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Choreographing Aesthetic Atmospheres

***Abstract.** My design and research practice explore our relationship to air and how designing with atmospheric phenomena can constitute a new design practice: an Aesthetics of Air. Whilst Sumartojo & Pink (2018) contend that “atmospheres themselves cannot be designed,” I put forth that we can design or ‘choreograph’ the conditions from which atmospheres arise. I am interested in our experience of air in lived space and how atmospheric encounters can be shaped by choreographing the complex, transient and dynamic matrix of breezes, scents, moisture, radiant light, dappled shade, textures and sounds. In this paper I will expand on these ideas and my practice in designing ‘with’ phenomena through describing the process of developing the atmospheric installation ‘Outside_In’.*

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Choreographing Aesthetic Atmospheres

My design practice explores our relationship to air and how designing with atmospheric phenomena constitutes a new design practice, the Aesthetics of Air.

Gernot Böhme (1998, 114) argues that an “aesthetics of atmosphere shifts attention from the ‘what’ something represents, to the ‘how’ something is present. [Restoring the term aesthetics] to its original meaning, namely the theory of perception’.” Atmosphere, originally a meteorological term denoting the earth’s aerial envelope, “can also describe the emotional tone of a space, [...] the sphere of felt bodily presence” (Böhme, 2017, 69) or “the moods that are ‘in the air’” (158)

My practice is phenomenological, not so much in a psychological or philosophical sense, although drawing from these, but practice-based: where I consider phenomena to be perceivable spatiotemporal events; a form of energy or force, with a momentum to act on things and on us. Designing with air requires such phenomena to be understood, and perceptually and conceptually mastered.

Discovering Phenomena

My early investigations revealed atmospheres as a complex and intricate assemblage of phenomena consisting of transient air currents and breezes, subtle variations in temperature, humidity and air density, localised scents, dappled pockets of radiant warmth, incidental sounds and so on. These are highly “interrelated, interacting and networked energies and forces, which together generate a multitude of dynamic and ever-changing atmospheric phenomena” (Wagenfeld, 2015).

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Invoking such rich experiential encounters in a design context, requires this “intricate assemblage” of phenomena to be studied; to understand what we are perceiving and, critically, to comprehend the dynamic systems that generate our perceptions.

Initially I studied atmospheric phenomena using video observations, scanning lasers, fog machines and piezoelectric misters. Most of these methods engaged strategies that enabled the visualisation of air, or rather - of “the energies and forces present in air” - and the stunning topographies of this otherwise invisible experience (Wagenfeld, 2015). For example, using scanning lasers and fog to visualize aerial phenomena a “hidden world was made known to us, [...] as highly complex [...] patterns of gently spinning vortices that had the delicacy of fine lace” (Wagenfeld, 2008).

This awareness of phenomena inculcates us into this unseen sensory world, but engagement with a deeper bodily encounter in which the designer experiences the interplay of these phenomena as a vivid aesthetic encounter is paramount. Here the principle instrument is our own body undertaking a sensory investigation. If we calibrate ourselves to such encounters, to feel and see air, a comprehensive understanding of and mastery over the medium is possible.

Attuning to Phenomena

Humans have an extraordinary sense of perception. We can perceive a change in surface temperature of as little as 0.02°C (Jones, 2009). Such delicate responses are evident, for instance, as we walk under the canopy of a tree. We can register a minute change in temperature or the faintest breeze.

A conscious immersion in and bodily investigations of atmospheres over time, enables a shift from what Rudolf Arnheim defines as a state of “passive reception” towards “active perceiving” (Arnheim, 1969, 14), thereby becoming more attuned to the presence of very subtle manifestations of phenomena - to perceive Thibaud’s micro-phenomena (2015, 39).

In a design context, this active perceiving and attuning to atmospheric phenomena, a process David Seamon refers as Goethe’s way of science: “direct experiential contact coupled with prolonged, attentive efforts to look and see [to build a] synthetic understanding” (Seamon, 2005), has been critical to my grasping of what constitutes an atmosphere and the nuanced ways it effects us; and how to ‘think’ in phenomena.

Thinking in Phenomena

Even if what is being visualised is not visible to the eye, such as the perception of sun warming our shoulders, we construct a visual image of this. As Rudolf Arnheim explains “truly productive thinking in whatever area of cognition takes place in the realm of images” (Arnheim, 1969, v).

Thinking in atmospheric phenomena also challenges us to think spatially and temporally; so that we can conceptualise how phenomena move through space and time, cognate the impressions this might have on our senses and then translate these into specific feelings and moods. In this case, the images we think in are ‘perceptual’ images, and through these we can imagine new phenomenological situations; and finally, through such perceptive engagement we can begin to design with phenomena.

Designing With Phenomena and Staging Atmospheres

Sumartojo & Pink (2019) assert that atmospheres cannot be designed, primary because the perception of an atmosphere is “taken up in individual experience.” But we can, as I demonstrate, design the staging of atmospheres. Here we need to consider the nuanced distinction between atmosphere and ambiance.

In my practice I consider *atmosphere*, as the perceptual medium, the carrier of phenomena, and *ambiance* as the individual’s experience of atmosphere, but, as Thibaud (2015) argues, aspects of ambiances can also be a shared experience. This distinction, along with an acute awareness of both the uniquely individual experience and what resonates as collective experience, is fundamental to staging atmospheres.

Phenomena exhibit highly idiosyncratic behaviours. While they can be modulated within the spatial context in which they present, they cannot be precisely controlled, nor would this be desirable. Designing with air, can be thought of as a form of choreography, where phenomena are ‘choreographed’ like dancers’ moving through air: but in a manner that doesn’t constrain their agency: dynamic, transient and evolving, inciting unexpected atmospheric encounters.

Locating & Siting the Atmosphere

My choreographic approach is exemplified in the design process undertaken to create *Outside_In*. This atmospheric installation was designed with Thomas Auer (Transsolar) for the exhibition, *Dynamics of Air* (2018). The intention was to investigate the type of atmospheric experiences present in an outdoor setting, such as a park, and see if this could be staged within an interior space.

RMIT Gallery 3 was chosen for its material qualities and proportions, a largish, windowless box with featureless walls, a high ceiling and polished concrete floor. The design process began with spending time in the space - observing, feeling and discovering the affordances that presented - gaining insights as to what material and phenomenological aspects were desirable and how problems could be mitigated. The gallery’s silent ambiance and resonant cold concrete surfaces created a meditative quality and the high ceiling afforded a generous, atmospheric volume to work with. Problematic were a series of air-conditioning outlets along the bottom of one wall. These could not be isolated, so ways to employ the cold dry air to advantage were explored.

Conceptualising the Atmosphere

The central design concept behind *Outside_In* was to explore how microclimates transpire and interact producing an internal weather system. Early design iterations explored four microclimatic quadrants - cool/dry; cool/moist; warm/shady/humid; and warm/sunny/dry - loosely contained within an open X-shaped structure that allowed these climatic zones to blend at the edges.

For each design iteration a phenomenological schemata was created to conceptualise the atmospheric possibilities and resultant experiences, through drawings and diagrams with detailed annotations describing the intended perceptual qualities and ideas on how these could be generated. This required ‘thinking in phenomena’ across a range of scales; for instance, translating the temporal and spatial presence of a gentle breeze right down to the smallest aerial vortices - into perceptual images, as a way to imagine their latent qualities.

As the design ideas formulated, scaled human figures entered the drawings to act as perceptual avatars, wandering through the space, figuratively exploring the microclimates, allowing me to imagine and internalise the perceptual effect. How the heat feels on my forehead and the humid air on my skin and in my lungs. What does it smell like? What is the colour and light intensity? What is the overall ambiance? Later scale models were built to explore space volumetrically, again figures were used as spatial and perceptual references points.

The final design narrative was pared down to two distinctly different interacting environments - the Australian beach and the German forest. The central element of this proposition was a large geometric structure consisting of two parabolic concave surfaces sitting back to back at a 34-degree incline, one side cave-like simulating a forest gorge with cool, dark, moist air, the other dune-like, dry and bright, like the feeling of standing on the beach under the radiant warmth of the sun.

The principle phenomena being choreographed included clouds of mist, created with high-pressure water pumped through jets with a micro-aperture, radiant heat from infra-red lamps, and coloured light reflected off the two end walls. A key aspect of juxtaposing two such distinct microclimatic experiences was to generate a phenomenological duet and explore how this would be perceived by people moving through the space, from the cool cave to hot beach. Would there be subtle sensory shifts in atmosphere and perceptual environments between these extremes; a spectrum of dynamic and transient microclimatic bodily encounters?

Prototypes were created to explore *how* to choreograph the phenomena, by adjusting the conditions that would generate the intended atmosphere. The dimensions and angle of incline of the parabolic discs were determined by how it would be physically and visually perceived. The misting jets were positioned to harness the cold air from the air-conditioning ducts. The intensity of light, its colour temperature, the material qualities and their colour palette were methodically tuned.

Installing the Atmosphere

Once the bones of the installation were in place, the equipment and the angle of the jets was tested, adjusted and retested. Water pressure and the volume of mist were tweaked. The height and position of heat lamps were determined to create warmth on the visitor's face. The parabolic structure was precisely placed to create an intimate cave-like environment on one side and an open, warm and radiant expanse on the other. On either end, the walls reflected a specially calibrated light, simulating the iridescent green of a forest canopy and the deep cerulean blue of the ocean sky. The tone and hue of the colours as well as the LED light finely calibrated. How atmospheric phenomena interacted with the structure was observed and perceptually studied, especially at the edges where the two microclimates mixed.

Colleagues were asked to engage with the installation. We focus on the angle of the jets, initially pointing in different directions to produce a chaotic pattern. We observed that the dynamics of the air within the gallery was already randomising the mist almost as soon as it leaves each jet, so we adjust them to all point straight allowing this phenomenon to be observed and keenly felt.



Image 1. Outside_In, Malte Wagenfeld, 2018. Photo: Mark Ashkanasy.

Reflecting on the Aesthetic Atmosphere

Over the duration of the exhibition, I spent time immersed in *Outside_In*, no longer as a choreographer but as participant. I was surprised how distinct the perceptual experience of each climate was, each had a unique ambiance, or “*Gefühlston* (feeling-tone)” (Böhme 2017, 14). Intriguing were the microclimatic variations blending at the edges of these atmospheres, and how the interplay of phenomena subtly changed from day to day.

I often heard people discussing their perceptual encounters with the atmospheres. Unexpected were the many comments about ‘the pleasant scents’. These perceived scents may have been produced by the mist circulating on the ‘forest’ side and interacting with the materials of the installation, but most likely were in part psychosomatic; eliciting memories of forest air. Our senses work together to create a psychosomatic experience, if information from one sense is lacking, other senses compensate to build a complete phenomenological image.

Visitors also regularly remarked on the sonic experience. This was not a staged element but was generated from aspects of the installation itself. The gentle hiss of misters dissolved into a pink noise, resembling a distant waterfall and reverberated inside the parabolic dish, adding to the perception of standing deep inside a forest, with muted sounds of the gallery beyond; walking around the geometric structure into the sun, the sounds, now reflected off the dish, felt much brighter and open, like being at the beach. Both highlight the complexity of phenomenological interplay, and the importance of allowing phenomena agency to perform: for aesthetic atmospheres to emerge and ambiances to arise.

The parabolic structure was critical in shaping these microclimates, the emergent phenomena, unscripted soundscape and the overall ambiance; revealing how immaterial atmospheric phenomena interact with and are fashioned by the physical world. In a forest gorge, the moist cool air is shaped as it is caught between lush tree canopies and stone face radiating cold; sunlight is dappled, filtered and refracted as are sounds; and moist air alters our perception of sound. Likewise, the thermal mass of a beach dune reflects the sun’s light and radiates its warmth. Working with immaterial atmospheric phenomena requires an understanding of how they exist in the physical world - as material manifestations that both generate phenomena and also act on and alter our perception of them.

Although individual atmospheric encounters cannot be ‘designed’ nor determined, the phenomenological conditions from which they arise can be thoughtfully conceived through a design process to involves thinking in phenomenological images and visualising their perceptual effect, to choreograph their interaction with each other and the physical materiality.

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