JACKY BOWRING

SENSUOUS ATMOSPHERES OF LANDSCAPE AND MEMORY

1. Introduction

The sensuous qualities of atmospheres are intimately tied to the landscape's potency as a place of memory. More than any other design discipline, landscape architecture is bound to place, and the place-specificity of atmospheres is a critical component of the experiential landscape. In contrast to its close ally, architecture, landscape is spatially and temporally fluid. Landscape architecture is rooted to the ground, it is highly responsive to light, moisture, climate, and the intangibilities of memory.

Atmospheres have special potency in relation to the emotional experience of landscape, and this relates to how landscape might be inflected in ways which support reflections on memory. The connections between remembering, emotion, and atmospheres are illustrated in examples where affective spaces embrace the collective emotional experiences of grief and commemoration (Sumartojo 2015).

This paper steps through the relationships between atmospheres and each of the realms of sensuousness, memory, and landscape architecture, in turn. These three threads are then drawn together in the question of whether atmospheres can be designed, and how this could be done. Finally, two case studies of designed landscapes that manifest atmospheres in relation to sensory and emotional experiences of memory are presented.

2. Sensuousness and atmospheres

Vision is the predominant sense of experiencing the contemporary world; what Pallasmaa refers to as an «unrivalled retinality» that has developed (Pallasmaa 2017, 17). While vision's pre-eminence might feel 'natural', Pallasmaa points to how in earlier periods sight was a lesser sense, and it was hearing and smell that provided more vivid information about the environment. This is not difficult to imagine for times that

preceded artificial lighting and prior to the invention of optical instruments for enhanced vision, like telescopes and binoculars.

Hubert Tellenbach's work on atmospheres from the perspective of psychiatry focused on the sense of smell. As Gernot Böhme explains, «atmosphere is for Tellenbach consequently smell, in the first instance, which emanates from a person – literally and metaphorically» (Böhme 2021, 103). He also points to Jakob Böhme's identification of smell and reverberation as being «modes whereby a being penetrates its entire surrounding space […] and in which the smell or voice endow the atmosphere of this space with character» (Böhme 2021, 139). Further, Böhme points to sound or smell as the ways in which things «manifest their essence», what he terms their «ecstasies», and that «they are also the mode in which things are palpably present in space. And this provides us within another definition of atmosphere: it is the palpable presence of something or someone in space» (Böhme 2021, 63).

Sound is another sensuous dimension of atmospheres. Susanna Alves and her colleagues explored how sound shapes the atmosphere of the traditional Italian festival of *Gigli di Nola,* and how those bearing the *Macchine* – the large shoulder-borne processional structures – as well the non-bearers, «move through different soundscapes and atmospheres» and all of this constructs an atmosphere that is identified as intangible heritage (Alves *et al.* 2021, 9).

Juhani Pallasmaa emphasises the sense of touch, specifically in terms of hapticity, and how this too contributes to the generation of atmospheres. Pallasmaa urges a resuscitation of touch in considering the experience of the world, noting «we suppress particularly hapticity, the sense of nearness, intimacy, touch, and affection, regardless of the fact that all modes of sensing are forms of touching» (Pallasmaa 2017, 17). And for Pallasmaa, «the tactile, or haptic, experience becomes the integration of all the sense modalities, and this is why I regard it as the most important of our senses. It is this haptic sense of being in the world, and in a specific place and moment, the actuality of existence, that is the essence of atmosphere» (Pallasmaa, in Böhme 2013b, 99).

The centrality of the senses in relation to atmospheres, including in the design of atmospheres, is underscored by philosopher Michael Hauskeller. He advises, «the landscape architect qua atmospheric artist should, if possible, take into

account all the senses. She needs to pay attention not only to how the spaces she designs look, but also to how they smell, sound and feel to the touch. None of the senses is irrelevant for the emerging atmosphere» (Hauskeller 2018, 51).

3. Memory and atmospheres

Sensuous atmospheres in the landscape offer potential realms for memory. Memory is aligned with a range of senses, of which smell and taste are the most vivid, augmented by sound, sight, and touch. Memories tend to invoke emotions, and this in turn means finding their place and space in atmospheres. Schmitz explains:

> I refer to *atmosphere* as the occupation of felt presence. [...] This does not refer to remote spaces, but to those spaces that one experiences as present and being filled with e.g. emotions like joy, sorrow, anger, shame, fear, courage, compassion, contentment. (Schmitz, in Kluck 2019, 197)

Past traumatic events, losses of people and places, float in atmospheres of melancholy. Invocations of fondness and longing might flicker and shimmer in nostalgic atmospheres.

Steffen Kluck analyses the nature of memory in the 'Madeleine-scene' from Marcel Proust's *À la recherche du temps perdu,* or *In search of lost time,* where the narrator's taste of a madeleine cake dipped in tea causes him to remember scenes from his childhood in Combray. The narrator observes how,

> in that moment all the flowers in our garden and in M [Monsieur]. Swann's park, and the water lilies on the Vivonne and the good folk of the village and their little dwellings and the parish church and the whole of Combray and of its surroundings, taking their proper shapes and growing solid, spring into being, town and gardens alike, from my cup of tea. (Proust, in Kluck 2019, 195)

Kluck's analysis leads him to the conclusion that:

> On the one hand, memory as the process of re-emerging past episodes has to be made a subject of discussion as in means of its actual mode of appearance. On the other hand, the question has to be raised how atmospheres emerge as content of a memory, namely in the context of an embodied grip. (Kluck 2019, 196)

Ruins are particularly evocative in generating atmospheres of memory. Edensor describes how engaging with tactile surfaces of ruins produces sensorily-inflected atmospheres:

> The tactilities engaged with as one moves across ruined space provoke sensations of matter crumbling underfoot, of the impact of the body on stray chunks of building material and broken glass, and an awareness of the feel of decaying matter as hands run across it. The opening of the ruin to the weather means that the body is apt to be buffeted by wind and rain, by gusts thick with dust, and atmospheres are often heavy with the presence of damp. (Edensor 2005, 91)

As well as the tactile tangibility of a ruin's materials, its sounds too are productive of atmospheres, which Edensor observes can

> facilitate a disposition to become immersed in reverie, to slow down and stop, to opt out of the usual flow of city time. This quiescence is not a void but provides an occasion in which a pregnant silence can stimulate a slowing down that is promoted by the discernment of separate sounds rather than a dense fog of noise. Things sound different in the ruin. Echoes are rarely experienced in large spaces and one's own utterances are likely to be the only voice in a realm unpopulated by other humans. (Edensor 2005, 92)

The intersecting of atmospheres, melancholy, and memory is powerfully conveyed in Orhan Pamuk's *Istanbul: memories of a city*, where he writes of the particularly Turkish form of melancholy, *hüzün. Hüzün* is a collective mood, and embedded in the place, and Pamuk finds the city as one great entity experiencing this melancholy, and that:

> By paying our respects to [*hüzün's*] manifestations in the city's streets and views and people that we at last come to sense it everywhere: on cold winter mornings, when the sun suddenly falls on the Bosphorus and that faint vapour begins to rise from the surface, the *hüzün* is so dense that you can almost touch it, almost see it spread like a film over its people and landscapes. (Pamuk 2006, 89)

Research on landscapes of loss illustrates how memory and atmospheres are entwined. Lisa Taylor explored how the loss of carpet mills in West Yorkshire, UK, was experienced by the community. One of her interviewees expressed this loss atmospherically, «by standing in the same spot Tony told me of the atmosphere of embodied collective silent witnessing of the erasure of once meaningful spaces. Some were corporeally affected as we encountered the empty space where Carpet Mill had been» (Taylor 2020, 57).

4. Landscape architecture and atmospheres

Landscape architecture has a creative role in relation to atmospheres and, in Böhme's words, it is one of the «professions whose very task is to produce them» (Böhme *et al.* 2014, 91). The nature of landscape architecture brings some particular considerations to the designed of atmospheres, as outlined below.

First, designed landscapes are fixed in place. Unlike the design of portable elements like phones and cars, the design of landscapes deals with very specific site conditions. And, unlike architecture which often ameliorates site conditions through interventions such as air conditioning, landscape architecture does not modify the environment in the same way. Landscape architecture must work with a site's weather and soil, and – to some extent – the terrain. One cannot 'leave' a landscape in the same way one can leave a room or a building.

Second, landscapes are vast and fluid in both temporal and spatial terms. This fluidity resonates powerfully with descriptions of atmospheres. For example Anderson, cites the work of Böhme, who in turn is referring to Schmitz: «Atmospheres are always spatially 'without borders, disseminated and yet without place, that is, not localizable' (Schmitz). They are affective powers of feeling, spatial bearers of mood» (Böhme, in Anderson 2014, 148).

Tonino Griffero's description of the nature of quasi-things, using the example of the wind, also resonates strongly with the conception of the landscape as fluidly spatial and temporal. That, like the wind, quasi-things are «not edged, discrete, cohesive, solid, and therefore hardly penetrable» (Griffero 2017, 10), and this echoes the landscape's non-edged, non-discrete, ephemeral, cloud-like sphere, that is for large part literally the atmosphere. Further, Tim Ingold writes of the fluidity of the «open world» which

> has no insides or outsides, only comings and goings. Such productive movements may generate formations, swellings, growths, protuberances and occurrences, but not objects. Thus in the open world hills rise up, as can be experienced by climbing them or, from a distance, by following the contours with one's eyes. (Ingold 2007, 28)

This conception of the open world also redoubles atmosphere's sensuousness when considered from the perspective of tuning the landscape, as Ingold explains, «to inhabit the open world, then, is to be immersed in the fluxes of the medium: in sunshine, rain, and

wind. This immersion, in turn, underwrites our capacities – respectively – to see, hear, and touch» (Ingold 2007, 30). This amorphous spatiality resonates strongly with the qualities of landscape.

Dylan Trigg makes the points that an atmosphere is an «operatively diffused constellation of meanings» in contrast towards a physically discrete element, or «localizable object» (Trigg 2020, 3). This «porous and non-containable» quality resonates powerfully with landscape, in its spatial and temporal fluidity. Although the example Trigg gives – entering a room and experiencing an eerie atmosphere – is architecturally framed, the prospect of the vastness of landscape escalates the prospect of sensuous atmospheres of memory. Trigg explains that, «an atmosphere is indeterminate insofar as it is non-directional and blurs the distinction between subject and object. At the same time, an atmosphere is thematically unequivocal insofar as its affective character is grasped immediately» (Trigg 2020, 3).

Trigg makes the point that an atmosphere is not amorphous, and even in its incorporation of the term 'sphere' there is the suggestion of the containment within a 'globelike' shape. This is suggestive of an edge condition to the atmosphere. Trigg also draws attention to the idea of diffusion being linked to 'emanation' – the way in which «an atmosphere establishes a 'style' which permeates through things in a diffused direction» (Trigg 2020, 3). Further, «being 'drawn into' a work of art is a process that occurs through an atmospheric emanation that pervades both the medium itself and the viewer in equal measure» (Trigg 2020, 3).

The fluidity of landscape in general is present also in the designed landscape. As A.W. Faust explains of one of the most typical of designed landscapes – parks, «parks are mostly non-linear complex spatial sequences or atmospheric networks, not static individual impressions. The way in which they are perceived is derived from the chosen manner of movement through the space, with its often fluid interfaces» (Faust 2018, 89). Using the example of a promotional image of the University of Exeter, where he works, Faust suggests that it is relatively easy to conjure up a positive image through depicting the landscape, but he notes: «However, the atmospheres of images and texts are much easier to manipulate than those of real spaces, because they only ever present a small segment of reality to the perceiving

subject» (Faust 2018, 42). This means that there can be a careful selection of the image to convey the atmosphere, without other things impinging on it, but in real spaces things are constantly changing. This underscores the specific challenge of landscape as spatially and temporally fluid. In this realm of liquid space and time, atmospheres might be more elusive, and from a design perspective less easy to generate.

Temporal fluidity is also a challenge for designing landscape atmospheres. Hauskeller writes that:

> One and the same space can have a very different effects in summer and in winter, when it is raining and when the sun is shining, when there are many people around and when there are only a few. That creates problems for the landscape architect whose goal it is to design not only spaces, but also atmospheres. The photographer has it much easier. (Hauskeller 2018, 42).

5. Designing atmospheres?

Sensuousness, memory, and landscape are all intertwined within the domain of atmospheres. From the perspective of landscape architecture, this begs the question: «Can atmospheres be designed?» Theorist and practitioner of landscape architecture, Jürgen Weidinger, draws on the work of researchers such as Gernot Böhme, Hermann Schmitz, and Michael Hauskeller, as well as the earlier writers Friedrich Bollnow, Hubert Tellenbach, and Willy Hellpach, to conclude «all of these theories and descriptions suggest the possibility that atmospheres can be designed» (Weidinger 2018, 20). Michael Hauskeller and Tom Rice suggest there is no other option, and that «when we design spaces, we also, whether or not that is our intention, design atmospheres» (Hauskeller-Rice 2019, 147).

Throughout the literature a number of terms are used in relation to the creation of atmospheres, and these link to the nature of design – for example Böhme refers to *making* and *generating* atmospheres (Böhme 2013a), and of *tuning* space (Böhme 2021), Bille uses the sense of *staging* (Bille 2015), and Edensor suggests the *producing* of atmospheres (Edensor 2015).

More specifically, Böhme asks:

> Can one really make atmospheres? The term *making* refers to the manipulating of material conditions, of things, apparatus, sound and light. But atmosphere itself is not a thing; it is rather a floating in-between, something between things and the perceiving subjects. The making of atmospheres is therefore confined to

> setting the conditions in which the atmosphere appears. We refer to these conditions as *generators*. (Böhme 2013a, 4)

Böhme compares the idea of making atmospheres to the ways in which Greek *skenographia* uses a variety of techniques such as perspectival foreshortening to create the perception of spatial depth. He explains:

> In scenography, therefore, we have an art form which is now directed explicitly, in its concrete activity, towards the generation of imaginative representations in the subjects, here the audience. It does not want to shape objects, but rather to create phenomena. The manipulation of objects serves only to establish conditions in which these phenomena can emerge. (Böhme 2013a, 4)

Can we be sure that visitors to a landscape will experience the same atmosphere? How can we as designers create spaces where visitors will feel something, where «space is emotionally tonalised»? (Böhme, in Tavani 2018). The design of intangible dimensions of landscape – meaning, emotion, experience, for example – inevitably pose the question of where such things lie. Can an emotion be designed *into* the landscape, or is it solely held within the visitor to the space? This same dilemma is faced in considering how atmospheres might be designed in landscape architecture. Tim Edensor and Shanti Sumartojo tease this out in the introduction to the special issue of *Visual Communication* on «Designing Atmospheres», observing that «the properties of an atmosphere are thus captured in the intersection of the objective and the subjective» (Edensor-Sumartojo 2015, 251). They emphasise that although atmospheres can be produced through design, that it is important to remain mindful of the «role of participants in anticipating, being primed for and co-producing atmospheres» (Edensor-Sumartojo 2015, 252). Further, Weidinger suggests, «the possibility that some individuals may have a limited capacity to perceive atmospheres should not make us neglect the phenomenon of atmospheres in the context of landscape architecture and urban design» (Weidinger 2018, 38).

In his phenomenological analysis of Marcel Proust's *In search of lost time*, Kluck observed, «to say it with Schmitz, not atmospheres themselves, but only the conditions for their occurrence can actually be 'created' – thus one can only try to capture them by setting up the most suitable circumstances» (Kluck 2019, 201). Thus, in the same way that the madeleine reverie provided the

conditions for the atmosphere of memory to be created, could a parallel process be undertaken in the landscape? Kluck adds that a certain basic mood, or attunement is also required, and in the context of the design of landscapes of memory this could relate to the need for 'knowledge' of particular losses or traumas through the provision of a degree of information. This is especially important when the goal of the landscape design is not simply for people to remember something from their own past, but to become embedded in a collective memory or to 'take on' a remembering of something they previously knew little about. So, something like the specificity of the sense memory of the madeleine – and the potency of smell and taste in triggering memories – needs to be augmented for a situation when memories are being imparted to others who have not experienced them.

In the theory of atmospheres there is a tension around the possibility that atmospheres can be intentionally generated (Griffero 2019), but from a designer's or artist's perspective the concept of the invoking of atmosphere poses a special problem and a creative opportunity. Böhme has written:

> Architecture produces atmospheres in whatever it creates. Naturally it solves objective concerns and generates objects, buildings of all sorts. But architecture is aesthetic work to the degree that through this process spaces with a specific quality of mood are created, as are atmospheres. (Böhme, in Kasa 2014, 93).

There are further questions about the intentional production of atmosphere in landscape architecture in contrast to architecture. Architecture is a design setting that has defined parameters, held within the known spatial extent of a room, a house, a building. Generally, one is either 'in' architecture or 'outside' of it. Architecture's fundamental role as shelter necessitates some kind of interiority. Further, architecture changes relatively little over time, whether diurnal, seasonal, or over years and decades. By contrast, landscape architecture is situated within the spatially and temporally fluid context of the landscape. The atmospheric potential of landscape is profound, with the presence of light, air, moisture, weather. Can the same ideas on the generation of architectural atmospheres extend to landscape architecture?

From a landscape architectural perspective all of this raises intriguing questions about the degree to which an atmosphere can be designed. Rather than writing from the perspective of

philosophy in its pure form, the line of enquiry here is to ask how philosophical concepts can be mobilised, how they can be pressed into service in generative ways, to use philosophy projectively rather than analytically? In particular, can affective atmospheres of nostalgia and melancholy be infused into landscapes? How might visitors to a landscape become involved as participants in an atmosphere, rather than merely detached observers? The potential for collective, engaged experiences of atmospheres is expressed by Trigg:

> We might say that an atmosphere is not only in the air but also under our skin. Being at once under the skin and in the air, atmospheres are seldom registered in individualistic terms. Indeed, what distinguishes atmosphere as a specific affective phenomenon is the manner in which it surrounds and encompasses both an environment and the people within that environment. (Trigg 2020, 3)

At Falstad, the former SS camp in Norway, murders took place in the forest, because the forest could hide the events. But now there is a tension with the forest's beauty, even a sense that it was somehow complicit in the deaths. James Young described how in the memoirs of prisoners at Falstad, there were references to how

> incongruous their suffering was with the beauty of the place. Even Auschwitz had its physical beauty and as hard as that is for us to accept now, for the prisoners it was very important because this was a theological question: how could Nature and God be so indifferent to our suffering? I'm suffering but the sun is shining and the birds are singing and the blossoms are blooming. (Young 2010)

From the perspective of design, there are two key ways in which atmospheres might be generated – through physical intervention in the landscape, or by virtual means. These are explored in turn below.

6. Physical generation of atmospheres

Following on from the broader questions about the design, or intentional generation, of atmospheres, the focus now moves more specifically to landscape architecture. Given the landscape's vastness in time and space, as explored above, the generation of atmospheres in landscape architecture poses challenges of a different nature to those of architecture.

Weidinger identifies five 'decision levels' for designing atmospheres:

> 1. Finding the atmospheric theme for the place
> 2. Making the atmospheric theme tangible through the composition of space
> 3. Guiding movement through the space
> 4. Integrating behavioural incentives
> 5. Achieving emphasis through design details (Weidinger 2018, 21).

This decreasing scale of focus is intended to support an intensifying of the atmospheric theme identified in the first stage. The intensification is through sensory means, and the phenomenological dimensions of the awareness of the body in space, including the sense of movement and the sensation of warmth on the skin. Weidinger suggests that atmospheres can be intensified through the use of materials and plants, explaining that, «different atmospheres, such as the metallic atmosphere of a post-industrial heavy metal park, the cheerful atmosphere of a spa park or the melancholic atmosphere of a former graveyard, require the use of specially selected materials and plants» (Weidinger 2018, 28). These detailed elements, Weidinger argues, support the broader scale decision making in terms of responding to the intended atmosphere, such as the way in which users should move through a space.

Jürgen Hasse describes how «constructed park atmospheres are intentionally produced according to an emotional schema in order to develop an affective attuning force, and dispose people within the milieu of the atmosphere for a particular sense of self and worldview» (Hasse, 2015, 244). Hasse, too, looks to Tellenbach and Hellpach, a psychiatrist and psychologist respectively, in order to frame how atmospheres inhere in space, drawing out the terms of «*Umwölkung* (a clouding)» and «*Ergehen* (indulgence)» (Hasse 2015, 246). Importantly for the generation of atmospheres, Hasse states, «the existence of a park's atmospheric space is, firstly, never situation independent and, secondly, never without the presence of perceiving visitors» (Hasse 2015, 246). Hasse explains, «before an atmosphere can touch, and perhaps even attune us, there must be something that atmospherically appears and is able to touch us» (Hasse 2015, 247).

As mentioned earlier, Böhme refers to the idea of 'generators' of atmosphere. He explains:

> Architecture, insofar as it is concerned with the disposition of people who are bodily present in the spaces created by it, will need to take an interest in those generators. They can indeed be of an objective kind, and that is precisely what Wölfflin raised as an issue with his idea of movement suggestions, which emanate from architectural forms. But there are, as the examples show, also non-objective or non-physical generators of atmospheres, like light and sound in particular (Böhme, 2021, 92).

Böhme (2013a) refers to ideas of stage sets and scenes in the creation of atmospheres, discussing at length the scenic settings of landscape gardens, focusing on the 18 century writings of CCL Hirschfield. The five volumes on the *Theory of garden art* (1779-1785) were influential in the design of parks and private gardens, and Böhme finds in this work parallels between scenography and atmospheres, observing how

> the kind of selection of objects, colours, and sounds is made explicit by which 'scenes' of a particular emotional quality can be produced. Interestingly, Hirschfeld's language is close to scenography: he calls 'scenes' certain natural arrangements in which particular atmospheres, like serene, heroic, softly melancholic or serious, hold sway. (Böhme 2021, 25)

Of Hirschfeld's description of a melancholic 'region', Böhme conveys that

> Hirschfeld lists various elements whose interplay apparently produces the softly melancholic atmosphere: seclusion and silence; water, provided it is still or darkly murmuring; the region must be shadowy; light present only sparingly to prevent the complete slipping away of the mood; colours dark – Hirschfeld speaks of a blackish green. (Böhme 2021, 26-27)

Böhme goes on to compare the work of the landscape gardener in creating a «softly melancholy region» with that of an author – in particular the Brothers Grimm and the fairy tale *Jorinda and Joringel.* He notes that writers also use a language of darkness and mournful sounds to generate a melancholy atmosphere, and concludes that «a comparison of two aesthetic workers as different as the landscape gardener and the writer clearly shows their highly developed awareness of the means by which to create particular atmospheres» (Böhme 2021, 28). Böhme's enlisting of

the work of Hirschfield and his work on garden art is of particular relevance to my focus on landscape. Gardens and landscapes are intimately intertwined. The type of garden that Hirschfield is writing of in relation to melancholy scenes is specifically the English *landscape* garden, i.e. a type of garden design which uses the spatial and temporal qualities of landscape in its expression. Böhme notes that, «Hirschfeld explains in detail how a natural scene can be given a characteristic mood through the use of certain plants, trees, water courses, light angles, sounds and so on» (Böhme 2014, 95). It might be said that Hirschfield is specifically here pointing to the role of landscape architects in the creation of atmospheres through the very materials that they work with.

7. Virtual generation of atmospheres

While landscape architects tend to focus on the materials and forms of physical settings, the prospect of virtual interventions is of potential value. Virtual landscape interventions through the manipulation of the senses – hearing and seeing for example – can generate atmospheres. Böhme's comparison, noted above, between the creation of atmospheres in garden design and fairy tales also hints at how virtual technologies could do the same thing. Further, he identified «non-objective or non-physical generators of atmospheres, like light and sound in particular», (Böhme 2021, 92), which invokes the prospect of sensuous, virtually-generated atmospheres.

More specifically, Hauskeller suggests that atmospheres are everywhere we go and, «it does not even matter whether those spaces are real or merely virtual. Even spaces that are merely imagined or suggested by means of images or words are constituted atmospherically» (Hauskeller 2018, 41).

The idea of how technology might do this is explored by researchers like James Ash who looked at iphones and atmospheres noting how there is recognition «that technical and non-human objects and structures can produce and shape affective atmospheres» (Ash 2013, 22). This might include the fully virtual realm of video gaming (Egliston 2018), or as in the case I discuss below, a blend of the real and the virtual through augmented reality.

8. Two case studies

Two projects are explored to probe the possibilities of intentionally invoking atmospheres, considering how could the landscape be «tonalised» in a particular way (Griffero 2021, 4). Aspects of diffusion and «attunement» (Trigg 2020, 1) provide the basis for thinking about shared emotion, and how an intentional (i.e. designed) landscape of memory could invoke a collective affective atmosphere. As designed projects, the two cases of The Storm Cone and the Pike River memorial landscape both exemplify affective atmospheres. Ben Anderson writes of how different artworks – referring to Mikel Dufrenne's examples from music – generate atmospheres with singular aesthetic qualities. Anderson explains,

> whilst an atmosphere is composed of elements, the aesthetic quality exceeds them. And through this singular affective quality, the aesthetic object creates an intensive space-time. A space-time that exceeds lived or conceived spaces, even as it 'emanates' from the material and representational elements that compose the artwork. (Anderson 2014, 143)

Anderson's framing of artworks as generator of atmospheres, and creators of intensive space-times relates closely to the two cases presented here. Moreover, the affective qualities of these two designed landscapes aligns with Anderson's ideas of affective atmospheres, concerned with the wash of moods relating to memory, nostalgia, loss and grief.

The first of the cases is one I have been working on for a number of years in my role as a landscape architect and memorial designer. The project is a memory landscape for the Pike River Mine, which exploded in 2010, killing 29 men. The mine is located on the west coast of New Zealand's South Island. Rather than an 'accident', the site remains a crime scene, as the cause of the explosion continues to be investigated by the police. The 29 bodies remain inside the mine.

There is a palpable atmosphere that emanates from the site. Not only from the circumstances of the deaths, but also from a deeper history of local Māori and their own tragic connection to this site. Important to the atmosphere of memory at this site, is the overall mood that is produced by the damp and dripping rain forest, by the steep and often sunless valleys (Figure 1), and by the feeling of something having gone wrong. As Kluck writes:

> Based on Schmitz's findings, it can be assumed that moods may be a fundamental object of memory. This would also touch on the close connection between atmospheres (with moods being an instance of atmospheres) and situations. (Kluck 2019, 203)

Figure 1: The rainforest landscape of Pike River.
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Pike River is a strongly sensory landscape, with the rainforest palpable in its heavy presence. All of the senses are alive and alert, immersed in the particular qualities of light, moisture and vegetation at the site, and this sets the scene for design. The temporal and spatial fluidity of the landscape raises questions over how, as designers, it is possible to amplify the atmosphere of the site, to intensify visitors' experiences (Weidinger 2018).

Some of the most haunting qualities of the site's atmosphere emanate from the ways in which the dead men continue to be present on the site. This includes the effigies of the men which were created by the families as part of their protest against issues

of access to the mine (Figure 2), and the various phases of the investigation which include the government's broken promises to retrieve the men's bodies from the mine.

Figure 2: Effigies of the dead men, made by their families.
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As well as the ambient sounds of the site, including rain, the swirling water of the rivers, and birdsong, are the continued communication with the dead men. This included family members banging on coal slurry pipes that connected the exterior landscape to the interior of the mine, in the belief that the men would hear the noise they were making and reassure them that they were outside waiting for them. At the annual commemoration of the men's deaths, held at the entry to mine, family members shout the names of their loved ones into the void. There is a strong sense of emanation producing atmosphere in this context, as Böhme writes, it is «something that emanates and is created by things, by people, and by the constellations which happen between them» (Böhme, in Anderson 2014, 151).

Alongside the banging and the shouting there is a vividness to the ambient sound at the site, productive of an acoustic atmosphere. There is rushing water in White Knight Stream (Figure 3) and Pike River, bird song, wind in the trees, and it is also an area which experiences frequent torrential rain. This atmosphere of sound echoes Pallasmaa's observations that «sight

isolates, whereas sound incorporates, vision is directional, whereas sound is omni-directional. I gaze at an object, whereas sound reaches me. The sense of sight implies exteriority, whereas sound creates an experience of interiority» (Pallasmaa 2017, 19). Further, he explains, «sight makes us solitary, whereas hearing creates a sense of connection and solidarity; the gaze wanders lonesomely in the dark depths of a cathedral, but the sound of the organ makes us realize our affinity with the space» (Pallasmaa 2017, 19).

Figure 3: White Knight Stream adjacent to the entry to Pike River Mine.
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Hapticity, in addition to sound, is significant in the generation of atmosphere for the Pike River project. The mine relics, including the loaders and other machinery extracted from the mine, emanate the violence of the explosion. The steel surfaces are buckled, blistered, rusting in the near-constant rain. The qualities of moisture and temperature of the site are felt haptically, dampness on the skin, a chill.

The relationship between history and atmosphere is significant for Pike River. The understanding of what happened is a crucial part of the generation of atmosphere – what Edensor-Sumartojo (2015, 252) refer to as «priming». Through visitors to the site

priming themselves in their awareness of the mine explosion, they become co-producers of atmosphere, echoing Edensor's belief that atmospheres are «co-produced between the practices and dispositions of individuals or groups, and myriad other elements from which and out of which they form and re-form» (Edensor-Sumartojo 2015, 83). A visitors' centre is being developed at the Pike River site, as well as a number of information kiosks along the walkway to the mine entry. This allows visitors to become immersed in the context of the traumatic events of the explosion, and the subsequent investigations. As Faust notes,

> a location such as the Bergen-Belsen memorial cannot be rendered accessible without background knowledge. There is no possibility to find an adequate atmospheric response to the mass murder that occurred. There is always a bird singing somewhere on the enormous site. Visiting the exhibition in the new document building it becomes evident that the creative means of landscape architecture alone are not at all appropriate as a response. (Faust 2018, 88)

Hasse describes a relationship between history and atmosphere in the context of Gleisdreieck Park (once a significant passenger and freight hub), where an awareness of the site's history is a necessary precursor to sensing the atmosphere. He says,

> only those aware of the history and these stories walk along the main and side paths differently; strangers see only what is in front of them. The old, historical relics of Gleisdreieck, too, are either mnemonic media or – to the unbiased observer – just scenic, thematically contrasting accents, media for creating atmosphere in a decorative sense. (Hasse 2015, 248)

Hasse emphasises how without the knowledge of the train tracks' history in the park, «they are then only a 'nice' element in the relaxing PlaySpace of the park» (Hasse 2015, 248). Understanding the dark history or Bergen-Belsen, the historical significance of Gleisdreieck Park, and the traumatic explosion at Pike River, is fundamental to the production of atmosphere. Without their context, the places can simply be 'nice.' As Hauskeller writes,

> to know what happened at a place can be crucial for the way we are affected by it, to such an extent that the atmospheric effect of the sense impressions is determined by that knowledge. In that sense, our perception is always shaped by the past that is present in our minds, so that we need to carefully consider its effect,

> especially when we are dealing with historically significant or in other ways historically relevant places. (Hauskeller 2018, 51-52)

The weightiness of an atmosphere of grief can overwhelm other lighter affections. Griffero explains that:

> A cheerful person who meets people wrapped in an atmosphere of true and serious sadness will feel the authority of this sadness, will respect it (not just for social etiquette) and, despite not being personally infected by it, will mitigate their own joy, whose atmospheric irradiation force is evidently more limited. This clearly means that some atmospheric feelings legitimately claim to colonize the surrounding space more than others. (Griffero 2021, 88)

A memorial pavilion will be placed outside the entry to the mine (Figure 4), based on the concept that it is the internal, horizontal, shaft of the mine extruded out into the open air. This reinforces the experiences of communication between those on the outside of the mine and the dead men entombed within it. Through spatially extrapolating the mine into the open air, our vision is to emplace visitors into a 'force field' of charged atmosphere. This sense of extrusion – in the sounds of shouting, the eeriness of continued presence, of the mine water – resonates strongly with the atmospheric conception of emanation (Böhme, in Anderson, 2014, 151). Kathleen Stewart explains:

> An atmosphere is not an inert context but a force field in which people find themselves. It is not an effect of other forces but a lived affect – a capacity to affect and to be affected that pushes a present into a composition, an expressivity, the sense of potentiality and event (Stewart 2011, 452).

Figure 4: Preliminary design for the Memorial Pavilion at Pike River Mine. The proposed Pavilion, to the left, 'captures' the space emerging from the large, square portal – the entry to the long horizontal shaft of the mine. The Pavilion echoes the curved structure to the right, which protects the ventilation fan, and is made up of mine 'sets' usually used to hold up the inside of a mine shaft but here are deployed in the open air.
© The Designers – Sheppard and Rout Architects, Jacky Bowring Landscape Architect

The second case, *The Storm Cone,* is by British artist Laura Daly. The project is an augmented reality app which provides an immersive audio-visual experience for the user, through invoking the form and sounds of an English bandstand from the early twentieth century – a quintessentially British landscape atmosphere. A Storm Cone is a warning device used to alert boats to storm conditions, through hoisting a range of cones and drums aloft (Fitzroy 1863, 350). This idea of a device to warn of storms was used metaphorically by Rudyard Kipling in the poem *The Storm Cone* which anticipated the coming storm of World War II (Kipling-Hewitt 2012).

Laura Daly's *Storm Cone* is an artwork rather than a designed landscape, but provides a fruitful case study for exploring the possibilities of digitally manipulated landscapes. The app uses augmented reality through a geolocated model of a lost bandstand, that when viewed on site appears to shimmer in space like a ghostly presence. This allows for exploring the idea of the insertion in the landscape of a virtual element and its rendering of atmosphere, and as a kind of 'hallucination' – literally «a sensory experience of something that does not exist outside the mind», (Dictionary.com) or as in the word's Latin origins as *alucinari,* «to wander in the mind» (Online Etymology Dictionary). The app user can walk around within the bandstand, and behold it from the outside (Figure 5). It is a quite uncanny experience, and strongly

invokes atmosphere, as in Novak's writing on atmospheres as immersive, as neither in the subject or the object, of «mood hovering in space» (Novak 2019, 134).

Figure 5: *The Storm Cone* app, showing the appearance of the bandstand as a ghostly presence in the landscape.
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In addition to the visual appearance of the ghostly bandstand there are both music and soundworks integrated into the app. Introductory music was composed by Lucy Pankhurst, and in part follows the form of the storm cones and drums used in the storm cone warning system – specifically the nocturnal version which uses lights. Laura Daly's sound works diagrams show the changing moods of a chronological unfolding, with periods of urgency, passages of calm, moments of chaos. These dimensions of music and sound reinforce connections between atmospheres and *Stimmung*, which has at its roots in the voice and in music. As Alberto Pérez-Gómez (2019, 314). explains, «the verb *Stimmen* means to tune, pitch, dispose, harmonize and be correct». So the idea of 'tuned space' which is used to refer to atmospheres becomes inflected with the musical sense of tuning.

Ash (2013) notes how the focus of thinking in this area tends to be on how these non-human and technical objects shape affective atmospheres for humans, but that there are also relationships between the non-human elements through what are called perturbations – or effects on each other. Perturbations can be translated into information in different ways. The affective atmosphere of *The Storm Cone* reflects these perturbations, since although it is experienced by human users as a visual and acoustic performance of sorts, this is a surface expression of all of the perturbations the phone is connected to. As Ash puts it:

> A phone is capable of being perturbed by the radio waves that are emitted from mobile phone transmitters. The phone can translate these waves into sounds that emanate from its speakers. However, a human being walking down a street would be entirely unperturbed and unaware of the radio waves; they remain inaccessible and invisible to humans until their phones produce sound waves through their speakers. (Ash 2013, 22)

Users of *The Storm Cone* app are advised to use headphones or earphones, and my experience of it was to use it with iPhone airpods, meaning the sound was being directly introduced to my ear. I was not encumbered by being attached to my phone with a wire, or by having a headset on my head. I was able to experience *The Storm Cone* through the app developers adding the coordinates for a lost bandstand in Christchurch, New Zealand, where I live. The coordinates of old Sydenham bandstand were added to the app, and I went to the site where the bandstand once stood. Immersed within the sounds and vision of the app, I was very conscious of being held within a sensuous bubble, almost like being encased within a glass paperweight. This is reminiscent of Ben Anderson's description of the term atmosphere:

> *Atmos* to indicate a tendency for qualities of feeling to fill volume like a gas, and *sphere* to indicate a particular form of spatial organisation based on a circle. Together they enable us to think how atmospheres are connected to particular 'envelopments' that surround people, things and environments. (Anderson 2014, 148)

Daly's *Storm Cone* artwork raises questions about how an augmented reality might be related to atmospheres. There are echoes with Elena Tavani's (2018) discussions of atmospheres and installation art, and Josué Moreno and Vesa Norilo's (2019) explorations of augmented reality and sound. Can an atmosphere

be generated in the landscape through an augmented reality app? Does such an app offer the potential for a shared emotional experience of memories? Can an atmosphere be experienced asynchronously by different app users at different times?

The sensuousness of the atmosphere of memory within augmented reality is currently restricted to sound and vision, with some haptic feedback possible through a phone's vibrations. *The Storm Cone* builds the immersive atmosphere through the acoustic and visual realm, through the music and the ghostly bandstand that a user can wander within, generating a bubble of nostalgic mood. As Pallasmaa suggests,

> music of the various art forms is particularly atmospheric, and has a forceful impact on our emotions and moods regardless of how little or much we intellectually understand musical structures. Music creates atmospheric interior spaces, ephemeral and dynamic experiential fields, rather than distant shapes, structures or objects. (Pallasmaa 2017, 25)

The acoustic dimension of the Storm Cone is explicitly artificial – there is no sense that there is an actual band in the space. It is not experienced as a deception, which could trouble the atmosphere, as Hauskeller explains in the context of artificially generated birdsong in the grounds of the University of Exeter that was intended to generate at atmosphere of peacefulness. He noted that, «as soon as we realize the deception, we feel that space differently, and the whole atmosphere can suddenly change» (Hauskeller 2018, 52).

9. Conclusion

There is a potent intersection between the realms of sensuousness, memory, and atmospheres. This interlinkage is significant for landscape architecture, in considering how atmospheres might be designed or 'generated', «[folding] together affect, emotion and sensation in space» (Edensor 2015, 83).

Landscape architecture is a discipline that bridges between science and art, and has predominantly focused on the physical realm of plants, stone, water and so on. The landscape is manipulated to fulfil formalist, compositional (e.g. picturesque), narrative, or cultural goals. There are strong echoes between the design of landscapes and the design of atmospheres. Böhme (2021) highlights the techniques for the creation 'scenes' in garden design, particularly in the work of Hirschfield and the

exploration of the English landscape garden. The connections between scenography, stage design, and atmospheric generation, relate strongly to landscape architecture, and in particular the design of emotional settings in for memory landscapes.

While the visual domain dominates the field of landscape architecture, there is considerable potential to enhance the sensory dimensions of landscape, especially sound and touch – both tactile and haptic. As the cases discussed here demonstrate, the tuning of the sensory within both the physical and virtual realms can generate atmospheres. For atmospheres of memory the sensory realm is especially challenging, as memory is most closely aligned with the senses of smell and taste, as illustrated by Proust's madeleine. However, these are the most difficult senses to use in the design of the landscape.

Atmospheres are elusive, but in the context of design there is an expectation of some degree of certainty. The role of participants in the production of specific atmospheres is important in design. In order to have some confidence in participants' ability to feel the atmosphere, to co-produce it, there is a need for 'priming', for the provision of information about the site. Physical or virtual prompts can offer a scaffold for the atmosphere, such as the knowledge that 29 men lie entombed within the landscape or that a bandstand once stood on this site, providing the armature on which atmospheres can be attached. The landscape architect must work as an orchestra conductor simultaneously following the scores for multiple instruments, attuned to the multiple senses, alive to the emergence of atmospheres.

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