical basins as ideal and more “natural” environmental units:  

In virtue of the specific nature of land reclamation enterprises, it is to be excluded that the optimal ambit can be identified with administrative borders. […] 

[…] the reclamation’s optimal territorial ambit, defined district, must be delimited by the regions, on hydrographical basis […] For this purpose, then, homogeneous hydrographical units shall be identified, such as to enable and/or maintain organic actions both for the defence of the land and the management of water, on territories defined hydrographically.  

(ANBI 2003: p. 15, italics in original)

This sort of scientifically- and ecologically-informed rearrangement of consorzi di bonifica and their administrative borders got to constitute but one and preliminary aspect of the recent evolution of Italian policies of water management. Just a few years later, in fact, the same logics and guidelines were also applied to another, far more exhaustive and holistic attempt to renew and restructure the country’s entire scheme of freshwater governance. For the sake of contextualization, it is important to recall, at this point, that throughout the decades that followed WWII the Italian state did actually lack a unitary and coherent legal framework for the management and administration of water resources. A framework which, in the meanwhile, kept being voiced for and claimed by different layers of society – farmers in primis – especially on the wake of the most disastrous floods, and as a perceived remedy to the country’s accruing – as it is still often defined in dominant discourse – “hydro-geological ruin” (Isenburg 1981: pp. 162, 168; and also Bevilacqua and Rossi-Doria 1984: pp. 77-78). As an informant also recalls:

[…] it was a hope that already after the big floods in the 1960s, but also following the inundation of the Po in 1951… The famous “De Marchi Commission” indicated the need for a management, a governance of the territory at the level of drainage basin.  

(Andrea Agapito Ludovici)

Similarly, still more recently, the enduring action of land reclamation has been reframed as a “multipurpose activity”, vowed to the respect for “the new rules of sustainable development”, and to the pursuit of sustainable development’s very objectives (ANBI 2003: pp. 4, 8-10) (for an insightful cross-national comparison – very rich of analogies and points of contact – between the redefinition of Italy’s consorzi di bonifica and England’s Internal Drainage Boards, see also Hodge and McNally 2000).  

“Per la specifica natura delle azioni di bonifica integrale va escluso che l’ambito ottimale si identifichi con i confini amministrativi. […] l’ambito ottimale della bonifica, definito comprensorio, deve essere delimitato dalle regioni, su base idrografica […] A tal fine saranno quindi individuate unità idrografiche omogenee tali da consentire e/o mantenere azioni organiche su territori idrograficamente definiti sia per la difesa del suolo che per la gestione delle acque”.

“[…]era un auspicio che già dopo le grosse alluvioni negli anni ’60, ma anche a seguito di quella del ’51 del Po… La famosa Commissione De Marchi indicò la necessità di una gestione, un governo del territorio a livello di bacino idrografico”.

1997).
Such a general and unitary framework eventually got to take shape – no sooner than after having been invoked and deemed desirable for some forty years – in 1989, in the guise of the Law 18/5/1989, n. 183 (Law 183, for brevity’s sake) (AdbPo 1999: p. 1).

While the law in question – as we shall shortly see – is generally considered as a source of “ecological pride” for its innovative, nearly avant-gardist stances, the same cannot probably be said of the deeper and less evident ideological and spatial conceptions, which seem to subtend it. Just a first, instantaneous glance, in effect, is sufficient to tease out what appears as a striking peculiarity. Despite being conceived as a general frame of reference for the management and governance of freshwater, the caption appended to the law curiously reads: “Norms for the organizational and functional readjustment of land defence” (ibid). With an incredible taste for synthesis, the legislator – however longsighted – thus resumed and re-established in a single stroke the priorities and dominant tenets of centuries of history. Therefore, the position of absolute centrality – geographically, culturally, politically, and institutionally – on which all other elements are seen to hinge, is once more bestowed without hesitation on land: the dry, solid land of agriculture, of human settlement, and of the modern territorial state. Water is not accorded primary relevance as a resource per se, and water management deserves a legislative and planning effort only as it is functional to the interests and defence of land. Interestingly, the presence of such an inherent tension and contradiction also emerged and was betrayed in the course of an interview where, instead, the law had been generously praised for the novelties and strides forward it brought about:

The issues are fundamentally those of hydraulic hazard: even though it is called “framework-law for land defence”, Law 183 of 1989 does actually deal with hydraulic hazard. And then it does anyway open to other fundamental problems, which are the quality and quantity of the water, therefore water as a resource, and then land use – thus in particular agriculture, forests in general – land use which, anyway, interferes both with water as a resource and with hydraulic hazard. (Christian Farioli, my emphasis)

Said this, and moving ahead into the law’s actual content, the elements of innovation it introduced lie, as we foreshadowed, in further promoting and establishing, within the Italian panorama, the role of river catchments – rather than other territorial partitions, individuated on the basis of political and administrative

25 “Le problematiche sono fondamentalmente quelle del rischio idraulico: anche se si chiama “legge-quadro di difesa del suolo”, la legge 183 dell’89 in realtà affronta il problema del rischio idraulico. E poi comunque apre ad altri problemi fondamentali che sono la qualità e la quantità delle acque, quindi la risorsa idrica e poi l’uso del suolo – quindi in particolare agricoltura, foreste in generale – uso del suolo che comunque ha delle interferenze e con la risorsa idrica e con il rischio idraulico”.

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borders – as the fundamental units for those environmental and territorial planning efforts, which are directed at the management and governance of water resources. For this purpose, in accordance to the law’s directives, all-new legal entities – named River Catchment Authorities – were created following 1989, one for each drainage basin identified. Coherently with those premises, such an institution – upon which the remainder of the present analysis will be focused – was also established for the whole catchment of the river Po: an area of competence that, partly overlapping with and largely extending beyond the historical and morphological limits of the Po Plain, regards a total area of 70,091 km² (AdbPo 2008: p. 5): roughly one quarter of the entire Italian territory.

Leaving aside a whole discourse – which could be interesting nonetheless – about the delays, diatribes, and inefficiencies that in many circumstances seem to characterize the operations of the Italian state and its institutions²⁶, remain two main reasons for concentrating our attention on Law 183, and the activity of the Po Catchment Authority. The first, more immediate and evident one, consists of the plain fact that, anyway, they represent the overall and ultimate scheme of reference, in which many of the initiatives taken in regard to water, riverine, and wetland management should be framed and contextualized. Secondly, also in virtue of their ambitious approach and position of prominence in the panorama of Italy’s mechanisms for water governance, they can constitute in themselves relevant objects of inquiry, in terms of discourse, ideology, and conceptions.

Certainly, the idea of assuming drainage basins as the fundamental geographical units for a more holistic and territorially integrated approach to water management is far from entirely new – as not new are the possible sceptical and critical takes on such an outlook. For example, writing of the reorganization of water governance in early 20th century’s Spain, Swyngedouw observes:

In line with the emergent scientific discourse on orography and river-basin structure and dynamics, the engineering community argued for the foundation of engineering and managerial intervention on the basis of the “natural” integrated water flow of a basin, rather than on the basis of historically and socially formed administrative regions. […] This scientific and natural division provided an apparently enduring and universal scale for territorial organization in lieu of the more recent political and historical scales associated with politico-administrative boundaries. […] “the identity of the drainage basin seemed to offer a

²⁶ In this respect, it is worth to underline – also in order to provide the reader with a sufficiently accurate chronological framework – how the Catchment Authorities’ action has undergone substantial delays and hindrances – mostly due to lack of funding and shifting political and administrative orientations – all throughout the 2000s (WWF Italia 2007), and has apparently gained again some momentum only over the last year.
concrete and ‘natural’ unit which could profitably replace political units as the areal context for geographical study”. [...] The attempt to ‘naturalize’ political territorial organization was part and parcel of a strategy of the modernizers to challenge existing social and political power geometries. The construction of and command over a new territorial scale might permit them to implement their vision and bypass more traditional and reactionary power configurations. (Swyngedouw 1999: p. 458)

Similarly, as we already mentioned, a view of river basins as units for territorial planning and intervention got to establish itself, roughly at the same time, also in Italy itself, in the years of the fascist technicians and bonifica integrale (about the actual influence of Italian bonifica integrale on the Spanish experience, see Cazzola 2003b: pp. 17-18).

A notable and pivotal difference, however, clearly remains between these last-mentioned instances of policy-making structured around river basins, and the aims and principles of Law 183 and the catchment authorities recently established within Italy. In fact, whereas in the former case the adoption of the more holistic and ecologically integrated view provided by catchment-level planning was finalized to that process of reorganization of productive forces and human-environmental balances known as “modernization”, in the latter the driving goals and guidelines are those of environmental safeguard and eco-compatible resource exploitation (AdBPo 1999: p. 1; WWF Italia 2005, 2007). And it is precisely this eco-friendly, and for the time truly farsighted and even anticipatory character of environmental stewardship – at least, as compared to other states’ and international regulations to come – that constitutes, in the eyes of militant ecologists and ecologically-inclined policy-makers, the matter of praise, even pride, for the legislation in question27:

The introduction of the drainage basin concept [...] has constituted a nearly revolutionary innovation in the proceeding, [...] which demonstrates, among the rest, the real environmental vocation (almost visionary!) of Law 183/89 [...] (WWF Italia 2007: pp. 1-2)

This Law [...] is a very innovative law, which still nowadays, after almost twenty years, still nowadays it is an innovative law in the overall, which is reprised also by European

27 “L’introduzione del concetto di bacino idrografico [...] ha costituito un’innovazione quasi rivoluzionaria nel procedimento, [...] che dimostra, tra l’altro, la reale vocazione ambientale (quasi visionaria!) della legge 183/89 [...]”.

“Questa legge 183 [...] è una legge molto innovativa, che ancora oggi, a distanza di ormai vent’anni, ancora oggi è una legge tutto sommato innovativa, che viene ripresa da normative anche di carattere comunitario: per esempio la direttiva 2000/60 guarda a una pianificazione riferita a un’unità ecosistemica. Perché per appunto dicevo l’innovazione della legge 183 è quella di gestire alcune problematiche non più nell’ambito dei limiti amministrativi [...] ma guardando a un ecosistema unitario che è il bacino idrografico”.

“L’Unione Europea si sta occupando di queste tematiche con delle direttive piuttosto di recente. Noi siam partiti prima. Siamo partiti prima con una legge che era fatta molto bene, che è questa legge 183 dell’89 [...]”.
Community’s norms: for example, the directive 2000/60\textsuperscript{28} looks at planning as referred to an ecosystemic unit. Because indeed I was saying that Law 183’s innovation is that of managing some issues no more in the administrative borders’ limits […] but looking at a unitary ecosystem, which is the drainage basin.

The European Union has been coping with these themes through directives rather recently. We started earlier. We started earlier with a law that was very well done, which is this Law 183 from 1989 […] (Christian Farioli)

Besides the evident shift in aims and perspectives, however, an underlying point of contact and analogy unquestionably remains. Both modernization on the one hand, and militant environmentalism and ecological stewardship on the other, do in fact appear to seek and propose the source of their legitimacy and legitimization in the discursive construction of drainage basins as “geographical” or “ecosystemic” units. That is, as scientific – 	extit{ergo} indisputable or highly credible and charismatic – 	extit{matters of fact} (about the ambiguous and yet very solid relationship between environmentalism and hard science, in both agenda-setting and legitimacy-building, see, for example, Yearly 1993: p. 60; and Grove-White 1993: pp. 28-29). In this sense, then, it seems once again the “nature” of modernity and of modernity’s project to be implied and re-established in the yet ecologically-aware water management perspective of contemporary Italy: nature as a unitary and potentially unifying physical entity, detached from the world of human culture and even opposed to the fragmented and conflictual character of men’s political and social institutions. “The major obstacles are generally the institutions”, did not hesitate to complaint one of our informants – institutions which, however, the still-modern nature of drainage basins has the faculty and right to override, in virtue of its manifest and knowable objectivity, of its perceived very “naturalness”.

The goals have changed, but “the discourse remains the same” – one would be tempted to remark. Because, in effect, the discourses still woven in this regard do bear striking analogies with Swyngedouw’s previously reported characterization of early 20\textsuperscript{th} century’s Spanish water management. And not only in their rather usual characterization of “nature” as some objective and detached reality\textsuperscript{29}:

\begin{flushright}
\textbf{(Christian Farioli)}
\end{flushright}


\textsuperscript{29} “L’introduzione del concetto di bacino idrografico come riferimento esclusivamente fisico nell’attività amministrativa di pianificazione, ha costituito un’innovazione quasi rivoluzionaria nel procedimento, conferendo predominanza alla realtà fisiografica rispetto a quella ordinamentale”.

The introduction of the concept of drainage basin as an exclusively physical reference in the administrative activity of planning has constituted an almost revolutionary innovation in the proceeding, granting predominance to the physiographic reality over the institutional one. (WWF Italia 2007: pp. 1-2, my italics)

But also in the portrayal of the antagonistic interaction between a new, redeeming, and science-informed “natural” outlook on the one hand, and the old, impairing, and detrimental, but still dominant, political and social habits of the time on the other. Thus, in early 1900s’ Spain, the territorial perspective based on catchment-level management was a way to bypass “traditional and reactionary power configurations” (Swyngedouw 1999: p. 458); in today’s Italy it represents a means to contrast a routine waste of public funds, occurring on the ground not of objective exigencies, but of plain and blatant political interests:

WWF got very glad when this law [183] came out […], and we, anyways, have always tried to pursue this sort of approach, because we deem that it is the only reasonable one, the only one that guarantees an effectiveness on the territory, and the only one that truly goes against an often-unfair and blind carving up of financing, which do not guarantee hydraulic security first of all […]. (Andrea Agapito Ludovici, my emphasis)30

The impression may legitimately be drawn, in sum, that also in contemporary approaches to water and territorial management based on drainage basins, the dualistic polarization between nature and society – which many would have wished to overcome, both epistemologically and programmatically – is reintroduced and perpetuated, still leaning, in a typically technocratic fashion, in favour of the first term of the antinomy. A perspective that evidently, in some circles where “local” is more of a buzzword than “biodiversity” or “sustainability”, may encounter perplexities and discontents. And, indeed, such is the view expressed, for example, by one of the world’s leading anthropologists. Writing about the Columbian case, Arturo Escobar remarks that

This complexity [i.e. that of accounting for interethnic and inter-river relations] is often lacking in government strategies, which divide the territory according to other principles, such as the river basin, overlooking the networks that articulate various rivers together. Conventional approaches also fragment the culturally constructed spatiality represented in particular landscapes, precisely because they are blind to sociocultural dynamics. (A. Escobar 1998: p. 70)

Similar objections have apparently been well known in the context we are considering, and given attention already for some time, if it is true that, also in the course of our interviews, two unrelated informants repeatedly enacted a series of pre-
emptive discursive strategies for respectively settling, minimizing, or rationalizing the potential contrast and conflict of perspectives:

[...] one thing is what is the planning, which is to be done at level of drainage basin, because anyways within the Catchment Authority [...] are still represented also the state, the regions – and here perhaps should be found a compromise or a better balance [...]. Afterwards, the management, the realization of the interventions can be left, must be left to the local institutions, the provinces, the regions, the municipalities, according to the degree of...

And let’s also keep into account that a large part of administrative borders are defined by rivers [...]. The Po crosses many regions, but it does also divide many regions.

(Andrea Agapito Ludovici)

The choice has been made to directly finance the municipalities, thinking that the local level was the one that knows best the problems, and in some cases this might be true. In the case of the matters dealt with by the catchment authority – this is my opinion – I think it is not true [...]. If I reason at the municipality’s level, I will always keep reinforcing my embankments, hoping that in case of flood the water will end up in the other municipality in front of me [...]. I just care about not going under myself. But if I reason around the whole river Po, around the whole catchment, I care that there is no municipality going under at all, or at least that the conditions are even. [...] If instead one reasons at the municipality’s level, saying that the municipality is closer to the citizens, knows the local reality, yes, it might be even true but then it depends on the sort of problem one has to deal with. If I have to deal with healthcare system, it is probably excellent at a municipality’s level [...]. But if the problem to be dealt with is that of hydraulic security, the local level doesn’t go. [...] there must be joint actions, coordinate among themselves, going from the springs to the delta.

(Christian Farioli)

Not all discursive strategies deployed, however, were aimed at merely matching and counteracting the matter of potential contrast. In other instances, rather, the approach resulted that of accentuating and emphasizing those dynamics and mechanisms of grassroots participation and local representativeness, which have more recently been integrated into the Italian water management framework and catchment authorities’ mandate, as a qualifying counterpart to the more strictly techno-scientific approach provided by drainage basin planning:
We are, if you want, a more strategic institution, because we make the planning, try to individuate the critical issues and then propose solutions. This we try to do, especially in the last years, also through procedures of participation. Have been introduced these participative mechanisms... (ibid)32

If this last passage hints at the new consideration accorded by the Po Catchment Authority’s policy-makers to local involvement and participation as a *modus operandi*, the following ones can serve to further qualify and illustrate the stance. Thus, in this sense, “participation” becomes more precisely defined as a procedure of consultation and consensus-building among the stakeholders possibly affected by a project – in line with the new creed that takes the surpass of previous top-down, command-and-control, and a-consensual schemes, as today’s new avenue to successful natural resources management (see, for example, Sterner 2003):

 [...] often it isn’t an issue of funds [...]. Instead, it rather is an issue of having a good project; thus a project that is good from a technical point of view, that is sustainable and realizable, and that is shared: so, also all the part of participation. A project that [...] is shared, in the sense that the various stakeholders, the various actors realize that that precise project is useful, is important and permits to reach various objectives, not only sectorial goals. (ibid)33

In such a refined perspective, then, the role and function of the catchment authority cease to be simply those of elaborating a strategic plan on scientific and ecological bases, but admittedly enlarge to also include the settlement of disputes, the coordination of different actors, the elaboration of shared and agreed solutions, capable of conciliating diverging interests:

They contend a bit [the Province of Mantua and the local farmers] over these state properties [which the Province would like to purchase for works of ecological restoration]. Therefore we will try to make it possible for the two subjects to participate together in the management of the property. (ibid)34

As these few interview excerpts should have proven able to demonstrate, in sum, awareness appears to be present, within the Po Catchment Authority’s action, about the potential antagonist tension between a view of territorial planning informed by the overriding scientific principles of ecology and supported by a self-referential class of technocrats (as in the modernist experience) on the one hand, and other social,

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32 “Noi siamo un ente se vogliamo dire più strategico, perché facciamo la pianificazione, cerchiamo di individuare le criticità, e quindi proporre delle soluzioni. Questo cerchiamo di farlo, soprattutto negli ultimi anni, anche con delle procedure di partecipazione. Sono stati introdotti questi meccanismi partecipativi…”
33 “[...] spesso non è un problema di finanziamenti [...] È un problema invece più che altro di avere un buen progetto, quindi un progetto che sia buono da un punto di vista tecnico, che sia sostenibile e realizzabile, e che sia condiviso: quindi, anche tutta la parte di partecipazione. Un progetto che [...] sia condiviso, nel senso che i vari stakeholders, i vari attori si rendono conto che quel progetto lì è utile, è importante e permette di raggiungere vari obiettivi, non solo obiettivi settoriali”.
34 “Si contendono un po’ [la provincia di Mantova e gli agricoltori locali] questi terreni demaniali [che la provincia vorrebbe acquisire per opere di rinaturazione]. Allora noi cercheremo di fare in modo che i due soggetti possano insieme partecipare a gestire il demanio”.
political, and economic interests and stances on the other. As a first possible fix to
that shortcoming, then, new decisional and organizational strategies directed at
conciliating contrasts and orchestrating different stakeholders’ interests have been
integrated into both the Authority’s institutional discourse and decision-making
procedures. Notably, in fact, “the strengthening of the governance of the fluvial
system” – which, on its part, would also entail a “full involvement of the territory’s
local representatives into the decisional process” – is presented as no less but one of
the main four objectives of the important “strategic plan”, recently outlined by the
Authority in cooperation with the affected regions, and already financed by the Italian
state (AdbPo 2008a: p. 18).

Assessing where will eventually lead similar efforts to establish water
management as a praxis, which not only is science-informed and ecologically holistic,
but also consensual, inclusive, and mindful of local stakes, results at present an
impossible task. The initiative remains at its embryonic stage, and only developments
to come, perhaps even in the very next future, will be able to shed light on the degree
of success and from-the-bottom participation encountered by the scheme in question –
or, at least, disclose more focused and aimed research prospects for engaging with a
similar analysis. For the moment, we can only contain ourselves to notice that, on the
one hand, the above-mentioned “strategic plan” certainly appears to be on a promising
route, as it democratically opens “tables of consultation and participation” to a broad
and highly articulated variety of stakeholders (AdbPo 2000a: p. 38)35. On the other
hand, however, also the methodological limitation should be pointed out, that such
issues as “how different levels of governance […] can establish a reciprocal
dialogue”, “how institutional actors are enabled to involve […] citizens in the
participative management of fluvial policies”, “how the sense of identity and
territorial belonging can be cultivated and made grow” (ibid: p. 30), still remain, in
the plan’s exposition, more like open questions, than resolutive guidelines for
strategic action.

From a different standpoint, however – one focused on the analysis of territorial
regimes and models of spatial organization – a few partial conclusions could already
be drawn, following the overview just presented. In this sense, then, we may

35 Besides ministries, governmental agencies, and regional and local administrations, such tables are, in
fact, also designed to include representatives from both industrial and agricultural sectors, labour
unions, consorzi di bonifica, environmentalists, academics and research institutions, etc. (AdbPo
temporarily sum up by underlining how the water management discourse developed in Italy over the last two decades, and currently pursued, still rests on a territorial view stringently in line with Italy’s modern history, and on a postulate of “nature” that, in many relevant ways, still appears constructed around its modern and strictly scientific definitions. Therefore, if any elements of particular novelty can be detected in the new schemes of governance of freshwater resources, they should probably be sought especially in the mechanisms of involvement and participation, which have been more recently introduced. Similar devices, indeed, besides representing a declared veer away from earlier top-down, authoritative approaches (ibid: p. 31), would seemingly also hint at the larval emergence of a territorial regime of new sorts. One, where process – that is, the very political and diachronic act of territorial construction and production – holds its own intrinsic and not only instrumental importance; importance, which might eventually come to equal that of result.
The issue appears to be ancient indeed, and yet remains strikingly relevant, especially as it is considered how that old debate between Confucians and Taoists seems to have gained new momentum, although under different terms and guises, not least in the Po Plain of these days (Puma 2002: pp. 33-35). On the one hand, the modernism-derived notions of tighter regimentation, water flow control, and works of infrastructure – that is, the so-called “rush to embankments” – as still valid principles for guaranteeing hydraulic safety; on the other, the more recent holistic and ecologically-oriented approaches to the problems of fluvial management and flood control itself, based on a more “Taoist” outlook and on the idea of restoring a stream’s own ecosystemic functions (or “services”, as they often are also referred as).37

Certainly, the idea of taking rivers – at least in some part, and largely through the restoration of typical riparian ecosystems, such as wetlands in primis – back to their earlier state of dynamic ecological systems is neither entirely new, nor confined to the limits of the Po watershed, or of Italy in general. The enactment since the late 1980s of similar perspectives – on the grand scale of one of Europe’s main rivers – is, for

36 “[…] la questione è vecchia di millenni e già ne dibattevano confuciani e taoisti: i confuciani erano a favore di argini alti e ravvicinati, per avere lungo le rive terra fertile da coltivare, senza stare a pensare che se il fiume rompe gli argini è la catastrofe; i taoisti invece sostenevano che gli argini dovevano essere bassi e distanziati, perché i fiumi potessero cercare liberamente il corso”.

37 As all dichotomic renderings of complex issues and disputes, also this risks simplifying and banalizing what, instead, are more nuanced and multilayered positions. For accuracy’s sake, then, it seems highly appropriate to point out that, at least in present debates, the question cannot be posed as a black-or-white choice between either infrastructural works to further cover our rivers with concrete, or going back centuries to a hypothetical pristine or nearly-untouched stage. On the contrary, for example, the Po Catchment Authority explicitly identifies the necessity for both sorts of interventions, according to specific contexts (1999: p. 19).
instance, brilliantly described by Cioc, in reference to the German Rhine (2002: pp. 173-201). In a similar vein, Zwart emphasized the recent mutations in the Dutch “moral geography”, by describing the analogous trend of man-produced riverbeds enlargement and wetlands restoration that, since the 1990s, affected the Netherlands’ Delta region (2003: pp. 120-126).

Also in the Italian case, riparian and wetlands restorations – at least as hypotheses – have a history that at least goes back some twenty years. In 1989, Law 1983 was promulgated, and the first catchment authorities instituted. One year later, we read in the words of Traina of “true and actual anti-reclamations” looming at the horizon of the Italian countryside (1990: p. 44). While in 1999 it was the time of Mioni to comment – without much evident sympathy – on the perspectives offered by restoration ecology to the rehabilitation of wetlands:

[...] also in Italy [...] many believe that wide areas “conquered” two or three generations ago [...] are to be returned to nature in the slightly vague form of “wet parks”. Among doubts and discussions, cane thickets gradually replace rice paddies: economical, social and political conveniences claim and obtain without manifest resistances also this sort of reconversion, which is as little spontaneous as that of the vineyards on the hills’ terraces, whose restoration to scrub is financed by the European Union. 

(Mioni 1999: p. 75, my italics)

It appears dubious what “spontaneous” is here precisely referring to – whether to the very process of restoration, or the production (modernity’s unbearable oxymoron) of man-made “nature” (in this last regard, see also Rosenthal 2008). The fact remains, however, that the remark seems to tease out and emphasize some of the theoretical and conceptual challenges that ecological restoration – at least, if still seen and intended from a modernist philosophical outlook – appears to inherently carry and pose. And precisely in virtue of this ability to re-shuffle borders, to re-problematize the very questions of “the nature of nature” and its place in relation to man, ecological restoration represents – in our opinion – a most stimulating and promising avenue of inquiry – also from the perspective of anthropology and ethnography.

A first and fundamental distinction – we are advised – should be drawn between ecological restoration (a process, an activity) and restoration ecology (an academic and scientific sub-discipline). The latter, in fact

38 “[...] anche in Italia [...] molti pensano che ampie zone ‘conquistate’ due-tre generazioni orsono [...] vadano restituite alla natura nella forma un po’ vaga di ‘parchi umidi’. Tra i dubbi e le discussioni, i canneti un po’ per volta riprendono il posto delle risaie: le convenienze economiche, sociali e politiche esigono e ottengono senza apparenti resistenze anche questo tipo di riconversione, che è altrettanto poco spontanea di quella dei vigneti sui terrazzi collinari il cui ritorno a sterpaglia è finanziato dall’Unione Europea”.

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is the suite of scientific practices that constitute an emergent subdiscipline of ecology and comprises what we consider typical of a contemporary natural science (Higgs 2005: p. 159)

while the former

is the ensemble of practices that constitute the entire field of restoration, including restoration ecology as well as the participating human and natural sciences, politics, technologies, economic factors, and cultural dimensions. [...] I believe the success of restoration as a whole depends on maintaining the diverse qualities of ecological restoration and not subsuming the practice to the science [...]. (ibid)

As to the activity of ecological restoration itself, the worldwide Society for Ecological Restoration (SER) International defines it as

the process of assisting the recovery of an ecosystem that has been degraded, damaged or destroyed. [...] An ecosystem has recovered – and is restored – when it contains sufficient biotic and abiotic resources to continue its development without further assistance or subsidy. It will sustain itself structurally and functionally. It will demonstrate resilience to normal ranges of environmental stress and disturbance. It will interact with contiguous ecosystems in terms of biotic and abiotic flows and cultural interactions. (SER International 2004: p. 3, my italics)

As such a definition – as well as the very term “restoration” – appears to suggest, an idea of history, of an earlier stage, of “going back”, would seem to be implied in the activity of ecological restoration. And, in effect, SER International confirms that

Restoration attempts to return an ecosystem to its historic trajectory. [...] The restored ecosystem will not necessarily recover its former state [...]. Nevertheless, the general direction and boundaries of that trajectory can be established through a combination of knowledge of the damaged ecosystem’s pre-existing structure, composition and functioning, [etc.]. (ibid: p. 1)

Following these tenets, SER International also draws a distinction between the practice of restoration per se, as here defined, and those – also growingly popular – of rehabilitation, which “shares with restoration a fundamental focus on historical or pre-existing ecosystems”, and creation, which, instead, often requires “the installation of a different kind of ecosystem from that which occurred historically” (SER International 2004: p. 12).

It would be misleading, nonetheless, to assume that ecological restoration represents a univocal and monolithic praxis. On the contrary, it might rather be taken as a blanket-expression to include different sorts of approaches and interventions (see, for example, Swart et al. 2001). And the same can safely be said of restoration ecology too. Ehrenfeld, for instance, remarks that the historical genesis of the discipline can be reconducted to four different strands (2000: pp. 2-3). Interestingly for our perspective, one of them is constituted by watershed ecology and geography; another, by wetland management itself:

Wetland restoration represents a third, separate lineage within the discipline of restoration ecology. The practice of wetland restoration and creation developed independently [...], and
was driven, to a large extent, […] by the perception that many of the ecological processes that take place in wetlands are of value to society […]. (Ehrenfeld 2000: p. 3)

From the very outset, then, a strong link appears to have been established between wetland areas on the one hand, and ecological restoration and restoration ecology on the other – for which, in effect, wetlands have come to represent a primary field of action and application (Turner 2005: p. 165), also in virtue of the many so-called “ecosystem functions” they are perceived to provide and satisfy (for example, McAllister et al. 2000; and Masi and Martinuzzi 2007). And the very history of wetlands restoration or creation, after all, is a rather long one, extending to already the later 1800s, and the establishment of the Boston’s Fens (Spirn 1996: pp. 102-110).

As already hinted, the practice of ecological restoration has also been discussed and adopted – not the least in relation to wetlands – as a useful tool for ecological planning, by environmental lobbies and administrative agencies in Italy. And it is precisely on the redefinitions, discursive explications, and practical applications of ecological restoration that have been proposed by the actors in this local context, that we will focus the remainder of the present analysis. For this purpose, we are also going to refer to an actual proposal of restoration, presented by the municipality of Casalmaggiore (located at the southern edge of the Province of Cremona, on the northern bank of the river Po), under supervision of the Po Catchment Authority. From a wider standpoint, the proposal – whose planning has recently been finalized, and which now awaits only to be implemented – does stand out, among else, for its “local” and bottom-up connotations, being municipalities the most confined and territorially focused entities on the Italian administrative map; and for having been elected as one of four “pilot-projects”, in the wider program of riparian restoration and requalification, recently elaborated by the Po Catchment Authority (AdbPo 2008b: p. 18). As to the project’s very design, it aims at restoring an earlier meander of the river – lost following the morphological alterations and interventions of canalization brought about onto the Po – by reactivating (i.e. bringing the river’s water to again flow through) two formerly dismissed channels, separated from the mainstream. The operation – which contemplates, on the one hand, works of hydraulic engineering, and, on the other, interventions of reforestation, aimed at growing and establishing selected vegetation patterns – is intended, in the overall, to reconstitute a characteristic instance of riparian wetland, ranging over a total surface area of ca. 300 ha (ibid; and also, Uber Ferrari, personal communication).
As a first element worth of notice, it should be remarked that the practices and activities of or similar to ecological restoration, as reviewed and discussed till now, fall, in Italian environmental discourse, under a slightly different label, apparently specific and peculiar to that context: that of renaturation. WWF Italia, for example, defines renaturation as[^39]:

[^39]: "[…] the set of interventions and actions aimed at restoring the environmental characteristics and the ecological functionality of an ecosystem, in relation to its potential conditions, determined by its geographical location, by climate, by the site’s geological and geomorphological characteristics and by its preceding natural history."

(WWF Italia 2005: p. 18)

On the wake of other countries’ experiences, renaturation thus defined is advocated, in a perspective of fluvial and watershed management, as a fundamental means for reducing floods hazard (2005: p. 16), and as an effective way to solve hydraulic issues that traditional engineering approaches have proven unable to settle (ibid: p. 17). Nearly the same definition of renaturation (the negligible differences merely amount to a few words) has also been adopted by the Po Catchment Authority, which overtly recognizes in the practice of renaturation “a pillar in the activity of programming and planning”, which the authority carries out (AdbPo 2008b: p. 3). Interventions of renaturation, in fact, are indicated as “structural works” for promoting hydraulic security, in different documents pertaining to the Authority’s planning efforts (for example, AdbPo 1999: pp. 103, 111-113, 137).

Already these definition and stances, integrated with additional texts analysis and ethnographic inquiry, can appear able to provide a promising starting ground for a critical assessment. Although the programmatic definition that we reported above – and that, we repeat, has been accepted in practically the same wording by both WWF Italia and the Po Catchment Authority – makes explicit mention of a site’s “preceding natural history” as a fundamental element in stirring the activity of renaturation, at another point in the Po Catchment Authority’s documentation we read[^40]:

[^40]: “Il concetto di rinaturazione è stato quindi applicato a situazioni quali:
- il recupero di vecchi tratti fluviali, meandri, lanche, golene fluviali […] , allo scopo di ripristinare l’ormai raro assetto naturale;
- la creazione ex novo di aree naturali (zone umide, casse di espansione, ecc.).”

The concept of renaturation has thus been applied to such situations as:
- the restoration of former caves, in order to obtain wetlands, lake areas, etc.;

[^39] “[…] l’insieme degli interventi e delle azioni atti a ripristinare le caratteristiche ambientali e la funzionalità ecologica di un ecosistema in relazione alle sue condizioni potenziali, determinate dalla sua ubicazione geografica, dal clima, dalle caratteristiche geologiche e geomorfologiche del sito e dalla sua storia naturale pregressa”.

[^40] “Il concetto di rinaturazione è stato quindi applicato a situazioni quali:
- il recupero di ex cave, al fine di ottenere zone umide, aree lacustri, ecc.;
- il recupero di vecchi tratti fluviali, meandri, lanche, golene fluviali […], allo scopo di ripristinare l’ormai raro assetto naturale;
- la creazione ex novo di aree naturali (zone umide, casse di espansione, ecc.).”
- the restoration of dismissed riverine stretches, meanders, oxbows [...], in order to restore the by now rare natural order;
- the creation ex novo of natural areas (wetlands, buffer zones, etc.). (AdbPo 1999: p. 137)

With exception for the second point, similar indications would seemingly underplay, then, the relevance – or, at least, the inclusiveness – of that above-mentioned principle, which identifies in “preceding natural history” an important component for outlining renaturation interventions. And an alternative outlook of this sort, in effect, emerged extensively reinforced also from the on-field interviews, which we carried out:

![Italian text]

The hedge is an ecosystem [...] that, when there was the natural environment, was not such, was something else. But it is something that recovers a bit of functionalities to the territory.

(Andrea Agapito Ludovici)

Following such considerations, however, the question might easily arise as to what place is thus held, if any at all, by history in the process of renaturation. If renaturation comes to be identified – especially in areas highly modified by anthropic activity, such as the Po Plain itself – with the creation of entirely new ecosystems, which had never characterized the site before, what remains, then, of the importance of the “preceding natural history” for steering that activity? A possible answer would seemingly be provided by the consideration that, despite not being, on the one hand, a necessary pre-requisite for the enterprise of renaturation, on the other hand, reference to a location’s earlier history can nevertheless be assumed as a guideline, likely to increase the potential for success:

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41 “[...] la rinaturazione può andare da uno stadio estremo, massimo, laddove possibile – per cui ripristino il bosco come c’era una volta – a situazioni intermedie, fino a dire anche un piccolo intervento, che però mi può recuperare un po’ di quella funzionalità ecologica. Se io faccio una siepe lungo un canale irriguo, non è che faccio un intervento di ripristino ecologico pazzesco, cioè riporto indietro la situazione, perché lì non c’era, neanche il canale irriguo, c’era un’altra cosa probabilmente. Io faccio un intervento che recupera una funzione ecologica a quel territorio, cioè recupero a quel territorio una capacità di abbattere i nutrienti, di ricreare per esempio habitat per specie [...]. La rinaturazione non è sempre e comunque il ritorno alla natura precedente, anche perché il ritorno dovrebbe dire che dovremmo essere mille persone sulla Pianura Padana, e non diciassette milioni”.

“La siepe è un ecosistema [...] che quando c’era l’ambiente naturale non era così, era un’altra cosa. Però è qualcosa che recupera un po’ di funzionalità al territorio”.
It is evident that from a geomorphologic standpoint, along a river, one of the main readings for the restoration of the naturalness of the stream is to understand what on earth the river has done throughout the last two, three hundred years. Therefore, the restoration of the former beds, or where the former beds have been artificially abandoned because the river has been canalized... It is clear that trying to second where the river was present [...] it is a warranty that you are doing something, which the river would have done anyways. Thus, renaturation is also a big process of seconding what the environment is. [...] Renaturation has an immediate effect, if you manage, let’s say, to interpret well the environment. (ibid)42

The sort of discourses and explications of renaturation here reported, and the marginalization of renaturation sites’ preceding history as a secondary, rather than defining aspect, appear to suggest, in conclusion, a conceptual interpretation of the practice, somewhat different from that of ecological restoration, as previously examined. Rather, the notion of renaturation would seem to embrace and encompass under a same label the similar, and yet differently defined, fields of ecological restoration and nature creation or – as Swart et al. call it (2001: p. 230) – “development”. The qualification is not a wholly irrelevant or merely terminological one, because, as Swart et al. aptly point out, once the very idea of the creation of totally new nature is implied, “issues such as ‘What is nature?’ and ‘Why do we want nature?’” inevitably arise (ibid). In this sense, then, a deeper investigation and analysis of the discursive and programmatic construction of the practices of renaturation and nature creation might probably help us in shedding some light on those deep contemporary dilemmas.

If nothing else, the review presented until now should at least tell us what (policy makers’ and militant ecologists’) nature is not. And it would seemingly result – quite contrarily to the common belief, which also opened this chapter – that “natural” does not necessarily have much to do with spontaneous: paraphrasing Mioni, we could comfortably say that a restored wetland along the Po is as little spontaneous as a cultivated terrace-garden of the Ligurian hills. And probably, in effect, nothing can better render the idea of this process of careful construction and design, but a few declarations released by Uber Ferrari in regard to Casalmaggiore’s project of renaturation, for which he is responsible:

42 “È evidente che da un punto di vista geo-morfologico, lungo un fiume, una delle lettura principali per il ripristino della naturalità di un corso d’acqua è capire cosa diavolo ha fatto li il fiume nel corso degli ultimi due- trecento anni. Quindi, il recupero dei vecchi tracciati, o dove i vecchi tracciati sono stati abbandonati artificialmente, perché magari il fiume è stato incanalato… È chiaro che il cercare di assecondare là dove il fiume era presente [...] è una garanzia del fatto che stai facendo una cosa che avrebbe fatto comunque il fiume. Quindi la rinaturazione è anche un grosso processo di assecondamento di quello che è il territorio. [...] La rinaturazione ha un effetto immediato, se tu riesci diciamo a interpretare bene il territorio”.

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From the planning point of view, we have encharged the Forests’ Agency, which has employed an engineers’ office of Parma – they are hydraulic engineers, so they have done all the hydraulic study in regard [...]. Then, from the botanic, arboricultural point of view, it’s been the Forests’ Agency and we as Office for the Environment [...].

We create water digressions, with islands, wetlands, and so forth. (Uber Ferrari) 43

And yet, in spite of being the offspring of attentive human design and far from spontaneous “natural” activity, the voices we have read do not hesitate to define similar instances as “real” nature all the same. Nor, in a similar vein, would it result that “natural” has any longer much to do with the myth of “what Gaia would have done, hadn’t man been there”. Certainly, in the excerpts we reported, the modern scientist’s and romantic poet’s chimera of a pristine and ever-untouched primeval environment might still surface, from time to time – legacies of the past, or thin cracks in a discourse, which has probably not yet finished to fully re-think itself through. The fact remains, however, that the ideology of a hypothetical “nature-without-man” is taken no more as ultimate frame of reference for defining what nature itself is or ought to be: had man never inhabited the Po lowlands, neither the irrigation canal nor the hedge along it would have ever existed. Yet, this does not impede to consider the latter as nature nonetheless.

Until here, then, this brief analysis seems able to dispel some of the more common notions, and clearly suggest what the new “nature” envisioned and proposed by the policy-makers of the Po Plain is not. There remains to be seen whether something can also be obtained on the positive and affirmative facet, that is, pertaining to the question of what, then, that same “nature” actually is. An interesting first insight which, however, does not result more fully developed, is given by the suggestion that anthropogenic activity fosters a “banalization” of the environment44:

This lowering and narrowing of the riverbed is also the major cause of the banalization, from a naturalistic point of view, of the river Po. As the riverbed has lowered and narrowed down, also the contact between water and banks has come to miss more and more. And so also the
presence of wetlands has been undermined. Then, there is also the banalization due to land use [...] .

(Christian Farioli)

The comparison with historical data [...] has confirmed the more general and worrying tendency towards the banalization and fragmentation of the environment and landscape [...] of the Po from Turin to the Delta [...].

(AdbPo 2008a: p. 74)

In such a light, therefore, the very notion of “nature” would seemingly enter in connection, although indirectly, with an idea of “complexity”. If banal is an environment or a landscape heavily altered by anthropogenic activity, we might then assume that complex is, instead, the attribute that more aptly connotes “nature” itself. The perspective unquestionably appears to be a stimulating one – also in virtue of the very role accorded to the notion of “complexity” in our opening theoretical discussions. As already mentioned, however, the suggestion results as nothing more than that: a suggestion, indeed, which should not be arbitrarily overplayed or taken as a clearcut tenet.

If, on these bases, it remains shaky to claim that “nature” might be equalled to complexity, it appears safer and less easily disputable to assume that, following our inquiry, another view emerged far more clearly: that of nature as a set, an ensemble of functions, and of renaturation as the process aimed at providing an environment with certain characters of functionality. A similar perspective, indeed, was already vaguely foreshadowed in some of the previous passages, and, not least, in the very definition reported above of renaturation as “the set of interventions and actions aimed at restoring the environmental characteristics and the ecological functionality of an ecosystem”. If, by pure semantics, renaturation poses itself as an activity aimed at restoring and/or creating nature and naturalness, the definition in question, then, presents “environmental characteristics” and “ecological functionality” as the determining attributes of that same naturalness. In an analogous context, Zwart already noticed that present day’s “ecologists and other scientists reduce the landscape to measurable variables” (2003: p. 126). And we could appropriate the remark, in effect, as also embracing the view of nature and naturalness that emerge from our text analysis of renaturation’s definition. With two important distinctions, however: the first, that, given the negative hues somehow implied in the term “reduce”, we would opt for substituting “translate” for the latter. And, the second, that such a statistical translation or reduction into sets of variables does not necessarily foster the notion and image of static, immobile models. Because, even more than on static “characteristics”, the discursive emphasis – especially registered throughout our
interviews – actually appears to fall on dynamic and process-like “ecological functions”. Therefore, rather than aspects such as biodiversity, species composition, biological communities, the discursive construction of nature that we have witnessed mostly seems to pass through the very functions that “naturalness” and “natural” ecosystems are endowed with, and can satisfy.

Again, a few ethnographic examples may prove useful to better illustrate the sort of discourses and conceptions, actually encountered in this sense:

The issue is that of guaranteeing to the environment, to the territory – territory in the sense of “used” environment – guaranteeing the capabilities of the territory to respond to moments of crisis, to provide it again, wherever it has lost it, with that ecological, hydrogeological, etc. functionality that enables for example to reduce flood damages… For ecological functionality we can intend all those functions… for example, the restoration of the waste-treatment ability of a stream is the restoration of an ecological functionality.

[…] Therefore renaturation is kind of an approach to attempt to restore into a territory those capabilities of natural response, wherever it is possible. This means, for example, to recover the streams’ floodplains, re-equip all the minor, agricultural water network with hedges, buffer zones, etc. […] (Andrea Agapito Ludovici)

Also when directly asked, in this context, of a possible equalization of nature and renaturation on the one hand, and functions and functionality on the other, the same informant did provide, in effect, an affirmative answer:

- I was interested in this insistence on ecological functions and functionalities, almost as a way to indirectly define what renaturation is, and then even nature, if you want: renaturation as recovery of certain functions… is that right? Can we define nature as a set of functions?
- Yes, that’s it. (ibid)

And a similar perspective, largely contemplating and privileging ecosystemic and ecological functions as prominent emergent attributes of “nature”, and thus defining the goals and objectives of renaturation projects, did also clearly surface, although no longer framed in scientific terms, in regard to the concrete instance we examined in Casalmaggiore:

45 “Il problema è quello di garantire all’ambiente, al territorio – territorio nel senso di ambiente ‘usato’ – di garantire la capacità del territorio di rispondere anche ai momenti di crisi, quindi ridargli, laddove è stato perduto, quella funzionalità ecologica, idrogeologica, ecc. che consenta ad esempio di ridurre i danni delle alluvioni… Per funzionalità ecologica possiamo intenderne tutte quelle funzioni… ad esempio il recupero della capacità auto-depurativa di un corso d’acqua è il recupero di una funzionalità ecologica”.

“Quindi la rinaturazione è un po’ un approccio per cercare di recuperare al territorio quella capacità di risposta naturale, laddove è possibile. Questo vuol dire, ad esempio, recuperare le aree di esondazione dei corsi d’acqua, riequipaggiare tutta la rete idrica minore, quindi agricola, con siepi, con fasce tampone, ecc. […]”.

46 “Mi interessava questo insistere su funzioni e funzionalità ecologiche, come quasi un modo di definire indirettamente quella che è la rinaturazione, e quindi anche la natura se vogliamo: rinaturazione come recupero di certe funzioni… è esatto? Possiamo definire natura come un insieme di funzioni? - Questo, sì”.
Restoring wetlands always entails basins of cubic meters of water. Thus, also floods would have basins: several cubic meters would be contained, which is something that now instead does not exist. Moreover, the woody areas slow floods down, and slowing floods down they can graduate water levels, so that instead of arriving in three days it can progressively dilute, it can vent.

There is also a productive function that can be contemplated from a forestry perspective [...], we are even experimenting with trees that can also be periodically felled [...]. Production is entailed in the concept of wood. Not intensive production. [...] We expect to have some returns that then will be reinvested in the maintenance, in the management of this area.

(Uber Ferrari) 47

A peculiar outlook, therefore, comes to be outlined, whereby notions of ecological functionality result prominent, and largely subtend if not a closed and coherent (re)definition of nature and renaturation, at least a large share of their discursive rendering and construction. The importance of “nature” thus gets to lie in the functions that compose it, and that it can perform; the goal and benefit of renaturation are to those of taking selected areas to recover or acquire ex novo that functionality, of embedding “nature” and its services into a “natureless” and “dysfunctional” environment. Some more considerations will be spent in the next chapter on the latter point and its wider implications in regard to the current processes of territorial and landscape construction. For the moment, instead, we find it interesting to record how, in some senses, the perspective identified comes to foreshadow an at least larval, preliminary answer to both the above-mentioned questions posed by Swart et al. (2005): ‘What is nature?’ It is also, perhaps mostly, from a pragmatical standpoint, a set of functions. And ‘Why do we want nature?’ Because of that same very fact: because – pragmatically – it provides those functions. “What” and “why” more or less come to coincide.

Another qualifying element, however, should be added to that second answer – one that received not little attention also in interview contexts, as the excerpts below testify. There is, in fact, an additional reason – in this case, a utilitarian rather than pragmatic one – which renders nature desirable, and its production preferable to other sorts of interventions. That is, functional, services-rich nature is cheap – or, at least, it

47 “[...] ricreare le zone umide comporta sempre dei bacini di metri cubi d’acqua. Quindi, anche le piene avrebbero dei bacini: qualche metro cubo si riesce a contenerlo, cosa che invece adesso non esiste. In più, le parti boschive rallentano le piene, e quindi rallentando le piene riescono a graduare i livelli dell’acqua, per cui invece di arrivare in tre giorni riesce a diluirsi man mano, riesce anche a sfogarsi”.
“C’è anche una funzione produttiva che può essere prevista da un punto di vista boschivo [...], stiamo facendo anche delle prove con delle piante che possono essere trattate anche a ceduo [...]. La produzione è prevista nel concetto di bosco. Non produzione intensiva. [...] Ci aspettiamo di avere un qualche ritorno che sarà poi riversato sulla manutenzione, sulla gestione di quest’area”.
can hold, besides all other romantic reveries, an economic value too, as much as an agricultural field does:

[...] I give an incentive to you as a farmer, so that you produce for me an environment of higher naturalness [...]. Thus, as a whatever tax-payer citizen I am more disposed to give you a share in order to get this direct and indirect service: that of leisure is a direct service, that of having an environment of higher naturalness or a better landscape is an indirect service if you want, but still an important one, it can have a value [...].

[...] and now for the Kyoto Protocol we are attempting to price-tag carbon storage sites: this renaturation has become or is becoming a way to sequestrate carbon. (Christian Farioli)

[...] I cannot get a river to flood in the middle of a town... But to avert that the river floods in the middle of a town I must try to have other spaces, as natural as possible, because this also enables me to dramatically reduce the costs.

Because making infrastructural works means first of all to spend a bunch of more money, cause then every work needs always a continuous maintenance that often isn’t there, because it needs other money. So, wherever it is possible to restore for example natural floodplains – so that when the river floods it goes its way and does not make damages […] – is much better than making interventions, canalizing [...]. (Andrea Agapito Ludovici)

It is no place here to discuss the hotly debated issue – of which we also made mention in the introductory pages to this work – as whether this utilitarian and economic take is a an unethical and diminishing conception, which further weakens “nature” by further subjecting it to instrumental value, or, in effect, it represents a realistic and convincing stance for the advocacy of environmental safeguard. For the sake of the present discussion, it seems enough to register such an approach as a highly significant – and potentially overriding – element in the discursive construction of nature and ecological restoration, which we have tried to analyze throughout this chapter.

A brief excursus on the practices and theorizations of ecological restoration and its translation in the Italian context, renaturation, have contributed, in definitive, to give us an idea of what – at least in the conceptions promoted by local political and
institutional ecological discourse – “nature” is not. Similarly, we have also gained a glance and insight into what – still in accordance to those same discourses – “nature” might be. Now, the time seems ripe for trying to draw the threads, and possibly suggest some temporary conclusion about the models of territorial organization and landscape production, which appear to be currently emerging from the dusts of land reclamation, in the “post-natural” lowlands of the Po.
Plural Nature:
Towards New Territorial Regimes?

Referring to the Dutch context, and the recent trends in ecological restoration and changes in attitudes towards wetlands and water, Zwart gets to explicitly speak of “biophilia” – a new, sympathetic attitude, which would have replaced “as a recent chapter in the history of the way we interact with our environment”, the Netherlands’ earlier and distinctive stances of “aquaphobia” (2003: p. 124). An element of open “moral criticism directed towards the values and decisions of previous generations” would also be implied in this strident shift of attitudes, finding its concrete materialization in new landscape icons (ibid: p. 122).

An extensive analytical comparison – however interesting it might be, given several similarities in the two countries’ trajectories – does evidently not fall within the scope of the present work, nor, admittedly, would we have the instruments to undertake it. In alternative to that, all we can attempt to do remains to appraise whether a similar conceptualization, resumed in a hypothetical “aquaphobia-biophilia” paradigmatic shift, could safely be exported and applied to the case of our interest, that is, the Po Plain region. And, without much further pondering or hesitations, we may conclude that an explicative model so conceived would actually not make for a suitable interpretative scheme. Two reasons, essentially, appear to stand as a rationale for such a denial. The first one pertains to the very scale of the “anti-reclamation” enterprise represented by ongoing or completed projects of renaturation, which have as focus and target-objective the recreation of wetland ecosystems across the Plain. It is unquestionable that, especially as observed against the region’s own historical backdrop, similar developments represent a most remarkable novelty, even a revolutionary veer, if intended in a qualitative sense. Looking at them from a quantitative perspective, however, the same can hardly be said: whereas the great reclamations, of modernity in particular, invested and
thoroughly transformed entire districts of the magnitude of hundreds of thousand hectares, works of wetland restoration and development have touched areas of perhaps 300 ha here, other 55 ha there, a couple of dozens somewhere else, etc.: noteworthy instances, for certain, but still too limited in extension for possibly talking with some ground of actual paradigm shifts, or exhaustive waves of “anti-reclamation”. It is an element of distinction which, we believe, should not be overlooked.

The second reason we were making mention of, instead, refers to the idea that, in our local context as much as in the one described by Zwart, the new attitudes of higher “biophilia” should also bear and imply a sense of moral judgement towards the past generations’ values and choices. As we tried to demonstrate – also by a number of citations from the work of yet enlightened and critically-oriented scholars, who wrote of the historical Po reclamations – a similar notion appears to hold very scarce validity, if intended in reference to the Italian context at large. As we denounced, in fact, such an operation of moral and wider rethinking of the activity of *bonifica* and of the past has hardly found any citizenship in the country’s academic and institutional debate, leading to a spurious situation of “unspoken truths”. Change has come, certainly, but always latently and without disruptions. Overt criticism appears to remain a cultural and institutional taboo, only rarely surfacing in official outlets (in this regard, see, for instance, ANBI: pp. 28-31, about consumers’ associations’ protests against the endurance of land reclamation’s taxes and contributions).

Also in this sense, then, it may appear somewhat of a contradictory, newly hybrid picture – perhaps not so surprisingly, because, after all, the concealment of hybrids and quasi-objects has been the operative tenet of the modernistic project only – the one that comes to be outlined, following this quick glance into the contemporary management of water and wetlands across the Po Plain. And this sensation to be in front of a somehow transitory stage, where some of the attitudes of modernity are still hard to die, but already have started being substituted by something different entirely, probably gets no stronger than when we ponder over the diverse, even contrasting conceptualizations of nature, which appear to magically juxtapose and coexist even within a same institutional discourse. Thus, as we have seen, on the one hand the same environmental agency, the same ecological lobby uphold – in their discourses of drainage basins as ideal units for planning – a view of nature that remains stringently in line with modern scientific tenets, embedded in an objective-naturalistic ontology.
And yet, on the other hand, those very institutions reveal at ease reconstructing, through the practice of renaturation, “nature” as a “set of functions”, intrinsically destroying the previous ontological building and replacing it with an ecological-relational outlook – because, by definition, something exist as a function in relation to something else. It thus will be interesting to follow, in this perspective, what direction similar strands of current institutional environmentalism will take in the next future. Whether, by openly restating the philosophical primacy of anthropocentrism, they will fall again into the idealist variant of the modernist trap, deconstructing “nature” as “function”, but reassessing human subjectivity as an ultimate principle of reality. Or, in a truly revolutionary and ground-breaking veer, they will pursue “the complexity of nature” and the relational perspective of complexity networks to their very borders and more extreme conclusions.

Leaving aside broader philosophical questions, and heading towards some conclusive considerations to the overview undertaken, we would propose to newly turn the attention onto those activities of production or restoration of functional ecosystems, which we briefly outlined. The concept of renaturation, as we have analyzed it, already provides a programmatic and operational model for better interpreting those very activities. Law 183 and the Po Catchment Authority, with its consensual and inclusive procedures, instead, offer the basic legal and political framework, in which it is possible to contextualize and read, as important examples, several instances of renaturation itself – including the one planned by the municipality of Casalmaggiore, to which we already referred. It now appears time to draw all threads, and attempt to gather and assess such elements together, in a unitary perspective.

A highly stimulating theory of territories and landscapes in the era of simulations – that is, arguably, ours – was proposed only a few years ago by Raffestin (2005). The centuries-, millennia-long process of taming – so, very roughly, goes the reasoning – aimed at appropriating “nature”, and reducing and transforming it into images of itself, would have basically come to an end (p. 13). In the era of simulations, are images themselves that “constitute the starting point for a reconstruction of the world” (p. 15). Thus, following a trend probably primed in the 1700s, “modern man dwells ever less in tamed ecosystems, lives ever more in simulated ones, that is, in images which have been actualized” (p. 16). And a similar transformation would be destined
to structurally alter the relationship between landscape and territory, and their respective genesis⁴⁹:

Simulation has become the process of adaptation, in nearly real-time, of the territory to the desired image. We are entering into real territorial production, undertaken on the ground of images conceived by groups who take into consideration the entire system, so that territories correspond to needs and desires. (Raffestin 2005: pp. 128-129)

This means that the territory, before being constructed and produced, is already an image. By now, we can think landscapes and continuously create territories, because we start by the image and, contrarily to what determines the classic system, whereby a territory became a landscape in a delayed manner, it is no more who materially works in the territory that “creates the landscape”. Today it is possible, on the ground of a drawn landscape, to realize the territory. So it is possible to invent the landscape where we want to live and turn it into a territory. [...] At this point, theoretically, we will need no longer to distinguish landscape from territory, as the invention of the former and the production of the latter would be the result of a continuous process. (ibid: pp. 58-59)

Evidently, Raffestin’s theorization – although conceived as general and able to embrace a large variety of phenomena – can hold a certain appeal in the context of our discussion on reinvented, restored, and recreated ecosystems. Conceived in the terms of functions performed and services provided, in fact, also the latter ones are constructed following design, in order to satisfy specific “needs and desires”. Such a facet of ecological restoration and creation (i.e. their strict relationship with societies’ “needs and desires”) has actually been repeatedly highlighted and discussed in various existing literature. And not so surprisingly, after all – because, in effect, the redefinition of those practices in terms of desirable goals to be achieved and fulfilled, inherently and inevitably characterize them as a problematic, complex, non-modern mingling and entanglement of objective scientific facts and openly negotiable social values (see, for example, Davis and Slobodkin 2004; Lackey 2001; and Hobbs and Harris 2001).

It is not on this latter element precisely, however, that we meant to focus the remainder of the present discussion (for that sake, we would rather direct the interested reader to the excellent literature already available on the topic). We would

⁴⁹ “La simulazione è diventata il processo di adattamento, in tempo quasi reale, del territorio all’immagine desiderata. Stiamo entrando nella produzione territoriale reale a partire da immagini concepite da gruppi che prendono in considerazione il sistema intero in modo tale che i territori corrispondano ai bisogni e ai desideri”.

“Questo significa che il territorio, prima di essere costruito e prodotto, è già un’immagine. Ormai, possiamo pensare il paesaggio e creare continuamente territorio, poiché si parte dall’immagine e contrariamente a ciò che determina il sistema classico, nel quale un territorio diventava un paesaggio in maniera differita, non è colui che lavora materialmente nel territorio che ‘crea il paesaggio’. Oggi è possibile, a partire da un paesaggio disegnato, realizzare il territorio. Si può dunque inventare il paesaggio nel quale vogliamo vivere e trasformarlo in territorio. […] A questo punto, teoricamente, non avremo più bisogno di distinguere il paesaggio dal territorio poiché l’invenzione del primo e la produzione del secondo sarebbero il risultato di un processo continuo”.

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rather draw attention to the fact that the goals, objectives, values, which subtend and underlie the activities in question are, practically by definition, presented as intrinsically plural. That might well be due to the common perception that, as it comes to such things as goals, objectives, and values, a sense of multiplicity is inherent to the very notion of human societies and their peculiar idiosyncrasy. We would also like to argue, however, somehow paraphrasing Latour (1995; and especially 2004), that the idea of a plural, multifaceted (post-)nature – as opposed to the unquestionable, univocal, and unequivocal one of modernity – quite clearly emerged in the course of our inquiry.

Different dimensions seem to be implied in this plurality of nature, which we have foreshadowed. *Multifunctionality* appears to stand out as a first one:

*These areas [individuated for renaturation] permit to satisfy all a number of functions. Therefore they have a very high territorial value, because they permit to satisfy many functions: have an aesthetic function, environmental, recreational, productional... Environmental functions such as carbon storage, [...] or land protection, for example from heavy rain but also from erosion due to floods, [...] and so on and so forth.*

(Christian Farioli)

A plurality of functions are thus attached to a same area, and a same area is designed to satisfy a plurality of “needs and desires”. This comes out as one of the distinctive characteristics of also the environments constructed in the process of renaturation:

* [...] at first it was just going to be a naturalistic intervention. But then at that point [...] we thought that it was pointless to create an area that was going to be enjoyed by none. And so it was thought to these structures, with passages above the canals, so to create foot- and cycling paths [...]. And so it would be a cycle-pedestrian area where to go move oneself in peace.*

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It would perhaps be incorrect to think that this insistence on “multifunctional landscapes” (for a more exhaustive discussion of the concept, see also Naveh 2001) is an exclusive peculiarity of recent environmental thinking, and its fabricated ecosystems. It would come almost spontaneous, nonetheless, to contrast similar outlooks with the sorts of univocal, simplified, and mono-functional environments, especially produced by modernistic agricultural approaches – monocropping and extensive plantations clearly providing the most blatant exemplifications. And, in effect, a sense of deep contrast and distinction with such instances, together with further emphasis on the benefits of multifunctionality, got to be quite clearly underlined also by one informant:

I would aim a lot at agricultural multifunctionality, that is, incentivizing as much as possible those interventions that maximize multifunctionality, and so that can give a contribution to carbon storage, but at the same time a contribution to the landscape as they restore a fluvial landscape, a contribution to fruition [...], a contribution to lumber production [...], an environmental contribution. I would try exactly to take into consideration multifunctionality: compared to an agriculture as there could be earlier, this is a big step forth, that probably deserve a part of public support.

(Christian Farioli)

The plurality of this new “nature”, therefore, would partly lie in its functional polyvalence, in the ability of representing a diverse range of things and providing a variety of services to different actors – of being, that is, open to functional interpretation in a number of possible relationships, rather than closed and sealed by a categorical definition as a space of production. But it is a plurality that, in the discourses we are considering, is constructed as also inherent and fundamental to the techno-scientific process of environmental rearrangement. The activities of ecological management should never be undertaken by, or seen as the exclusive domain of a single category of technicians, we are told; enterprises of renaturation should always benefit from the diverse competences of a team of experts. They ought to be, in other words, highly multidisciplinary undertakings:

“Io punterei molto sulla multifunzionalità agricola, cioè [...] sull’incentivare il più possibile quegli interventi che mi massimizzano la multifunzionalità, e quindi mi danno un contributo allo stoccaggio di carbonio, ma allo stesso tempo un contributo al paesaggio perché mi recuperano un paesaggio fluviale, un contributo alla fruizione [...], un contributo alla produzione di legname [...], un contributo ambientale. Cercherrei proprio di prendere in considerazione la multifunzionalità: rispetto ad un’agricoltura come ci poteva essere, questo è un grande passo avanti, questo è un grande passo avanti, che merita probabilmente il supporto pubblico in parte”.

Ma questi progetti – essendo anche progetti complessi che richiedono varie competenze – di solito sono fatti da diverse figure professionali, son multidisciplinari. E questo per noi è una soddisfazione, perché noi abbia spinto molto su questo: per fare dei buoni progetti con le varie partecipazioni professionali”.

“Il problema è che l’approccio al territorio deve essere comunque un approccio interdisciplinare. Non c’è quello che c’ha la visione in tasca, e “ci penso io”. Perché ci han già pensato gli ingegneri in molti casi, gli architetti in molti altri, ecc. ecc. [...] Io ho visto che tutte le volte che si riesce a ragionare
But these projects – being also complex projects that require various competences – are usually made by different professional figures, are multidisciplinary. And this is a satisfaction for us, because we have pushed a lot on this: to make good projects with the various professional participations. (ibid)

The problem is that the approach to the environment must be anyways an interdisciplinary approach. There is not the one who has the vision in his pocket, and “I take care of it”. Because engineers in many cases, architects in many others, etc. have already taken care of it [...] I have seen that every time that one manages to reason together with others, one gets to see problems from all their facets, cause nobody has in his pocket the little scheme that works everywhere. [...] The important thing is to manage to have an integrated approach, to read the environment with all possibly imaginable competences, because it is a complex thing, because moreover we have made it complex, because we use the territory in a thousand different ways, and each use has a different incidence [...]. (Andrea Agapito Ludovici)

Multi- functionality and disciplinarity, in sum, have come to represent two of the characterizing buzzwords of the new discourse on “nature” that we are trying to assess. There is one additional, last element of plurality, however, which is identifiable in the forms of territorial production and administration that we examined earlier, mainly in relation to the Po Catchment Authority’s model of governance. We are before a model of governance, indeed, which attempts to redefine the affected territories as multivocal spaces. The preferred pattern of government and administration of human-environmental relations thus ceases to be an authoritative – or utterly authoritarian – model of control and imposition, and turns into the participative and inclusive “table of consultation and negotiation” among stakeholders. Please, note that we are not trying to idealize or edulcorate reality: we are analyzing a discourse, an ideology, a proposed scheme of human-environmental organization, not claiming that its actualization as such has already occurred, and purged the government and administration of the territory of its cracks, struggles, power deformations and inequalities. Territoriality probably remains such – by definition, imbued with power and its political use – but increases, if compared to its modernist variant, in nuance and complexity, as a project and form of organization: deliberation is no longer exclusively in the hands of the state, but an outcome of “due procedure”; hydraulic safety is no longer the duty of engineers alone, but of geologists, biologists, architects, and agronomists also; and agriculture is no more recognized as the single goal and vocation of a land, which, instead, must also be able to store carbon, host diverse species, contain floods, treat wastewater, and be even

insieme, si riescono a vedere i problemi da tutte le proprie sfaccettature, perché nessuno c’ha in tasca il modellino che funziona dovunque. [...] L’importante è riuscire ad avere un approccio integrato, leggi il territorio con tutte le conoscenze possibili immaginabili, perché è una cosa complessa, perché oltretutto noi l’abbiamo reso complesso, perché noi usiamo il territorio in mille modi diversi, e ogni uso ha un’incidenza diversa [...].
pleasant to watch. The voices of different actors, competences, and functions are expected to echo in the territory, which, then, literally becomes a multivocal organizational enterprise.

Precisely to this last aspect we were referring when we made mention, in the conclusion to a previous chapter, of the possible emergence of a new territorial regime, which regards process, and not merely result, as intrinsically worth of consideration. The question, substantially, had already been raised, in a highly insightful article on ecological restoration, by Higgs: “Is a technically competent (i.e., effective) restoration accomplished through forced labour, or other coercive means, good restoration?” (1997: p. 345). The answer, in similar contexts, used to be yes—such it was, for example, in reference to the drainage of the Pontine Marshes (an actual war with its causalities, as the reader might recall), or the other capitalistic reclamations. The answer, entailed by the very possibility that we foreshadowed, of the emergence of a new sort of “process-aware” territorial regime, would, on the contrary, be “no”.

It is a complex and multifaceted issue, of course, which could be tackled from a number of perspectives. Again, it is far from our intentions to propose naïf or edulcorated readings of the world. We are aware that consensus can be, even before than an ethical choice, an operational necessity—as it is tested and proven that a-consensual, unsupported, and locally-opposed schemes of environmental stewardship hardly turn out successful (for a general, rather than case-specific treatment, see Sterner 2003). As we are aware that the conciliation of all the stakes involved often is the only way available for promoting even the blandest ecological measures, in a context where the premises for top-down steering methods are no longer available (Swart et al. 2001: p. 237). Taken similar points as granted and surely valid, we still believe, nonetheless, that the phenomenon in question can be also seen from another angle. That is, as part of a wider, more general trend (of which, for example, the boom of foodstuffs from biological cultivations can represent another instance) towards greater awareness, concern, and consideration for a thing’s (an egg, a wetland, a cultivated field, but also a pair of shoes, or a mountaineering tool) own “biography” (about the concept of “biography” as related to “things”, see Kopytoff 1986; and Appadurai 1986).

This is, in effect, the sensation and the outlook that we have gathered from our specific context of inquiry, from the way renaturation projects are appraised and
valuated. A constructed wetland makes good ecological restoration, not only because it is “technically effective”, but also in virtue of its very biography: because it has been designed according to “due process”, that is, contemplating and mediating between a plurality of competences and actors, because it has become a matter of achieved consensus. And this prominence of the role of consensus and specific history does not only extend over its biographical past; it stretches out, by design, also to include its potential future, as a landscape capable, by design, of actively interacting with its human surroundings, of being positively appropriated by “those who dwell therein”54:

The project was developed from our own part. It is clear that the first institution that we contacted has been the [Po] Catchment Authority, which also pushed for all the part of fruition. [...] When we presented this [project], let’s say that from the approach with them was born the issue of fruition cause they clearly say: we don’t want to “sponsor” projects that then are for their own sake. We don’t want to recreate, create a world that then is wholly detached from all the context of the citizenship. We want to create something, a prototype [...] for creating something, a nature enjoyed by the citizenship. (Uber Ferrari)

But this, then, leads us – although on the ground of somehow different premises, and by a rather different route – to conclusions that are not so dissimilar from those of Raffestin, i.e. an acute, substantial shortening of the distance between landscape and territory. On the one hand, instances such as the one in question remain clear exemplifications of territorial productions – intending the latter expression as we earlier did, i.e. as power- and politics-driven, spatial forms of human-environmental organization. On the other hand, however, they are simultaneously conceived to emerge, by project and design, as Ingoldian landscapes, i.e. “patterns of activities ‘collapsed’ into an array of features” (2000: p. 198), historical living entities, sets of tasks unfolding over space and time. The temporality of the landscape is thus no longer only a matter of history, but also of design – design in which the multifunctional landscape’s history-to-come has already been entailed, as a pattern, indeed, of “activities ‘collapsed’ into an array of features”.

We stated, in the opening of this, final chapter, that, at least in regard to our context of inquiry, and despite the transformations certainly occurred, it may probably

54 “Il progetto è nato da parte nostra. È chiaro che il primo ente che abbiamo contattato è stato l’Autorità di Bacino, che ha dato impulso anche alla parte di fruizione. [...] Quando abbiamo presentato questo, diciamo che dall’approccio con loro è nata la questione della fruizione perché chiaramente loro dicono: noi non vogliamo “sponsorizzare” dei progetti che poi siano fini a se stessi. Non vogliamo ricreare, creare un mondo che poi sia avulso da tutto il contesto della cittadinanza. Vogliamo creare qualcosa, un prototipo [...] per creare qualcosa, una natura fruita dalla cittadinanza”.
be premature and misleading to speak of a true and actual “paradigm shift” in the attitudes towards past land reclamations and current wetlands. Similarly, we can add now, it probably remains equally premature to claim that new ways of conceptualizing “nature”, and new regimes of human-environmental organization, coalesced in pluralistic, multivocal landscapes-territories, are unequivocally emerging and establishing themselves in the lands along the Po. Generalizations, in fact, are treacherous, caveats indispensable, and, the fact remains, our analysis did consider but one part of the overall picture, focusing on an ecologically-oriented administrative and scientific élite. That notwithstanding, licit would appear to suggest, at least, that some premises seem to have finally been sowed: new and pluralistic “natures”, new hybrid and multivocal territories, have been emerging and taking shape in discourse at least, replacing and blurring previous boundaries. Their first actualizations as a human-ecological reality is underway, in the shape – as it has been aptly suggested (respectively Latour 2003; and Swart 2003) – of a collective, and fascinating experiment.
Conclusion
Camarina Removed

Not long before beginning to tackle the writing of these final pages, as questions insistently buzzed in my head as to how to eventually wrap up and seal this narrative that had literally saturated my thoughts for more than one year, I happened to have a long and peculiar conversation with my girlfriend. The topic – and that is where the peculiarity lies – was knitting. While I would rather picture myself getting shortly tied up and entangled in a heap of yarn, she is, in fact, a talented (and dedicated!) knitter. Memory of the discussion fostered further speculation immediately later. Besides the obvious banalities on the differences inherent to different people, I was curious to understand whether some similarity, analogy, point of contact could be drawn at all between the so apparently different activities we had been engaging with for some entire days – my spending hours in front of a screen and amidst a maze of floating papers, typing words and verbalizing concepts; her spending the hours equally focused, weaving threads with pins and yarn. The question, after all, didn’t seem all that exotic, if it’s true that also Ingold did not hesitate to pour some thought onto the fact “of weaving a basket”. Surprisingly, a parallelism could eventually be found.

Throughout all the time spent on this study, I have felt continuously surprised – enthusiastically surprised, only slightly exasperated at times – by the sheer number of themes, connections, interpretative lines, which something so obscure, apparently sectorial, and yes, even slightly bureaucratic, as wetlands and land reclamation, was progressively opening to. Italian wetlands, it turned out, stand in a close relation with religion and monasticism; monasticism with not only work ethics – which might not be the biggest surprise – but even geography. But the relational proximity of wetlands goes well beyond monasticism alone! As we have seen, it does also touch upon, for instance, political hegemony, surveillance methods, and the very birth of the modern
Italian state… Land reclamation as a founding national moment – this was certainly a surprise. And how many times I found myself writing of the very “nature of nature”, or of models and modalities of spatial organization: nearly cosmic issues – again sprung out of something as prosaic as wetlands and reclamations – so deep and yet so basic, to almost have a religious flavour. And no mention has been made of technology and science, and the closed loop of interdependencies that they engender with land reclamation’s frail environmental balances. Technology and science, yes. They were fundamental to accelerate the drainage of land. They also are fundamental for restoring and creating wetlands, though. And now, moreover, the new wetlands of techno-science even seem to emerge as actual and real technologies in and by themselves. “Wetland-solutions” (seems the name of a NASDAQ start-up company!) to absorb water, thus replacing – to a certain extent, perhaps – embankments in floods control. Wetland-solutions to expel water, thus replacing water pumps in drought control. Wetland-solutions to filter water from noxious chemicals, thus replacing depurators in water quality control – it is called phyto-depuration, and, apparently, it is big (Rosenthal 2008). Wetlands, in sum, performing functions, as machines… Organic machines, which, as such, are not static, but rather dynamic agents, capable of actively interacting, co-evolving with their environment. And perhaps this may actually even become the most basic simplification, for aptly summarizing the developments we are here skirting in words: an organic-synthetic continuum, with the latter term destined to assume growing importance in the future, with ecosystems, organic and living technological entities, gradually replacing as external instrumental implements for the human communities the inorganic, immobile, frozen technological artefacts of today. Artefacts which are, indeed, offspring of modernism and modernity, with their rigid forms, delimited and immobile borders, straight lines…

The idea of a network of endlessly intertwined relationships seems to surface. Or of a fabric, so to remain in a knitting context – the very “fabric of complexity”, as it would be called by Morin. Or, again, an ecological system, characterized by incessant feedbacks, interactive and retroactive loops. Because, in effect, the conceptual fabric that happened to surface in the course of the research – and this “happened” may sound like a questionable claim, but is it not entirely similar to what Ingold says with respects to weaving a basket (2000: pp. 341-346)? – is far from a static one. Because to complexity, as well as to knitting – whose jargon I have finally learnt – pattern, however complexed, is far from representing everything… In fact, by the simplest
pattern – one single word, or, at least semantic root – we could even try to resume and reconstruct our narrational attempt at weaving complexity, if properly guided by process. Do not move Camarina, started our story. Removal ensued. Across many centuries, by the way. But then even the removal was removed: the removal of Camarina was removed from national consciousness. Someone opted to remove the removal of the removal, and so moved to re-move Camarina to where it had been removed from. The pattern could not be simpler, and yet, even by process alone, complexity already begins to unfold. And what complexity: actions, meta-actions, meta-meta-actions, possible retroactions… as in knitting. Thus, in my narrative as much as in knitting, process and pattern together came to appear as the very stuff and fabric of complexity – and complexity the nearly spontaneous process whereby relational patterns become alive in a multidimensional space-time.

Hopefully the reader will forgive me for the seeming digression, for wrapping up a long narration and resuming the fruits of an intense research in such an irregular way. I believed it was important to highlight what resulted to be a curious aspect – the ultimate, self-referential identity between complexity as a matter of inquiry, and complexity as a method of inquiry (admitting that such a thing may ever exist). In that sense, then, no final overview would have ever been complete anyway, without first coming to underline how the present study aimed to concern methodology no less than wetlands. To try to restore – as the environmentalist does with the highly banalized landscapes of land reclamation – at least bits and pieces of complexity in the highly banalized ecologies of drained thoughts and ideas, which still populate the ghost of land reclamation in the Italian panorama.
Appendixes
Appendix 1

The Po Plain in the Italian geographical context

Fig. 1: The Po Plain, delimited by the Alps and Apennines mountain ranges in the north and south respectively, is the vastest flat area of the peninsula, and constitutes by itself a very large part of North Italy’s territory.
Appendix 2

Po Plain, Po Catchment and Casalmaggiore

Fig. 1: The geographical borders of the Po Plain and catchment respectively, and the location of the town of Casalmaggiore
Appendix 3

Quantitative trends in Italian land reclamations

The following figures refer to the increasing areas of land legally identified as part of reclamation districts, throughout the 1900s. Only the data referring to actual drainage districts (thus implying the deletion of marshlands) has been included. Possible internal incoherence and incongruence of the data have to be appraised as due to the shifting legal definition of bonifica and consorzi di bonifica across the years. Such minor examples of inconsistency, however, should not divert attentions from three most evident aspects: the impressive scale of the Italian reclamations; their irresistible growth and expansion over the 20th century; and, finally, the prominence constantly played in this panorama by the Po Plain, accounting in and by itself for most of the North Italy-related data.

### Extent of the areas individuated for hydraulic drainage before 1915
*(from Bevilacqua and Rossi-Doria 1984: p. 64)*

<table>
<thead>
<tr>
<th>Districts</th>
<th>Hydraulic drainages (ha)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Italy</td>
<td>968,000</td>
<td>55</td>
</tr>
<tr>
<td>Central Italy</td>
<td>113,000</td>
<td>6</td>
</tr>
<tr>
<td>South Italy</td>
<td>553,000</td>
<td>31</td>
</tr>
<tr>
<td>Islands</td>
<td>138,000</td>
<td>8</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1,772,000</strong></td>
<td>100%</td>
</tr>
</tbody>
</table>

### Extent of the areas individuated for hydraulic drainage in 1924
*(from Bevilacqua and Rossi-Doria 1984: p. 65)*

<table>
<thead>
<tr>
<th>Districts</th>
<th>Hydraulic drainages (ha)</th>
<th>%</th>
</tr>
</thead>
<tbody>
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<td>North Italy</td>
<td>995,000</td>
<td>46</td>
</tr>
<tr>
<td>Central Italy</td>
<td>317,000</td>
<td>15</td>
</tr>
<tr>
<td>South Italy</td>
<td>718,000</td>
<td>33</td>
</tr>
<tr>
<td>Islands</td>
<td>114,000</td>
<td>5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>2,144,000</strong></td>
<td>100%</td>
</tr>
</tbody>
</table>
**Extent of the areas served by hydraulic drainage and irrigation networks in 1946**
(from Bevilacqua and Rossi-Doria 1984: p. 65)

<table>
<thead>
<tr>
<th>Districts</th>
<th>Hydraulic drainages (ha)</th>
<th>%</th>
<th>Reclamations with irrigation purposes (ha)</th>
<th>%</th>
<th>Total (ha)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Italy</td>
<td>1,728,000</td>
<td>70</td>
<td>598,000</td>
<td>89</td>
<td>2,326,000</td>
<td>74</td>
</tr>
<tr>
<td>Central Italy</td>
<td>221,000</td>
<td>9</td>
<td>23,000</td>
<td>3</td>
<td>244,000</td>
<td>8</td>
</tr>
<tr>
<td>South Italy</td>
<td>430,000</td>
<td>17</td>
<td>39,000</td>
<td>6</td>
<td>469,000</td>
<td>15</td>
</tr>
<tr>
<td>Islands</td>
<td>83,000</td>
<td>3</td>
<td>15,000</td>
<td>2</td>
<td>98,000</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>2,462,000</td>
<td>100%</td>
<td>675,000</td>
<td>100%</td>
<td>3,137,000</td>
<td>100%</td>
</tr>
</tbody>
</table>

**Extent of the areas drained by respectively “natural” water flow and scooping machines in 1968**
(from Bevilacqua and Rossi-Doria 1984: p. 67)

<table>
<thead>
<tr>
<th>Districts</th>
<th>Drainages by water flow (ha)</th>
<th>%</th>
<th>Mechanical drainages (ha)</th>
<th>%</th>
<th>Total (ha)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Italy</td>
<td>1,306,000</td>
<td>43</td>
<td>1,004,000</td>
<td>88</td>
<td>2,310,000</td>
<td>56</td>
</tr>
<tr>
<td>Central Italy</td>
<td>760,000</td>
<td>25</td>
<td>75,000</td>
<td>7</td>
<td>835,000</td>
<td>20</td>
</tr>
<tr>
<td>South Italy</td>
<td>943,000</td>
<td>31</td>
<td>62,000</td>
<td>5</td>
<td>1,005,000</td>
<td>24</td>
</tr>
<tr>
<td>Total</td>
<td>3,009,000</td>
<td>100%</td>
<td>1,141,000</td>
<td>100%</td>
<td>4,150,000</td>
<td>100%</td>
</tr>
</tbody>
</table>

**Extent of the areas drained by respectively “natural” water flow and scooping machines in 1992**
(from Medici 1992: p. 125)

<table>
<thead>
<tr>
<th>Districts</th>
<th>Drainages by water flow (ha)</th>
<th>%</th>
<th>Mechanical drainages (ha)</th>
<th>%</th>
<th>Total (ha)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Italy</td>
<td>2,204,512</td>
<td>55</td>
<td>1,059,828</td>
<td>89</td>
<td>3,264,340</td>
<td>62</td>
</tr>
<tr>
<td>Central Italy</td>
<td>745,333</td>
<td>18</td>
<td>66,265</td>
<td>6</td>
<td>811,598</td>
<td>16</td>
</tr>
<tr>
<td>South Italy</td>
<td>1,089,374</td>
<td>27</td>
<td>58,684</td>
<td>5</td>
<td>1,148,058</td>
<td>22</td>
</tr>
<tr>
<td>Total</td>
<td>4,039,219</td>
<td>100%</td>
<td>1,184,777</td>
<td>100%</td>
<td>5,223,996</td>
<td>100%</td>
</tr>
</tbody>
</table>
Appendix 4

Increase of water flow throughout the 20th century’s flood events of the Po

Flood levels of the Po relative to last century’s inundations, gauged at five different stations between Lombardy and Emilia. The data reveal a steady increase in flood levels for each gauging post considered. (Data drawn from Giordani 2004: p. 80).

Flood levels (in m) of the river Po relative to last century’s inundations

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Ponte Becca</td>
<td>7.56</td>
<td>6.86</td>
<td>7.56</td>
<td>7.88</td>
<td>6.34</td>
<td>7.85</td>
<td>6.03</td>
<td>7.65</td>
<td>7.81</td>
</tr>
<tr>
<td>Piacenza</td>
<td>8.67</td>
<td>8.47</td>
<td>9.00</td>
<td>9.63</td>
<td>8.26</td>
<td>10.25</td>
<td>7.62</td>
<td>9.88</td>
<td>10.60</td>
</tr>
<tr>
<td>Cremona</td>
<td>5.39</td>
<td>4.63</td>
<td>5.04</td>
<td>4.62</td>
<td>4.47</td>
<td>5.94</td>
<td>5.12</td>
<td>5.94</td>
<td>6.70</td>
</tr>
<tr>
<td>Casalmaggiore</td>
<td>6.54</td>
<td>5.94</td>
<td>6.57</td>
<td>6.37</td>
<td>6.57</td>
<td>7.64</td>
<td>6.64</td>
<td>7.64</td>
<td>8.10</td>
</tr>
<tr>
<td>Boretto</td>
<td>7.39</td>
<td>6.90</td>
<td>7.72</td>
<td>7.54</td>
<td>7.53</td>
<td>8.50</td>
<td>7.65</td>
<td>8.43</td>
<td>9.06</td>
</tr>
</tbody>
</table>

*Fig. 1:* Flood levels of the river Po, relative to last century’s inundations. The trendline has been obtained by aggregating all data, and reveals a steady increase of flood levels over time.
Appendix 5

Images from the great inundations of the Po, 1951-2000

Fig. 1: Bruno Vaghi, *Il Po in piena*, Casalmaggiore, 1951 (in Adorni 2005: p. 71)

Fig. 2: Bruno Vaghi, *Il Po in piena*, Provincia di Parma, 1951 (in Adorni 2005: p. 69)
Fig. 3:  Stanislao Farri, Guastalla (Reggio-Emilia), 1981 (in Adorni 2005: p. 87)

Fig. 4:  Luigi Briselli, *La grande piena*, Casalmaggiore, 1994 (in Adorni 2005: p. 61)
Fig. 5: Luigi Briselli, Martignana Po (Cremona), 2000 (in Adorni 2005: p. 59)
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