

Embodying betweenness: Designing artefacts through imperfection, impermanence and incompleteness

Gyungju Chyon¹

Abstract

Imagine a fruit bowl, overflowing with fruits. Removing an apple reconfigures the bowl, as if bowl and fruits are in dialogue, co-shaping one another and the surrounding environment. How might a maker approach materiality akin to this bowl, and bring forward the interactive relationship between materials and environment? What might be the value of this approach? Approaching artefacts with a heightened sense of their relationality, *Embodying Betweenness* investigates the *interactive field* encompassing material, environment and maker. Artefacts like the fruit bowl bring forward the qualities which arise from an interactive relationship between materials and environment. Rather than blocking sunlight, the *Liquid Sky* sunshade is incomplete without it. *10 Kinds of Fog* reveals the ever-changing character of fog with subtle shifts and constantly *impermanent* assemblages with air. These interactions between textile, sunlight, fog and air are not necessary controllable, thus the imperfections of the interaction is embraced. *Imperfection, impermanence* and *incompleteness* are qualities of *betweenness* between materials, environment and maker. Reflecting on the making processes of two design projects, the author (maker) delves into the concept of the interactive field and tendencies of in-between space, and elucidates the qualities in artefacts that embody this.

Keywords

Product Design; Aliveness; Making; Materiality; Betweenness

Imagine a fruit bowl, overflowing with ripe fruits of various sorts. As the fruits occupy the space of the bowl, the bowl offers the fruits possibilities and limitations. For example, grapes might overflow in the edge of the bowl, while also occupy spaces between apples and the bowl. Removing an apple reconfigures the relationship between grapes, apples and the bowl. The bowl also engages the changes of colour and smell to

✉ Gyungju Chyon: chyong@newschool.edu

¹ Assistant Professor of Product Design and Industrial Design, Parsons School of Design, The New School, New York, United States

become perceptible as the fruits ripen. The rationality of bowl, fruit and environment is quite apparent. Now imagine the same fruits in a closed box. The box seals its contents within a universal and immutable container; empty or full, the box is still a box. The bowl, on the other hand, is porous in that it is open to the influence of the fruits. The bowl and fruits are in reciprocity, co-shaping one another and the surrounding environment as if the bowl and the fruits are in dialogue and just as it quiets down, removing another apple causes it to come alive again. The surrounding environment also impacts this relationship, as temperature, humidity, light and the presence of microorganisms influence the fruits' changing scent and colour. Bowl and fruits jointly affect and are affected by the surrounding environment, while the box relates to the environment independently of the fruits inside (see Figure 1).

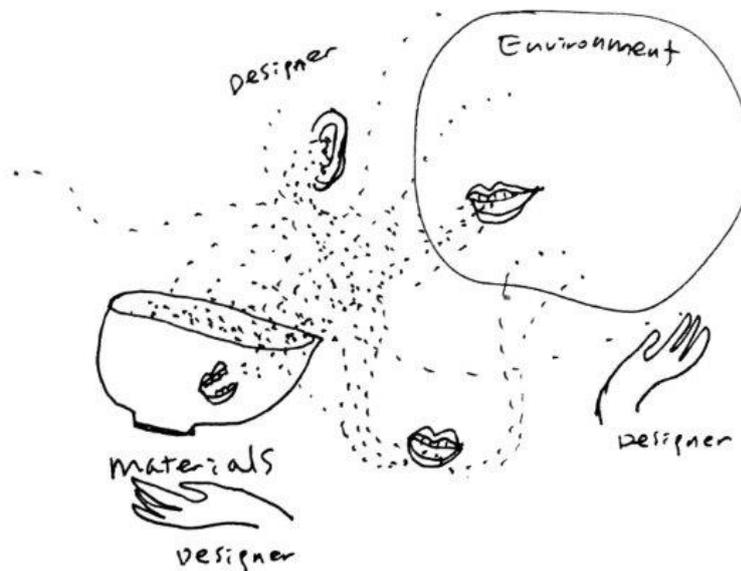


Figure 1. Approaching materiality like a bowl could heighten the conversation between materials, environments and the maker.

Despite often appearing to be self-contained – as the bowl, fruits and environment illustrate – artefacts exist in dynamic, relational fields where they interact and interconnect with their environments. But it is difficult to recognise this aspect, because the interconnectedness of things is often too vast and complex for us to grasp (Morton). Environment, such as the sunlight, water and air are both intangible and omnipresent parts of the atmosphere. Because of this, as artist Ólafur Elíasson puts it, we are “numb” to the atmosphere and we often lose sight of it. Yet, materiality, Elíasson asserts, can re-sensitise us and draw our attention to particular atmospheric qualities by making them tangible (Böhme et al. 47).

How would a maker approach designing an artefact like a bowl, in the sense of working with the interactions between materials and environment as intrinsic to a design? What might be the value of approaching materials this way? These questions are explored through two design projects that utilise the sunlight and fog as materials. Through the process of making two artefacts, the maker explores how light and fog might be approached as integral part of two artefacts, akin to the relationship between a bowl and fruits and so to make light and fog more apparent and tangible. While approaching materials this way, the maker reflects on the notion of working *with* materials and environments through assemblages of textiles, foggers, fans, light, water and air. Reflecting on the making process reveals that the potential value of this approach might be that the resulting artefacts can evoke a sense of aliveness that is brought forward by the qualities of imperfectness, impermanence and incompleteness.

Materialising the experience of sunlight

My practice was invited to speculate on the future of the waterfront holiday home as a part of the exhibition “Out of the Square: Beach Architecture on the Mornington Peninsula”.

The Mornington Peninsula, which extends south from Melbourne along the eastern shore of Port Phillip, is holiday cottage country for Melbournians, as it offers qualities of both outdoor life and urbane activities all within a short distance of the city. Yet the economic pressures of contemporary urban life have changed the relationship of the holiday to the holiday home, and diminished its role. Thus, instead of designing a holiday home, we proposed an alternative for which we set two criteria: instead of bringing a family to Mornington, the experience of Mornington would be brought to urban cities; and the natural amenities of the Mornington experience, such as water, sea air and sunlight, would be heightened and made portable. Our research found that people visit Mornington primarily seeking sunshine and the beach to escape the everyday routine and reinvigorate. We wondered, would bringing even this one aspect of the Mornington Peninsula into the home enliven urban domestic life and inject something of the exceptional experience into the everyday routine? The dynamic relationship between light conditions and the sea makes the play of light off the water surface mysterious, wonderful and sometimes sublime. How might we capture and materialise this intangible phenomenon of light and water? We looked to textiles, and proposed to capture, modulate and produce light within a textile surface to create the changing quality of light as might be reflected from the surface of the sea.

We first considered capturing light during the day, and releasing it in the evening by utilising either photovoltaic panels combined with artificial light sources, or phosphorescents combined with crystals. Yet, neither of these felt right in the sense of creating a similar quality to that of the sunlight at the seashore. Merely converting the sunlight into energy and artificial light did not capture the experience of the Peninsula. When we experience sunlight at the bay side we do not experience it so much as energy, but as something else.

After taking a collection of photographs capturing the endless changes of the mood and effect of sunlight on the sea surface, we transformed those photographs into drawings of black dots on a white field, and printed them on clear acetate. When light was projected through these two layers onto the wall in a darkened room, it started to resemble something. Still it did not capture the qualities of seaside light. By inverting the positive and negative of the pattern drawing – transparent dots on a black field – we made the sheet material disappear and produced lights which sparkled when we projected onto the wall. With the first test, the light was merely a medium to project the shadows of drawn dots, yet with the second test the light was transformed into a subject. Its quality and behaviour jumped into the foreground. By foregrounding light, the sunlight became a subject with an active agency, rather than an inert, passive object.

Embodying interactions between textile, light and air

At this point, we realised that we ought to let the light drive the effect. Further experimentation led us towards designing with textiles as a way of collecting and animating light. Rather than designing light, we sought to design *with* sunlight. We sought not to control the light so much as engage it in a simple sensuous way – as a kinetic, visual phenomena. The design of the sunshade, we felt, needs to accept the ever changing, unpredictable character of sunlight. Thus, the relationship between textile and sunlight shifted.

We introduced an array of small perforations (ø10mm, ø5mm, ø3mm) into textiles with varying translucency, and hung them in the window in order to test their light filtering effect. While the translucency of the textiles obscured the view through the window, the perforations invited the light in. However, it felt like the light was scattering into the space, rather than being captured. However, when a black textile was perforated, and a white textile layer was placed in front of it, the background noise was eliminated, and only the light projected on the white surface became tangible and even seemingly amplified. The light was working *with us!* (see Figure 2).

As the angle of the sun changed, perforations through the black layer sculpted the light from circular to oval to elliptical shapes, as it fell onto the white layer. The layered textiles offered the sculpted light a space to linger, while the fibres of the textiles gave the light texture. These together produced something akin to a cinematic performance as the projected light changed from a sharp focus to a soft blur and back again. Opening the window enabled air movement to be included in this assemblage of textile and light; the textile became a stage for light to dance and perform – like the evanescent shimmering of light reflected off the ocean. Both air and light were working together with textiles (see Figure 3).



Figure 2. Details of light on the textile layer.



Figure 3. *Liquid Sky* sunshade brings weather inside.

The interactive field

We explored different perforation patterns and continually adjusted the distance between the textiles over a number of weeks as we witnessed the changing effects of light. As the continual interactions of textile, perforations, light and air are never the same and never still, there is a continuity of the past overlapping into the present. Upon completing the prototype, we were aware, and anticipating the effect in coming seasons would not be fully predictable and also not the same. The evanescent effect of light and air is not so much about the fleeting present, but about building up a story over time akin to a movie. The accumulating memory of kinetic relationships from moment to moment, and day to day made me aware that the resulting assemblage was something more than mere sheet materials hanging in my living room. There was certain aliveness about it. This is because it is not so much the textile – fineness of woven fibres, colours or weight – that I see, but rather it is the conversations between textile, light and air that I am hearing.

Like a bowl becoming empty, filling with fruits and becoming empty again, the sunlight is contained in the layers of textiles: sunlight fills, shifts and changes the textile layers. At the same time, the textiles also shape the sunlight, giving it texture, and focus. Highlighting these interactions between sunlight and textiles made the light a tangible presence in the living room (see Figure 4).

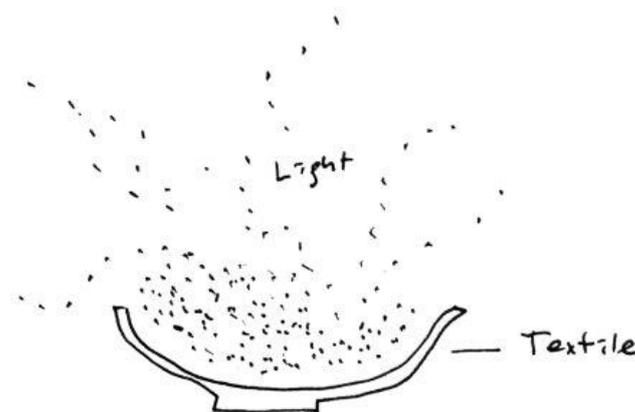


Figure 4. Textiles and light akin to a bowl and fruits.

Yet, the light effect is incomplete in so far as the interactions are a continuous, unfolding story. Similarly, Ned Kahn's *Wind Arbor* makes the air movement tangible by using overlapping, thin metal scales as the cladding for a building. When the wind blows, the scales sway, creating an animated shimmer of light and producing a theatrical performance of wind, and environmental energy. By connecting metal and air, the building facade is a manifestation of a changing conversation – sometimes whispering, other times shouting loudly – between the scales and the air, thus bringing the facade to life. Thomas Heatherwick materialises the sunlight by setting up a delicate interplay between fibre optic rods, plant seeds and the sunlight in the United Kingdom pavilion for the Shanghai World Expo 2010, the *Seed Cathedral*. The light travels through clear acrylic rods into the *Seed Cathedral*, illuminating both seeds and the interior space of the pavilion. This way of lighting the seeds does not attempt to be perfect, in that rather than illuminating each of them at the same brightness, instead it allows the variety of daylight to be brought in. Allowing the conversation between unpredictable weather, acrylic rods and seeds seems to generate the animate atmosphere of the pavilion, and bring it to life.

In these examples, textiles and metals, and acrylics, light and air – like bowl and fruit – operate within an *interactive field* – a spatio-temporal condition where the relationship between materials and environments continually unfolds, and constant changes and shifting relations are celebrated rather than oppressed. In this *interactive field*, textiles, metal scales and acrylic rods are incomplete objects without sunlight and air movement. At the same time, they materialise the intangible atmosphere, making it tangible.

The textiles in conjunction with the weather choreograph a dance of light, appearing like a shimmering sea one moment and cloudy sky the next (see Figure 5). These effects are not controlled by the maker, but are created by material engagements with environments, and continued regardless of the maker's intention. Philosopher Jane Bennett calls this sort of interplay "vitality" of a thing. Bennett points out how things have a *directedness* that they move away from something. For example, steel can rust, moving away from an ordered, sculpted object. Things in this way, she argues, inherently possess their own vitality (Bennett). This vitality may be brought forward through a particular set of relationships. Within this set of relationships, materials have emergent possibilities: new potentials arise from interactions with other things, thus materials have greater sense of *becoming* something, rather than being static. Embodying the qualities produced through interactions between tangible materials and part of their environments may help in bringing out the vitality noted by Bennett, and thereby evoke a sense of liveliness, as in the sunshade, the façade and the pavilion.

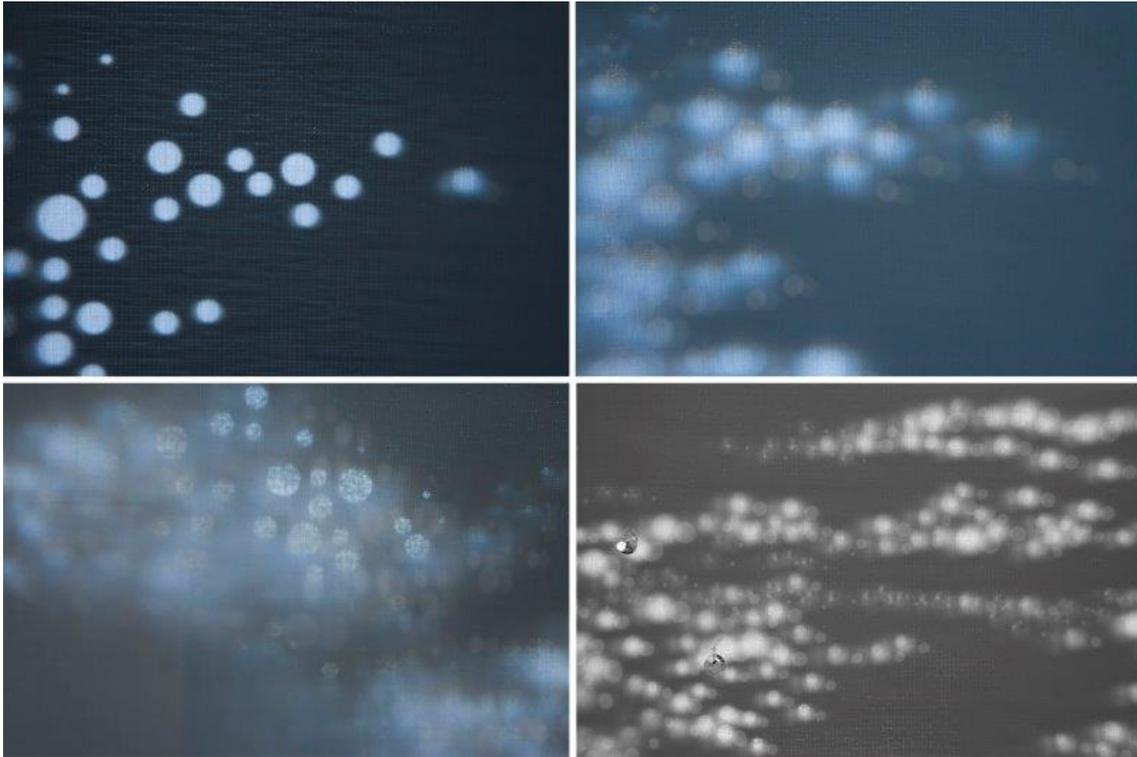


Figure 5. Until the sun is completely set, the slightest changes of weather are captured and amplified by the textiles. Whether rainy or cloudy, with passing seconds and minutes, the vagaries of weather are portrayed on and by the textiles.

Working with fog

10 Kinds of Fog has its origins in *Fog Garden*, an installation at Ljubljana's Jakopič Gallery for the *Public Water Public Space* theme for the BIO50 design biennale in 2014. We proposed to animate a neglected, public entry to Ljubljana's Tivoli Park with hanging, fogponic gardens. Utilising ultrasonically produced fog as an efficient growth medium for plants, an interlocking thicket of water trees would emit clouds of fog to feed translucent capsules of flowering plants. We presented our proposal in the form of a life-size street view and a set of three semi-functioning prototypes of fog capsules with plants. When the foggers in the capsules were activated, the water began to percolate with life as the fog filled the capsule. The fog production changed the installation from a static representation of objects, to a dynamic experience. This led us to further study this fascinating aspect of the project (see Figure 6).



Figure 6. Three prototypes of fog capsule planters of the *Fog Garden* installed at Jakopič Gallery.

In the 1960s, Yves Klein's *Air Architecture* proposed architecture in which walls and ceilings were created not with wood or plaster, but with air and fire. Created in the same era, Hans Haacke's *Condensation Cube* (1965) demonstrates the interplay of air, water and temperature through condensation in a sealed, transparent cube; depending upon the environmental conditions of the gallery, the cube changes, becoming more fogged up or more transparent depending upon temperature and placement. This interest in the environment as material has resurfaced in the work of contemporary artists and designers. Ólafur Eliásson's *Your Felt Path* (2011) employs fog to produce a spatial experience which engenders a feeling of mystery, seclusion and depth, akin to Diller Scofidio + Renfro's *Blur* pavilion (Diller, Scofidio and Diller + Scofidio). Philippe Rahm's interiors organise spatial sequences using environmental qualities, like heat, humidity and airflow, as a primary generator. Water, air and heat are central to the experience of these artefacts (Clément et al.).

Rather than exploring fog within the system we designed for the Fog Garden, we decided to create a system for the fog itself. How might we design something *with* fog itself? Can the depthless, formless phenomenon of fog assume different and distinct structure and qualities?

In order to release fog into the atmosphere, we used a fan to push ultrasonically produced fog out of a water reservoir. With the force of the fan, the fog was merely microscopic water droplets which quickly dispersed into the air. However, when we added porous materials such as sea-sponges, reticulated foams and geo-textiles as

filters, and pushed the fog through them, it started to develop distinctive textural qualities – thicker or thinner, heavier or wispier; the filters gave the fog a voice. Yet, the force of the fan still made the fog disperse into the air, without any formal qualities. We wanted to give fog more material presence, so as to reveal its character.

The International Cloud Atlas categorises fog according to the relationship between ground and air which produces it, such as radiation, advection or upslope fog. In order to make the fog linger longer, we thus considered that we ought to on one hand provide surfaces like a landscape, and on the other, work more *with* air in order to work *with* fog. We made a set of modulator boxes of different forms containing different filters. When we moved fog through these modulator boxes and across a variety of different textiles and paper surfaces, mimicking a landscape, the fog began to glide over the surfaces. However, these surfaces also seemed also to reduce the textural qualities of the fog that we noted previously, which required more engagement with air.

When we allowed the fog to push through the surface from below, however, different combinations of textiles, modulators and fan speeds imbued the fog with different characteristics, as if the fog was wearing different costumes. Air, at this point, became a partner for the fog to act and dance with: fog became wispy and buoyant, or heavy and slithering; bouncy, turbid and tempestuous; or calm, eerie, contemplative and still. While each type of fog was behaving differently with air movement, having its own unique dialogue with the air, it also seemed to grip the textile, while the textile allowed fog to move above and below its surface. The fog was negotiating between the textile surfaces and air movement: the fog was held, pulled, strained, combed, bumped or sieved by the textiles. When fog was released into the air in isolation, it was difficult to discern a particular character. Yet, when we added layers of elements for the fog to interact with, it started revealing its different characters and qualities, and at the same time qualities of textiles and air that normally escape us (see Figure 7).



Figure 7. Four different textiles and four different diffusers are assembled to produce different characters of fog.

Philosopher Tonino Griffero calls such environmental phenomena, like air, humidity, wind and light, *quasi-things* – they are both substance and that which we experience the things around us through (Griffero and De Sanctis). Quasi-things are both the

creators of atmosphere and atmosphere themselves. They are themselves things-like but not really things; they are things on a scale that we don't really perceive. Fog, on one hand, is vast when seeing from the window of a plane, but on the other hand, minute, when we see it as airborne mist, and as small droplets on our hands or clothing. Fog kind of exists as a thing on these levels. But, between these extremes, such as when we walk through a foggy street, it is not a thing but a quasi-thing that is experienced. Echoing Eliasson's idea of how atmospheric qualities can be tangible, Griffero asserts quasi-things require the attunement of our senses to perceive (Griffero and De Sanctis 12). We can see a linguistic example of this in exceptionally large number of words for different kinds of snow in the Saami language. Saami are indigenous people inhabiting the arctic area encompassing part of Norway, Sweden and Finland. The Saami are highly attuned to snow in their living environment. Their terminology for snow thus illustrates the richness and the depth of their understanding of and relationship with snow that people living elsewhere do not possess (Magga).

Whereas we think of fog as being something that masks and flattens, this project reveals its structure, dynamics and depth that normally evade our direct attention. Through construction of textiles, foams, ultrasonic foggers, fans and water reservoirs, it makes the interactions between fog and air much more apparent. While the effects were largely indescribable, they all exuded certain aliveness.

Making assemblages

In *Vibrant Matter*, philosopher Jane Bennett refers to the sort of construction we made of textiles, reservoirs, fans and plastic modulators as an *assemblage*. Everything in the environment, she argues, from people and corporations to plants to carbon dioxide, continuously makes and remakes assemblages with other "unstable active entities", and acts jointly through these "ad hoc groupings" (Bennett 5). During the design process, assemblages form and re-form between these entities we design and control (such as the foggers, fans, speed controllers, textiles, foams, plastics, resins and foamcore with which we made the components) – and entities we cannot (such as the weather and the conditions of the room). Although we can add foggers, increase the fan speed and add layers of textiles to achieve the desired effects, the ambient conditions of the surrounding environment also shape the result. Similarly, the position of the sun and cloud, air movement of a room, or position of a window, would form different assemblages along with the construction of textiles and their positions. Thus, there is a negotiation between the designer, the materials and the environment itself. Because of this incomplete nature of assemblages, rather than present one fog, we decided to present many, each of which amplifies distinct interactions between air, materials and water, and distinctly manifest of the assemblage of designed and environmental entities.

When fog emerges from the textile surface it demonstrates a certain force and willingness to push through the textile fibres, and begin its dialogue with the air. As fog moves across the textile surface, some retreats underneath the textile and disappears, while some actively engages the air. The interaction between fog and the air is unpredictable and ephemeral, it is always becoming something; there is no final state of

perfection, exhibiting an ideal form, movement, size or behaviour. The relationship between textile, fog and air oscillates between equilibrium and turbulence, the result of the negotiated contingency of continually forming and reforming assemblages of materials and quasi-materials. Yet, as the fog's directedness becomes heard and brought forward, its aliveness becomes more apparent.

When we filmed *10 Kinds of Fog*, each time we set up a particular combination of textiles and modulators, we became silent observers, as the resultant fog effect emerged as expected or deviated in novel and unexpected ways. For example, when we moved the work from our design studio to the photo studio, the atmospheric conditions of the room changed, and rather than reproducing the effects we witnessed in the design studio, new behaviours emerged. The impermanent assemblages of designed equipment and atmosphere of the room offered new potentials for behaviour and pattern. The process of design and documentation was thus about learning to accept the contingent nature of interactions through the fine balance between control and negotiation.

Betweenness and designing with

Both *Liquid Sky* and *10 Kinds of Fog* exist within relations between particular sets of materials and environments. These relations arise from the continual making and unmaking of assemblages within an *interactive field* comprising materials, maker and environment. In the case of *Liquid Sky*, the changes of position of sun and cloud, the movement of air, and the textiles create an ever-changing effect that heightens the changing relationships between them over the course of the day and the seasons. Similarly, in the case of *10 Kinds of Fog*, both the atmospheric and spatial conditions work in conjunction with the textiles to create a variety of fog effects, which reveal the slightest changes in a space and dynamic air movement. One can experience a similar quality in Ned Kahn's *Wind Arbor*, as the relationship between the metal shingles and their environment becomes much more apparent when a gust of wind causes them to flutter. When there is little movement of air, the relationship between metal and light is foregrounded, as the shingles reflect in relation to the sun and sky.

Just as a fruit bowl reveals a changing relationship between the bowl and the fruits, *10 Kinds of Fog* reveals a continually unfolding dialogue between textiles, sunlight, fog and air. The fog sculpted by the textiles moves, disappears and appears again as the air moves across the textile.

As this kind of interactive relationship between materials and environment is foregrounded, the impermanence of assemblages, the incompleteness of materials, and the imperfectness of interactions is celebrated and brought forward. These are qualities of a *betweenness* that arises between a series of interconnected spatio-temporal actions of materials, environment and a maker. In their study of the work of Japanese philosopher and intellectual historian Tetsuro Watsuji, philosophers Robert Carter and Erin McCarthy present Watsuji's betweenness between humans as a spatio-temporal space where all kinds of relationships are possible (Carter and McCarthy). Borrowing his thoughts, the artefacts that arise from the interactive field have these qualities

precisely because they leave space for the making of assemblages, allowing changing relationships, thus they are continually *becoming* something. Embodying and bringing forwards these kinds of *betweenness* in artefacts may help us to open up questions about artefactual liveliness.

To bring these forward, designers and makers might approach and shape these interactions through designing *with* materials and *with* environments. Architects Mohsen Mostafavi and David Leatherbarrow discuss the siting and use of the rust coloured cor-ten steel for the John Deere Headquarters office buildings by Eero Saarinen as something that “grew from” the land, and is designed “with the topography” (Mostafavi and Leatherbarrow 106). Working *with* the topography, the building, they argue, is in symbiotic relationship with its environment. Similarly, through working *with* the sunlight and air for *Liquid Sky*, and working *with* fog and air for *10 Kinds of Fog*, the interactions between textiles and weather are brought forward.

Working *with*, for these two projects, means that a maker works with potential tendencies of materials arising from their relationship to others and how they behave relative to other things. For example, working with clay does not mean that it is only about the maker’s hands and inherent materiality of clay. Rather, it is also about working with clay’s relationship to other forces. It is about listening to the conversations as clay engages air, gravity or other forces, from which the maker is sometimes excluded, as the conversation is not necessarily privy to the maker. The architect is excluded from the conversation between the weather, topography and cor-ten steel, which continually change the building in ways that may be or may not be expected. The maker is similarly excluded from the dialogue between sunlight and textile, and between fog, textile and air. Thus, sometimes working *with* the interactions of things requires that the maker back off and only listen, and other times that the maker re-enter the conversation. Sometimes, working *with* a thing (or quasi-thing) requires working *with* another thing (or quasi-thing) as well. Working *with* air was required in order to work *with* fog for *10 Kinds of Fog*. Materials gave voice to the fog; yet working with air enabled us to bring out qualities and characters of fog. Mostafavi and Leatherbarrow take “Saarinen’s belief in the creation of a total environment” as an example to assert that embracing the weathering of a building enhances its place by working *with* its environment (Mostafavi and Leatherbarrow 106). Approaching design in this way may help in embodying the *betweenness* between materials and environments in artefacts.

In the interactive field of *Liquid Sky* and *10 Kinds of Fog*, the forming of different assemblages is not necessarily controlled by the maker. In the midst of assemblages, things don’t always occur seamlessly; variations and slippages happen, as unknown forces become a part of the assemblages. The maker may have a sense of control, not by manipulating materials to the maker’s will, but by enabling interactions and allowing for unexpected slippages. Working *with* is about setting up conditions for the dynamic making and remaking of assemblages to occur. The composition, layering and perforations of the textiles for *Liquid Sky* were mediated through working *with* sunlight so as to enable certain interactions between sunlight and textile. Likewise, the different forms of plastic modulators, types of filters and textiles, and the number of

foggers for *10 Kinds of Fog* were negotiated by working with fog and air to allow different conversations between fog, textile and air to be heard.

When we approach materiality in a way akin to the bowl and fruit comparison, we allow for the artefacts to adjust to and be adjusted by their environment. While fruits are arranged by both themselves and the bowl, the fruits' relationship to its environment also shapes fruits, bowl and environment. When the maker approaches designing artefacts like a bowl, quasi-things such as sunlight, air, and fog become more tangible, highlighting their experiential qualities, while they bring out aliveness in artefacts.

When light, water and wind are utilised as renewable energy for powering our consumables and sustaining our modern lifestyles, the mechanical management of our day-to-day urban lives is dependent on their commodification. We generally are not conscious about what is generated behind the scenes to supply energy to our homes and offices. Yet, when we engage air, water and light through our bodies – for example, when we feel a fresh gentle breeze through an open window in a stuffy room or when we are having a warm shower to get rid of stress from the day's activity – we feel them not as resources or commodities, but as stimulating and revitalising, connecting us with our existence, in a way that is intrinsic to our physical, emotional and intellectual well-being (Mangone and Teuffel 249). Bringing forward and embodying these experiential qualities of light, water and air into artefacts may be one way of helping us to bring out the aliveness of artefacts. When both materiality and environments are effectively co-designers of an artefact, environments have an active role in shaping artefactual aliveness. As a way of enabling these, a design process which engages the *betweenness* between materials and environment can foreground the qualities produced from interactions between materials and environments – as things which can be registered and felt, and generate a greater feeling of vitality.

References

- Bennett, Jane. *Vibrant Matter: A Political Ecology of Things*. Durham, N.C.: Duke University Press, 2010. Print.
- Böhme, Gernot, et al. *Architectural Atmospheres: On the Experience and Politics of Architecture*. Basel: Birkhäuser, 2014. Print.
- Carter, Robert, and Erin McCarthy. "Watsuji Tetsurô." *The Stanford Encyclopedia of Philosophy* 11 Nov. 2004. Web. 7 October 2014.
- Clément, Gilles, et al. Gilles Clément, Philippe Rahm. *Environ(Ne)Ment: Manières D'agir Pour Demain = Approaches for Tomorrow*. 1st ed. Milano
- Diller, Elizabeth, Ricardo Scofidio, and Diller + Scofidio. *Blur: The Making of Nothing*. New York: Harry N. Abrams, 2002. Print.
- Griffero, Tonino, and Sarah De Sanctis. *Quasi-Things: The Paradigm of Atmospheres*. Suny Series in Contemporary Italian Philosophy. Print.
- Magga, Ole Henrik. "Diversity in Saami Terminology for Reindeer and Snow." *International Social Science Journal* 58.187 (March 2006): 25-34. Print.
- Mangone, Angelo, and Patrick Teuffel. "Constructing Sensuous Ecologies: Looking Beyond the Energy + Carbon Efficiency Arguments." *Aesthetics of Sustainable Architecture*. Eds. Lee, Sang and Nezar AlSayyad. Rotterdam: 010 Publishers, 2011. 243-58. Print.

Morton, Timothy. *The Ecological Thought*. Cambridge, Mass.: Harvard University Press, 2010. Print.

Mostafavi, Mohsen, and David Leatherbarrow. *On Weathering: The Life of Buildings in Time*. Cambridge, Mass.: MIT Press, 1993. Print.

About the author

Gyungju Chyon is an Assistant Professor of Product and Industrial Design at Parsons School of Design. She previously taught Industrial Design at RMIT University in Melbourne, and Industrial Design at the University of the Arts in Philadelphia. She works internationally across a broad spectrum within objects design and installation through her practice [little wonder](#). *little wonder's* work seeks alternative ways of considering ecological issues by focusing on the relationships between objects, environments and us. It is concerned with engaging the environmental phenomena around us through working with the interplay of materials and environmental elements. *little wonder* has collaborated with companies such as Rosenthal (DEU), Interface (USA), Duravit (DEU), Emotis (FRA) and Lucifer Lighting (USA). Her work has been exhibited in venues in Helsinki, New York, Toronto, Philadelphia, Stuttgart, Sydney and Melbourne. Significantly, the Opening vase, in collaboration with Rosenthal, was among 50 selected to represent the 50th anniversary of the Rosenthal Studio-Line (1961-2011), and received a Baden-Württemberg Award from the Stuttgart Design Centre.