IN-BETWEEN SOLIDITY AND FLUIDITY: THE RECLAIMED MARSHLANDS OF AGRO PONTINO

Abstract

During the 1930s the fascist government launched a programme for the reclamation of the Pontine Marshes, one of the largest forested wetlands in Italy. In less than a few years the muddy and uneven ground of the forest was transformed into flat land to be cultivated and into solid surface where three new towns were built. Hegemonic narratives describe the fascist reclamation as a process that imposed a solid form upon the raw materials of nature, thereby establishing an unbridgeable divide between nature and culture, natural and built environment. The article challenges this dualism, drawing on ethnographic and historical materials to explore spatial and temporal zones in-between fluidity and solidity. It suggests an approach in which fluidity and solidity are understood as patterns of social and ecological relations rather than mutually exclusive properties of matter, thus exposing the continuity between them.

Keywords:

Environmental Anthropology; Ecology; Anthropocene; Wetlands; Land reclamation; Built landscape; Italy

Introduction

Marshlands and cities, like fluidity and solidity, seem to be ordering tropes in hegemonic conceptions of the world. Marshy fluidity lies at the beginning, as in the Book of Genesis, which describes a chaotic and formless mix of materials, where land and water are confused in a murky and fluid primordial soup (Gruppuso 2018b:399). In this context there is neither solidity nor liquidness; it is for God the Maker to create both solid surfaces and flowing water by separating out the former so as to leave the latter as its residue. This original process of land reclamation allows God to generate life. In ecological science, too, marshlands are positioned at the beginning of life on Earth, thus epitomising '*the* natural', the raw material "out of which man has hammered the artifact called civilization" (Leopold 1970:264). In this reading, the city, as the epitome of civilisation (Culver 2014:11), stands hard and firm against fluidity, as if the built landscape were formless matter put in order. It is a reading that exemplifies the logic of *hylomorphism*, according to which all things are made by way of the imposition of preconceived form, by a productive agent with a plan in mind, upon chaotic and inert matter that passively submits to it (Bonta and Protevi 2006:89).

This hylomorphic understanding frames modernist accounts of drainage and land reclamation in terms of social, economic and cultural progress: civilisation advances along with the regimentation of water (Wittfogel 1957; Mays, Koutsoyiannis and Angelakis 2007); the drainage of marshlands at once providing running water for agriculture, and creating a solid surface for the construction of cities. With this linear and teleological approach, the marshland and its murky fluidity, as a symbol of primitiveness and nature, is opposed to the built landscape of solid forms, symbolising civilisation, culture, and progress. Marshlands are usually understood as the realm of fluid fuzziness and indistinction (e.g., Attema 1996:32; Stewart-Steinberg 2016:100), whereas cities are seen as the domain of solid distinction and sharpness, with paved surfaces, where class-based society emerges with the formation of military, political, and religious elites (Berry 2004:1262). From this perspective humankind is imagined as having evolved along a linear trajectory, from marshlands to

cities, following the capacity to abstract land from water and to make this separation durable, thereby exerting control over the fluid and ephemeral materials of nature. Modern urban architecture rests precisely on this assumption, as Le Corbusier (1929) emphasises by conceiving the city as a phenomenon that brings order in nature.

As I shall show in what follows, this view also frames the recent history and geography of Agro Pontino, a highly urbanised region lying seventy kilometres south of Rome, Italy. During the 1930s the area underwent a massive process of ecological and social engineering implemented by the fascist regime, known as the *Bonifica Integrale* (Integral Reclamation). This process involved the drainage of the Pontine Marshes, until then one of the largest forested marshlands in Italy, followed by the colonisation of the area, and by the establishment of three new towns. The hegemonic narrative in Agro Pontino's historiography presents the Pontine Marshes as nature in the raw: a wild environment defined by social and hydrogeological disorder. The reclamation, in turn, is read as a process that, by draining the marshes, established a clear and durable distinction between the solidity of land and the liquidity of water, thus making possible the development of agriculture and the foundation of new towns. This narrative offers a prime example of hylomorphism at work: with the *Bonifica Integrale* the regime put the chaotic marshes in order and shaped the raw materials of nature according to a predetermined plan.

Drawing on the critique of hylomorphism by Deleuze and Guattari (2005), Tim Ingold has suggested that form and matter, rather than being radically distinct, emerge together "through the unfolding of a field of forces" (2000:290) – a relational field constituted by a process of ongoing negotiation between activity patterns and material flux. With this approach, hylomorphism gives way to "an ontology that assigns primacy to the processes of formation as against their final products, and to the flows and transformations of materials as against states of matter" (Ingold 2011:210). Here, the maker is not a demiurge who imposes a preconceived design upon inert matter, but rather one who joins with a world of active materials within a morphogenetic field (Ingold 2013).

Following this line of thinking, I explore marshlands and built landscapes as different kinds of *terrain*, in which fluidity and solidity overwhelm human agency and emerge as *relational patterns* governed by a constant tension, in an unfolding field of forces, between hydrogeological features, human affairs, and historical contingencies. The concept of terrain, defined by Elden as a "process, continually made and remade, transformed by geophysical and human transformations" (2020:8), emphasises dynamic processes of formation over the fixity of landforms; materials over states of matter. Here, to think in an explicit material register makes it possible to focus on the texture of the land as it emerges in relation to social life, helping us to overcome any a priori distinction between marshlands and cities, natural and built landscapes (Elden 2017; 2020).

I will pay particular attention to a disused quarry in Agro Pontino, from which materials were once extracted to make the concrete used in the *Bonifica Integrale*. In this abandoned area a spontaneous process of naturalization is occurring that, reshuffling relations between natural and built landscape, unveils the *historical dimension of matter* – that is, the specific patterns of relations and constellations of activities (Gruppuso 2020) that coalesce in different processes and tend towards more solid or fluid formations, according to social, historical, and geophysical contingencies. Here, matter and materials, biology and history, emerge together, shaping each other in turn. In thinking about the *tension towards more solid or fluid formations* I draw on the concept of ecotone, famously defined by plant physiologist Frederic Clements (1905) as an area of transition *between* stable ecological units. This concept has been particularly used in wetland ecology to define transitional spatial and temporal gradients between adjacent aquatic and terrestrial environments (Mitsch and Gosselink 2007: 234). It is key to understanding the ecological dynamics of wetlands, as it is to the development of my argument, and I shall advance it by reflecting on its derivation and by suggesting that *transition* here does not define an intermediate state of matter *between* solidity and fluidity, but rather the ongoing patterning of relations in a process of becoming that is ever *in-between*.

The Pontine Marshes: cultivating fluidity

> Those who have never visited the Pontine Marshes have an idea that they are an extended tract of sterile and fever-breeding bogs, as disagreeable to the eye as they are repugnant to the smell. Nothing can be further from the truth. The Pontine Marshes form, during three-fourths of the year, one of the most charming, as also one of the richest districts of Europe. Imagine an extended plain, bounded on one side by the sea, on the other by a range of picturesque mountains, cultivated to their very summits, their upper slopes forming one magnificent garden of olive trees, whose bluish foliage gives them the appearance of always being bathed in the morning haze. The lower slopes are planted with groves of well-bearing orange-trees. Forests, meadows, and cultivated fields divide the plain. The forests of vigorous and lofty growth attest to the incredible fertility of a virgin soil. In them are to be found the noblest trees and climbing plants of all Europe (About 1861:205-206).

Even though the Pontine region was radically transformed during the *Bonifica Integrale*, it is possible to imagine the earlier landscape through literary sources (Gruppuso 2014, 2018a). We can imagine the plain, as seen from the Lepini hills, covered for most of its extent by an old forest with "the noblest trees and climbing plants of Europe". Amidst a thick forest of oaks with cleared areas from which rose pinnacles of smoke, thousands of people used to live from charcoal production, hunting, husbandry, and fishing (Cervesato 1922:187). These people would come from more distant villages situated in the province of Frosinone, on the east of Agro Pontino, at the border between Latium and the Abruzzi. Apart from charcoal-burners, most of the people would follow the rhythm of transhumance, and enter into the forest according specific regulations that concerned working and dwelling activities (Gruppuso 2014).

The demography of the Pontine Marshes intrigued anthropologist Mario De Mandato, who defined the area as having "one of the most original demographic situations in all the Mediterranean basin". In 1933, he published a study that offers a valuable insight into the dwelling pattern on the Marshes:

> Life in the Marshes is not permanent but offers a prime example of semi-nomadism, as the population carries out a mass migratory movement included in this cycle: nine or ten months in the marsh and two or three months in the mountain. The region is invaded every year at the beginning of autumn by families who leave in October from their villages in the Ernici hills, in the Sacco Valley, and in the Latina Valley[i] […] and after a journey of a few days, made with their primitive vehicles, with herds and domestic animals, they penetrate and settle in the thick of the Pontine woods. […]
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> It is remarkable that in the kind of habitation which must be considered a temporary domicile, namely the hut in the marshes, life occurs at a peak of efficiency and wellbeing for more than nine months of every year; whereas the permanence is as short as possible in the so-called permanent domicile, that is the house made of stones in the mountain (De Mandato 1933: 71-72).

The demographic situation described here challenges the common idea, propagandised by the fascist regime and still common nowadays, which represents the Pontine Marshes as having been almost deserted, or inhabited only by a few shepherds for a few months per year (see also Caprotti 2006, 2007). As De Mandato explains, people lived in the Marshes most of the time and they moved to the mountains for only a couple of months during the summer. In the forest, people inhabited huts constructed with materials offered by that particular environment. Usually the structure was made from chestnut wood, and was then covered with reeds (*Phragmites australis*), *stramma* (*Ampelodesma mauritanicus*) and other plants (Zaccheo 2006). In this sense the structure of the huts mirrored the complexity of the Pontine landscape, the fluidity of which emerged along with the movements of humans and non-humans as they wove paths that encompassed the hills, where the chestnut wood was gathered and brought into the forest, and the marshland in the plain, which provided reeds and other plants.

These Marsh dwellings challenge the common understanding of thatched huts as temporary shelters and of stone houses as permanent homes. This distinction rests on a hegemonic concept of civilization, based on the idea that society has evolved from a primitive state, represented by semi-nomadic hunter-gatherers inhabiting huts made of ephemeral materials, to a modern condition,

populated by sedentary farmers inhabiting houses made of materials that are solid and durable, like stone or concrete. This idea of progress and evolution, from fluidity to solidity, was the fundamental principle behind the *Bonifica Integrale*, and remains at the heart of the main interpretation of Agro Pontino's history.

Beyond the forest, towards the hills and at their feet, we would have found a different landscape, characterized by ample stretches of water, especially in winter. In this area we would have met people coming from the closest villages in the surrounding Lepini hills, who worked in the plain during the day and went back to their houses at night (De Mandato 1933:74). These people were mostly involved in fishing, hunting, and agricultural activities such as the cultivation of maize. The area was crossed by travelers who took the Appian way to get from Rome to Naples (see Gruppuso 2018a). Amongst others, Johann Wolfgang von Goethe travelled through the region, writing a travel diary that helps us to imagine it.

"Conceive to yourself a wide valley, which, as it stretches from north to south, has but a very slight fall, but which towards the east and the mountains is extremely low, but rises again considerably towards the sea on the west": so Goethe (1885: 170) began his description of Agro Pontino in his diary on 23rd February 1787. He was travelling through the Marshes during the period in which the engineer Gaetano Rappini was working on the reclamation project started ten years previously, having been commissioned by Pope Pius VI (Folchi 2002). This project transformed a substantial tract of the Pontine landscape, particularly along the Appian Way and at the feet of the Lepini hills, through the excavation of a channel, named *Linea Pio*, and of 39 ditches, named *Migliarie*, excavated in order to keep the Appian way and the surrounding area dry (Incardona and Subiaco 2005:135-138).

The Pope deployed huge financial resources in an enterprise that, by modifying the hydrological structure of the region, was understood as one of the most important operations of land reclamation at that time (Folchi 2002; Incardona and Subiaco 2005:135-138). However, despite these efforts, the Papal reclamation was only partially successful, for two main reasons. The first and more obvious

was the lack of technological knowledge; the second and more interesting reason had to do with the dwelling activities implemented by local people, particularly fishing which, despite the proximity of the sea, was mostly performed in inland waters such as lakes, rivers, channels and springtime pools, by means of structures named *peschiere* (fish ponds). These structures, used in Agro Pontino at least since the 13th century (Rocci 1995:523; see also Vendittelli 1992), were understood as one of the main causes leading to the formation of the Marshes. One of the principal concerns of the hydraulic engineers involved in reclamation projects between the end of the 18th century and the beginning of the 20th was precisely the presence of *peschiere*, described as follows:

> The *peschiere* are the main cause of water stagnation: they are made of reeds thickly intertwined, like hedges, which make it impossible for the water to flow; they leave only a very narrow passage where the water can pass through only slowly, preventing the excavation of the riverbed […] Behind these *peschiere* many other artefacts for fishing are widespread in the countryside (Manfredi and Bertaglia 1761, quoted in Giacomelli 1995:105).

Connected with fishing was the ancient and widespread practice of burn-beating. On the one hand this practice aimed to clean the fields of the residues of old crops as well as to fertilise the soil with ash. On the other hand fishermen practised burn-beating "in order to produce deep depressions with stagnant water used as fishponds" (Nicolai 1800: 286). A suggestive description of this phenomenon can be found in a report written for the Papal state at the end of the 18th century, which reads as follows:

> The squelchy soil of the Pontine Marshes it is not solid and compact; for two or three spans from its surface it is rather composed by putrescent reeds, logs, leaves and light earth […]. If fire goes on this soil, it grazes in it, it slithers in it, it finds its home, it drains the ground making it lower. The lowered soil is lower than the water level and it is again waterlogged (quoted in Folchi 2002:207).[ii]

This description refers to the soil of the Marshes, perceived not as a solid surface but as an unstable compound of organic materials that burns easily. By looking closely at the texture of the soil and to the behaviour of fire that "grazes and slithers in it", this anonymous engineer reminds us that matter is not passive and immutable, it rather exceeds human agency, participating actively "in the world's becoming" (Barad 2003:803). The combustion of the soil could potentially cause the lowering of the ground, thus increasing the potential of flooding in the already uneven surface of the Marshes. For this reason burn-beating was eventually forbidden over the entire area (Consorzio Idraulico della Bonificazione Pontina 1896).[iii] Fishing and related activities demonstrate the complex relation between dwelling activities and the formation of the Marshes. Fishing worried the hydraulic engineers involved in reclamation projects because it obstructed the flow of water; for them it was clear that the hydrological disorder of the Marshes was due to the dwelling activities of local communities in combination with particular hydrogeological features, such as soil composition and the unruliness of water. In short, the hydrogeology of the marshes emerged historically alongside the activities of their inhabitants.

Fishing encompassed the pontine landscape, intertwining with other activities such as agriculture and husbandry (Gruppuso 2014), thus creating a fluid and peculiar economy that can be summed up in the phrase "cultivation of the bogs" (About 1861:206). While challenging the distinction between the solidity of land and the liquidity of water, this phrase reveals an economy nested within a relational ecology in which solidity and fluidity emerged along with specific activities, rather than being posited as inherent properties of matter. This phrase emphasizes the wealth of the Marshes, in which cultivation was associated not only with the solidity of flat drylands but also with the fluidity of uneven wet lands. This qualifies the common meaning of agriculture, as 'cultivation of the land'.[iv]

Here it is worth recalling the etymology of the term cultivation, from the Latin verb *colere*. *Colere* meant 'to take care of', but also 'to colonise'. Whereas the inhabitants of the marshes 'cultivated the bogs' by taking care of them and nurturing the fluid relations between land and water, the fascist

idea of cultivation, implemented during the *bonifica integrale* was rather different. For the regime, cultivation involved a violent process of colonization of the land, which was abstracted from water and distributed to *coloni* (settlers), in order to be cultivated within a solid and sedentary dwelling pattern. In the following section I discuss this approach and reflect on how fascist conceptions of modernity emerged along with ideas of solidity and permanence as opposed to the fluidity and ephemerality of the marshes. Far from being only an ideological claim, this opposition was performed through an actual war against the unruly nature of the marshes that unveils the political dimension of hylomorphism as emerged during the *Bonifica Integrale*.

The reclamation: a process of solidification

Giovanni Gentile, the most important philosopher of fascism, defined nature as "the enemy of human culture, and hence a danger to be fought" (Graf von Hardenberg 2006:188). Accordingly, the *Bonifica Integrale* was vigorously propagandised by the fascist regime as a war against the disorderly fluidity of the Marshes, understood as a prime example of nature in the raw, and regarded as antithetical to fascist ideas of human society. This war was fought with real weapons, such as mines, ready to be blasted every time Benito Mussolini visited Agro Pontino to check on the progress of the *Bonifica Integrale*. The following report, excerpted from an article which appeared in the most important national newspaper of the time, *Il Popolo d'Italia*, exemplifies this approach. It reads:

> Mines blow up, one after the other, with the roar of hundreds of grenades; for a wide radius they turn the ground upside down, opening deep holes, and lifting high columns of dust that look like jets of wonderful fountains. […] The spectacle gives the impression of merry fireworks, but to many it also awakes the distant memory of a war bombardment. And is not this war too? It actually is, tenacious and harsh, of man against nature. It is a war, with its victories and casualties. […] Here is the land, so

> evil for many years, which is finally overturned, crushed, defeated by the will and the genius of man (Petrucci 1932).

The article chronicles Mussolini's visit to Agro Pontino on April 5th 1932. The 'spectacle' was meant to celebrate the reclamation works in one of the key locations of the Marshes, namely *cancello del quadrato.* Here, before the beginning of the *Bonifica Integrale*, was located the administrative centre for an important agricultural company and a medical station specialised in the prevention of malaria. This particular place was also important for the local economy, as there was a monthly market with the most important local products, like fish, meat and vegetables, which were sent from there to Rome and Naples (Folchi 2015). Since the beginning of the *Bonifica Integrale*, this location became the most advanced outpost of the war against the 'evil' Marshes. Its importance grew in 1932 when Mussolini decided to build there the first of the new towns, named Littoria,[v] the inauguration of which occurred eight months after Mussolini's visit, on December 18th 1932.

Littoria, also named *Mussolini's Favourite*, replaced the old locality, and its urban structure was built as a spider web across five old communication routes that previously connected *cancello del quadrato* to other localities within and beyond the Marshes. Around the city, on a larger scale, along with the explosions and with the eradication of the forest, heavy excavators and thousands of men dug a thick network of channels and ditches to drain the marshland. In only a few years, the marshland and the muddy ground of the forest had been transformed into flat fields ready to be cultivated, and into a solid surface, ready to be paved. By the end of the 1930s the mobile and fluid inhabitation pattern of the Marshes, related to the seasonal rhythm of transhumance, was replaced with a firm and solid system of colonisation, framed within a "vast and capillary system of land divisions and settlements in a fight not only against volatile, moving, and nomadic lands but also—and right up the food chain—against mobile waters, flying mosquitoes, roaming buffalo, and errant humans" (Stewart-Steinberg 2016:102). The pre-existing fluid environment that had emerged

alongside the long-lasting activities and movements of the human and non-human inhabitants of the Marshes, was swallowed by the solid and highly rationalised gridiron plan of the reclaimed Agro Pontino.

This process of reclamation was propagandised as the outcome of a highly technological process (Caprotti and Kaika 2008) that, destroying the previous landscape, replaced nature with culture, fluidity with solidity, ephemerality with permanence. The complexity of the landscape was reduced to the surface of the ground: on the one hand lay the fluidity, instability, and unruliness of the Marshes; on the other hand lay the solidity, permanence, and subordination of the reclaimed land. The effect was to turn a 'cartographic imagination' – which as Elden (2017: 19) shows, not only reduces complex landscapes to a two-dimensional surface but it also "fixes earth processes at a single point in time" (ibid.) – into a material reality. This created a "temporal lock-in" (Irvine 2017) which reduced Agro Pontino's evolution to a single point of origin, namely the *Bonifica Integrale*. By separating the marsh into components of land and water, the land itself was abstracted from its temporality, flattened and compressed into the event of its reclamation (Gruppuso 2017, 2018b).

In the ideology of fascism, the squelchy, uneven and 'natural' surface of the marshes, with their transient and fluid consistency, manifested a chaotic nature that needed to be conquered, defeated, and finally put in order (Blackbourn 2007). This perception of the marsh as inimical to ideals of modernity was by no means limited, however, to Italy or to fascism. Of Iceland, for example, Huijbens and Pálsson state that

> The marsh […] turned into an impediment to the ideology of modernism, in which humans in the company of God were to shape the world to their needs. […] For the proponents of modernism and progressivism, the marsh is regarded as destructive to land and shameful, but the solution consists in digging ditches, much as the solution to transportation problems consists in road construction. […]. (Huijbens and Pálsson 2009: 309-310)

But digging ditches and constructing roads was not enough; this had already been done in previous projects of reclamation. For the fascist regime, the way to modernity was paved with solid surfaces, whether of concrete or of stone: paving was the key strategy for defeating the Marshes and their unruly surfaces. Solid surfaces allowed water to flow away to the sea by avoiding problems of flooding and stagnation; moreover, paving roads and channels had a huge symbolic importance for the regime, as it was one of the main subjects of fascist propaganda, featuring in photos, films, and illustrations concerning the *Bonifica Integrale*.[vi] By paving the Marshes' surfaces, the regime claimed mastery over their fluid and 'disordered nature'; in this sense, solidity was a tenet of the fascist idea of modernity, as stressed in one of the maxims of Benito Mussolini, which reads "Solid nations, firm nations, are those set down on the land"[vii]. This maxim was supposed to be carved on the walls of rural houses as a reminder of the policy of the regime, based on land reclamation, colonization, and agricultural rationalization (Segala 2000:23). Herein lay the political dimension of hylomorphism.

The solidity that characterised fascist modernity was associated with ideas of durability, permanence, and everlastingness, at the other end of the spectrum from the fluid features of the Marshes. However, this was just an ideological perspective, since the materials of modernity, such as concrete, are no less immune to processes of decay and transformation than other materials, and dualisms always conceal much more complex nuances. In the next section I address this complexity, discussing the case of an abandoned area in Agro Pontino where an interesting and unexpected environment emerges that challenges hegemonic linear and dualistic narratives.

The *Monticchio* ex-quarry: a demystification of solidity

Insert Figure 1 here

Figure 1. The Monticchio ex-quarry.[viii]

At the end of the 1990s, a quarry situated at the foot of the Lepini hills, in a densely populated semirural area managed by the municipality of Sermoneta, and on the outskirts of Latina, was abandoned for unknown financial reasons. This area, of about 21 hectares, known as *Monticchio*, is characterised by the ruins of a medieval tower situated at the top of a rather thin pinnacle, about 50 metres above sea level (Figure 1). This is what is left of a low hill, which has been completely eroded by intensive and systematic extractive activities that started during the *Bonifica Integrale*. The ruined tower was constructed at the top of this high ground in the 12th century as part of a wider system of surveillance in the foothills (Caciorgna 1996; Magaudda, Accatino, and Perotto 2014; Coste 1990). The central part of the hill was characterised by a doline, which had probably been used for moderate extractive activities since ancient times (Magaudda, Accatino, and Perotto 2014). At the foot of this high ground, a system of springs fed rivers and channels framed within the economic system previously described, and used for fishing, navigation and transporting goods in and out of the Marshes.

During the *Bonifica Integrale* this high ground became a stronghold of solidity in the battle against the fluidity of the Marshes. From here, materials were extracted to make the concrete used for the construction of roads and buildings and for paving channels and ditches. After the war and the fall of fascism the quarry continued to be an extractive site for materials, particularly calcareous rocks used in construction, and the erosion of the area became a national concern in 1971, when it was denounced in a national newscast.[ix] Despite the public concern, extractive activities continued until the end of the 1990s, when the quarry was abandoned and the area closed to the public. Since then, along with decay, a process of growth and regeneration has taken place: the solid iron of extraction machinery is rusting away, and plants are colonising[x] what was once the barren soil of the quarry (Figure 2). This combination of rust and vegetation has created an interesting environment that has recently been monitored by local environmentalist organisations which are trying to re-evaluate the area, based on historical and ecological features thought to epitomise the broader environmental history of Agro Pontino.

Insert Figure 2 here

Figure 2. The Monticchio ex-quarry: tower and extraction machinery. [xi]

During the fall of 2016, following the designation of the area as *Monumento Naturale*,[xii] the municipality of Sermoneta, in collaboration with the local branch of the national organisation *Italia Nostra*,[xiii] organised a residential workshop, led by architects and urbanists, aimed to design projects for the public valorisation of the area. The workshop, named *Re-Scape. From Abandonment to Regeneration: Memory and Identity in the Ex-quarry of Monticchio*, was open to graduate students, young professionals and scholars. I attended the workshop as the only anthropologist amongst architects, photographers, and students, because I was interested in exploring how the imaginary of the local past, embedded in the hegemonic reading of the *Bonifica Integrale*, entered and affected the process of valorisation of that particular area.

The workshop, which lasted one week, included an introductory class, given by architects and local experts, about the history, geology, and ecology of the area, followed by guided walks and group work. After the welcoming speech and the introductory class, participants were divided into two groups of about ten people each. One group, mostly composed of young architects and students of architecture, focused on the design of a project for the valorisation of the area. The group I joined, composed of artists and students of the humanities, focused instead on constructing a narrative concerning the area's history and identity. At the end of each day, the two groups gathered together to discuss the progress of their work. The final product of the first group was a series of slides composed of historical planimetries, maps, architectural drawings, and renderings of the final project. The second group produced a short film with videos shot in the area, and interviews with local people.[xiv]

A large part of the workshop was focused on understanding the spatial organisation of the place, described, using maps and aerial photographs, as comprising two main areas: one characterised by the pinnacle with the tower, surrounded by almost barren, dry, solid soil, and by rusting machinery; the other characterised by springs and the emergence of a wet, fluid environment resulting from a process of spontaneous naturalisation. The first stood for abandonment, the second for regeneration. As I soon realised, however, the workshop presumed not so much to understand the area's material organization as to model it in accordance with the prevalent imaginary of the local past, based both on the hylomorphic model and on an overarching dichotomy between what is given in nature and what is produced through human labour. This presumption was reflected in other dichotomies such as marsh versus reclaimed land; ephemerality versus permanence; natural versus built; fluidity versus solidity. From this perspective the area dominated by the tower was the visible manifestation of labour: it was related to the reclamation and to the construction of the fascists' new towns, and epitomised ideas of permanence and solidity. By contrast, the rest of the area was regarded as an expression of nature, related to the rural environment of the Pontine Marshes, and to the ephemerality and fluidity of waterlogged ground. This understanding, which dominated the discussion during the workshop, was however challenged by our walks in the area, which revealed a much more complex terrain hardly reducible to binary contrasts.

Once in the main extraction area – a moonlike landscape at the foot of the pinnacle – our guide, a very experienced geologist, immediately emphasised that we were at the centre of an ex-hill, and that the surface we were walking on was flattened by extractive activities. The only manifestation of that ex-hill was the thin pinnacle with the ruined tower situated at its summit. Walking around the pinnacle, the geologist invited us to pay attention to the unevenness of the ground, veined with thin cracks, and colonised by patches of vegetation. The guide explained to us that the water-table is very close to the surface in this area, so that even a little or imperceptible difference in height allows water to reach the surface and plants to grow. Mould, fungi and plants were also growing on the rusty extraction machinery, thus accelerating the erosion of the iron. As we moved further from

the tower, little by little the vegetation on the ground became more consistent, until soft wet meadows took over from rocky soil, and shrubs and small trees replaced conveyor belts and iron cranes. Almost without realizing it we found ourselves in the middle of a marshland, with ponds, reeds, and bulrush, the squelchy surface of which was occasionally interrupted by solid outcrops reminding us that we were still walking in the same ex-quarry, in the same ex-hill. At a certain point tree cover became thicker with oaks and poplars, and the ground was also changing. We were within a luxuriant humid forest where the ground was covered in mud, leaves, and branches fallen from the trees and entangled with ivy. We had reached the border of the ex-hill/ex-quarry, defined by the old canal named *Fosso della Regina*, where the ground was no longer rocky but composed of nutrient-rich soil.

Walking in the area and engaging physically with its material constituents provided an experience that had nothing to do with the description I was given during the introductory class of the workshop, when Monticchio was presented as divided into its two parts: respectively natural and built, fluid and solid. What was described as the built landscape was indeed the outcome of the subtraction of materials, rather than of building up. Yet what was described as the 'natural' soil was itself the result of an accumulation – a building up – of dirt eroded from the top of the ex-hill, in combination with decomposing vegetable matter. Likewise, the ruined tower colonised by a fig tree was not easily distinguished from the pinnacle, and made me wonder whether it was the former that kept the pinnacle from crumbling, or the latter that was sustaining the tower.

The ex-quarry reshuffled the categories of fluidity and solidity, natural and built, giving the paradoxical impression that what is supposed to be solid and durable is indeed subject to processes of decay and dissolution, and that what is instead understood as fluid, is undergoing a process of solidification due to the build-up of soil. This reflection introduces a variable, namely time, that had been suppressed in the description 'from above' provided during the workshop. Aerial photographs, like fascist propaganda, give us space without time: surfaces without depth. But once we bring time into consideration, apparently solid forms reappear in a process of formation in which the flux of

materials takes different shapes according to historical, political, and hydrogeological contingencies, and the landscape appears as a palimpsest, in which the past of the region emerges, even as the present collapses under processes of erosion (Ingold 2018:140-2). Far from being abstract speculation, considerations like these help us to rethink the history of Agro Pontino in a less categorical way, overcoming the dualism between natural and built environment.

The region has been characterised since ancient times by a significant flux of materials coming in and out of the Marshes, forming a complex totality with the surrounding hills (Gruppuso 2014). Fluidity and solidity, the natural and built environments in Agro Pontino, need to be read within these long-lasting patterns of relations which encompass both historical time and geological cycles (Gruppuso 2017). The water that flooded the Marshes and that was nurtured by fishermen, came from rivers and springs whose aquifers were fed by the same hills from which the materials and the people who populated the marshland also came. Likewise, the materials used by the fascist regime to build the reclaimed landscape were extracted from the *Monticchio* quarry, which is composed of the very same rocks as the surrounding hills, thus retracing the same flux of materials which characterised the previous wet landscape of the Marshes. Indeed, as the disused quarry demonstrates, the solid landscape built during the fascist reclamation is subject to the same process of decay and regeneration as the 'natural' landscape. In this sense, the solidity of the built landscape, and the fluidity of the natural one, are both artificial. Likewise, abandonment and regeneration are not phenomena that follow one another in a linear trajectory, as implied by the title of workshop I attended, "From abandonment to regeneration". Built and natural, abandoned and regenerate, are qualities that the landscape expresses as it emerges into the lives of the myriad beings – human and non-human – that are always entangled in contingent historical, geological, and ecological relations.

Conclusion: an ecology *in-between*

The awareness that grew on me during my walk challenges the view of nature, in this case of marshlands, as a raw material to be transformed into culture, in this case the built landscape. According to this view the human is just a layer to be added to the outer surface of the Earth, as it appears from conventional cartography, aerial photographs, and stratigraphic models (Arènes, Latour and Gaillardet 2018). From this perspective humans are imagined as acting on the land from the outside, and the solidity of the built landscape, with its paved surfaces, is kept well apart from the fluid natural environment. The walk described above made me question this perspective: as soon as solid surfaces are abandoned, the fluidity of water takes over, thus creating a wet environment that in turn will become solid again as soon as it is neglected, as soil builds up with leaves, logs, and organic matter. This is connected with the process of ecological succession known in wetland ecology as hydrosere. Hydrosere is the transitional process that transforms wet lands into shrubby fields and eventually into woodlands. This is precisely what was occurring in the *Monticchio* ex-quarry, and what I experienced by walking in the area. This process is key to understanding why a variety of actions need to be carried out if marshlands are to remain wet and fluid. Yet although the hydrosere applies to wetlands, the process of ecological succession, with different stages, also affects the built environment. This means that fluidity and solidity, as much as marshlands and the built landscape, are not so much states of being as manifestations of processes of becoming: temporary and transient conditions embedded within specific patterns of relations and constellations of activities.

This transitionality brings to mind Clements' concept of ecotone, defined as a transition area *between* adjacent homogeneous biotopes. Even though Clements (1905) argued that the ecotone is never a sharp line, he assumed that the area is bounded by stable ecological formations. My proposal here is more nuanced. I argue that fluidity and solidity are neither naturally stable states of matter nor transition zones bounded on either side by areas of uniformity; they are not situated at the extremes of a linear continuum, as they appear in the Book of Genesis, or in dominant narratives concerning the history of Agro Pontino. Like Elden's concept of terrain, they are processes

"continually made and remade", bringing together physical and political realms (2020:8). They materialise specific patterns of socioecological relations that involve myriad organisms, human and non-human, whose lives and dwellings – whose *oikos* – are entangled within the surface of the Earth and thus embedded within processes of formation, growth, transformation, and decay (Ingold 2015). Reflecting on the etymology of ecotone from the Greek *oikos* (house) and *tonos* (tension), I suggest that fluidity and solidity are not mutually exclusive properties of matter but rather relational patterns that tend towards more fluid or more solid formations. This is to say that they are not *between* but *in-between*.

According to the way Ingold conceives of this latter distinction, *between* is "a double-headed arrow that points at once to this and that", and in doing so "articulates a divided world" (Ingold 2015:147). *In-between*, by contrast, is a "movement of generation and dissolution in a world of becoming" (ibid.). Whereas Clement's ecotone describes an ecology *between*, I here propose an ecology *in-between*. According to this ecology – or patterns of socioecological relations - water and rocks, marshlands and the built landscape, far from being overlapping layers, or lateral juxtapositions, emerge in a continuum as gradients of differentiation within a complex ecological whole. They are transitional states that *tend* towards the solid or towards the fluid, in relation with human and non-human dwelling, ecological events, and geological cycles.

Differently from God the Creator, or from the modernist demiurge-maker, human beings cannot act upon the world save in their dreams. In reality, along with other beings, with our minds and bodies, we participate in a process of constant transformation wherein energy and matter flow, grow and decay. The current age of the Anthropocene has marked the apex of the western ambition to master the Earth; now the time has come to inaugurate a new era in which we should renounce our dreams of dominating and solidifying the Earth, and focus our efforts instead on corresponding with the beings and materials of the world as they come and go.

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[i] In the current province of Frosinone.
[ii] Translation by the author.
[iii] For the relations between fire and wetlands in the Italian context see also Gruppuso 2017, and Breda 2000.
[iv] An interesting discussion that broadens the meaning of 'cultivation' is in Hume 2015. However, writing about *the cultivation of the sky*, Hume uses the term 'cultivation' in a metaphorical sense; I instead adopt the phrase *cultivation of the bog* from the American translation of the book 'Rome Contemporaine' by Edmond About to emphasise a form of agriculture that encompasses different kinds of activities such as fishing, forestry, and hunting, beyond the cultivation of firm land (see also Gruppuso 2014, 2018a).
[v] Renamed Latina after the fall of fascism.
[vi] The digital archive of the *Istituto Luce*, established during the regime and its main propaganda machine, conserves many newsreels, films, and photos exhibiting the paving of the Marshes surface. As an example:
http://arsial.archivioluce.com/arsial-luce/scheda/foto/IT-IL-FT00073-00000089/15/Vasca-di-arrivo-impianto-idrovoro-Caposelce-rivestimento-in-calcestruzzo-di-cemento-a-maglia-APECA-.html?start=12
and
https://patrimonio.archivioluce.com/luceweb/detail/IL3000089865/1/latina.html?startPage=0&jsonVal={%22jsonVal%22:{%22query%22:[%22strade%20pontine%22],%22fieldDate%22:%22dataNormal%22,%22_perPage%22:20}}
[vii] Le nazioni solide, le nazioni ferme, sono quello che stanno poggiate sulla terra (Mussolini)
[viii] Photograph taken by the author.
[ix] https://patrimonio.archivioluce.com/luce-web/search/result.html?query=monticchio&jsonVal=
[x] Colonization is to be understood here in a sense quite different from that which underscored the process of occupying and rationalizing the land under the *Bonifica Integrale*. It rather implies a non-violent and non-oppositional course of action in which life emerges beyond the solidity/fluidity binary.
[xi] By courtesy of Simona Trozzi.
[xii] A category of protected area in the Italian system of environmental conservation.
http://www.parchilazio.it/area_sorgiva_del_monticchio
[xiii] An Italian NGO dedicated to the protection and promotion of the country's historical, artistic and environmental heritage.
[xiv] The outcomes of the workshops are displayed on a website and open to the public:
https://rescapeworkshop.weebly.com/risultati-workshop.html

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Figure 1

Figure 2