

ARTISTIC RESEARCH WILL EAT ITSELF



The 9th SAR International Conference on Artistic Research
University of Plymouth, April 11th-13th, 2018

Geoff Cox, Hannah Drayson, Azadeh Fatehrad, Allister Gall, Laura Hopes,
Anya Lewin, Andrew Prior. EDITORS.





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**PART 1. DIGESTION:
BREAKING DOWN METHODOLOGICAL
INTROSPECTION**

MULTIPLE KNOWLEDGES AND THE REDEFINITION OF THE SELF IN THE ENVIRONMENT

Kat Austen

Abstract

We exist within a set of rules about the value of knowledge – a hierarchy of knowledge that places quantified data at the top and the “lower” senses at the bottom. The neglect of other forms of knowledge – aesthetic, embodied, cultural and more – has created a void in our socio-political and environmental relations that has been filled by emotive, populist rhetoric that undermines the validity of the knowledge we have. Post-truth practices are answering a gap that arises from our reliance on cognitive knowledge as the main valid form of knowledge – including datafication of everything – particularly in politics. As an alternative, I propose we augment this cognitive and data derived knowledge with more emotionally connecting knowledges, to achieve a more integrated understanding of the world, and to once again embark on a quest for a type of truth.

This paper will report on my current research in bringing to bear multiple knowledges on problem spaces around the environment and digital culture, and in so doing questioning both the prevailing knowledge hierarchy and the institutionalisation of knowledge production. To connect with the environment, for instance, do we need to connect with how it feels? This paper draws on works exploring both the marine environment and food, using knowledge from science, art, culture, instinct and history to create happenings and instances that break out the border of “me” and “my environment” to create an empathic response linking what we traditionally consider to be inside and outside. This will be demonstrated in the context of three artistic works – the *Coral Empathy Device*, *Vital* | *Flows* and *The Matter of the Soul*.

The future ensures destruction of the chronically overwhelmed

We are facing ecological crises on a scale that hitherto we have not experienced. Yet, despite efforts to address such systematic and catastrophic environmental problems as climate change and plastic pollution, our species is proving ineffectual at stemming the tide. Why? I argue that part of the problem stems from a blockade, an inability to act because of overwhelm - the disempowered and exhausting feeling that arises when hefty problems occur in conjunction with information overload and a dearth of tools by which to judge the correct solutions. Overwhelm not only due to the magnitude and complexity of the problems (often referred to as wicked problems),¹ from the ecological grief

¹ Wicked problems (Churchman 1967, Rittel & Webber 1973), often referred to in the field of design thinking, is a term first formulated to encompass those ill-defined problems of our time that are so interconnected that they might be considered overwhelmingly complex and difficult to solve through one intervention alone.

(Cunsolo & Ellis 2018) at the consequences of our collective actions and inactions, but also overwhelm in terms of knowing what we should and can do to effect change. This overwhelm is rooted in our desire for the whole truth (Hinton et al. 2011), our faith that there is one right answer. It arises from a crisis of knowledge; in terms of how we generate knowledge, how we bestow it with authority, and how we internalise it.

Knowing, Infinity and Nothingness

That we are in this position is perhaps not surprising: We have access now to more information than we ever before had to deal with, served up with less authority by which to judge it. We have at once the knowledge available to verify and validate, but we lack the time to scratch more than the surface.

Which prompts the question: is there a limit to what we are able to know? Damascius was the last chair-holder of the Platonic succession of the Athenian Academy, in the early 500s AD. Damascius, coined the term 'hyperignorance',² which is related poetically in *From Word to Silence*, by Raoul Mortley thus:

...referring to Plato's analogy about seeing the sun (Rep. 532A), Damascius notes that at first one sees it from afar. The closer one approaches, the less one sees of it, and in the end one sees neither it nor the other things outside it. The eye being flooded with light becomes the light itself." (Mortley, p 122).

Damascius's hyperignorance is a transcendence of the Neoplatonic concept of the One - the single principle that in Neoplatonism is considered the source of all things. Mortley describes Damascius's hyperignorance as a higher principle that goes beyond the One:

This higher principle obscures the One by its proximity. What does this mean? Seemingly that as we approach it, it floods our whole seeing apparatus with its own presence, to the extent that all else is obliterated from view. The hyperunknowable principle floods the mind's eye, so that even the One becomes an other, which disappears from view. (Mortley, p123).

² Many thanks to Mike Powell for first alerting me to Damascius and Hyperignorance by sharing with me his manuscript on Ignorance (Powell 2016)

Scholars believe that Damascius was discussing theology here, that the One transcends being, but that there is something else that transcends even the One: hyperignorance - that which is unknowable.

Günther Anders, writing in the shadow of the Second World War, in the 1950s at the time when the human race seemed on the brink of self-destruction due to the atom bomb, argued that humans make systems that are too complex for themselves to understand (Vermaas et al, 2007).³ Indeed, Damascius's hyperignorance, viewed in a contemporary light, could as easily be applied to complex systems giving rise to emergence as to a transcendent One.

But when people create systems that are too complex to know - create knowledges that are unverifiable, and create societies where differences are encouraged into pluralism - suddenly there are very few things to hold on to. Then rhetoric, lies and emotional calls to prejudice bubble to the surface - as Plato warned us - and, scared of our own freedom to determine the truth, we can choose instead to follow someone who claims to simplify, to see above the complexity - but in fact doesn't see it at all. We can see post-truth issues, and the present political situation in Europe and the US as a reaction against complexity and the ensuing overwhelm.

Better not to try than to try and get it wrong, we think. We are faced with overwhelming, wicked problems. They either affect us directly or pang at our conscience, or loom over the fate of our children and grandchildren. They seem unsolvable - by either the politicians with whom we have lost faith, or by the likes of the good-will festivals and NGOs, which cynics might see as a cash cow and the somehow or scantily informed realise are a beef stew of post-colonial repercussions seasoned with of ideological and political scotch bonnets. With trust eroded and truth undermined, how can we possibly decide what's best?

A note on Post-truth

The predominant contemporary cry, with the advent of relativism and post-modernism, is that we have reached a point of post-truth. A place where we have lost sight of the worth of our rational investigations, chasing instead empty populism and flashy rhetoric. Indeed, Ashby's Law of Requisite Variety (Ashby & Goldstein 2011), which states that 'only variety destroys variety' can be interpreted in terms of complex systems in competition.⁴ If a system we create

³ Many thanks to Dunja Christochowitz for alerting me to Anders's work

⁴ Thanks to Carl Gomblich for introducing me to this perspective.

begins to be too complex for the human brain to manage, then we must either allow it to take over; simplify it.... or become more capable of complexity ourselves. This is an alternative— to see extant, hard-won knowledge as part of a whole, augmenting it with other forms of knowledge that will lead us to a greater and more integrated, more visceral understanding.

Post-truth is a problem that cannot be reasonably ignored, due to its current popularity. But while it is current and popular, post truth is really just a symptom of our reluctance to engage with complexity - our reluctance to embrace the reality of hyperignorance.

We cannot easily solve the symptom of post-truth, but in addressing its cause we could not only make inroads into it as a symptom, but also enable ourselves to overcome overwhelm, which prompts this problematic blockade to action:

What if I get it wrong?

An expression of this in popular culture is one of the lyrics from Newton Faulkner's heartwarming "People should smile more" (2015): "I can't change the world, 'cause trying to make a difference makes it worse."

Whether to try

Yet, before this ennui set in, we had a very different perspective on things. As Jesus Jones told us back in 1993:

Get it wrong, get it right. You can try as hard as you like: There's no such thing in the world as the right decision,

Urging that:

Who to believe and who do you trust, well it might as well be you,
'cause it seems that no one else has got a clue.

Post-truth suggests that there is no truth, whereas hyperignorance states that there is a truth, but that it is unknowable. This is a much more powerful way to deal with conceptual and physical complexity. It does not ask that we stop trying to know more, it asks that we augment the knowledge we already have to get closer towards this unknowable truth.

By embracing the possibility of hyperignorance, we can embrace that we may not be able to know the right decision.

Do it anyway.⁵

Can we accept the possibility of hyperignorance and exist in a state of unknowingness? From this standpoint, we are empowered and encouraged to explore not the perfect solution, not the entirety of a problem space, but what is achievable by maximising what it is possible to know: by exploring and embracing knowledge that is hard to codify or the processes of which we are still formalising: liminal knowledge.

Reduction of complex systems into component parts is something that underpins scientific enquiry. An analogy can be drawn with one of the key questions around the acceptance of computational modelling in chemistry. One of the main points of resistance to its use in chemistry is a distrust of the validity of simplification of the complexity present in real life to a model system (Austen, 2016). In computational modelling, the model system is created by making a series of assumptions about what does and does not have significant influence on the system of interest. One of the solutions in computational modelling is to augment the knowledge from the model with knowledge from experiment, to give context to the reduction, and to understand its limits and the extent of knowledge that it produces.

More generally in our quest for knowledge we make varied assumptions but, while we are aware of them implicitly they are often not stated. This is the point of departure for my practice. What more do we need to know before we act on environmental crises? We have but a partial view on our reality - the whole of which is obscured by its proximity, as with Damacius's higher principle. How we contextualise this to gain a deeper form of knowing? Are there ways to communicate to each other these knowledges for which we currently don't have a vocabulary? Are there ways to synthesise knowledges in one person, or group of collaborators, to begin to see further?

My practice draws on multiple disciplines and approaches to investigate ways that we may bring about understanding by creating a lexicon for validity in hitherto un-codified, liminal knowledges and to place them alongside the other knowledges upon which we rely. The thematic focus of these explorations is the boundary between what we consider to be the self, and what we consider to be other(s): between 'inside' and 'outside', 'me' and 'the/my environment'. This direction runs with others working to bring together these knowledges - which we see with

⁵ This perhaps is the reason behind the emergence of the concept of a "do-ocracy", where social capital is amassed not by theorising ideal solutions or scenarios, but by acting them out. Digitally facilitated online thinktank the Edgeryders, a self-confessed do-ocracy have the motto: "who does the work, calls the shots".

the rise of interdisciplinarity practice and the emergence of interactional experts (Plaisance and Kennedy, 2014), who act as the grease in the wheels of interdisciplinary projects, over the last few decades.

Embodied knowledge: the *Coral Empathy Device*

The *Coral Empathy Device* is a synthesis of multiple knowledge and an effort to codify in a tangible, physical interface embodied knowledge as a route to the emotional self, to interrogate the boundaries between the self and other(s). Prompted by my interest in the aquatic environment and our relationship to its alien nature, the *Coral Empathy Device* is a wearable multi-sensory experience that fosters empathy and embodiment as forms of knowledge, exploring them as a technologically mediated means for connecting with the marine environment (Austen, 2017). The premise is to translate coral's experience of anthropogenic effects in their native environment of water into human-perceivable signals in humans' native environment.

For the *Coral Empathy Device*, I drew heavily on the work of contemporary phenomenologist Shogo Tanaka from Tokai University, Japan. Tanaka has done a good deal of work on intercorporeality in the human sphere - the idea that the body is a vehicle for our social cognition. As Tanaka writes:

Through these embodied interactions, intersubjective meanings are created and directly shared between the self and the other, without being mediated by mental representations (Tanaka, 2015).

Thus, it should be possible to directly affect someone's bodily experience to intentionally transmit embodied knowledge. It builds on the idea of embodiment being 'doing without representing' and personal space as an extension of the body schema, where: '...the body schema is the converting system of perception and action.' (Tanaka, 2015)

Created during a residency at NYU Shanghai Gallery and the NYU Shanghai Programme for Creativity and Innovation, the [*Coral Empathy Device*](#) is worn over the head, using principles behind speaker technologies and sound conveyance, touch and smell to create a vibrating immersion that bypasses the visual and disrupts usual modes of cognitive engagement.

In making the *Coral Empathy Device*, I began with research into sound,⁶ and microplastics.⁷ I gathered in Bergen, Norway, audio recordings of the underwater environment and some indications of marine microplastics and their effect on corals. These practices also helped fit the problematic into a framework of knowledge hierarchies that explore the multi-scale interplay between humans and their environment. Or rather— not to divorce humans from ‘the environment’ or ‘nature’, nor to imply that there is such a thing as humans having evolved beyond nature— the interplay across the continuum of human bodies and environment. This we are sensible to in many ways, but ignorant of in many others. Language creates harder boundaries than exist in reality, and while we ‘know’ much, cognitively, at the same time we do not always really know within our living body. Science has taught us much, given us many facts and hypotheses and arguments. These things are things we ‘know’ with an objective approach to ‘truth’. With the *Coral Empathy Device*, I attempt to codify the knowledge that is imprinted in the body, treating the body rather than the mind as the knowing-subject, and the body as a location where knowledge is being, and has been, inscribed throughout our human history. Precisely, the knowing subject is the minded-body or embodied-mind. The theme throughout my work is to explore and affect the experience of the minded-body / embodied-mind to interrogate the limits of the self and the depth of connection to the other, with a mind to engendering empathy as a motivator for a more conscious and conscientious care in our way of living.

Transdisciplinary Practice, Open Sourcing and Form: *Vital | Flows*

*Vital | Flows*⁸ is an extension of the methods applied to the Coral Empathy Device. It is an exploration of transdisciplinary practice as a route to more integrated relationships between the self and other(s).

⁷ Microplastics are small particles of plastic that have most often formed due to the breakdown of larger plastic pieces in the environment. These fragments, less than 5mm in diameter, have been found to be ingested by marine life, including corals, causing physical blockages and releasing harmful molecules in their bodies (eg: Hall et al, 2015). As part of Pikslo_Deep Dive, Gjino Šutić and I explored DIY chemistry techniques for isolating microplastic particles from seaweed. We have further developed this project to test for microplastics in fish intestines and to introduce co-design in understanding this problem, in our [Sushi Roulette project](#)

⁸ The development of Vital | Flows was supported by doingittogetherscience, Professor Andrea Sella, UCL Grand Challenges Small Grants scheme and the London Creative Network. Exhibitions of Flows was supported by SPACE, London and Art Science Node Berlin.

The theme of this exploration is food as an embodiment of our diffuse boundaries, of the transmutation of matter, of changing aesthetics, of social interaction, of power, accessibility, equality, agency. In this case other(s) encompass both other human beings and agents within the environment - many of which we consume.

The artwork occurs in two forms, which are different ways of exploring the placing of this approach in the world.

Vital is a performative socio-political intervention. Crucially, it augments the lexicon of artistic research methods used for *the Coral Empathy Device* and opens sources them, creating from them a participatory practice that focuses on individual and collective sense-making and discovery as a transformative experience. It is an answer to the cause of post-truth, an exploration of transdisciplinary practice as a route to more integrated relationships between the self and other. The [Vital](#) website describes all protocols and practices for participants and facilitators, and ongoing documentation.

In creating *Vital*, I have experimented with processes and consequently have undergone transformations in myself. The product of these transformations are expressed through artworks in [Flows](#). They arise as an expression, a synthesis, an outpouring, and a progression that is still in process. They are a method of processing and assimilating the knowledge discovered through multidisciplinary explorations of our relationship to food and the environment, and they exist in a self-reflective loop with the processes that produced them, *Vital*.

Food is a great unifier; the embodiment of our diffuse boundaries. To share food is to create closeness between people. To explore the agency of food is to understand non-human subjectivity. To practice DIY chemical analysis on food is to realise your own agency as a knowledge maker, and to understand the flow and transmutation of matter. To interrogate food access is to understand sociopolitics and commerce. And to design around the problems of food and nutrition is to test your own agency within these systems.

For the past two academic years, these methods have been delivered and iterated upon as an undergraduate course at [UCL Arts and Sciences BASc](#). We worked with a community of young people at Newham Sixth Form College (NewVIc) in London in a series of exploration and co-design workshops, culminating in a group exhibition of the designs.

One of the key aims of this approach is to understand how proliferation of process is differently effective at creating change than presentation of artwork. By

creating an open source artistic practice, is it possible to create a codified process of transformative engagement with multiple knowledges that propagates through society, enabling a new vocabulary for addressing wicked problems? And here again, hyperignorance is of importance in creating fertile ground in which such a transdisciplinary practice could flourish. Not only is it important in galvanising action, but also it is crucial to engendering a humility and openness to others' ideas necessary in co-learning and co-creating. As Mike Powell argues:

attitudes to knowledge and ignorance also have a big impact on the relationships which form the foundation of any collective endeavor. (Powell 2016, para 10).

He continues:

Acknowledging a shared ignorance may not remove hierarchies entirely but it offers a considerably more equitable field of engagement in which to collaborate.

Citizen and DIY science, are important for a vast array of reasons: they are important in galvanising societal change, helpful in gathering data, educational, it's been argued that they democratise science and policymaking (Delgado & Callen 2017). Furthermore, engagement of Millennials - such as the UCL undergraduates and young people with whom we worked - with citizen science is of paramount importance (as I argue in Austen et al., 2018) - they are custodians of the future, are actively engaged in similar social changes such as the sharing economy. My artistic practice is interdisciplinary, incorporating a lot of DIY science as an exploration of the ways that we as social beings generate knowledge, and to interrogate the place of the institution and the individual in this.

Co-learning and co-design are also important as enablers of creatively thinking about an issue, and for raising questions about authority and validity of knowledge. These practices overlap significantly with participatory research practices, and indeed have great resonance with the artistic research practices used in psychology research by Carless and Douglas (2016), whose research embraces the importance of embodied interaction and creativity as an expression of complex psychological realities. These processes, in fact, are a way of codifying and communicating modes of discovery of particular tacit knowledges. As Carless and Douglas write;

Some kinds of psychological knowledge and understanding, it seems to us, can only be glimpsed tangentially, through a kind of

physical-emotional sensibility. They may not be amenable to being labelled, categorised or expressed through a numeric formula, a theory or logical statement of fact... We have found that artistic forms sometimes allow us to express complex, paradoxical or ambiguous forms of knowledge, understanding or wisdom.

It is by bringing together DIY/ Citizen science with other modes of learning from other disciplines, such as art and the social sciences, that we can effect significant change— in all arenas not least my particular interest of our relation to the environment. At the start of our workshop series with NewVIC, in answer to the question ‘what’s the most important thing about food’, the unanimous answer was ‘calorie content’, and the main focus beyond this was on an ill-defined concept of nutrition. After a series of seven *Vital* workshops, employing techniques including DIY science, cultural exchange, mindful and aesthetic eating practices and foraging, significant differences were reported in terms of attitudes to food, particularly a broadening in terms of both an understanding of socio-economic and systemic factors affecting decision-making, and of a greater appreciation of the aesthetics of taste. One NewVIC student, for instance, when asked if the workshops had had an effect on their attitude to food, reported: ‘I now eat with all of my senses.’ (Austen and Gombrich, in preparation).

Parallels of Arctic melting and migration: The Matter of the Soul

The *Coral Empathy Device* aims at engendering empathy with coral under anthropogenic influence. Using as fodder the artistic research learning from previous works, methods of research and creation have been regurgitated and augmented in application to a larger and more abstract subject - that of dispersal in the Arctic. This ongoing work, [*The Matter of the Soul*](#),⁹ explores the process of dispersal from three perspectives: water, human movement and digital identity. It takes the form of musical composition, sculpture and performance.

This work necessarily addresses the global crisis of climate change, perhaps the most complex and wicked of problems we currently face. Climate change is a physical, technological and economic challenge, and one that raises questions right at the heart of our relationship with the environment in which we live. Yet providing people with more scientific information has been shown to have little effect on the degree to which people care about the climate or understand the impact of human activity.

⁹ The Matter of the Soul was initially supported by the Artist in the Arctic 2017 residency from Friends of Scott Polar Research Institute (University of Cambridge), Bonhams and One Ocean Expeditions. Its continued development is through my position as Cultural Fellow in Art and Science at the Cultural Institute, University of Leeds.

The focus of the work is to create an emotional encounter with these intrinsically interlinked processes of transformation, treating the Arctic itself as the entity with which we empathise.

The Matter of the Soul draws a parallel between a series of meta-structures comprised of, and contributing to, individual actions. First, join me in considering the meta-structure of culture. For ease, we draw the coarse distinction that cultures are diverse, and that they can often— though not always— be demarcated along extant geo-political boundaries. Culture is an emergent property of the agglomeration of distinct, individual human actions and attitudes within society. And similarly, these individual human actions are influenced by societal and cultural norms. When individuals move between cultures, they are themselves affected by the new culture; just as the new culture, which they contribute to comprising, also is affected by their appearance within it.

Think now of water. And instead of a socio-cultural and psychological perspective, let us instead employ a perspective from the physical sciences. A body of water comprises multiple water molecules - whether this body be ice or liquid. In the meta-structure of the ocean, water molecules mix in liquid form with mineral salts— and other matter. They create loose structures and are highly mobile. Each water molecule contributes to the existence and characteristics of the ocean— its pH, how fresh it is versus how salty. Individually each water molecule is itself affected by the rest of the ocean - their mobility, orientation, vibration is all affected by the meta-properties of acidity and salinity as well as physical mixing and temperature differences. The ice in the Arctic comprises water molecules that exist in crystalline forms, their vibrations and movements constrained in comparison to their cousins in the ocean.

Think now of a piece of data; an image, a sound clip, a number stored digitally. When released online, it contributes to the meta-structure of the internet. But it is also changed by the internet's meta-structure. The data artefact's context changes its meaning, its unbridled availability changes its identity, and internet users can even change its identity.

In *The Matter of the Soul*, these three parallels are drawn in a series of musical performances and sono-sculptural works. These works are composed around field audio recordings taken in the Canadian High Arctic around Baffin Island, while on board the Akademik Sergei Vavilov.

To explore the cultural | individual perspective, interviews were recorded with local residents on Baffin Island, representing those born on the island, and those

who had migrated to it in later life from both Canada and internationally. Interviews were also made with visitors to the region, both tourists and workers.

To explore the ice/ocean|water perspective, scientific equipment that measures water acidity and salinity were taken and modified using circuit bending. In so doing, it is possible to make audible, and to record, the sounds generated by the changes in voltage in the equipment when they measure these physical properties of the water. Importantly, these recordings are not directly representative of the value of the measurements, but are indicative of the value as a process of its measurement. As such, the process is not sonification of data, but rather a reflection on the process of measurement as a way of knowing, juxtaposed against the feelings evoked by listening to the raw sounds generated by circuit bending these scientific instruments. Recordings were also made using a DIY hydrophone at different depths, and traditional microphone.

The final perspective of internet|digital artefact is explored in two ways. The effect of digital communication on identity and culture in Baffin Island is a subject of discussion in interviews, particularly with residents. But the subject is also actively interrogated by the medium of the ensuing artwork.

The performance, [*concentration | The Matter of the Soul*](#), explores Arctic dispersal with a focus on the effect of dilution of diversity in themeta-structure. A soundscape of low frequency vibrations arfelt within the body as well as experienced sonically, overlaid with a musical narrative line that conveys the experience of change undergone by the arctic both in terms of ice melting and in terms of human activity - migration and movement prompted by socio-economical impulses.

A further symphonic musical work will explore the narrative of two meta-structures existing discretely, partial mixing and assimilation. These works will be delivered both as live performances and through sono-sculptural installations, and are developed based on the principles of embodiment and aesthetics used in the *Coral Empathy Device*.

The process of dispersal is emotionally loaded. In terms of physical changes to idea and water, it is a value-neutral process of transformation. Yet when viewed in the context of climate change, from our knowledge of the magnitude and irrevocability of this transformation italso incorporates a deep sense of loss. In terms of migration, dispersal forces us to question our attitudes to both tourism and migration as socio-economic factors and as causes for cultural change, as well as being contributors to climate change. The word has added meaning in the

Arctic region, where it was historically applied with negative connotations to the movement of first nation persons.¹⁰

The research behind *The Matter of the Soul* took various forms, employing scientific knowledge, hacked scientific equipment, ethnographic and journalistic research, and aesthetic research. Crucial to the work's development, however, was the lived experience of being in and being with the Arctic at a time of melting. Searching for this ephemeral feeling of dispersal with/in this fragile entity is a unique, transformative and indispensable experience that is now woven into *The Matter of the Soul* to be conveyed beyond the region's boundaries. By touching the other of the Arctic ecosystem, by assimilating the emotion arising from dispersal in the region in its multiple forms we will perhaps allow a transformation to happen ourselves.

Multiple ways of knowing: Knowing the other to know ourselves

What more do we need to know in order to act more sensitively towards our environment? And how do we need to know it? The above works explore our relationship to what we consider nature through multiple knowledges including embodied, cultural, scientific, tacit experiential and aesthetic knowledges. *Vital* focusses particularly on experience and discovery as a means to convey authority to knowledge to facilitate its internalisation, whereas *Flows* synthesises the learning from *Vital* research processes with a focus on aesthetics in the experience of food. The *Coral Empathy Device* and *The Matter of the Soul* focus more on playing with embodied knowledge and emotion as a means of touching other(s), and the empathic knowledge of other(s) that this can engender.

Through the process of generation of these works I have undergone personal transformations in how I view myself in relation to the environment, the diffuseness of my own boundaries and my connectivity to (what I still feel to be) 'outside'. The process of *Vital* has allowed for greater evaluation of its effect on others than for more traditional form artworks, and feedback shows that it is indeed transformative in terms of relationship to food. Further evaluation is needed to ascertain if this change of perspective extends beyond food into social, political or environmental considerations. The next step to understand effect of the sono-sculptural works in terms of redefining the self in the environment is in June 2018, when the *Coral Empathy Device* will be the subject of research in

¹⁰ My thanks to Michael Bravo and Liz Morris of SPRI for, respectively, anthropological and physical insights contributing to the conceptual development of *The Matter of the Soul*.

collaboration with the University of Leeds PCI¹¹ into the effect of artwork on feelings towards climate change.

I am often asked about impact when I talk about these works. I see them as an iterating process of exploring our relationship to the other(s), and to touch the world in new ways. While from the perspective of hyperignorance I will be unable to see the whole, it is my hope that by working together towards a common goal, the community of our species may surpass what is possible for individuals acting alone.

Bibliography

Ashby, WR, & Goldstein, J (2011). "Variety, constraint, and the law of requisite variety." *Emergence : Complexity and Organization*, 13 (1), pp. 190-207

Austen, K. (2016) "Theory Choice in Chemistry: Attitudes to Computer Modelling in Chemistry" in *Theory Choice in the History of Chemical Practices*, eds. Emma Tobin and Chiara Ambrosio, Springer

Austen, K. (2017) "Mediating for Climate Change: Falling Up to Hyperignorance, Diving Down to Deep Waters, to Touch Other(s) (and Ourselves)." *OAR: The Oxford Artistic and Practice Based Research Platform* Issue 2 : 69–78, <http://www.oarplatform.com/mediating-climate-change-falling-hyperignorance-div-ing-deep-waters-touch-others-ourselves/>

Austen, K et al (2018), "Citizen Science 2030: exploring the implication of the Sustainable Development Goals and the Millennial Generation", submitted to *Citizen Science: Theory and Practice*

Austen, K and Gombrich, C (in preparation) "Research-based learning and citizen science in chemistry education, a collaboration between undergraduate and school learners"

Churchman, CW (1967) 'Wicked Problems,' *Management Science*, 14 (4), pp. B-141 - B-142

Cunsolo, A. and Ellis N.R. (2018) "Ecological grief as a mental health response to climate change-related loss". *Nature Climate Change*, 8, pp. 275-281

¹¹ The forthcoming exhibition of the Coral Empathy Device for this research, at Lady Beck in Leeds, is supported by The Priestley International Centre for Climate.

Delgado, A. and Callén, B. (2017) "Do-it-yourself biology and electronic waste hacking: A politics of demonstration in precarious" *Public Understanding of Science*, 26 (2), pp.179-194

Hall, NM, Berry, KLE, Rintoul, L and Hoogenboom MO (2015) " Microplastic ingestion by scleractinian corals" *Marine Biology*, 162, pp. 725

Hinton, L, Hinton, L, Hinton D and Hinton A (2011) "Panel: Unus Mundus Transcendent truth or comforting fiction? Overwhelm and the search for meaning in a fragmented world" *Journal of Analytical Psychology*, 56, pp. 375–396

Jesus Jones (1993) *The right decision* <https://www.youtube.com/watch?v=bQh4s0k7Uqg>

Mortley, Raoul, "Chapter VII. Damascius and Hyperignorance" (1986). *From Word to Silence*, 2. e Way of Negation, Christian and Greek. Paper 8. http://epublications.bond.edu.au/word_to_silence_II/8

Powell, M. "Challenges of Ignorance" https://ikmewiki.host3.webarch.net/files/1612-Challenging_Ignorance_Pt1_V2.pdf (retrieved 31 October 2017)

Rittel, HWJ and Webber, MM, (1973) "Dilemmas in a General Theory of Planning" *Policy Sciences*, 4, pp. 155-169

Vermaas, P.E., Kroes, P., Light, A., Moore, S. *Philosophy and Design: From Engineering to Architecture*, Springer Science Business and Media, 2007