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THE FOREST IN THE AGE OF ITS TECHNOLOGICAL REPRODUCIBILITY: BENJAMINIAN REFLECTIONS WITHIN THE MASSANE FOREST

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ABSTRACT.-This field philosophy reflection attempts to initiate a dialogue between the conservation decisions of the French Massane forest and some of the ideas of the German philosopher Walter Benjamin (1892-1940). It begins by justifying the choice of Benjamin as a relevant thinker for this endeavour in field philosophy. It then connects two of his reflections to the different issues relating to the conservation of the Massane Reserve. Firstly, the article considers the relevance of Benjamin's conception of history set forth in his essay On the Concept of History (2005 [1942]) in order to shed light on the management choices of the Massane Reserve. Secondly, the article draws on some of his aesthetic reflections presented in his famous essay entitled The Work of Art by the Age of its Technological Reproducibility (2008 [1935] to reflect on the testimonial value of this reserve, as the reserve's management strategy is based on a non-interventionist approach. This article also shares a few critical perspectives offered by Benjamin's ideas with respect to the management choices used in other reserves that rely on genetic assistance for conservation purposes.

NTRODUCTION

The Massane Reserve covers about 330 hectares of old-growth forest dominated by beech trees (*Fagus sylvatica*, L., 1753). It is located in the commune of Argelès in the Pyrénées-Orientales department in South France, close to the Spanish border. Situated 4 km from the Mediterranean Sea and ranging from 600 to 1,250 m above sea level, it is marked by a dual Mediterranean-Alpine influence due to its proximity to the sea and location in the Pyrenean foothills. This old forest, unexploited since 1885 and protected since 1973 by a Réserve Naturelle Nationale (RNN) status, joined the UNESCO World Heritage sites in 2021 in the category of "primary beech forests of the Carpathians and other European regions." Since its protection, it has been widely studied and still arouses scienti-

fic interest, as evidenced by this special issue to mark the 50th anniversary of the reserve.

I first became interested in this forest during my PhD in environmental philosophy, when I studied different concepts of time and temporality in the field of nature conservation with respect to the management choices and conservation programmes implemented in protected areas of the French Mediterranean region. Part of this work questioned the effects of climate change issues in the field of conservation. From this perspective, my initial intention was to distinguish different approaches within these conservation choices and to identify various 'spontaneous philosophies' embedded within the programmes and discourses of conservation practitioners. In this manner, I wanted to compare their epistemic and ethical choices in addition to their temporality regimes, meaning how they consider and articulate the past, present, and future. In this context, I approached the National Natural Reserve of the Massane in late 2020.

In 2020, the Massane Reserve had just become involved in a European-funded LIFE programme dedicated to supporting environment and climate projects. This LIFE programme known as Natur'Adapt ran from 2018 to 2023 and was coordinated by the Réserves Naturelles de France. It aimed to integrate climate change issues into the management of protected areas. In this programme, the Massane Reserve was selected as one of six pilot sites to implement and experiment new tools and methods dedicated to the adaptation of protected area management in the face of climate change. The Massane forest was the only selected pilot site located in the Mediterranean region, which was the focus of my research. The reserve thus reflected on adapting its management strategies by developing a typology of its main conservation elements (e.g., somital meadows, beech forest, riparian vegetation) and projecting their possible futures under the expected climate change scenarios. The conclusion of this reflection was to continue with a non-interventionist management approach that respected the site's natural processes with no or with minimal intervention. In different seasons in 2021 and 2022, I spent a total of three days at the reserve to undertake participative observations and exchanged repeatedly with three of the site's conservation practitioners and several researchers working on site.

While the relevance of this old-growth forest, untouched by timber exploitation for over a century, is evident for entomological, genetical, ecological and mineralogical studies, its relevance for a philosophical approach seems less apparent at first glance. However, many philosophers take a keen interest in conservation practices. The philosophy of conservation ranges from ethical reflections, such as the finalities of conservation practices in an Anthropocene context (Miller *et al*. 2011), to epistemological contributions, such as the possibilities and limits of predictive ecology (Elliott-Graves 2019, Maris et al. 2018). Other approaches in philosophy of conservation involve the reconceptualisation of important notions such as naturalness (Maris 2018, Saltz & Cohen 2023). While most of the field focuses on analytical philosophy, some works apply the writings and ideas of classical continental philosophers to contemporaneous questions (for instance, Meinard & Dereniowska 2018). It is also not uncommon to read the contributions of philosophers on the pages of the major conservation journals such as Conservation Biology and Biological Conservation.

However, these philosophical contributions tend not to focus on a specific geographic location. It is less common for philosophers to express a specific interest for local sites, although there are examples of philosophical reflections stemming from a local inquiry (Meinard & Dereniowska 2018, Morizot 2020) or attempts to take into account individual memories of natural encounters in local places (Pierron 2021). However, it is interesting to note that the reflections of Aldo Leopold, an American forester and writer widely considered to be a founding father of environmental philosophy, were deeply intertwined with his 'land', the hectares surrounding the 'shack' where he used to live, and with the singularity of its geographic position and ecological peculiarities (Leopold 1968). The same may be said of other environmental philosophers such as Arne Naess and Val Plumwood. The importance of specific places in the thought of Plumwood even gave rise to reflections about the profound links between any ecological thought and a particular ecosystem (Raïd 2020). I was thus hoping to conduct this sort of local reflection grounded in the singularities of a place, namely the Massane forest. But how could this specific forest interest philosophers?

Firstly, beech trees dominate the Massane forest, which is located in the very south of this species' distribution area, thus making its management particularly challenging in the context of climate change. Indeed, beech tree distribution is projected to drop sharply in the coming decades (Kramer *et al*. 2010, Martinez del Castillo *et al.* 2022), especially in its southern range. The species is commonly expected to disappear in the Mediterranean region where some forests are still dominated by beech. This first specificity of the Massane forest thus raises a question of a philosophical nature: what does it mean to take care of a forest whose main essence is probably doomed to disappear in a few decades?

A second characteristic of this forest capable of triggering a philosophical interest lies in its management choice. Indeed, the Massane Reserve implements what is known in French as '*libre évolution*', which may be translated as non-interventionist approach. Several definitions have been proposed for this non-interventionist approach, but it covers two main aspects (for the French term 'libre évolution', see Couvet *et al*. 2022): a minimal level of human intervention and the protection of evolutionary processes over the long term. Both aspects are present in the case of the Massane Reserve. Regarding the lack of intervention, the reserve professionals working on site study and observe the forest but do not, for instance, prune trees, remove dead wood, or create or maintain trails. This non-interventionist approach has long been favoured by the reserve, although it does not prevent visitors from accessing the site; a herd of Catalan cows even grazed in the forest until recently. The second aspect of the non-interventionist approach emerges in the discourses of professionals, who heavily emphasise the autonomy of the site's evolutionary processes and their importance for its resilience in the face of climate change. In short, a non-interventionist approach encourages the spontaneous ecological functions of the forest by limiting anthropogenic disturbances. It thus differs from rewilding projects, which often involve active operations such as species reintroductions. The non-interventionist approach has recently raised a few conceptual reflections in the fields of conservation (Génot 2008) and environmental philosophy (Morizot 2020).

Lastly, the Massane forest is especially propitious to a philosophical reflection due to the abundance of scientific and aesthetic works dedicated to it, not to mention the many

observations made by its conservation practitioners. This attempt in field philosophy thus draws on this body of previous research. In particular, the exploration of the forest's past through archaeology, historical ecology and genetics studies, which highlighted its possible role as a climate refuge during ancient climate change, is especially important since it is echoed in the ideas of Benjamin. In the same way, photographers' aesthetic considerations for this old-growth forest (see Garrigue *et al*. 2018, Garrigue *et al.* 2022, and Boutilier 2024 in this volume), which highlight its unique shapes and landscapes, lay the cornerstone of this present philosophical endeavour. These two types of works, combined with the sensibility of the conservation practitioners working in the reserve, made me view the Massane forest as deeply connected to the philosophical themes of history and aesthetics, which contributed to the choice of Benjamin as a specific philosophical perspective to engage in a dialogue.

In what follows, in the section usually dedicated to materials and methods, I will explain the relevance of Walter Benjamin's writings with regard to conservation issues. I will then present the results of this analysis in two parts. Firstly, I will show the interest of Benjamin's conception of history to understand the reserve's management choices. Then, I will explore the value of his reflections on the reproducibility of the work of art in order to open up another perspective on the choice of a non-interventionist approach characteristic of the management of the Massane forest.

Methods: Field philosophy and Walter Benjamin

Throughout my research in environmental philosophy, I sought ways to engage in field philosophy (thus aligning with other contemporaneous efforts such as Buchanan *et al.* 2021 and Bénétreau *et al*. 2023), in connection with the practices of nature conservation. My working hypothesis was that among the many ways to tackle the issue of climate change in protected areas, it might be possible to develop different 'temporal regimes', that is, distinct ways of considering and articulating the past, present, and future based on French historian François Hartog's concept of the 'regimes of historicity' (Hartog 2015, 2020). Here, I prefer to speak of 'temporal regimes' instead of 'regimes of historicity', because, unlike Hartog, I do not explore temporal dimensions that vary across historical periods but rather distinct ways of conceptualising time that coexist within the same period and culture. This led me to contact individuals working in different protected areas that were implementing programmes specifically addressing the issue of climate change.

After many discussions and readings, I felt that it would be valuable to link each conservation style to a specific philosophical perspective. In the case of certain conservation programmes at other natural sites, this linking was grounded in the practitioners' own spontaneous reference to a specific philosopher's work, most probably triggered when I introduced myself as a PhD student in philosophy. For example, one forester referred to Hans Jonas' ideas, outlined in his *Responsibility Principle*, to support the ethical stance underlying his conservation practices as compared to another forest management style. In another case, a coincidence of vocabulary between a conservation programme and an environmental humanities theme paved the way for a comparison of perspectives. However, in the case of the

Massane, there was no such spontaneous mention of a philosopher's ideas or the use of established terminology from the environmental humanities. The comparison is thus mostly the fruit of my own interpretation, although several elements justify this choice, starting with a few biographical elements relative to Walter Benjamin.

Walter Benjamin, a German philosopher born in 1892 in Berlin, died in 1940 in Portbou, just 5 km from the Massane Reserve. As perhaps suggested by his birth and death dates, he was a Jewish philosopher who was forced into exile. He spent some time in France before, on the eve of his death, travelling along a mountainous trail between Banyuls and Portbou, next to the Massane Reserve. This trail now bears his name, although it could also be named after Lisa Fittko, the resistance fighter, activist and smuggler who brought many refugees along this route, saving several hundred lives. Benjamin's case did not end happily, since on his arrival at Portbou, he was stopped at the Spanish border where Franco's police threatened to hand him over to the Gestapo. He chose to end his life in Portbou, a 'small village of the Pyrenees where nobody knew him', according to the sad expression found in his last letter.

Indeed, it is a striking geographical coincidence that Walter Benjamin followed a trail right next to the Massane Reserve on the eve of his death, especially since many of his reflections explore the theme of passages, and his last writings collected by Rolf Tiedemann under the title Das Passagen-Werk are often referred to as The Book of Passages (Lindner 2007). Beyond this coincidence, I chose Benjamin because his writings open up two avenues for reflection that seemed relevant with respect to the Massane Reserve's management choices.

Contrary to Hans Jonas or Aldo Leopold, Benjamin is not commonly regarded as a classical environmental philosopher. His writings are instead known for their aesthetic reflections and literary criticisms, often with an underlying political dimension. Benjamin was part of the Marxist school and the German intellectual group known as the Frankfurt school (Frankfurter Schule), which believed that philosophy should serve as a tool for social criticism. However, the relevance of Benjamin's writings from an environmental perspective was investigated by Michael Löwy (2016), who showed that his strong condemnation of nature's exploitation distinguished him from other Marxists of his time, suggesting that some of his writings prefigured the eco-socialist ideas later developed by André Gorz. In Benjamin's view, the exploitation of both workers and nature had to be abolished, as expressed strongly in his eleventh thesis in On the Concept of History (Benjamin 2021 [1940]).

Nevertheless, irrespective of the newfound relevance of Benjamin's thought in the current era of environmental catastrophe, it seems that some of his preferred themes, seemingly distant from environmental issues, are also interesting with regard to conservation practices, because his shift away from the classical fields of environmental philosophy (namely ethics and epistemology) allows us to explore questions relating to the philosophy of history and aesthetics. Beyond these themes, Benjamin's fragmentary, enigmatic and often-poetic style of writing creates a distinct contrast with the more systematic styles found in the traditional corpus of environmental philosophy.

In Benjamin's profuse but fragmentary body of work, two of his best-known texts seem particularly relevant to create a dialogue with the reserve's management choices and the aesthetics that it showcases. Firstly, his essay On the Concept of written in 1940, which is often considered his philosophical testament'. Therein Benjamin theorises the practices of historians: he advocates a way of writing history that avoids recounting a single narrative, which would be a continuous development of a progress, and instead focuses on collecting minor fragments of the past, threatened by oblivion, that should be commemorated by historians. This history, often called a 'history of the vanquished' in commentaries on Benjamin's text, should be 'brushed against the grain', moving backwards against the narrative of progress. Such a history does not trace a continuous course of development but rather 'rescues phenomena with their cracks', borrowing the enchanting expression of Philippe Simay (2008). It presents a discontinuous vision of time, where echoes or 'constellations' in Benjamin words (Thesis XVII) link past episodes to present events and 'explode the continuum of history' (Thesis XVI). This singular conception of history is interrupted by jerks and breaks, driven by a tension 'between the possible, the already there and the never happened' (Farge 2008). Linking this famous text to our conservation issues is not a simple task. Indeed, conservationists are not historians. However, one of the hypotheses of my research was to consider that all conservation practices carry an embedded philosophy of history, which needs to be made explicit.

The second text considered here, whose title this article appropriates, is The Work of Art in the Age of Its Technological Reproducibility. Written before On the concept of history, this text has two versions: the first was published in 1935 and later disowned by Benjamin, while the second from 1939 was published posthumously. This reflection uses the second version, which examines the effects of the advent of photography and cinema on works of art, notably in terms of their ontology or status as well as the public's changing perception of art and its massification. One of the main theses of this dense reflection is that the newfound technological reproducibility of works of art leads to a loss of their 'aura', a concept coined to express the 'the here and now of the work of art—its unique existence in a particular place' (Benjamin 2008 [1939], p. 21). Widely referenced in the humanities, this text also attracted criticism, particularly regarding the ambiguous definition of 'aura', its weak argumentation, and a somewhat cavalier approach to various areas of art history (Hennion & Latour 1996).

Beyond the criticism to which the text lends itself, the link with our conservation issues is, once again, far from evident. Indeed, forests differ from works of art. However, some of Benjamin's examples used to illustrate the 'aura', not to mention a few specific expressions, suggest that the transformations described apply not only to human artifacts deemed to be works of art but also to our relationship with landscapes. This possible extension to nature emerges in the first example given by Benjamin to define his concept of aura:

What, then, is the aura? A strange tissue of space and time: the unique apparition of a distance, however near it may be. To follow with the eye—while resting on a summer afternoon—a mountain range on the horizon or a branch that casts its shadow on the beholder is to breathe the aura of those mountains, of that branch. In the light of this description, we can readily grasp the social basis of the aura's present decay (Benjamin 2008 [1940], p.

23).

This possible extension also paradoxically appears when Benjamin, while speaking of the transformation that he envisions for works of art, concedes that it could also apply to landscapes:

> These changed circumstances may leave the artwork's other properties untouched, but they certainly devalue the here and now of the artwork. And although this can apply not only to art but (say) to a landscape moving past the spectator in a film, in the work of art this process touches on a highly sensitive core, more vulnerable than that of any natural object. That core is its authenticity (Benjamin 2008 [1940], p. 22).

A rapprochement can thus be glimpsed and perhaps even attempted—a connection that I am not the first to propose. As noted by Yves-Charles Zarka in a commentary on this very essay, there appears to be a 'shared contemporary fate for art and nature', rooted in the notion that for both, 'one does not know what they are anymore' (Zarka 2018). Reflections that draw parallels between the reproducibility of art and the replication of natural entities have also been formulated in the wake of Benjamin's ideas (Olalquiaga 2010).

These two texts cannot be applied directly to analyse the management choices at the Massane Reserve, as they are anachronistic and thematically distant. However, they open up avenues for interpretation and potential 'correspondences', to borrow Baudelaire's term so appreciated by Benjamin. The texts also give rise to questions that may be relevant to the Massane Reserve. I will therefore focus on the ideas expressed in these two texts, putting them in dialogue with the implied philosophy of history and aesthetics of the reserve. Clearly, this methodological choice requires a subject that links the philosopher's anachronistic writings to this contemporary conservation context. This is why the reflection offered here is a proposition rather than a demonstration; it does not intend to be reproduced but simply to be shared.

RESULTS

The results are presented in two sections. The first examines the conservation style of the Massane Reserve in relation to Benjamin's ideas on the philosophy of history. The second explores the possible connection between the aesthetics of the Massane forest and one of Benjamin's theses in the philosophy of art.

'Hope in the pasts': Glimpses into a Benjaminian conservation

A conservation style oriented toward exploring of the reserve's many pasts

For several decades, the Massane Reserve has practised a non-interventionist mana-

gement approach. This unusual management style in mainland France is frequently the subject of criticism directed at conservation practitioners. The non-interventionist approach is equated with rewilding and thus with 'backwardness', embodied by an attitude of 'not wanting things to change'. In the Massane Reserve, it is nevertheless particularly interesting that changes are actively permitted: evolution is not rejected, but instead its processes are allowed to unfold spontaneously. The arrival of new species is not controlled by management practices, even when they belong to so-called invasive species. For instance, the cape ragwort (*Senecio inaequidens*, D.C., 1838), which is present in the reserve, is not uprooted: managers instead expect that this species will find natural predators. The same is true for the vegetation and topography dynamics. This non-interventionist approach also highlights the changes that occurred spontaneously in the past and studies the processes that induced them. The history—or rather, histories—of the reserve are thus explored in depth. These multiple histories concern human, archaeological and modern pasts, which are explored alongside geological and climatic pasts. The reserve, as expressed by its conservation practitioners, is thus highly coloured by the studies of its past. It is not an original forest, imagined in a unique and unchanged state of reference, but rather valued as the site of historical episodes and processes.

In my view, the plurality and local character of these past episodes are in line with Benjamin's conception of a history that values not a single universal history but little-known fragments of the past, suppressed minor possibilities, whose memory must be explored and maintained. For Benjamin, the whole point of the historian's work was to reactivate, uphold and recall the past revolts that had been crushed, fragments of histories running the risk of falling into oblivion. In his view, we have a duty to nurture these past events. This is indicated in On the Concept of History, when he writes that 'there is a secret protocol [*Verabredung*] between the generations of the past and that of our own. For we have been expected upon this earth. For it has been given us to know, just like every generation before us, a *weak* messianic power, on which the past has a claim. This claim is not to be settled lightly' (Benjamin 2005 [1940], Thesis II).

From these pasts, the present seeds of revolution grow. 'Utopias, dreams of a different future', wrote Benjamin in Paris, Capital of the 19th Century (1935), 'are born in intimate association with elements from an archaic history' (Benjamin 1977, p. 47, cited by Löwy 2016). For Benjamin, historians have the duty to 'alight the sparks of hope in the past'. (Benjamin 2005 [1940], *Thesis* VI). One of his commentators coins a beautiful expression for this conception of history: it places 'hope in the past' (Szondi 2013). To orient the actions of the present, it is the past—and, more precisely, past catastrophes—that must be rekindled as opposed to foresights. It is thus necessary to determine the previous catastrophe(s) with which the contemporary era forms a 'constellation' (in the words of Benjamin in On the Concept of History). This perspective echoes with the conservation choices of the Massane. Indeed, such a constellation, a dazzling echo between past catastrophe and present reality, is stressed by the reserve. This is based on the idea that the reserve and its surroundings acted as a glacial refuge during the early Pleistocene climatic cycle when the site with its milder climatic conditions provided refuge to many species during the ice ages before they went on to recolonise the surrounding area. This notion of refuge in the context of climate change is reactivated by the current climatic upheavals.

The German biogeographer Jürgen Haffer originally formulated the idea of climate refuges in his 1969 biogeographic theory, drawing on the case of birds in the Amazon rainforest. Based on the theory of geographical speciation, Haffer argued that most contemporary species in the Amazon rainforest originated from the forest refuges of Amazonia, which enabled relict populations to persist during the Quaternary climatic fluctuations characterised by alternating wet and dry periods (Haffer 1969). These small populations, isolated from larger ones, not only survived the climatic upheavals in refuges offering milder climatic conditions but also underwent speciation due to the genetic drift occurring in small, isolated populations and the subsequent contact during recolonisation. The biogeographic theory of refugia not only involves the notion of persistence but also, and above all, evolutionary diversification.

This theory has been extended beyond the case of avifauna and the Amazon region. For example, the theory of refugia is often applied to the Mediterranean region to account for the effects of the Pleistocene glacial and interglacial episodes. Since the establishment of the Mediterranean climate around 2 million years ago, the Mediterranean environment underwent significant temperature variations during the glacial and interglacial periods, each lasting several tens of thousands of years and resulting in major changes in the dominant vegetation. At the height of the Würm glaciation 30,000 years ago, Southwest Europe was dominated by deciduous hardwoods, with a few pockets of Mediterranean vegetation (Blondel 2012). During the glacial and interglacial periods, a significant proportion of the flora managed to survive, despite its mesophilic nature, in scattered refuge sites around the Mediterranean Sea. Relict populations remained isolated during the glacial cycles before recolonising the surrounding areas during the interglacial periods. These successive sequences of (re)colonisation and retreat to refugia underlie the fragmented distributions of many Mediterranean plant taxa and partly explain the high proportion of isolated populations on the periphery of the main distribution areas of their respective species (Thompson 2020).

The theory of refugia has given rise to many works in the wake of Haffer thanks to numerous technological innovations enabling the study of fossil pollen, plant macrofossil and, more recently, molecular data. For some disciplines such as palynology, the search for refuges is even compared to a ‘quest for the Holy Grail’, as geographer Chronis Tzedaki put it in an article demonstrating the existence of refuges in the Balkans, which enabled the maintenance of certain tree species in temperate European environments (Tzedakis 2004). Haffer’s theory continues to inspire contemporary work, which sometimes links the ancient biogeographic histories with the question of contemporary upheavals: for example, paleoecologist Rachid Cheddadi traces the changes in the distribution of Atlas cedar in northern Morocco over the last 9,000 years using fossil pollen, linking this biogeographic history to the contemporary reduction in the species’ range and its persistence in ‘modern micro-refuges’ (Cheddadi *et al.* 2017). The theory of refuges, which had an explanatory function when developed by Haffer, thus acquires a prescriptive scope in the current context of climate change, or at least it is the subject of prescriptive uses to argue in favour of contemporary conservation choices. Drawing on past episodes of upheaval, contemporary conservation proposals are thus positioned to identify and protect contemporary biogeographic refuges. This is the case, for example, with the approach advocated by Médail *et al*. (2006) who support the prioritization of a network

of refuges in the Mediterranean region. Stressing the coincidence between past refuges and current biodiversity hotspots, they recommend prioritising these refuge areas, mainly located on coastlines, valleys and mountains and that can offer a variety of microclimates. Extending their work further, Médail and Diadema (2009) summarised the results of 80 phylogeographic studies and mapped the locations of 52 supposed refugia in the Mediterranean region, thus highlighting the strong congruence between these past refugia and the current hotspots of Mediterranean plant biodiversity. Let me also mention the Refugia Research Coalition (https://www.climaterefugia.org/), an international group of scientists working on climate refuges.

It is also this story—this scientific fable, as Donna Haraway would say (1988), for there is undeniably a narrative element—that is evoked in scoping papers that justify extending the protection of primary Carpathian beech forests to other ancient beech forests in Europe by means of a UNESCO world heritage status (UNESCO 2021). In the document stating the position of many European states thus reads:

During each glacial phase (ice ages) of the last 1 million years, European beech (Fagus sylvatica) survived the unfavourable climatic conditions (i.e. ice-caps and peri-glacial tundra in N- and C-Europe, and continental steppic conditions in S-Europe) in refuge areas in the southern parts of the European continent (mostly steep mountain areas hosting a high environmental heterogeneity and subject to Stau Effect, i.e. intercepting moisture from the sea). These refuge areas have been documented by scientists through palaeoecological analysis and using the latest techniques in genetic coding (Magri et al*. 2006). After the last ice age, around 11,000 years ago, beech started expanding its range from these southern refuge areas to eventually cover large parts of the European continent (UNESCO 2021, p. 7).*

As it so happens, the Spanish-French border of the Pyrenees, in immediate vicinity to the Mediterranean Sea, is one of the areas identified as a refuge by Donatella Magri and her colleagues based on the analysis of hundreds of fossil pollens aimed at identifying refuges and beech recolonisation dynamics.

By reactivating the imagination of climate refuges that prevented extinctions during past climate changes, the Massane Reserve highlights the similarities between these abrupt changes that occurred in the past and those in the present, portraying itself as a possible refuge for contemporary climate changes. This is exactly what its managers do when they imagine that the reserve's singular evolutionary lineages might repopulate the forests of tomorrow (Garrigue *et al.* 2022). Rather than promoting a linear temporality that tends towards a predictable future, the conservation style relies on the imagination of a discontinuous temporality in which one crisis echoes another and in which one process resembles another across geological eras and climatic phases. The persistence and possible reactivation of minor possibilities from the past in the form of refuges, as emphasised in the Massane Reserve's communication, resonates with Benjamin's concept of constellations, of resounding echoes between a past and a present.

…and searching for passages

Although this imaginary conception is strongly oriented towards the reserve's past, it does not seek to freeze it. Once again, this does not mean preserving things as they are but rather preserving processes. This idea was clearly expressed by one of the site's conservation practitioners, who observed the weakening of beech trees in the warmer parts of the reserve but concluded that the goal is to 'preserve nature, not the beech tree forest'. His statement highlighted the distinction between nature as a collection of present entities and nature as an ongoing process. A similar idea was expressed by another staff member, who described the reserve as a bridge (passerelle), a place of passage where flows and presences of a temporary nature are still possible under today's changing conditions. The notion of a 'passage' recalls a term of significance for Benjamin. The reserve professionals stated concern 'not to freeze things' echoes a similar concern in Benjamin's vision of history: 'not to oppress the present by the past', as described by Arlette Farge (2008).

Benjamin's view of history is relevant for conservation purposes, as it addresses two main pitfalls: the belief in a grand history of progress, whose optimism he disavowed (Löwy 2016), and conversely, the drawbacks of heritage that celebrates a past claimed as a unilateral inheritance. These pitfalls involve both the amnesia of oppressed pasts and a dangerous fascination with origins. In this respect, the reserve's conservation approach remains vigilant about these pitfalls: for example, it is cautious about technical interventions to accelerate tree adaptation (discussed in the next section), although this caution is paired with a clear recognition that, while old, this is *not* a primary forest. The goal is both to resist the temptation to 'technically improve' the forest and to avoid imagining that preservation signifies maintaining something original and unaltered. Through their narrative choices, the Massane Reserve positions itself within this gap, serving as a passage between two pitfalls similar to those theorised by Benjamin in his vision of history.

Another 'pastism'

To conclude this section, I would like to summarize how a thinker like Benjamin contributes to theorising the reserve's focus on the past. This perspective emphasises the value of studying a site's history without viewing these references as a return to the past. Indeed, the notion of 'pastist' conservation is often used as a scarecrow, as the expression suggests attempts to 'turn back the clock'. In his work on the non-interventionist approach (libre évolution), Baptiste Morizot carefully distinguishes between 'pastist rewilding' rooted in 'the belief that the normative, intrinsically good state of environments was the one that existed before the Neolithic revolution' (Morizot 2020 p. 170) and 'supportive rewilding', which 'focuses primarily on encouraging the regeneration of autonomous environmental functions' (Morizot 2020 p. 172), without reference to the past. In his view, 'pastist rewilding' stands as an anti-model.

Nevertheless, the perspective developed here based on Benjamin's writings allows us to conceptualise a conservation style through 'reactivation'; while not discarding references to the past, it views them as distinct from any 'return' perspective. Here, Benjamin's insights allow us to envisage different uses of the past far removed from any desire to return to it. Ins-

tead, they highlight minor, stifled contemporary possibilities to be reactivated or perpetuated. The perspective inspired by Benjamin for biogeographical-style conservation emphasises the reactivation of what has existed in continuity, as opposed to returning to or recreating the past. This does not mean re-creation, as is the case in other conservation projects through rewilding based on the reintroduction or even re-creation of species but rather on remembrance. In this way, Benjamin's perspective, his 'hope in the past', offers potential responses to the criticism often directed at conservation practitioners. These critics accuse them of nostalgia and psychologise the intent of conservation that focuses on the historical dimensions of environments (in the manner of Richard Hobbs, an Australian biologist and advocate of 'new conservation', who in a polemical text contrasts the attitude of 'mourning for the past' with that of 'hoping for the future'; see Hobbs 2013).

A witness forest, its aura aesthetics and reproducibility issues

A witness forest…

Letting a forest evolve naturally fosters an aesthetic distinct from that of forests planted for productivity or maintained for recreational purposes. Walking around the Massane forest, one encounters massive trunks that fell decades ago and remain in place—open, split, cracked, as if bearing the memory of the storms that felled them. The living trees in the reserve exhibit unique branching patterns, with widespread, irregular and often-twisted branches. Their imposing presence and astonishing forms reflect the changing orientations of their gradual development, unconstrained by coppicing or heavy management and shaped by diverse and shifting evolutionary pressures. Some are skewed or rooted to rocks, as if the ground subsided during their growth; others are stunted from early grazing, twisted by winds, damaged by rockfalls or storms, perforated by woodpeckers, colonised by fungi or weakened by heatwaves. At higher altitudes, stunted treetops, resulting from water scarcity, recall drought-filled summers. As one walks through the Massane Reserve, the Rabelaisian shapes characterised by roughness and eccentricities reveal the rich meteorological, ecological and human history etched onto the trees. This scar-like inscription of events on natural beings resonates with the concept of testimony—a term used by the reserve to describe the site as a century-old 'witness forest'. This provides another reason to believe that Benjamin would have appreciated this forest, which leads us to the issue of aesthetics.

The concept of environments as witnesses to time—like palimpsests superimposed with events and natural histories—is a common theme in environmental philosophy. The renowned environmental philosopher Aldo Leopold offers his own version of this theme. In a well-known passage from his Sand County Almanach (1968 [1949]), Leopold depicts himself reading the rings in the trunk of an old, felled oak, scrolling through the years of the tree's life recorded beneath its bark. The tree thus appears like a palimpsest, its trunk superimposing the writing of years gone by and the size of its rings preserving the meteorological variations. Interestingly, this concept of the palimpsest also appears in Benjamin's aesthetic theory, particularly in his early works like his essay on Goethe's Elective Affinities (2004 [1924]). Léa Barbisan, a scholar of Benjamin's aesthetic theory, thus explains:

Because the work of art is a palimpsest, the critic must become a 'paleographer' in order to discern on 'the parchment the faded text (...) covered by the features of a more visible writing that relates to it' (...) The image of the palimpsest enables Benjamin to distance himself from Romantic theory: For Benjamin, it is always in the tension between that which corrupts and that which endures that the truth of the work emerges (Barbisan 2016).

For Benjamin, in art, as in the aesthetics of this ancient forest, there is tension between what is visible today and the passage of time that it represents. This aesthetic is negotiated through the balance of precariousness and persistence, pointing to the passage of time and material continuity through the ages. Like Benjamin's concept of art, old-growth forests offer a glimpse into 'a strange tissue of space and time: the unique apparition of a distance, however near it may be', according to the expression used by Benjamin to define the aura in *The Work of Art in the Age of Technological Reproducibility* (Benjamin 2008 [1939], p. 23).

…with an aura…

It is not insignificant that Benjamin employed a naturalist example to illustrate his concept of the aura, as found in the expression referring to landscape cited in the Methods section above. What better to illustrate the 'interweaving of space and time' that defines an aura than ancient trees, with their silhouettes and oblong shapes, bearing witness to meteorological events, winds, diseases, landslides, animal presence, storms and pollution? Can a painting or sculpture express this intricate combination of influences and interweave space and time better than a forest? Benjamin's commentators note the parallels between landscapes and works of art, particularly their shared capacity to 'open the eyes without returning the gaze', as described by Léa Barbisan in her article on the philosopher's aesthetic theories, particularly the aura:

When the gaze is directed toward the non-human—the unexpected animation of a landscape or a work of art—the spectator experiences an epiphany (...) Unlike human interactions where the exchange of glances initiates a possible connection, the 'aura,' or the gaze toward trees, mountains or paintings, is not reciprocal. When an inanimate object, empowered by the poet, raises its eyes, it draws the gaze away. The fascination aroused by the auratic landscape or artwork lies in the fact that they open the eyes without returning the gaze (Barbisan 2016).

The trees of the Massane forest hardly conform to the classic aesthetic standards of straightness, symmetry and regularity. What is most striking—and frequently highlighted by the reserve managers and photographers—is the sheer diversity of trees with their oblong shapes, unusual twists and creative forms. Their aesthetic style is rather Rabelaisian, comprised of exaggerations, hyperboles and anomalies. More importantly, their embodied aesthetics, which Benjamin helps to theorise, is not tied to a single form. Instead, it is rooted in a specific environment bearing the marks of that particular context. An ecological aesthetic is at play here, in the sense of the trees' interaction with their environment. These trees are valued for their singularity, closely tied to their continuous presence on the site and their entanglement with its shifting conditions—what Benjamin might describe as the 'uniqueness of their existence in the place where they are' in another definition of the aura. This ecological

aesthetic is partly linked to the notion of material continuity, especially considering the types of forests that stand in stark contrast to the Massane: clear-cut forests replanted with even-aged stands and forests with similar gene pools.

... in the face of technological reproducibility

The contrast between the Massane forest (and similar old-growth forests) and more common forest landscapes in France underscores the testimonial dimension of the reserve. This old-growth forest with its damaged trees strongly diverges from productive plantations, where uniformly pruned trees of the same species and age grow as identical specimens as in the case of Douglas fir or spruce plantations. Evidently, not all harvested or managed forests correspond to these 'fields of trees', in the words of one of the Massane conservationists wanting to accentuate the homogeneous appearance of the trees. However, the vast majority of forests are exploited (and pruned) for production or actively managed for accessibility, which often involves removing old branches and dead wood to prevent falling hazards and fires. While not comparable to the monospecific silviculture mentioned above, this management still limits any expression of singularity, not to mention the continuity and visible passage of time evident in freely evolving old-growth forests.

According to a recent statistical estimate (Thompson *et al.* 2022), forests that have been growing without disturbance for more than 50 years, also known as 'overmature' forests, correspond to only 3 % of French forests. Most of these forests are located in mountainous or inaccessible areas. However, their surface area is steadily increasing, particularly in private forests in the wake of agricultural abandonment. The study of Lucy Thompson *et al.* showed that 43 % of French forests had not been harvested for at least 26 years, indicating a significant percentage of potentially overmature forests in the medium term. However, these forests, many of which are privately owned (as are three-quarters of all French forests), have no protection status, which means that they may be harvested in the future.

Beyond the issues related to forest tenure, even in the field of nature conservation, different styles of conservation exist. In this respect, the choice of a non-interventionist approach should be contrasted, in particular, with the idea of genetic assistance for forests, with scientific research currently underway in response to climate change (Fady *et al.* 2020). Genetic techniques include, among others, assisted gene flow, defined as 'the translocation of pre-adapted individuals to facilitate adaptation of planted forests to climate change' (Aitken & Whitlock 2013, Aitken & Bemmels 2016). This involves the introduction of selected individuals, often from more southern populations, with specific traits so that the genes encoding these traits spread throughout a given population. This technique is envisaged for certain populations of forest trees. At the time of my survey in the Massane forest, the managers were quite opposed to these genetic techniques and the idea of accelerating the trees' natural adaptations through the introduction of individuals with specific genes. However, the predicted (substantial) decline in the presence of beech trees may give rise to concerns regarding the management of the site.

These highly interventionist options raise a number of scientific questions about their implementation, risks and effectiveness. They also raise philosophical questions about the reproducibility of the genetic characteristics of certain populations and the conception of temporality regarding a possible acceleration of spontaneous processes. With this in mind, Benjamin's perspective allows us to sketch out a critique in two directions.

The first angle of this Benjaminian critique is based on the idea of reproducibility that underpins assisted gene flow. Although individuals are not reproduced, as in the case of cloning (which is also used in certain *ex situ* conservation practices), the genetic characteristics of one population are introduced into another, which feeds the idea that population characteristics can be reproduced identically. Furthermore, the introduction of genes from one population to another increases the risk of standardisation, or at the very least, the homogenisation of different populations. The introduction of genetic specificities from one population into another compromises the singularity of each population, which resonates with the abovementioned notion of the aura. The risk of losing certain singularities that stem from a long evolutionary history echoes the risk of works of art losing their aura, that 'singular entanglement of space and time' as conceptualised by Benjamin. We can thus draw a possible connection between the Benjaminian idea of the aura and the ecological notion of local adaptation, as they both risk loss in the face of technological reproducibility. Two nuances should be made. Firstly, the proponents of assisted gene flow are careful to emphasise that the concerned populations should not be long-diverged lineages in order to avoid the risk of outbreeding depression (Aitken & Bemmels 2016) and preserve local adaptations. The second nuance concerns Benjamin's position. Indeed, his reflection about technological reproducibility and its effects is ambivalent: even though he acknowledges the threat posed by modernity on the aura, he is not hostile to the modern aesthetics of repetition. Far from it, Benjamin's text can be read in a way that emphasises his criticism of idealising the value of authenticity (Olalquiaga 2010). Benjamin thus maintains an ambivalent position regarding the technical reproducibility of art and its effects.

The other Benjaminian line of criticism emerges in his philosophy of history, discussed in the first section of this article. He envisions a revolution as the act of pulling the emergency brakes, recently explored by Michel Löwy (2019). This image of a slowdown contrasts with the notion of acceleration that often fuels interventionist practices, which claim to accelerate adaptive processes. This conception of a revolution as pulling the 'emergency brakes' is expressed in the following text cited by Löwy: 'Marx said that revolutions are the locomotive of world history. But things may turn out quite differently. It may be that revolutions are the act of pulling the emergency brakes by humanity travelling in this train' (Benjamin, cited by Löwy 2019, pp. 53-54). In his philosophy of history, Benjamin uses this theme to express his opposition to the naïve optimism about technical progress and the idea that it will hasten a revolution. This firm opposition to technological optimism and accelerationist approaches (as promoted by Benjamin's contemporary Marxists) thus constitutes a second critique based on his writings, which could lend support to a non-interventionist approach and its implied deceleration.

B

enjaminian arguments in favour of a non-interventionist approach

In summary, Benjamin's aesthetic reflection in The Work of Art in the Age of its Technological Reproducibility provides two lines of arguments for conservationists in favour of a non-interventionist approach, as implemented in the Massane. The first supports a specific aesthetic akin to old-growth forests, where management is based on the absence of human intervention. Benjamin's text provides elements to conceptualise a unique type of beauty that is intrinsically tied to witnessing the passage of time, as seen in the unique forms of old-growth trees shaped by their surroundings. The second line of arguments offers a basis for reflecting on the effects of technological reproducibility. Although Benjamin's reflection was inspired by the advent of technological reproducibility in works of art, a parallel can be drawn with the effects of current genetic technology, which involves transferring specific biological traits from one tree population to another. The generalisation of these techniques might not only fuel the imagination about the reproducibility of nature but also jeopardise the singularity of different populations and homogenise the global diversity of species.

DISCUSSION

As stated in the Introduction, this paper attempts to put into dialogue certain ideas of the German philosopher Walter Benjamin (who never mentioned the Massane forest in his writings) with the conservation approach promoted by the Massane Reserve (whose practitioners never referred to Benjamin). This approach has several pitfalls, as the parallels drawn in this article rely on the interpretation of Benjamin's writings and their echoes with the conservation choices of the Massane conservationists.

In my view, the most relevant outcome of this work is its potential to create a line of argument, inspired by Benjamin's philosophy of history, for similar reserves. This leads us to conceive a non-interventionist approach that is not backward-looking. The goal is not to restore a past environmental state but to allow spontaneous processes that have never ceased to exist to develop, thus enabling ancient climate refuges to reactivate without intervention. This process could, in a sense, be termed 'passive rewilding'. This position not only avoids 'backward-looking' rewilding (Morizot 2020) but also diverges from other rewilding approaches based on active interventions such as species reintroductions, as advocated by Gilbert Cochet and Béatrice Kremer-Cochet (2020). This line of argument also allows for a more nuanced view of the traditional division in nature protection initiatives between preservation approaches (following John Muir) and conservation approaches (focused on rational resource management following Gifford Pinchot), with this distinction being explored by Donato Bergandi and Fabienne Galangau-Quérat (2008). From this perspective, the management choice of the Massane Reserve is aligned with preservation but without the myth of originality found in Muir's concept. The aim is not to preserve environments as imagined originals or as primary forests but rather to protect them as sites bearing the traces of many accumulated histories.

Bringing the writings of a contemporary philosopher in dialogue with a contemporary field is not that uncommon in contemporary philosophy approaches. However, many

other ways of creating a dialogue between Benjamin's writings and the reserve's conservation choices could have been imagined. In particular, it would have been relevant to reconstruct the concept of nature developed in Benjamin's writings so as to compare it to the idea of nature that emerges from the management choices of the Massane Reserve.

Finally, another aspect of reproducibility in conservation finds echo with Benjamin: the users of natural protected areas. Indeed, his text, The Work of Art in the Age of Its Technological Reproducibility, also questions the effects of the massification of the public spectators of works of art on art itself. For Benjamin, this massification of the public meant that the work's exposition value took precedence over its cultural value. Interestingly, this issue of the general public emerges in protected areas, which often attract large numbers of visitors and suffer from excessive tourism. According to its managers, this is a particular problem at the Massane Reserve given its proximity to the GR10, a major hiking trail that runs right up to its boundary on the Pyrenean ridges. Additionally, its greater visibility since gaining its UNESCO status has led to more visitors. This exposure to the massification of visits raises an issue encountered by many other natural sites such as the French Parc National des Calanques, which recently initiated a demarketing strategy: how can we limit the number of visitors and their deleterious effects on the natural environment (erosion, disturbance of wildlife, etc.) without depriving visitors of nature? The management of protected areas thus faces a challenge. The aim is not to make a site inaccessible or to reserve it for the happy few, but rather to ensure that the visitors do not harm—or only minimally so—the reserve's natural environment. Raising an analogous issue in the case of works of art and the effects of the massification of their audience, Benjamin does not seek to solve the problem; he rather expresses his desire to intensify this process and to keep it open—without lapsing into nostalgia for works reserved for a restricted audience. Once again, this theme may be relevant to the issues of nature conservation.

CONCLUSION

By exploring and highlighting the past of the Massane Reserve with its testimonial value, unexploited status, and persistence of unique evolutionary lineages, the management of the Massane Reserve resonates with Benjamin's philosophy of history. These management choices carry costs and risks; for instance, the non-interventionist approach with the dominant species of beech will likely lead to its disappearance from the site in the medium term. However, there is a resolute bias, valuing testimony over adaptation and continuity over transformation. This position highlights the importance of this unique forest in an increasingly homogenised world as well as its capacity to bear witness to ongoing changes, even if this results in its eventual disappearance.

Finally, Benjamin's unique conception of history and his appreciation of singularity in specific places make him a relevant figure for conservation debates. While his concepts and reflections cannot solve all the problems arising in this field, they certainly nourish further contemplations and ideas.

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