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Dipartimento Culture e Società

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211 Abstracts

Paolo Gruppuso

Geologic and Historical, Surface and Depth. Entanglement of Water and Temporality in a contested Wetland of Agro Pontino

Introduction

In 2000 the biologist Eugene F. Stoermer and the Nobel Prize winning atmospheric chemist Paul Crutzen introduced the concept of Anthropocene to name the current geological epoch, emphasising the impact of human activity as a dominant geophysical force (Crutzen, Stoermer 2000; Steffen *et al.* 2007). This concept has been recently widely discussed in anthropology, «emerging as an inescapable word for (and of) the current moment» (e.g. Haraway *et al.* 2016). A part from the criticisms of this concept (*ivi*: 539), and from the academic trends of the moment, the idea of the Anthropocene is interesting because it highlights the interconnectedness of the human and non-human components of the environment (see Whitehouse 2015). This paper explores this interconnectedness, and particularly the commingling of geological and social realms, discussing materials about environmental conflicts in a protected wetland of Agro Pontino, where I have carried out extensive research since 2011¹. I argue that one of the reasons behind these conflicts is the separation of the geologic from the social and historical, understood as separated realms. This view produces a geological landscape abstracted from human history that triggers conflicts between ‘outsiders’, namely scientists and conservationists, and local inhabitants.

The geologic seems to reclaim its space in this area, and this emerges from the narratives of the French astronomer Jerome de La Lande, who visiting the region in the second half of the eighteenth century, describes this particular wet landscape as follows: «It is situated alongside the mountain, but it is not safe to walk there, because the crust sometimes collapses, when one does not expect it. The oily film of this water is used to treat people with scabies; it is also used to treat dogs» (de La Lande 1786: 460)².

On the one hand, the author tells us that walking in the area can be dangerous because the ‘crust’, that is the ground, can collapse under the walker’s feet. On the other hand, he tells us that local people use the water for particular purposes, namely

for treating skin diseases. La Lande summarises the complex nature of this area pointing out its physical features, namely the geographical location and the qualities of soil and water, and the cultural aspects related to the use of that area by the local people. The author seems to raise a distinction between the shapes of the land, seen by an outsider, and its history, enacted by the local people: on the one hand an idea of landscape understood as an array of physical features; on the other hand an understanding of landscape as an array of tasks and activities. This dualistic view echoes the common idea according which the geologic and the social are two incommensurably distinct realms defined respectively by evolution and history.

To make clear this difference, and in relation to the argument of the paper, I suggest an analytic distinction between two different categories. I use the one word ‘wetland’ to refer to particular areas identified by specific local, national and international environmental treaties or laws. And I use the two-word expression ‘wet land’, to indicate places generally thought of as wet, within the frame of a holistic and relational understanding of these environments. The former is a political and conservationist category, the result of top-down political processes that look at the environment in terms of geographical, biological and hydrogeological features. The latter category, instead, highlights the historical experiences of the people who inhabit particular places, and who engage within the environment understood as an array of particular practices (see Gruppuso 2016). I have drawn this distinction according to my research in Agro Pontino, where I noticed that the expression *zona umida*, the Italian correspondent of wetland, was mostly used by conservationists, environmentalists, and scientists whereas farmers used to speak about the land (*la terra*) as wet or dry with regard to the material qualities of the soil in relation to agricultural activities.

This paper explores this tension using ethnographic and historical materials, as well as official documents, concerning a specific case study, namely the environmental contestations that affect the area described by La Lande at the outset. Nowa-

days this is a wetland protected by the Natura2000 network and considered «akin to the wetlands protected by the Ramsar Convention» (Provincia di Latina [no date]: 29). I present materials that expose two different understandings of temporality: one grounded in geological time and devoid of humans; the other grounded in the historical lives, experiences and imaginary of the local inhabitants. The former corresponds to the temporality of a wetland, according which the shapes of the land are incommensurable to human experience. The latter, instead, is the temporality of a wet land, in which the shapes of the land *are* part and parcel of the history and imaginary of the inhabitants.

In this paper I demonstrate that water plays an important role in understanding and defining temporality. As Strang argues, «water is commonly used to articulate ideas about time» (2015: 56), and this is particularly true in wetlands that are usually understood, from the mythological as well as ecological perspectives as primordial environments (see Traina 1988; Breda 2001; Gruppuso 2016). Unlike rivers, where water affords metaphors about the flow of time and life, in wetlands water stands, often motionless or without perceivable movements. This only apparent stagnation seems to suggest that wetlands transcend the passage of time. Indeed, current wetlands are usually understood as relics of the original environment where life originated on the Earth, landscapes «equivalent of extinct or endangered species, from dinosaurs and pandas to indigenous tribes» (Howarth 1999: 521). During my fieldwork I encountered this kind of narratives that describe the area I am writing about as «one of the last natural remnants [...] of the Agro Pontino before the fascist reclamation»³, «residual of a natural landscape nowadays disappeared almost everywhere»⁴ (Provincia di Latina [no date]: 21).

These narratives, of course, do not concern only water and they are fostered by a particular understanding of the relations between water and land in the landscape. In fact, I discovered that water is only one of the possible elements that constitute a wetland, and that it is caught within a wider field of relations in which human beings are entangled (see also Breda 2000; 2001). Water is not the only contested element in this wetland of Agro Pontino, even if part of the contestations concerns precisely the relation between water and land, as managed by human beings, in relation to a wider environmental context.

Indeed, to understand this conflict in Agro Pontino I had to challenge, and to 'unwrap' the 'hydrocentric' notion of wetland (Ramsar Convention 1994) based upon the separation of the geologic from the historical, in favour of an approach that looks at the deep relations that constitute the world

we inhabit. These relations, I contend, are emergent from relational processes that undermine the distinction between built and natural environment, history and geology. In the age of the Anthropocene these dualisms are meaningless if not detrimental to a wise use of anthropological knowledge beyond the narrow boundaries of our discipline. Accordingly, this paper aims to experiment with anthropology as an anthropogenic knowledge able to fill the gap between the geologic and the social.

Description of the area

The Agro Pontino, 70 kilometres south of Rome, was affected between the 1920s and the 1930s by one of the most important technological interventions of that time (see Bevilacqua 2010: 19; Cavallo 2011: 38), named *Bonifica Integrale*, conducted by the fascist regime that drained the largest marshland in Italy, i.e. the Pontine Marshes (Gruppuso 2014; Caprotti 2007). During the *Bonifica Integrale* the regime also implemented a strong process of dehistoricization of the area through an aggressive propaganda that depicted a long-lasting image of the Marshes as a malarial and unproductive wasteland outside of history (see Gruppuso 2013/14; 2014). In spite of the fascist propaganda, archival documents describe the Marshes as a rich and productive landscape whose wealth was framed within a peculiar economy based on agriculture, forestry, husbandry, hunting and fishing (see Folchi 1996: 22-23; Gruppuso 2016: 78-100; Ministero dell'Economia nazionale 1925: 286). This amphibious economy was aptly summarised by the French traveller Edmond About, who travelling in the Marshes in the second half of the 19th century wrote: «Even the cultivation of the bog repays the farmer» (About 1861: 206). The expression 'cultivation of the bog' highlights the peculiar 'amphibious environment' of the Marshes (Cavallo 2011: 116) where people could easily switch from fishing to hunting and from farming to gathering.

With the drainage of the Marshes, the fascist regime erased this 'amphibious context' in-between wet and dry (see Breda 2000: 86) and substantially changed the environmental, economic and socio-cultural structure of the Agro Pontino, transforming it into one of the most important agricultural regions in Italy. The *Bonifica Integrale* also involved the construction of three 'new towns', Littoria (now called Latina), Sabaudia and Pontinia (e.g.: Mariani 1976; Martone 2012; Pennacchi 2011), and a massive process of colonisation of the area with settlers brought from northern Italy (e.g.: Pitkin 1990: 31, 32; Gaspari 2001) and removing the lo-

cal people who had lived in the Marshes until that time (Vochting 1990: 49-50). Despite this process, a few areas maintained certain continuity with the Marshes and amongst them the wetland where I conducted my research. This area is related to the Pontine Marshes both ecologically and symbolically and it is still inhabited by the descendants of the people who lived there before the fascist reclamation. In short, it is locally considered as one of the remaining fragments of the Pontine Marshes in a context of reclamation and colonisation.

This area is situated on the edges of the Pontine Plain, at the feet of the Lepini hills, and ever since I first visited it I have been fascinated by its particular landscape. I was enchanted by the colours, which are really intense because of the massive presence of water coming from the Lepini hills. This water springs out at the feet of the hills, where there are several springs that foster the agriculture in the area, and that make the fields very green especially in springtime. Moreover, the hills in the background, the massive quantity of clear fresh water brought by the Ufente River⁵, a flourishing agriculture and the presence of old buildings related to the old and new processes of land reclamation and water management⁶ convey a deep historicity, a deep temporality, resulting from centuries of human engagement within that environment. This area has been historically inhabited by people coming from the Lepini hills, who used it for agriculture, hunting, husbandry and fishing. Given its hydrological features, the area was also used as a rice field in the first half of the 19th century⁷. These activities testify to particular environmental relations based on the 'cultivation of the bog' as an amphibious pattern of agricultural practices. The area is indeed characterised by a massive, and sometimes troublesome presence of water that institutions, scientists, environmentalists, tourists and local people consider, although for different reasons and purposes, to be its main feature (Provincia di Latina [no date]: 31).

This area houses a Site of Community Importance of some 179 hectares, which includes five small lakes, several springs, some of them sulphurous, and other small pools, ponds and channels. I focus my discussion on a particular area of the site, known as Bishop's Lakes (*Laghi del Vescovo*), that is inhabited by one family of farmers who have lived and worked there since before the *Bonifica Integrale* of the 1930s. Apart from farming the land, they are trying to foster a project of local touristic enhancement mainly related to the traditional activities of bathing in the sulphurous water and fishing. Bathing occurs in the smaller and more accessible pool, which has been equipped with a small kiosk and some parasols. Fishing, instead, is practiced

in the only lake with fresh water. In both cases the inhabitants manage access to the lakes, charging bathers and fishermen with a small fee and offering in exchange support, advice, and the opportunity to camp in the area. In addition, guided visits are organised in the area in partnership with local groups of environmental guides and interpreters.

The area has for long been affected by environmental conflicts because the Land Reclamation Authority, the local Municipality, the Provincial and Regional Authorities, and some local environmentalists, albeit for different reasons, contested the local farmers ownership of the land. Local institutions and environmentalists, who look at the area as a relic of the Pontine Marshes understood as a 'natural' and almost uninhabited place, wish to create a natural protected area, a proper 'wetland', possibly without human residents. Local inhabitants, instead, aim to continue to live there, improving the traditional activities of farming, bathing and fishing, within a new ecotourist frame mostly on a local scale⁸.

Scientists, and particularly geologists, also play an important role in these environmental conflicts. In fact the area is well known as a site of hydrogeological interest and it is studied by naturalists and geologists who consider the lakes as a prime example of *sinkholes* (see Compagnone 2007; Nisio 2008; Picozza 2004), defined in official documents, like the Hydrogeological Structure Plan⁹, as sudden phenomena of collapse of the ground (Autorità dei bacini regionali del Lazio 2012a: 10). The contestations affecting the area, indeed, do not concern only questions related to ownership of the land; they are rather grounded in different understandings about the origins and the management of the lakes and the surrounding areas. These conflicts concern different ideas about the temporality of the landscape and the management of the ecological relations between land and water. They call into question the distinction between geologic and social realms, advocated by scientist and conservationists, and challenge the political category of wetland.

Walking on the Water

During my fieldwork I attended some guided visits in the area organized for schoolchildren by a local group of environmental interpreters. During these visits, the lakes were usually described as follows:

[...] below there is rock and above there is clay, at the bottom there is water. Imagine that the water at the bottom suddenly goes down and the layer

of rocks, that in some points can be thin and it is supported by the water, goes down too. In this case the water emerges. This is the genesis of all these lakes. They are called *sinkholes*¹⁰.

All the excursions that I attended focused mainly on the hydrogeological features of the area and particularly on the genesis of the Bishop's lakes. Once, to demonstrate his explanations, a guide started to jump close to the banks of the lakes, encouraging the children to jump as well in order to 'feel' the response of the soil because, as he said: «we are walking on the water».

The idea of 'walking on the water' conveys a peculiar image: namely that there is water under a rather thin layer of soil and that the ground is particularly unstable and behaves like a raft. This idea implies an association between water, soil and ground, that is not neutral and holds, in this particular area, strong political implications related to the concept of 'hydrogeological risk' as the same guide suggested saying to the schoolchildren: «You have to think that all the area at the feet of the hills is like this; one could never build a house or a road here because the soil would collapse». This idea is reiterated in a scientific and institutional publication, edited by the Latina Province Authority, which reads: «In the whole area the deposits of peat are held up by water (they float), for this reason if you approach the lakes, you have the sensation of walking on a raft. [...] to walk through the area can be dangerous if you do not take enough care» (Provincia di Latina 2010: 75)¹¹.

In this excerpt the peril of walking in the area becomes a political concern, because it appears to be embedded within the geological understanding of the lakes as *sinkholes* whose genesis is described in the same publication as «attributable to phenomena of collapse in karstic areas (*sinkhole*), and to the rising of mineralised water [...]» (*ibidem*)¹².

The lakes and the surrounding areas are included within the regional *Piano di Assetto Idrogeologico* (Hydrogeological Structure Plan – PAI), and classified amongst the most dangerous kind of areas for how concerns the risk of landslides and collapse of the ground (Autorità dei bacini regionali del Lazio 2012b: 5). This point is important because the PAI does not only describe the areas according to the danger for the people (Autorità dei bacini regionali del Lazio 2012a: 1). The PAI has also a strong political and social value, because in identifying areas and buildings at risk, it «imposes constrictions subject to specific rules»¹³ (*ivi*: 2). It is worth highlighting this aspect because it exemplifies a particular way in which the geologic enters and affects the socio-political realm, constituting a new kind of 'geopolitics' (see

Pálsson, Swanson 2016). In this sense the PAI attends to different time scale (*ibidem*), the geological and the historical, but understood as two separated realms with different and incommensurable temporalities. The lakes and the surrounding areas respond to the geologic; they are seen as a dangerous background for the enactment of human society that instead responds to history. According to this view, the lakes have a geological time scale, they have an evolution; society has a historical temporality, it has a history. The distinction between geological and historical temporalities is important because it is one of the causes of the environmental conflicts affecting the area.

In fact Luca, my informant-farmer and owner of the area, gave me an explanation about the stability of the ground and the temporality of the landscape that is completely different from the one that I described above. In his understanding the stability of the ground, hence the risk of landslide and collapse is related to water management rather than to the hydrogeological structure of the area. He explained to me that the ground surrounding the lakes is made up of a thick weave of reed roots that are intertwined with the soil forming a compact rhizomatic surface locally named *Cotica galleggiante* (floating pork-rind). This surface can be up to a couple of metres thick, it is connected to the dry land and can protrude several metres into the water, floating on it. In some points, Luca told me, the 'floating pork-rind' can be extremely thin, especially on the lakeshores, and in these cases walking on it could be dangerous because one may fall into the water. The stability of this floating ground, hence of the area, is in this understanding related to a perfect management of the lakes' water levels; it is a social 'and' hydrogeological problem. The ground would fall down if the levels of the water were to decrease, as happened a few years ago, when the lakeshores and the adjacent area suddenly collapsed.

According to geologists this event of collapse is attributable to the general hydrogeological structure of the area, hence it is a 'natural' and sudden phenomenon connected to the lakes, understood as *sinkholes* (Picozza 2004; Compagnone 2007). The family I worked with, who lives in the area, has a different understanding: they attribute this event of collapse to the actions of the Land Reclamation Authority, which erroneously decreased the lakes' water level, causing a predictable disaster due to lack of experience, attention and knowledge of that particular environment. These different explanations concern more than just the nature of the soil or the interpretation of a particular phenomenon, they rather concern different understandings of the landscape and its temporality (see Macnaghten,

Urry 1998: 134); different understandings of the relation between geology and history.

Land, Water and Fire. Anthropocenic narratives

Luca, my main informant farmer and owner of the area, gave me an explanation about the genesis of the lakes completely different from the one I had heard during the guided visits and read in geological reports. His explanation was grounded in a historical and relational understanding of the landscape that is completely missing in the geological accounts.

During one of the many walks I had with Luca in the area, I addressed him with a specific question about the hydrogeology of the lakes and the surrounding areas:

Paolo: Here we are basically walking in an islet in between the water, are we not?

Luca: Yes... If these lakes were in communication with each other, as the Land Reclamation Authority argues, can you explain to me for what reason there are stable patches of land, like this one? Is it not more likely, as I argue, that all the land is stable and that these pools have been created little by little over time, because of the peat that has burned? Why did another pool originate where the peat recently burned? Then, it is normal that any soil bogs down if you put water on it; water has always the same level because of the principle of communicating vessels¹⁴.

In Luca's understanding the hydrogeological structure of the area is at odds with the explanation given by geologists and nature guides: water is not under the surface of the earth, under the soil; water is rather in the soil, and above it, and the lakes are the results of the concentration of this water in particular areas, where the ground sank for particular reasons, namely the activity of burn-beating. Luca explained to me that the genesis of the lakes is due to the combination of the quality of the soil with a particular agricultural practice, namely the use of fire, that was used in the past, and is still used in the area at least once a year¹⁵.

He explained to me that the lakes are situated in a particular area of the region covered by a thick layer of peat that burned and was consumed little by little to an extent deep enough to be filled by the surrounding water because of 'the principle of communicating vessels'. This explanation is interesting because it conveys a temporal dimension to the idea of landscape literally understood as 'a land shaped' (Ingold 2012a; Olwig 1993, 2008). Fur-

thermore, Luca's idea is not grounded in geological studies or in a scientific imaginary, it is rather built on his memories and long lasting experience of working and living on the land. During one of our walks Luca showed me a small pond amidst the lakes and he explained to me why he had arrived at his conclusions about their genesis:

This is the last part that burned [...] this is why I have this theory. I doused this area myself [...] but if I didn't this area would have become another lake. I saw the smoke but I couldn't see the flames, and when I arrived here I realised that the land was burning. When I was walking here my boots burned, the land was literally incandescent. So I brought the tractor with the pump, I flooded the area and the fire extinguished. If the layer of peat burns, it is obvious that the area becomes a lake. The water fills up the dip immediately, especially in this area with the levels of water that you find here¹⁶.

Luca's explanation resonates with archival materials that demonstrate the historical use of fire in Agro Pontino and the connection between this particular agricultural practice and the flooding affecting the area since ancient times (see Gruppuso 2014; 2016). In the old Pontine Marshes, in fact, it was a common practice to fire the land «in order to produce deep depressions with stagnant water used as fishponds»¹⁷ (Nicolai 1800: 286). Interestingly, in geological accounts about the origin of the lakes, the small pond that Luca showed me is understood within a completely different framework. Divested of any cultural or historical dimension, geologists describe this pond as a "subcircular pit of neoformation"¹⁸ (Nisio 2008: 69).

The sense of the temporality of the landscape emerges strongly from another story concerning the origin of one of the Bishop's lakes. This story has been told to Luca by his great-grandfather:

A farmer was ploughing those lands, instead of participating in the celebration of the local patron, when suddenly the earth opened itself, and swallowed the man together with the cows and the plough, which instantly were submerged by the sulphuric water [...] this is why this lake is also called 'the plough'¹⁹.

Even though this story recalls the idea of a sentient landscape that punishes the transgressor of a taboo, I want to focus my discussion on the fact that this tale shares some similarities with the geological explanation on the lakes' genesis. Indeed, they both view the lakes as having originated because of a col-

lapse of the ground that happened in a short period of time; nonetheless there is a major difference. The scientific understanding, categorizing a specific geological phenomenon under an abstract concept – sinkhole –, gives a universalist explanation regarding the genesis of the lakes which is very far from that particular context. The tale that I quoted, instead, relates the same phenomenon to the particular agricultural practice of ploughing. Whereas the former account situates the origin of the lakes in an uninhabited surface made of physical features; the latter situates it within an array of particular activities, a taskscape (Ingold 1993).

These different understandings about the hydrogeology of the area mirror two different temporalities. On the one hand the temporality of geology (see Braun 2000; Simonetti 2015) abstracted from human history; on the other hand the temporality perceived by local people, which unfolds along with the historical inhabitation of that particular landscape. The former temporality seems to introduce a dichotomy between space and time, according to which *sinkholes* appear as punctuated events located *in* space and *at* particular moments of time. Instead, from the second perspective, which we might call ‘contoured’ temporality, movements in space ‘are’ also movements in time and everything is spatiotemporal (Ingold personal communication; see also Ingold 1993). Furthermore, these temporalities are grounded in two different epistemologies that view the environment in different ways. In the former, the environment, divested of any historical and sociocultural dimension, is tantamount to the geologic and understood as a kind of laboratory where one goes to gather and detect data that are further processed in order to produce scientific, universalist knowledge: sinkholes. In the latter, the environment is tantamount to the historical, social and cultural experiences of the people who live within it, whose knowledge is immersed within the lifelong process of inhabiting the environment.

These different views engender conflicts framed within wider discourses connected to the management of water that reflect different understandings of the relation between the geologic and the historical. Most of these conflicts are related to the fact that the whole area is prone to flooding. For the owners, as well as for other farmers in the wider area, these floods are caused by inadequate or misguided management of the water by the Land Reclamation Authority. For their part, the institutions in charge of the Natura2000 site consider this flooding as due to the hydrogeological structure of the area, which in their understanding is incompatible with agriculture. In what follows I discuss

ethnographic materials that highlight the role that water plays in the construction of conflicting narratives about the landscape and its temporality.

Water management

I was interviewing Luca with questions about his family history in the area, and he told me an interesting story related to that landscape, which I did not know:

Paolo: Did people farm here also before the reclamation?

Luca: Yes of course. We have always farmed here because the marsh started from the Ufente river towards the sea [...] from the old Ufente though [...]. This area was on top of the old Ufente, and it was flooded after the reclamation when they changed the Ufente river’s course. Do you understand? They drained the lands below the old Ufente and they flooded the parts on top. This is basically what they did, because when they modified the Ufente’s course, they raised the level of the water, flooding all the fields that before were on top and that people used to farm²⁰.

In this excerpt Luca emphasises that the troubles with water started after the *Bonifica Integrale* when the Land Reclamation Authority (LRA) decided to modify the course of the Ufente River and imposed his system of water management. Luca explained to me that he designed and built a rather simple system of channels that, bypassing the Land Reclamation Authority’s system, maintains the water in the lakes at the right level, with the result of preserving the geological structure of the area and ‘keeping the land wet’²¹ so that it can be cultivated without any irrigation system. This system works under normal conditions, and he told me that it is thwarted only when the Ufente river overflows, or when the Land Reclamation Authority tries to re-establish its system in the area.

This explanation is at odds with what the official responsible for the Natura2000 site told me. I addressed the responsible with specific questions about the hydrogeology of the area and the system of water management, and she told me:

This is an area absolutely not ideal for agriculture because of the water problem [...] the aquifer is very superficial [...] and anyway the area is prone to flooding. The only possible solution is that the water recoups its part of the territory, also because it is sulphurous water.

The tension between these different understandings raises important themes that are worth highlighting. From the institutional perspective there is a process of naturalisation, framed within geological knowledge, which concerns the idea that the water has to 'recoup its space', and that does not take into consideration the history of that landscape, and the efforts made by local people in 'keeping the land wet' (see Breda 2000: 131; Gruppuso 2016). Luca's argument instead points out that flooding has not to do only with the hydrogeological structure of the area; it is also a political and social issue; it is the result of particular historical processes. This point is highlighted by Franz Krause who states that «water flows and human sociality are deeply implicated» (Krause 2016: 682) and that «water comes and goes in ways that are not only a reflection, but part and parcel of the social relationships among different people, groups, and interests in the area» (*ivi*: 688).

Krause's argument concerns water, however, as I mentioned in the introduction, water is only one particular component of the landscape, even in wet lands, and my informants look at water as entangled within a complex system of political, hydrogeological and historical relations. Indeed, I think that any argument about water as a contested political element (e.g. Bakker 2012; Bijker 2007; Strang 2004; Krause 2010; Geertz 1972) or about 'hydrosociality' (Krause 2016) has to look at the deep relations that water affords, and in which it is embraced (see Breda 2005). In fact, even if water permeates all aspects of human life and is essential to life on Earth (Strang 2005, 2015), human beings are not «mono-elementary creatures» (Ten Bos 2009: 74), and certainly the contestations I am writing about do not concern only water.

The Geologisation of the Territory

Recently, a process of negotiation between the inhabitants and the local institutions led to the transformation of the Bishop's Lakes into an official protected 'wetland'. This transformation entailed the building of structures, and the creation of particular trails and points of access. Furthermore, a strong process of de-historification was implemented that has deleted local knowledge concerning the genesis and nature of these places, as well as the long-lasting relationships between the inhabitants and that particular landscape, aptly summarised by the expression 'cultivation of the bog' (About 1861: 206). The area is in fact equipped with many posters reporting scientific records, figures and maps, which remove local history, imaginary and stories, as if the area would not have its own history, made

of an evolving entwinement between humans and non-humans, geologic and historical; as if that particular environment was created in a single instant, caught in the flatness of cartographic representation and geological figures. This kind of geological temporality is intensified by the information given on the posters, which mainly focus on the genesis of the lakes described as 'Sinkholes' and defined as «collapses of the topographic surface that take place during a short period of time (6-24 hours)»²².

This information is grounded in the idea of a complete separation between landscape and its inhabitants, between the geologic and the historical, which fosters an idea of timelessness (see Nustad 2011: 104). It seems that geological temporality, even if referring to a presumed recent phenomenon, remains incommensurable with human historical experiences. It seems that 'wet lands' and 'wetlands' have different temporalities. The former emerges along with the shapes of the land, and resonates with the historical and social practices performed by the inhabitants in the 'cultivation of the bog' (About 1861: 206); the latter is the outcome of a process that, looking at landforms, results in the geologisation of the territory (Braun 2000) as reflected in the timelessness of the notion of *sinkhole*. This notion makes possible to flatten the temporality of the landscape in an extremely short lapse of time. This understanding dislocates time from space because space is no longer experienced in time as an area over which one moves to encounter places in turn (Barret 1999: 23); places rather appear as timeless.

Alternative to this understanding is the temporality of wet lands that emerges in the historical lives of the people who engage with the land in the process of inhabiting the landscape (Ingold 2000: 189) and 'keeping the land wet' (Breda 2000: 131; Gruppuso 2016). This kind of temporality resonates with what Ingold has in mind with his concept of *taskscape*, that is the idea that «temporality inheres in the pattern of dwelling activities» (Ingold 1993: 153). Whereas the temporality of 'wetlands' focuses on the distinction between form and processes, the geologic and the historical, the temporality of 'wet lands' overcomes this distinction, because «it is in the very process of dwelling that forms are constituted» (*ivi*: 162). The process of formation of this kind of landscape cannot be expressed or understood as having occurred in one moment, as with 'sinkholes' for geologists, «but must trace the threads of movements» (Barrett 1999: 24) and rhythmical relations of humans and non-humans who inhabit the land performing different tasks and activities.

Conclusion

In this article I have discussed the role of temporality in environmental contestations. I have demonstrated that the temporality of geology, conveyed through a particular reading of the origin of the lakes as ‘sinkholes’, seems to deny the role of historical processes in shaping the land (Barrett 1999: 22). In order to create a geological landscape, the ‘wet land’ is emptied from any trace of human history and transformed into a ‘wetland’ dominated by the presence of ‘primordial’ and untamed water that “has to recoup its space”, as the responsible of the Natura2000 site told me. This view results in a process of de-historification of the landscape that triggers and fosters environmental conflict.

I argue that the first step towards a resolution of this conflict consists in recognising the entanglement of historical and geological temporalities. This can be done through a process that ‘unwraps’ wetlands and starts thinking to them as ‘wet lands’, that is as tasks and activities that emerge along with the shapes of the Earth as the result of ‘keeping the land wet’. This expression, borrowed from my informant farmers, conveys the historical experience of the people who inhabit and take care of the land, ‘cultivating the bog’. The acknowledgement that human and non-human activities are at the core of what we call ‘wetland’, means that in order to manage the wetland one has to manage these activities; it means shifting attention from an idea of environment imagined as independent of human inhabitants to an idea in which human inhabitants are part and parcel of that environment.

This aspect is paramount in an age of environmental crises and uncertainty because it emphasises the role of human beings in the wise and sustainable management of natural resources. From this perspective the concept of the Anthropocene turns to be particularly useful, because it allows to think of the geologic, the Earth, the atmosphere and the non-humans, as inherently connected with the human society. The concept of the Anthropocene can be particularly important in conservation contexts to challenge the rhetorical portrait of a wild and pristine nature threatened and destroyed by human activities. Deprived of its implicit and problematic anthropocentrism, indeed, the idea of the Anthropocene suggests the image of a multivocal and hybrid nature (Lorimer 2015) where humans and non-humans beings can learn to inhabit a common world (see Whitehouse 2015). The Anthropocene, «is not just a proposed geological epoch but also a mode of scholarship» (Pálsson, Swanson 2016: 167) that has the potential to overcome discipli-

nary boundaries and to inquiry into the deep relations that link the geologic to the social, humans to non-humans.

Notes

¹ This research is part of the fieldwork conducted for my PhD (Gruppuso 2016).

² Translation by the author.

³ *Laghi del Vescovo (Gricilli) proposta di istituzione del monumento naturale* (published on 26 January 2008): <http://pontiniaecologia.blogspot.co.uk/2008/01/laghi-del-vescovo-gricilli-proposta-di.html> (Last accessed May 2016).

⁴ Translation by the author.

⁵ One of the oldest river in the region whose course was modified after the *Bonifica Integrale*.

⁶ The area has been affected by several reclamation projects since ancient times (see Folchi 2002; Incardona, Subiaco 2005; Gruppuso 2014, 2016).

⁷ Rome Public Record Office: Camerale II, Paludi Pontine, Atti diversi, b.112.

⁸ For the relation between wetlands and ecotourism in Europe see Russel 2007.

⁹ *Piano di Assetto Idrogeologico*.

¹⁰ April 14, 2011. Translation by the author.

¹¹ Translation by the author.

¹² Translation by the author. Emphasis in original.

¹³ Translation by the author.

¹⁴ May 23, 2011. Translation by the author.

¹⁵ For the relations between fire and wetlands in the Italian context see Breda 2000. See also Sereni 1981 and Lai 2005, for the use of fire as an agricultural practice in the Italian context.

¹⁶ May 23, 2011. Translation by the author.

¹⁷ Translation by the author.

¹⁸ Translation by the author.

¹⁹ February 16, 2012. Translation by the author.

²⁰ May 23, 2011. Translation by the author.

²¹ The expression ‘keeping the land wet’, related to agricultural activities, resonates with the ideas conceptualised by Nadia Breda under the expression “*antropologia della bonifica*” (Breda 2000: 131). Breda’s point is interesting because it draws a parallel between wetlands as socionatural systems and the activities aimed at “*trattare l’acqua, fermarla, tenerla su*” (*Ibid.*), hence practices aimed at “keeping the land wet” (see Gruppuso 2016).

²² Information reported in one of the posters entitled «The sinkhole phenomenon». Translation by the author.

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