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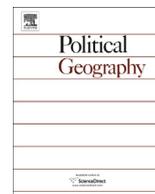
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# Survivor Trees and memorial groves: Vegetal commemoration of victims of terrorism in Europe and the United States<sup>☆</sup>

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## ABSTRACT

In commemorations of human lives lost in terrorism, European and American memorials increasingly appeal to the aesthetics of 'nature' to symbolise societal regrowth. This article interrogates the ironic and ontological registers involved in commemorating human life through vegetal symbols, paying particular attention to the World Trade Center site in Manhattan. Memorials traditionally conceive of human life as distinct from material and living ecologies, rarely commemorating the deaths of non-humans. As such, the use of trees and vegetal landscaping to represent and memorialise the dead human involves a complex and ironic ontological relationship. Post disaster place-making through vegetal symbolism equates vegetal and human being, on one level, but it also ironically emphasises the fundamental gulf between them. Survivors and visitors are confronted with regenerating vegetal life which evokes idealised ecological conceptions of networked human and non-human lives. But we do not live or die in the same way as a plant, so vegetal symbolism simultaneously invokes human alienation from the natural world. The aesthetic registers of the survivor trees bring a complex, unresolved and ironic reflection on human mortality to memorial landscapes.

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## Introduction

After recent terrorist attacks in Madrid, New York and Brussels, memorial groves were planted by civic authorities. These arboreal groves serve as focal points for remembrance ceremonies, aesthetically balancing the figurative representation of lost human lives with symbolism of natural regrowth. Each tree stands for a lost person, but taken together the groves also emphasise the passing of seasons and the progression of time. Memorial trees enact two temporalities by representing both the past event, and subsequent societal recovery.

This article explores the turn towards vegetal aesthetics in contemporary memorial design. It combines theoretical analysis of the place of trees in human thought, with research interviews with designers of contemporary post-terrorist memorial sites in London and New York. Taking the stated intentions of memorial designers alongside anthropological analysis of trees, the article explores the significance of trees within human imaginations of death, life and place after terrorism.

Memorialisation is almost exclusively a human pursuit. The trees and animals which perish in disaster events are not commemorated. Memorials enact the presence of lost *human* lives upon public space so that the dead are not forgotten. But why do contemporary memorial designs use vegetal symbols to reflect human violence, loss and recovery? This question of vegetal symbolism is interesting because vegetal life is relegated beneath the human in modernist ontologies,<sup>1</sup> so the convergence of human and vegetal beings at the memorial landscape seems surprising. The anthropomorphised hierarchy of lives in Europe and America appears suddenly abandoned, when the tree is able to stand in the place of the human.

But, contemporaneous to their subjection, trees are also powerful referent objects in nostalgic and ecological discourse. Trees are centrally placed within nostalgic imaginations of 'simpler times', contra human alienation under capitalism in the post-Christian era. This multiplicity plays out in memorial trees planted on disaster sites.

Trees have been planted – and sometimes anthropomorphised – in Paris, Brussels Madrid, Oklahoma and Manhattan to memorialise

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<sup>1</sup> Although one must note Michael Marder's (2014) reclamation of the vegetal presence within European philosophies.

terrorist attacks and symbolise social resilience. This memorial aesthetic draws from previous practices whereby war memorialisation has deployed arboreta, and genocide commemoration has occurred through forest plantation. But an important distinction needs to be made between these commemorative landscapes. To memorialise contemporary terrorist attacks, civic authorities design and landscape within tightly bounded urban space – where it not possible to plant an entire arboretum or forest. Vegetal commemorative landscaping has undergone a shift whereby a single tree, or a collection of trees, becomes representative of the event, its victims and social resilience. Where commemorative arboreta deployed treescapes, single trees have increasingly become symbolic living relics of disaster events. In the extreme examples of ‘survivor trees’ in the United States, they are even anthropomorphised, provided individual identities and given the ability to speak. Trees have come to fore of memorial symbolisation, becoming active participants rather than aesthetic, sylvan backdrops.

This article explores the ontological tensions involved in representing lost human life through vegetal symbolism, as well as the powerful irony of such arboreal representation. I am using ‘irony’ to refer to the multiple levels of meaning that result from such an aesthetic register. Firstly, modernist ontologies do not afford remembrance to vegetal life<sup>2</sup>; it is treated as non-individuated collective force. Using trees to represent human lives conflates the boundary otherwise established between the two.

Secondly, it is normally ‘nature’ which enacts the forgetting and deindividuation of human bodies – so the repurposing of the vegetal in service of human memory is heavily ironic. This article uses Robert Pogue Harrison’s work on burial and forests to show how human societies developed in response to our absorption by nature. Dead bodies are consumed by bacterial and animal incursion; they cease to be distinct personages upon decomposition and absorption into the earth. This ‘forgetting’ of human life stimulated human societies to make the first memorial landscapes, or necro-geographies (Leshem, 2015). Bodies were buried below ground to conceal this de-individuation, and to simultaneously enable the imagination of perpetuity above-ground (Pogue Harrison 2003). Headstones mark, and constitute, the patch of ground as a significant place: that where the lost person continues to reside.

So, the irony is two-fold. Vegetal, fungal and bacterial processes are marked as the outside of human existence, and the dismantler of human individuality. But human societies respond to this decomposition of the subject by repurposing the natural properties of earth to perform memory and to define burial sites. The earth is used to conceal the decaying flesh, and organic markers constitute the symbolic endurance of the person in memory and place. Putting bodies underground constitutes a spatial and temporal duality. The embodiment of the person is absorbed into the past, underground, while an above-ground marker symbolically holds their place into the future (Pogue Harrison 2003). So while this article draws from Memory Studies, it also points to the intersection of time and space in necrogeography.

Memorial trees perform the same ritualised transference upon post-terrorist sites. The persons killed were ‘disappeared’ on those sites, literally (in cases where human bodies are atomised by extreme forces) or ontologically (the change from a living person into non-living tissue). To resolve that disappearance, or absorption, memorial trees make both a figurative representation of the

individuals lost, and a collective simulation of resilience and recovery. They represent the past event, and the time passed thereafter. The trees sublimate the absence of the person in the present with a figurative imagination of the body that once existed (a tree stands for each body). But, like the headstone, memorial groves also connect the time zones of past and present. They demonstrate the passing seasons and the continuity of time through their growth, colour changes and leaf fall.

These trees can be understood as compromises forged between political and societal conflicts over the meaning of disaster sites. The work of the geographer Kenneth E. Foote explores American landscapes of violence and tragedy, typologising their reconstruction through sanctification, designation, rectification or obliteration (2003). Memorialisation is explicitly situated within the ‘sanctification’ response to disaster and conflict, where a ‘lesson learned from tragedy’ (usually about heroism and sacrifice) is deemed worthy of inscription into the landscape. Foote explores how battlefields – and, in the revised edition of *Shadowed Ground*, terrorist sites – become sacred landscapes of memory through their consecration and architectural amendment (2003). The historic event becomes written into the present as legacy and as a lesson about values.

Rectification, however, occurs when a site of violence is deemed incompatible with the values a nation wishes to take forward into the future. For example, Foote shows how locations associated with the witch ‘trials’ have not been marked for posterity. The sites are allowed to develop economically, as if nothing of importance occurred there.

But the reconstruction of post-terrorist space often demonstrates political conflict between two of Foote’s categories: sanctification and rectification. Family groups and survivors fight for such sites to be memorialised and sanctified, almost frozen in time to mark the absorption of their loved ones into the void. But political authorities and commercial interests simultaneously drive for post-terrorist sites to be ‘rectified’ through reconstruction, commercialisation and economic development. The overt marking of tragedy can be considered detrimental to these goals.

Such conflict was especially apparent in the public disputes between family organisations for the victims of 9/11, the Lower Manhattan Development Corporation which organised the reconstruction and memorialisation of the WTC, and Larry Silverstein’s efforts to reconstruct the site as a profit-making venture (Sagalyn, 2016). These differing visions pulled the site in opposite directions – frozen as a representation of the moment of attack, or pulled towards grand imaginations of growth and urban redevelopment.

Balancing sanctification and rectification is difficult to effect, with many post-terrorist memorial sites generating public protest over commercialisation and redevelopments perceived to be profane uses of sacred ground (Heath-Kelly, 2016). But memorial trees are useful symbolic objects in this context, given their flexible and liminal situation in human temporalities. The planting of a highly symbolic, emotionally charged, and ontologically complex object on a site of mass death can go some way towards balancing sanctification and rectification. Memorial trees, as non-human but living objects, perform significant amounts of ontological and emotional labour upon a post-terrorist site. They mark the place of the dead, standing in for them and precluding total absorption. Thus they do not surrender the dead to the void of forgetting. However memorial trees are not only retrospective devices. Collectively, memorial groves aesthetically demonstrate the passing of time between the event and the present. They continually mediate between then and now. Time is not frozen on the site, because the trees’ change with the seasons and grow over time. As such, the rectification of the disaster site (its continual

<sup>2</sup> An exception can be found in the MEMO project (Monument to Mass Extinction) which takes extinct species of animals and genus’s of plants as its subject. This monument, planned for the South Coast of England, fundamentally overturns the custom of memorialising only human life.

development towards economic regeneration) can be assisted by the aesthetics of the arboreal subject.

While I focus on the anthropological and ontological significance of memorial trees here, many other geographical works are also invoked to situate the study of vegetal ontologies, memorialisation and place-making. Of particular importance is the work on vegetal ontologies by Michael Marder (2014) and on place-making in response to mortality and finitude (Cresswell, 2004; Pogue Harrison 1992, 2003; Malpas, 1999; Tuan, 1977). The article is also situated alongside research in cultural geography which explores the affective resonance and design of memorial sites, and the relationship between body and memory (Coddington & Micieli-Voutsinas 2017; Doss, 2010; Drozdowski & Dominey-Howes, 2015; Dwyer & Alderman, 2008; Micieli-Voutsinas, 2016; Till, 2012). While this article does not use an affective frame, it explores the ontological and aesthetic registers which situate memorial trees – remaining adjacent to the literature in cultural geography on affect and memory.

### A brief history of memorial trees

The vegetal and arboreal have played significant roles in commemorative landscapes across history, but a transition has occurred whereby they have moved from the background (facilitating an aesthetic mood) towards a foregrounded anthropomorphised state. Memorial trees trace their cultural antecedents to the late eighteenth century, when increasing urban density led Parisian planners to close and clear multiple inner-city cemeteries and to look towards rural sites beyond the city for the future burial for the dead (Tarlow, 2000). This may have solved the severe problem of congestion in urban Church graveyards, but the new sites needed to be made attractive for the city-dwellers. As a result, landscaping was introduced to cemeteries such as Père Lachaise Cemetery in Paris – and to Mount Auburn Cemetery in Massachusetts, as well as throughout England – to invoke an idealised aesthetic of a pre-urban relationship with nature.

In this new era of the Garden Cemetery, the arboreal was used to contribute to the human experience of the site – providing shade to visitors – while lush lawns offered space for relaxation and enjoyment. The Garden Cemetery moved away from the regimented order of other Northern European cemeteries, where rows of tombs dominated the landscape, and instead utilised winding pathways and the replication of randomness in nature through plantings to convey a calming and pleasant aesthetic. As a result, 'Britons and Americans praised the naturalistic landscapes of their own cemeteries, where the work of human hands was not too evident', thereby affording a greater potential for moral and religious improvement (Tarlow, 2000, p. 224).

In the Garden Cemetery movement, the vegetal was carefully landscaped to provide a 'naturalistic' backdrop to the burial and commemoration of the dead. While some trees (like the Yew) took on symbolic associations with mourning, the vegetal was not used as symbolic representation of lives lost, nor of the capacity for society to remain resilient when faced with mortality.

The vegetal has also traditionally played a secondary role to the stone artefact in contexts of war memorialisation. Memorialisation often serves the purpose of reifying a particular narrative of nation for an audience, especially after conflict, so it is common for memorials to occupy space within dense urbanities. With some notable exceptions,<sup>3</sup> memorials are built where they can be seen by

their intended audience – the citizenry. With constraints on urban space, representation has to be made efficient. Thus memorialisation communicates through designed objects, carved and constructed as human symbols, rather than relying upon the material agency of natural landscapes. Rather than occupying centre stage, the vegetal has traditionally played a complementary aesthetic role in the background of commemoration.

But since the late nineteenth century, significant shifts towards the symbolic representation (and anthropomorphising) of the arboreal have occurred. George Mosse notes the early German tradition, in the late 1800s, of planting 'Heroes Groves' (Heldenheine) as a form of military cemetery (Mosse, 1990; see also; Sather-Wagstaff, 2015). An oak was planted for each fallen soldier, in lieu of a body, to convey a militaristic and commemorative discourse of strength. The body of the tree stood in for the body of the lost person; the repetitive arboreal lines invoked the lost masses. This tradition then spread. After the First World War, Australian Avenues of Honour were planted – each tree bearing a plaque naming a deceased soldier. The same era saw the planting of Memorial Oaks in North Otago, New Zealand, each bearing a marker naming a deceased serviceman (Cloke & Pawson, 2008). And in a similar meditation on commemoration and landscaping in the twenty-first century, the United Kingdom has recently established a National Memorial Arboretum in Staffordshire – now containing 300 dedicated memorials, and 30,000 trees, representing individual military regiments, the Armed Forces in general, and the unarmed service personnel killed during their duties (police, medical professionals).

Of course, the move towards arboreal markers in commemoration should not be understood as replacing or outnumbering the prevalent stone, granite and marble centrepieces of memorialisation. The memorial object remains the focus of each commemorative landscape. But this article and others (Sather-Wagstaff, 2015) note the qualitative difference in memorial landscaping. The arboreal and the vegetal are now incorporated into symbolic representations of human life: the tree often stands for the human.

This arboreal representation of lost lives is not limited to remembrance of military deaths in conflict, however. A similar trend is evident in other commemorations of violent deaths, be they lost in genocide or terrorist attacks. For example, six million trees were planted by the Jewish National Fund in the Jerusalem corridor in 1951 to commemorate the victims of the holocaust. The arboretum is named the 'Martyr's Forest' and endeavours to remember each victim of the genocide with an arboreal marker. While trees stand in the place of each holocaust victim, Eyal Weizman and Fazal Sheikh also elucidate how trees have been by the Israeli state within an imaginal imagination and appropriation of space in the Negev (Weizman & Sheikh, 2015). Their book, *The Conflict Shoreline: Colonization as Climate Change in the Negev Desert*, explores the multifaceted assemblage deployed to displace the Bedouin from their ancestral land. Under the rubric of 'making the desert bloom', the state has utilised infrastructural projects, the spraying of herbicides on Bedouin sustenance fields and the planting of three 'savannah' forests by the Jewish National Fund to claim the land within an imaginary of Europeanised terrain. Weizman and Sheikh remind us that settler colonial projects re-engineer the climate to destroy the link between the local community and its land, here imposing a quasi-European arboreal imaginary upon the Negev: an arboreal fake-memory project, if you will.

The iconography of the arboreal is also prominently utilised in the Hiroshima Peace Memorial. The City's most prominent memorial object to catastrophic nuclear bomb dropped by the United States is the conserved Genbaku Dome – an exhibition building which survived the explosion, given its situation in the epicentre of the atomic blast. But alongside the ruins of the dome, the

<sup>3</sup> A particularly striking exception to this 'rule' can be seen in Namibia. The grand *Heroes Acre* National War Memorial was built 10 km outside the capital Windhoek, surrounded by acres of rural land, and remains largely unvisited.

Hiroshima Peace Memorial Park utilises the iconography of trees as emblems of social resilience to full effect. To the author's knowledge, the concept of the 'survivor tree' (as the arboreal witness to carnage and subsequent talisman of social recovery) began here with the transportation of surviving 'phoenix trees'<sup>4</sup> to both the Memorial Park, local schools and international collaborators with peace activism. The website of the Hiroshima Peace Memorial Museum states that:

After Hiroshima was reduced to a plain of scorched rubble, rumor had it that nothing would grow there for 75 years. But weeds soon sprouted and trees sent forth green leaves and pretty flowers. Imagine the encouragement the new greenery gave the survivors and other Hiroshima residents still reeling from the devastating blow they had received. More than half a century later, trees bearing the scars of the atomic bombing are still living in Hiroshima City. The phoenix tree in the photo [not included here] was exposed to the bomb 1380 m from the hypocenter. You can see that one side of the trunk was hollowed out by the deep burn. In 1973, the tree was moved to Peace Memorial Park just north of this building where its green leaves still flutter in the wind. Seeds from this phoenix tree are growing in schoolyards around Japan, helping to convey to children the importance of peace ([Hiroshima Peace Memorial Museum, n.d.](#)).

In her exploration of *hibakusha* (atomic bomb survivor) testimonies, Lisa Yoneyama has shown how survivors took her on a tour of the park. During the walk, they projected their memories onto the surviving parasol trees, drawing direct equivalences between the twisted, burnt trunks eventually leading up to green regrowth with human experience ([Yoneyama, 1999](#), pp. 112–3).

The aesthetic device of the survivor tree has since been translated into Western memorial landscapes. The following sections explore the complex, and often conflicting, heritage of such memorial objects in the cultural imagination of trees and forests in Eurocentric history. How do they work, and fail to work, as symbols of human resilience to tragedy?

### "I'm the Survivor Tree, this is my story"

Before it spoke in 2014, a pear tree once stood between the towers of the World Trade Center in Manhattan, ignored by the traders who rushed past every working day. After the 9/11 attacks, that callery pear spent a month under rubble: burnt and broken – but alive. Rescue workers found the tree and, depleted by the terrible stresses of recovering dead human body parts, notified authorities of their find. The tree was removed and sent to recuperate at Arthur Ross nursery in the Bronx with its six 'siblings' – other trees rescued from Ground Zero ([Reynolds 2010/11](#)). The 'siblings' have since been replanted at Manhattan's City Hall and the Manhattan entrance to the Brooklyn Bridge without much fanfare. But on the tenth of October 2014, thirteen years after the collapse of the twin towers, the callery pear was replanted on the World Trade Centre memorial plaza – surrounded by rows of swamp oak chosen by the landscape architects PWP. It has become known as 'The Survivor Tree'.

As one might assume from this process of naming, 'the' tree has been anthropomorphised since it was pulled from the rubble. It has become a singular entity, performed as a talisman of disaster resilience by the 'stage managers' of New York's recovery. The

media persona of the tree no longer portrays its survival as the result of chance, rather the connoisseurs of reconstruction have attributed a unique, resilient vitality to the callery pear. It has become a totemic symbol for disaster recovery in the United States. Its resilience and vitality has become a performative ideal for human recovery, because vegetal life exists outside human finitude. A tree is not susceptible to mortality because (in modernist ontology) it never lived as an individual agent; rather it is symbolic of a genus which is regenerative and resilient to violent shocks.

Yet replanting the tree as a symbolic object simultaneously displaces it from vegetal ontology. It became a recognised life at the point of its insertion into discourse as a named individual. This fact was not lost on the site planners. The 'naming' and individual distinction of the tree was understood to imply a new risk of mortality. As a symbolic entity, its death would be potentially devastating for the bereaved families who put stock in its heroic and personified resilience. So, to ensure the immortality of 'The Survivor Tree' the callery pear underwent a process of genome mapping during its convalescence. Its DNA can now be grafted into other trees as and when necessary. The callery pear has been made invulnerable to death – the essence of its talismanic strength 'bottled' in the research laboratory of Bartlett Tree Experts.

Invulnerable to death, the tree was simultaneously granted individuality in the symbolic realm while retaining its vegetal immortality. Replete with liminality, it then began to speak. On the tenth of October 2014, 'The Survivor Tree' told its story. It's one and only speech was part of an advertising campaign undertaken by *The National September 11 Memorial and Museum* upon receiving their millionth visitor. 'The Survivor Tree's testimony' (a poem for children authored for the 9–11 Museum by Rick Williams and Marcel Yunes) was broadcast to the world. The Survivor Tree states, through the voice of Whoopi Goldberg on the televised production of its testimony (<http://www.youtube.com/watch?v=JU1rf-481QI>), that:

From the worst day of all, to my comeback with glory; I'm the Survivor Tree: this is my story. I was a strong pear tree at the World Trade Center. I was strong every spring; I was strong every winter. One day in September, when the buildings came down, it was the worst day of all – it was the worst day around. We lost family and friends, there was darkness and flashes; I fell to the ground surrounded by ashes. Then the *whole* world felt sad and I really did too, but we all came together, helped each other pull through. And the workers, they found me, but I was in trouble; as I'd spent more than a month, buried in rubble. My branches were torn and my trunk was all black; and they worried that *none* of my leaves would grow back. But one branch proclaimed: 'I'm alive! I'm alive!' My leaves said to the world, I was gonna survive. When they took me to heal, I was treated with care; and my branches grew thirty feet in the air! You can see in my trunk where I go light from dark, where my limbs were reborn, where I grew brand new bark. My blossoms remind us how strong we all are: I'm a living reminder of how we rose from the dark. But the power of hope – there's just one way to sum it: there's nothing so bad that we can't overcome it ([911 Memorial, 2014](#)).

The video concludes with text that advertises the 9–11 Memorial and Museum to potential visitors, telling them that the Survivor Tree continues to stand tall as a symbol of hope and rebirth which welcomes visitors to the memorial and museum.

The deployment of the tree articulates the post-disaster resilience of the United States as a broad, transformative force that permeates through artificial distinctions and forges unity between the vegetal and the human forms. Life, here, is symbolised as

<sup>4</sup> Named to invoke the mythology of the Phoenix bird, which died in flames only to be reborn from its ashes.

collectively resilient. In response to the mass death which ripped individuality away from the victims who were crushed and comingled in the wreckage, rendering them eternally 'collective' as recovered tissue (Aronson, 2016), an opposite process has occurred whereby a collective vegetal ontology has been distilled into an individualised, anthropomorphised object. The tree has been brought forward from its immersion in the arboreal collectivity and made individual. In doing so, this memorial aesthetic appropriates the arboreal for the performance of human resilience. The stage managers of New York's architectural recovery have, in effect, played the role of Frankenstein. A being has come to the Memorial Plaza which is at once living but can never die, personified and yet collective, liminal to the extreme.

And yet the symbolic performance of the tree is not limited to the event of 9/11. Its liminality became excessive and spilled over. During its recovery in specialised tree nurseries, it was carefully pruned and had saplings harvested from its body. These icon-babies have been sent to other sites of tragedy and disaster in the United States – including the Boston Bombings, the areas of New York damaged by Hurricane Sandy and the hometown of nineteen firefighters who perished tackling a wildfire blaze in Arizona. As such, the Survivor Tree's relevance extends beyond its totemic representation of human recovery after 9/11; its symbolic remit extends to the communities of the United States bereaved by subsequent natural and terrorist events.

While it is easy to regard the Survivor Tree as a kitsch talisman, the United States is far from alone in utilising arboreal symbols of human social regeneration and recovery after events of terrorism and war. For example, Parisian authorities unveiled a memorial oak on the first anniversary of the shootings of the Charlie Hebdo magazine employees and the customers of a Jewish hypermarket, in which seventeen people died (Chrisafis, 2016). President Hollande and the Mayor of Paris, Anne Hidalgo, unveiled the *tree of remembrance (l'arbre du souvenir)* in a solemn ceremony in the city's Place de la République, while the veteran French singer Johnny Hallyday performed a song he had written for the victims. Commentators have remarked upon the longevity of the oak, as well as its symbolic resonance with narratives of strength and justice (Wagner, 2016), when discussing its representation of France's resilience to terrorism and death. The choice of arboreal symbolism in the aftermath of a terrorist attack is intended to imply that human subjects and trees share an ecological resilience to trauma and, through their situation in a shared ecology, avoid depletion through violence. Similarly, after the Brussels airport and Maelbeek metro station attack of 2016, Belgian authorities created a 'natural memorial' in Brussels' Soignes forest. Thirty two birch trees were planted in a clearing, one dedicated to each victim of the attack (Milosević, 2017).

The Manhattan Survivor Tree is not even the first American Survivor Tree, a designation which applies to an American elm standing in Oklahoma. That elm once stood in front of the Alfred P. Murrah Federal Building in Oklahoma City. In 1995, Timothy McVeigh and Terry Nichols bombed the building, killing 168 people and damaging the tree. The devastating bombing led to reconstruction of the 3.3 acre site as a memorial landscape (Linenthal, 2001), complete with enormous bronze gates, a black marble reflecting pool (another parallel to the Manhattan WTC site), 168 empty chairs of glass and bronze for the victims, a memorial plaza, a museum, a terrorism research centre and, of course, the replanted Survivor Tree (surrounded by the 'Rescuers Orchard' of trees dedicated to rescue workers). The Survivor Tree was heavily damaged and ignored during the recovery effort, until the first anniversary of the blast when families gathered for a memorial service and noticed that the tree was not dying, but rather beginning to bloom again. The resilience of the tree was incorporated

into the symbolic iconography of the site, whereby trauma and devastation is re-narrated as the momentary darkness before recovery reclaims the site. As Heath-Kelly argues, the weight of mortality upon the site was alleviated by the ritualistic deployment of symbolic devices – all of which rearticulate the bombing within a narrative of national resilience, as well as a devastating event which ripped so many families apart (Heath-Kelly, 2016). The arboreal aesthetic provided a symbolic vehicle for the performance of post-disaster resilience through regrowth.

The receptivity of trees to such performances of civic unity and recovery is openly recognised by the architects of memorial landscapes. Indeed, the jury responsible for selecting the 9/11 memorial design explicitly instructed Michael Arad (the architect behind 'Reflecting Absence') to soften the bleakness of his black marble design with a treescape, and to partner with a landscape architect for this purpose. Without natural aesthetics, the design was thought to be lacking – able to communicate horror and loss, but unable to invoke catharsis or recovery. As prominent juror (and memory scholar) James Young reminded his colleagues, trees and gardens provide both visual softening and the symbolisation of renewal and regeneration (Goldberger, 2004, p. 227). Without the presence of the vegetal, Arad's design was felt to be too 'stark'.

Responding to this criticism, Peter Walker of PWP landscape architecture partnered with Michael Arad to create the Reflecting Absence memorial landscape at the WTC. Both spoke to the author during the research for this project. Mr Walker discussed the use of rows of swamp oaks planted around the reflection pools as a way to induce aesthetic catharsis. Changes to the site masterplan (outside the control of Mr Arad and Mr Walker) had brought the Reflecting Absence design up to ground level. Victims' names would be displayed on the reflecting pools rather than behind the waterfalls, underground, as was originally planned. Mr Walker described how the original design would have invoked catharsis within visitors through the transition from dark underground space, back up into the light (something which now occurs when one departs from the 9/11 National Memorial Museum). When the memorial design was brought up to ground level, a new cathartic device was required. Trees became the way to 'effect a clean cut change [...] you would walk across [from the dense neighbourhoods bordering the memorial] and be under the trees and the trees would separate you from the city, and then you would see the names, see the hole, and then walk out. The trees became the catharsis' (Interview with Peter Walker, 2014).

Mirroring Kenneth E. Foote's recognition that memorial landscaping is a form of sacralisation (Foote, 2003), the website of PWP architecture refers to the 'forest' around the reflecting pools as a 'sacred space'. It centralises the aesthetic effects of the forest in marking the transition from city into the sacred memorial landscape and, after visitors have engaged with the memorial voids cut into the earth, frames the forest as a soothing, 'life affirming' aesthetic device:

Visitors will leave the everyday life of the city and enter into a sacred zone defined by a dense forest of 416 oak trees. Above the limbed-up trunks, a canopy of leaves will provide welcome shade in the heat of the summer and seasonal color in the fall. In the winter the sun will cast shadows through a light tracery of bare branches, and in spring, the trees will express the renewal of nature. Using a language similar to Michael Heizer's North, East, South, West, the voids render absence visible. In this way, the overwhelming losses of September 11th are given permanent presence. Within the protected space of the forest, visitors will arrive at the two great voids with their thundering waterfalls. After viewing the victims' names on the bronze parapets of the voids, visitors will move back to the city through the trees

and take comfort from the soothing, life-affirming forest (PWP Landscape Architecture, undated).

What contributes to this imaginary of sylvan landscaping as ‘life affirming’ and ‘soothing’? Interestingly, Mr Walker’s answers replicated some of the duality in cultural imaginaries of trees noted by anthropologists and literary critics. The post-Christian period of history objectified forests as timber, to be used in service of human goals, but it has also led to nostalgic symbolisation of woodlands as soothing places in which humans might cast off their worldly alienations and cares (Pogue Harrison 1992). When I asked Mr Walker about how his team used running water and trees to create the ‘sacred space’ described by the PWP website, he first highlighted the (modernist) subjection of trees in human perception. Unlike the vivacity of running water, ‘trees do not call attention to themselves. You have to put them in ways that animate them more than allowing them to be background’ (PWP Landscape Architecture, undated) with ‘Interview with Peter Walker, 2014). To effect this animation, the landscaping team played with the appearance of the sacred woodland. They planted the trees so that, from outside the memorial zone, they appear as a natural forest – concealing the interior of the sacred space. But upon approaching the memorial zone, the visitor realises that the trees are actually planted in rectilinear columns. The method of planting draws the visitor’s eye to the trees because, in the wording of the PWP website, ‘the grove expresses the shared patterns of nature and humanity’ (PWP Landscape Architecture, undated).

The Enlightenment era was responsible for subjecting forests to the status of timber in the background of human attention, as well as for the forestry practice of implementing straight lines between rows of trees. As Robert Pogue Harrison notes, Descartes’ treatise on the scientific method was introduced through the metaphor of walking in a straight line while lost in a forest. The forest was reconceptualised as the object standing in the way of rational advancement, and the new science of forest management rectified their obstruction to human progress by planting trees in easily traversable, rectilinear rows (Pogue Harrison 1992: 108–23). Peter Walker appears to have played with these Enlightenment traditions of forestry science and straight lines, landscaping the WTC memorial landscape to suddenly reveal rational paths through the disorder and fog of grief. Here the treescape explicitly responds to the jury’s demand for themes of renewal and regeneration to be brought onto the site.

However Walker’s explanation of the salience of trees on the WTC memorial landscape went beyond playing with the visual appearance of order and disorder. He also invoked the nostalgic and mythic dimensions afforded to trees and woodland in ancient times, something revived in the ecological nostalgia of the post-Christian era. Again, literary critics are familiar with the symbolic device of the tree, and the forest, in both pre-modern and nostalgic literature. Pogue Harrison’s identifies an era of nostalgia, brought about by the Enlightenment transition to rationalist science and modern capitalism (Pogue Harrison 2003: 155–9). This nostalgic imagination of traditional rhythms and origins takes trees as its object, using the arboreal to evoke ideas of ‘a simpler time’, less permeated by human alienation from nature. Mr Walker stated that the memorial landscape used a woodland because:

Trees have historically been, well, mythically been important things. They’ve also been historically thought to come from god. If you think of the Druids, of very early religious stuff, they were always in these groves of trees. They were generally in groves of oak. That was the history of these things. That myth, very few people know that story, but almost everybody knows that trees represent nature, represent living things (Interview with Peter Walker, 2014).

The appearance of woodland in the middle of a dense urban area invokes, for its architects, a mythic dimension. Taking Mr Walker’s comments in tandem with the PWP website description of the WTC project, we can understand that the interaction of light and shadow, branches and leaves, intends to invoke a nostalgic engagement between visitors and ‘nature’. The sylvan landscape serves to both ‘reaffirm’ life after the visitor’s engagement with the memorial pools and the names of the dead, but also to offer respite and an amenable lunchtime picnic setting for workers in the nearby office buildings (Interviews with Peter Walker and Michael Arad 2014). In both interviews, the designers emphasised that the interaction between the treescape and lunching officeworkers would complete the aesthetic of renewal upon the site; the vegetal landscape would draw lower Manhattan’s workers to rest in its light and shade, casting off the stress of their days, bringing life back to the site as it is reconstituted as a place of relaxation. Here the nostalgic appropriation of trees (as symbols for a simpler time) contributes to the remaking of place. The arboreal components draw tourists and local employees to sit and relax, thereby reconstituting the site as a place of leisure as well as memory. The jury’s brief has been well fulfilled.

The landscaping and sacralisation of the memorial site deploys trees as mythic components which reaffirm life through an ecological representation of human and arboreal connection, as well as utilising trees as objects planted in colonnades to enable rational mastery over the site (and thus over grief and memory).

#### *The irony of the Survivor Tree and memorial groves*

But, all is not as simple as it might appear. An ontological tension, and irony, arises from combining ‘vegetal’ ontology (Irigaray and Marder, 2016) with the explicitly humanist practice of memorialisation.

At first glance, memorial landscape architecture invokes a post-human ontology: trees are affective components within memorial landscapes which have effects upon humans. But this ontology becomes complicated at a memorial landscape. A fundamental gulf separates vegetal and human life at the memorial, because memorialisation (with the exception of the aforementioned MEMO project) takes human exceptionality as its starting point. Only human life is memorialised – but vegetal being is used for this purpose. The ecological framing of a meeting point between human and non-human life at the memorial site is thus fraught with tension. What does it mean to represent the exceptionality of human life with a vegetal symbol?

Cultural geography is currently producing abundant research into the affective encounters and post-human ontologies at sites of memory (Coddington & Micieli-Voutsinas 2017; Doss, 2010; Dwyer & Alderman, 2008; Micieli-Voutsinas, 2016; Till, 2012), broadening the conceptualisation of memorialisation beyond stone tablets which bear the inscription of lost lives. Contemporaneous to the study of affect in museums and at event sites, other geographical research effects this broadening by focusing on trees as co-constituents of collective memory (Cloke & Pawson, 2008). Through Cloke and Pawson’s study of memorial treescapes in New Zealand, we see how the memorial trees deploy a relational agency which contributes to the significance of place – living, growing, and shifting from their original deployment in a memorial landscape. While sensitive to the particular prominence of trees within cultural symbolism, the authors choose to focus on the ‘unruliness’ of tree agency within memorial settings – which contributes to the experiential qualities of sites, adding idiosyncrasy to regimented designs and fostering an added degree of reflection about the individual qualities of those who have perished (in war).

The study of vegetal-human affective interactions in a memorial context is also written about under the heading of 'greening'. Literature on gardening and greening during periods of grief explore the relationship between vegetal cultivation and loss, exploring how the materiality of the vegetal has affective effects – bringing absent presences to bear once more. Cultivating the vegetal is a practice whereby gardeners can realign the relationship between self, past, present, memory and landscape (Ginn, 2014). Similarly, scholars of Social-Ecological Resilience contend that 'greening' (post-disaster gardening) is a learned, evolutionary behaviour which results in health benefits. The trauma of being exposed to death and disaster is limited by the cultivation of plants (Tidball & Krasny, 2013). Such models of ecological stewardship position subjects as components within an ecosystem, who benefit by immersing themselves in the vegetal and allowing the effects of gardening to resonate within them. Human subjects are immersed and enmeshed within ecologies of social and material agency – and their cultivation of 'nature' contributes to the resilience of those ecologies, in the post-disaster or post-conflict context (Okvat & Zautra, 2013; Tidball & Krasny 2013).

Indeed, the phenomenal uptake of community gardening and cultivation after the 9/11 attacks speaks in support of the argument of stewardship, but also the context of economic austerity. The United States Department of Agriculture (USDA) Forestry Commission provided cost share grants for community projects for 'living memorials' (gardens, parks and arboreal groves) planted in response to the attacks. Over two hundred separate sites were funded in the US. The report of the Forestry Commission explores the social and emotional effects of cultivation and explicitly situates human subjectivity within ecologies of natural processes. They found that the cultivation of living memorials served the need to substitute a physical site in place of a gravesite: it provided a place for 'remembrance'. Furthermore the act of cultivation was understood to help communities to deal with their stress and anxiety after 9/11, giving them an arena to re-establish control through gardening (Svendsen & Campbell 2005).

But these accounts neglect the Eurocentric cultural contexts in which 'greening', and survivor trees, occur. Of what significance is the sudden turn towards vegetal symbolisation in cultures otherwise replete with Cartesian notions of human exceptionality?

Heidegger is a particularly useful thinker to engage with, when framing this tension. In Heidegger's text 'What is Called Thinking?', his phenomenology is articulated through an encounter with an apple tree. The protagonist comes face-to-face with the apple tree, indeed the tree *faces* the protagonist, in an account of the vibrant presence of the vegetal. The presence of the apple tree makes demands upon us, in this account. It subverts and undermines the history of metaphysics, for Heidegger, because its actuality belies the notion that such a tree could be 'one of these ideas buzzing about in our heads' (Heidegger, 1968, p. 41).

In his *The Philosopher's Plant: An Intellectual Herbarium*, Michael Marder interprets a radical transhuman egalitarianism within this moment, where both tree and the human subject are accorded being, and both confront the other (Marder, 2014, p. 174). And yet, as Marder shows, this recognition of the apple tree is simultaneously denied and suppressed in Heidegger's later work, where the vegetal is relegated to the status of mere existence (given its incapacity to recognise finitude and inevitable mortality).

In his discussions of the vegetal, Heidegger seizes upon the tree as an undeniable, vibrant object which makes demands upon human recognition; here, *trees possess agency*. Trees are more than their discursive representation in abstracted categorisations of thought. Yet through the development of his work, Heidegger does not upset the humanist hierarchy of life forms by positing an equal status of subjecthood of the vegetal. Instead the inability of the tree

to recognise finitude (and thus speak) renders it existentially mute once more.

This is not unusual within the canons of modernist thought which, post-Descartes, reconceptualised forests as resources rather than as wilderness areas reserved for mythical struggle and later the cultivation of wildlife by the political elite (Pogue Harrison 1992: 100–108). Forests became the object of the new Enlightenment science of forest management and were framed in terms of their timber productivity. Their non-humanness relegated them in Cartesian thought, when the post-Christian era focused on the possession and mastery of nature as evidence of humanist supremacy. But, like in Heidegger's thought, the relegation of the tree has been accompanied by a simultaneous appreciation of it as a potentially enduring, dignified life. Trees are personified and reified in poetry, their genres are afforded symbolic identities, and – unlike much other vegetation – their existence is sometimes legally protected in particular locales. The twentieth century has seen the reimagining of trees and forests in cultural imaginaries of the Global North through the prism of nostalgia. As capitalism drives 'age old traditions and landscapes' into the past, a growing sense of alienation informs the imagination of a remote and originary past – one which takes trees, ecological ontology and nature as its frame (Pogue Harrison 1992: 155–9).

Heidegger's flip-flopping between recognition and relegation of the vegetal provides a relevant philosophical marker for the contemporary age. Our cultural imaginations bear impressions of both the Enlightenment subjection of non-human life, but also the nostalgic refiguring of trees and forests as symbolic entities connected to less alienated, traditional ways of life.

The turn towards survivor trees and memorial treescapes is important, philosophically, in that it highlights the symbolic representation of human life through the vegetal in contexts of human mortality and disaster. Memorial landscaping has paralleled prominent shifts in philosophy which place emphasis on the importance of the vegetal and its lessons for rethinking human subjectivity (Irigaray and Marder, 2016; Marder, 2013; 2014). Arboreal memorial objects symbolise an aesthetic of irrepressible, resilient, vitality in their representation of human life – and they do so by deploying an ecological ontology of human and non-human equality. But this ecological ontology is fraught with tension when used at landscapes made sacred in recognition of *human death*. Pogue Harrison argues that ecological doctrines:

fail to think through the discontinuity between humanity and nature radically enough. This discontinuity manifests itself in the phenomenon of language, which does not belong to the order of nature [...] Understood not merely as the linguistic capacity of our superior intelligence but as the transcendence of our manner of being, language is the ultimate 'place' of human habitation. Before we dwell in this or that locale, or in this or that province, or in this or that city or nation, we dwell in *logos* [...] Without *logos* there is no place, only habitat; no domus, only niche; no finitude, only the endless reproductive cycle of species-being; no dwelling, only subsisting. In short, *logos* is that which opens the human abode on earth (Pogue Harrison 2003: 200).

Memorial landscaping and sacralisation are forms of place-making. And place-making is the peculiarly human practice of imbuing spaces with meaning, in contradistinction to the inevitable finitude of our lives (Cresswell, 2004; Malpas, 1999; Tuan, 1977). By remaking a site of death and tragedy as a sacred place of memory (Foote, 2003), it is cleansed of the more horrific and alienating memories of human loss and finitude. It instead takes on national and civic 'lessons' about sacrifice, heroism and resilience (Foote,

2003; see also; Heath-Kelly, 2016). Place making at sites of mass death is especially connected to human mortality, finitude and the creation of cultural meaning to simulate human perpetuity.

Given this context, the use of trees to symbolise human perpetuity is ironic. The vegetal has been used in service of memorialisation: a practice dedicated to human exceptionality and finitude.

But, as Pogue Harrison also shows, discourses of nature *have always* been intimately bound to human finitude, bodily disposal and the imagination of human time. The vegetal has always been a liminal category, if you will. Human place-making, he argues, is predicated upon the earth's capacity to retain and disintegrate corpses and affect a separation between past, present and future (Pogue Harrison 2003). He shows that human societies housed their dead long before they housed themselves, demonstrating the significance afforded to the concealment of bodily remains. Burial – the definitive human practice – produces human time, creating layers of past, present and future. The corpse is deposited into the past (and removed from the present) upon its entry into the soil; the present remains above ground; and future generations are anticipated through the placing of markers above the place of the corpse. Human geography and human time, for Pogue Harrison, is predicated upon this capacity of the earth to hold bodies, enabling humans to build societies and places on top of their dead. This is in contrast to the properties of the sea, which does not hold bodies in place nor enable the positing of a burial marker (Pogue Harrison 2003: 12) – a form of disposal which erases the deceased from human time and is reserved, outside naval necessity, for figures of hatred such as Osama bin Laden.

Importantly, the sacralisation of disaster sites as memorial landscapes *effects the same temporal distinctions as burial* through the use of memorial groves and survivor trees. The past is placed underground – literally, in the case of the 9–11 Memorial Museum, which is built at bedrock at the WTC site and houses unidentified human remains from the attacks (Heath-Kelly, 2016). The present is articulated, in distinction to the memory of the disaster event and lost lives, through the creation of lush sylvan landscapes above ground, which encourage the picnicking and restful repose of office-workers so prized by the memorial designers (Interviews with Michael Arad and Peter Walker 2014). The present tense of the site is produced as a place of sanctuary from the working environment of the city. Finally, the placing of a memorial marker on the site of the disaster event *is addressed to future generations* who might not otherwise know of the catastrophe.

The majority of memorial designers I spoke to for this research *clearly articulated that their design briefs identified future generations as their primary audience*, suggesting a public fear that our time might be forgotten by future generations – and that our erasure from history would be complete. Memorial landscaping is a form of place-making which anticipates the future, to remind it of our existence, thereby countering the effects of human finitude.

Peter Walker, the landscape architect for Manhattan's 9–11 memorial landscape, explained to me that trees in New York tend to live only 8–10 years given the tough conditions of the city. This was a problem for the designers of the sylvan landscape, because their design remit projected forward 80–100 years into the future (Interview with Peter Walker, 2014). To make the trees last significantly longer than the usual 10 years of metropolis-based existence, and hit the design brief, the designers employed Bartlett Tree Experts to intravenously feed the trees nutrients while they waited to be planted on the site. Their future growth was anticipated for its effects on generations of visitors to come.

The memorial landscape, in this discussion, anticipates 80–100 years forward to the presence of future generations on the site. It is curated for the gaze of the future. Mirroring Peter Walker's

comments on this point, one of the designers of the 9–11 Memorial Museum, Steve Davis of David Brody Bond, also spoke to the author and identified future generations of one hundred years from now as targeted audiences of the site. Part of his brief was to anticipate future generations who have no direct memory of the events of 9/11, and design the museum with them in mind. To address those future generations, Mr Davis explained how the design of the museum compensated for the lack of direct memory (in the future) by using dynamics of 'cultural memory, authenticity, scale and emotion' (Interview with Steve Davis 2014). He elaborated that without direct memory of the event:

In 100 years it will just be images presented in media and other kinds of things [...] The authenticity of the site is a really critical element of the design. So the pools are perfectly aligned with the footprints beneath them – to the millimetre. There was a two year fight over that because it was too inconvenient to do it [...] The Trade Center was really big so the scale was unaltered. So we have these really grand spaces but that's what we inherited. It's not a 4/5th scale thing. The scale is unpunished. I heard a really interesting definition of "emotion" about a year ago. I hadn't really thought of it before, but emotion is the result of events on one state of mind. That's all it is. So if you combine those four things and you return to those four principles each time you need to make an important decision or even a small decision [...] that it would keep rowing in the right direction (Interview with Steve Davis 2014).

Here the authenticity, scale and emotion built into the memorial museum were conceived as a strategy to counteract the passing of time, and the ambivalence with which future generations might receive us. Finally, the design firm behind the memorial to the London Bombing victims of 2005 also confirmed that their design brief (provided by the Department for Culture Media and Sport) also identified distant future generations as the audience for the memorial design. Andy Groarke of Carmoady Groarke stated that the design competition was articulated through a 250 year threshold for communication of the event:

The only reason for the memorial's being, at all (it has none of the normal functions of architecture, it has none of the comfort or shelter), is to *stop people forgetting*. That's it. And so, we need to project ourselves 250 years into the future – which was the design life of the memorial, as the brief said. So our client is generations to come! Unfortunately, we'll never stop [the bereaved] forgetting and so, that's not the purpose of this memorial. [They] have [their] own private memorial for [their] loved one, and the purpose of this memorial is not a surrogate grave. It's a place of collective consciousness or making sense of our times collectively, as well as individually. And that's for generations to come so that people do not start forgetting (Interview with Andy Groarke, 2016).

The explicit identification of the memorial to future generations underlines its battle against human finitude and the erasure of our existence from time. All the memorial architects I spoke to were explicit in saying that their designs are intended not for victims, survivors or contemporaries, but for future generations with no direct memory of the disaster event.

If memorials aren't directed to the traumatised witnesses of violence but to future generations, their purpose is to prevent the erasure of the present generation from the memories of those to come. They are devices intended to counteract human finitude. This, of course, creates an interesting tension when memorialisation is performed through a vegetal symbol. Nature is indifferent to

our human tragedies, reclaiming our bodies and buildings through slow, vegetal and bacteriological incursion - with no recognition of our supposedly 'special' human status. Death 'forgets' us from human culture, and vegetal and bacteriological life is the agent behind this forgetting. And yet, as Pogue Harrison shows, our repurposing of these absorptions - the practices of burial and arboreal memorialisation - turns nature towards human ends. Making use of the earth's capacity to conceal the disintegration of corpses enables humanity to counteract finitude through place-making and the constitution of human time. By repurposing the capacities of the earth, we address future generations with permanent markers to our dead.

As such, it is not novel for societies to turn to Survivor Trees or memorial groves to put the vegetal to work in service of human exceptionality, rather contemporary memorial landscapes have repurposed an ancient practice. For Pogue Harrison, this is the quintessential human practice of place-making through burial, where burial is understood as the human manipulation of earth's capacity to hold corpses in place. We make time and place above-ground, above the sites of our dead.

This is the hidden significance of the Survivor Trees. The simplistic rendering of memorial trees as vegetal symbols of resilience neglects the ontological gulf which separates human and non-human life. Quite simply, we don't memorialise the death of a tree; however, we memorialise the death of a human *with* a tree. This is a trans-species 'puppetry' whereby trees can be made to speak of human resilience and regeneration, whereby trees are supposedly deployed on equal footing to human life, without dead trees ever receiving memorials to their lives.

However, *this ontological tension is exactly what makes memorial trees such powerful symbolic objects*. The memorial tree *cannot speak* for itself. Instead its non-humanness leads it to become engulfed by multiple human discourses. Memorial trees are saturated with nationalist discourses of resilience and renewal, which position the memory of fallen soldiers/victims within the arboreal being. The discourse of nostalgia also has powerful effects upon the perception of the tree, whereby people then reflect on the 'simpler times' associated with imagined pre-modern life, and rest in the shadow and aesthetic comfort provided by the groves. But that aesthetic register has an implicit, ironic subtext. If trees and the vegetal are used to represent imagined easier times in human society, then they also highlight the separation of human life from an idealised traditional or natural state. The trees aesthetically communicate ecological harmony (where human life is absorbed into nature and tradition) but also counteract that imagined landscape by re-emphasising human alienation. We do not die like trees or plants die. Like burial, memorial trees represent the appropriation of natural properties for the performance of human time and place-making.

## Conclusion

In commemorations of human lives lost in terrorism, memorials increasingly appeal to the aesthetics of 'nature' to symbolise societal regrowth. To do this, memorial trees rely on the nostalgic interpretation of vegetal life which signifies harmony, the imagination of traditional origins and casting off the stresses of alienation by engaging with plant life. However, memorial trees are also far more complex meditations on the nature of human finitude. Post disaster place-making ironically emphasises the fundamental gulf between human and vegetal life. Survivors and visitors are confronted with regenerating vegetal life which evokes idealised ecological conceptions of networked human and non-human lives. But, given our individualised subjectivities we do not live or die in the same way as a plant, so vegetal symbolism simultaneously

invokes human alienation from the natural world.

This alienation manifests in the anxiety of being erased from time, which in turn drives the creation of memorials. As this article has shown, government briefings instruct memorial designers to address future generations many years from now and to compensate for their lack of direct memory of us, and our disaster. The memorial anticipates the future by building a marker addressed to people who would not otherwise remember us - a perfect example of place-making to counteract human finitude. The memorial serves to enact human time by imagining connections between the past, present and future. And by using vegetal being to do so, it mirrors the practice of burial. The past is made passed by depositing it underground; the present is made present through place-making above-ground; and the future is anticipated through the positioning of markers for future generations to consider and admire.

The aesthetic registers of the survivor trees bring a complex, unresolved and ironic reflection on human mortality to memorial landscapes. Their affective resonance cannot quite be pinned down, given their elusive and multiple significations. This article has used theoretical and empirical analysis to argue that memorial trees mimic an ancient human practice: the appropriation of natural capacities to perform human time. As burial utilises the earth's capacity to hold bodies and enable human place-making on top of the dead, so memorials utilise vegetal life to host multiple temporalities upon sacred place (looking back to the day of the event, looking forward to the future, and contemplating the time passed between).

The memorial tree is thus a liminal object - performing all these functions in such a small space. And through its efficiency, the memorial tree also enables rectification of disaster space (Foote, 2003) to occur in the surrounding area. Banking, government and administration return to the perimeters of sacred memorial landscapes, knowing that the devices of sacralisation (the tree, the monument) will become focal points for pilgrimage and memory, allowing the city to return to functionality around the edges. Past, present and future are ordered through the sacralisation of the memorial landscape, while business continues as normal outside the sacred zone.

## Conflicts of interest

I am aware of no conflicts of interest regarding this research article.

## Permission to reproduce material

The author has transcribed the poem 'The Survivor Tree's Testimony' from the publicly available youtube clip of its public broadcast, as a promotional advert. I have fully acknowledged the authors of the poem in the text.

## Appendix A. Supplementary data

Supplementary data related to this article can be found at <https://doi.org/10.1016/j.polgeo.2018.03.003>.

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