



JULIAN LANG – ECOLOGICAL DESIGN THINKING (MA) 2019

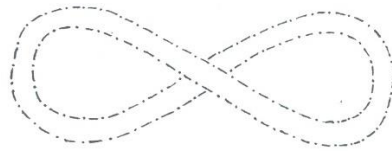
SCHUMACHER COLLEGE

ACKNOWLEDGEMENTS

I would like to extend a deep sense of gratitude to everyone who has made this past year so beautiful. To all at Schumacher College who work tirelessly in the service of others, in supporting and enabling all those around them to strive towards higher ideals of themselves and the world. To my beautiful Ecological Design Thinking family for walking this path together with love, openness and authenticity. To Mona and Roberto for being our faithful curators and for teaching me what is important, and what isn't.

Thank you to my parents for their unconditional support and love, and for encouraging me to make my own way.

There is a place for you all in my heart for eternity. I love you all.



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Where does the sky meet the earth?

I journey from here to there, following
this place into the next,
Distinct, but boundaryless.
When the sky moves, the ground follows,
With an unwavering flow of grace.
I grab at the skies with lofty ideas,
Throwing my fears, of the living and the
dead,
Past now,
Out into eternity.

Coming back to the land,
Examining the soil under my toes,
I count the finite in the infinite.
Through the senses, I feel connection,
To the divine intersection,
Of mind meeting matter.

Encountering the plants and creatures,
We reciprocate.
Neither dependent nor independent,
Though through play and appreciation,
We recognise we are,
Distinct, boundaryless,
And connected.

Where does self end and other begin?

If consciousness sleeps in rocks,
Dreams in plants and animals,
And awakens in humans through
intention,
Beauty and love span it all.

From the humble seed to the stars,
Between one moment and the next,
This thought and that one,
Mind, matter, space and form,
Beauty and love span it all.

When we slow to recognise,
The formless in the forms,
Certainty in the uncertainty,
And the permanence in the
impermanence,
Beauty and love span it all.

In the unfolding transformation of our
perceptions,
We all hold unique perspectives,
Neither right nor wrong,
But just.
When we see this,
Beauty and love is all.

METHODOLOGY

Though this project started exploring many different threads it has been a living inquiry since the beginning. It has been conducted using first-person action research methods where I have sought understanding through taking action, doing research and reflecting on lived experiences. Due to the personal nature of this project, whereby I have attempted to better understand the outer world and my emotional experiences within it, I have drawn upon the work of Judi Marshall as she highlights the importance of “linking outer and inner arcs of attention” (Marshall, 2016). I have chosen a subjective approach as it brings me closer to the truth that I seek to relate the world to.

We live in an alive world, full of beings. When we create relationships, we engage through qualities not quantities, and this is the focus I sought to explore because I believe that it is in the qualities that we become closer to reality. Therefore, I looked to work alongside and interview people that I am intimate with, to create a safer space to talk about deeper thoughts and feelings without fear of judgement. In selecting books and texts to explore, I chose authors who were inspired by the qualities of wholeness grounded in day-to-day experience. These readings informed the lens in which I view life through and were a great assistance in the unfolding of the project.

INTRODUCTION

At the most basic level, this project is an unfolding exploration into inner (personal) and outer (manifest) wholeness. Much like life itself is a continual journey, the writings here do not conclude with the answers to the questions I have of life, and in my lifetime the answers will likely never be found as the questions, and my perceptions will evolve with time and lived experience. Therefore, the conclusions drawn throughout this project mark landmarks on a journey that started before and will continue well past these pages.

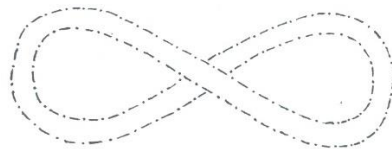
This has been a living enquiry, spurred on by my deepest conscious insecurities, the developing understanding of the personal and collective stories of separation that we tell ourselves, and the significance and insignificance of it all. Throughout this project, I have attempted to live these questions, trying best to understand them in myself to find solutions that can be of value and in service to others. This work is an attempt to make sense of the internal and external worlds of human life at this current time on Earth and to explore and interrogate the boundaries of where they meet.

Due to the personal nature of this enquiry, it is written in an autobiographical style. It is worth noting that the reflections made here are likely to be over-analytical due to the nature of my current thinking or over-thinking and are subjective to my current mental state and worldview. Which is to say that my perceptions may not be in alignment with yours, and indeed it is not my intention for them to be. The reflections are shared as a way to deepen my knowledge of the world from the inside out and in a way, are to ask you to do the same. It is not my intention for this work to be a moral judgement of humanity, or of others, but as a way of developing my thinking and understanding closer to where I need to be able to be of better service to life around me. It is through these reflections that I draw upon concepts and make connections

between different fields of study. To bring more voices into the conversation, I am drawing on the views of several inspirational people whose work I have read and admired.

This journey started off in many directions, seemingly at times leading to nowhere in particular, but be known to myself lead my thinking closer to where I needed to be and deep down what was most important in my heart. This project serves in equal parts as a personal manifesto, and as the birth of a praxis that will continue to evolve throughout my life. The making of this project was in line with what Tim Ingold calls a morphogenetic approach, where I tried to find the grain of the world's becoming and follow its course while bending it to follow my evolving purpose (Ingold, 2010). This unfolding approach followed the grain of my inner life as I made sense of my immediate outer life, as well as the collective manifest experience of western culture and global society, and where and how each of these spheres influences us and interact with one another. Instead of making through thinking, this project is an attempt at thinking through making, an unfolding of inner being into reality.

We are products of our environments, living lives conditioned by our experiences and societal conditioning. In the modern western world, capitalism has a firm grip on our lives. Everywhere we turn, consumerism and materialism are there, reinforcing the economic ideas of unlimited growth that the current system is based upon, which in turn, enmeshes these values into our psyche. Growing up in this world, these values were passed onto me, and I grew up viewing material success as being more important than internal wellbeing, as many people do. As my awareness grew of my inner world, a dissonance grew with the material world as I became aware that the inner and outer were no longer aligned. I was left living a split-level existence, half in my mind and half in the world. It was as if the world was pulling me apart and little did I know that this was only based on my perception, and the conditioned lens that I viewed the world through developed to serve a system much larger than myself. This system, however, was not the whole of life, but a conceptual economic one.



IN SEARCH OF NEW WAYS OF DOING, BEING AND BECOMING

ECOLOGICAL CRISIS AND SUSTAINABLE DESIGN

Humanity has overshoot various planetary boundaries (Rockström et al, 2009) which has now evidently shown that human actions and behaviours have significantly destabilised global climate patterns and that the planet is on a trajectory to increase global average temperatures by 3°C (IPCC, 2018). To mitigate these increases and the disastrous effects humanity requires urgent, large scale changes from both governments and individuals to avoid civilisational collapse. To return to a safe operating space within these planetary boundaries and to establish the socio-economic foundations to meet human needs is now a human survival priority (Raworth, 2017). We have pushed our species, as well as many others, to the brink of extinction by creating problems that were beyond the scope of our limited view.

Human society has chased progress based on an exclusively quantities-focussed science which has informed civilisation to measure success as growth through insufficient economic indicators such as Gross Domestic Product. This has informed and enhanced technology to pursue ever more growth and, in the process, cause ever more destruction and suffering. In the process of chasing quantities, we have externalised the costs which has lead to the destruction of human communities, ecosystems and the biosphere qualitatively. We have a particular way of looking at the world, will it be able to save us?

Sustainable design as a field has reached a plateau: sustainability isn't as sustainable as it claims to be. It has become a buzzword to justify and disguise a new wave of consumerism that is slightly less harmful than its predecessor, but more socially acceptable (Thackara, 2015). The newly awakened awareness of plastic waste has entered the consciousness of most of the world, where a shift in consumers' desires has started to bring into being small bottom-up changes. However a move to recycle or use other 'sustainable' or 'green' materials and methods of manufacture serves to stimulate further wasteful consumption through a dangerously liberated consumer conscience (Chapman, 2005, p. 170), whereby the difference that people think they are making is on the surface level (i.e. a reusable plastic bag), and this is enough for them to feel good about their actions and not look any deeper into the matter (i.e. the contents of the plastic bag – food grown in an ecologically and socially destructive manner). These small changes operate in the superficial realm of the ego, and for there to be real changes to the various crises we face, then these changes need to happen at a deeper level within us. Sustainable design fails in attending to the root causes of the problems we face; instead, it focuses on creating solutions to the compounded problems that have emerged from our already careless and wasteful existence. Systemically, this only reduces harm in the smallest way possible allowing rampant consumerism to continue brewing destructive economic, social, political and spiritual problems at the cost of our only home.

A symptomatic way of addressing these issues is at its heart an anthropocentric approach, where we disregard ecosystem, bioregion and planetary health with little care for life on the

planet. We need to question whether this approach of sustainable design is to sustain life on the earth or just the planets economic viability.

Einstein is commonly known to have said, (although a direct source and its context is unknown) “we cannot solve our problems with the same level of thinking we used when we created them.” These words have inspired me in seeking solutions to the reasons why we are living the way we do. To understand why our thinking is restricting our abilities to make the changes necessary to ensure that we move as a species towards ensuring that all species thrive and that we return to our natural ecological niche within our planetary home, and in doing so find our true natures. In reflection, I have come to understand that moving towards new ways of thinking is a prolonged and tricky ordeal due to the resilience and seduction of our existing wickedly complex ways of collective thinking that is supported by modern global economic systems of governance. Due to the pressures from culture, it is almost as if our thinking is locked into a groove that is hard to get out of, and seemingly when we may think we have got out of our conditioned thinking, in reality, we haven't.

The intense pace of capitalism and the immediate desire for more has conditioned us with a mentality to look at the most proximate and quickly addressed solutions. In doing so, we miss the opportunity to make an impact on a deeper level, and the result is that our solutions aren't as effective as they need to be. Maybe what we are designing for is entirely wrong? I think we have to shift our focus from the extrinsic quantities focus that is dominated by western thinking and economical ways of living, to a focus on the more inherent qualities of what it means to be human. For that, I can only look into myself.

With the current profusion of crisis in the world, I am sure I can make a difference somewhere, yet I have an insecurity about where I can contribute my energy in a way that will be able to make a genuine impact and that tackle the deep-set problems. Every human ‘thing’ in the manifest external human world has had to come from the inner world of individual humans, and in that vein, does the outer world reflect our internal worlds collectively? This thought has lead me inwards in a manner to find my own personal truth, to understand and empathise with my own conditionings and to understand how I can act based on my own judgements and values without getting pulled to the polarities and entrapments in thinking that the modern world conditions us with.

For us to collectively live in a state of love and goodwill opposed to fear, we need to be empowered by endless possibility and imagination, and for this to happen we need a shift in our collective thinking. It is through previous design that our worldviews have manifested and shaped our perceptions; our values, needs and intentions (Wahl, 2016), and it is through our current design actions that we form the world to come. Donella meadows suggested that the most effective place to intervene in a system is at the paradigm level. Paradigms are the source from which the system grows and is based on the underlying worldview, which is the “shared social agreements about the nature of reality” (Meadows, 2009, p. 163). In an individual, a shift in paradigm can take seconds through revelation or a new understanding, however, in a society “they resist challenges to their paradigms harder than they resist anything else” (Meadows, 2009, p. 164). If there is to be the rapid change that is required to avoid further crises, the change on a global level needs to start with individuals, and that includes me.

SEPARATION AND INDIVIDUALITY

We have become disconnected from ourselves, each other and the natural world that supports us. Our human-nature has been separated, and our true-nature; that which makes us feel most alive and human, has been removed from our lives and replaced with an existence that supports economic and social ideals. This split of the self as separate from the mind of nature, what Bateson calls the ‘ecology of mind’ (Bateson, 2000) creates an us-vs-them mentality, from then which competition, control and domination grow as a way of being and controlling the world. In this severing from nature, it is no coincidence that mental and physical dis-ease has become widespread (Fineberg, et al., 2013). Health is an emergent property of the nested complex systems that we inhabit (Wahl, 2019), and therefore the toxicity that we create at a personal level spans through the scales eventually impacting the global system. If we can heal this fragmented worldview, will this offer an authentic resolution that ripples waves of healing into our being and out into the complexity of our lives?



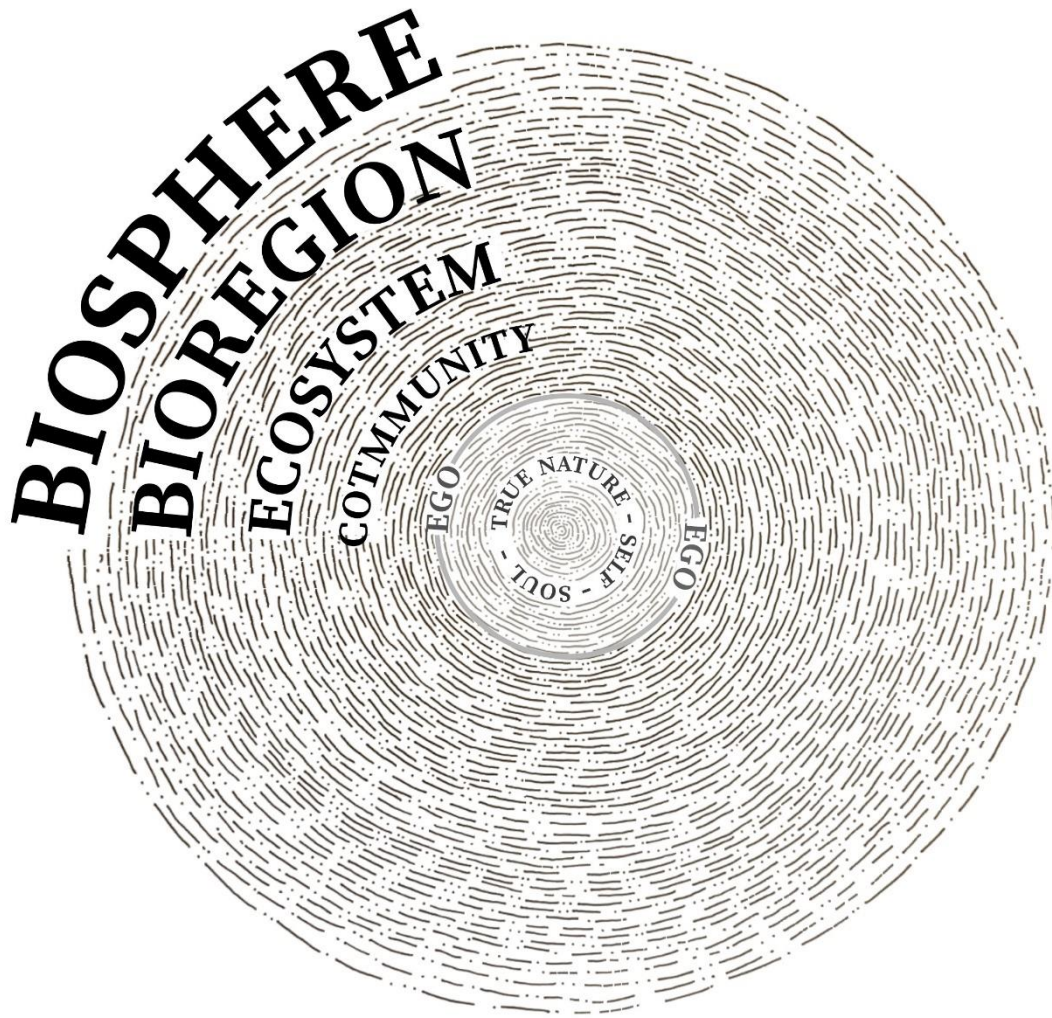
COMMONLY UNDERSTOOD DUALITIES THAT RESTRICT HOLISTIC UNDERSTANDING

17th Century philosopher, Rene Descartes separated content from context, as well as the individual human psyche from a de-sacralised nature (Hutchins, 2014). In doing so, he helped in setting up wide-spread dualism and the fragmenting splits that followed through western thought, forming our dominant worldview. In the years since then, our collective thinking has had a “restrictive effect on our logic and perspective, deeply affecting our culture, science, language, governance and philosophy” (Hutchins, 2014). We have made meaning through a quantified understanding of the world through science and reason. In doing so, nature has been made an object to be measured and, in the process, we have become subjects; mentally separated from nature and our true selves. The hypothetical model of rationalism has become our adopted way of perceiving and attending to the world, and this is due to science believing its hypothesis as the ultimate absolute truth (Hutchins, 2014). Separative thinking is widespread as it is incredibly productive. By separating the wholeness of life into ever smaller parts, we gain a greater understanding of them through analysis and measurement, allowing us to compartmentalise knowledge efficiently so that we can better harness its applications for science and technology. Paradoxically the same perception that is responsible for the advancement of human knowledge and progress is responsible for the rapid unravelling of modern human civilisation – the conflict, division and fragmentation between people and the planet as we no longer see the whole in the parts.

A shift in our thinking and relating with all that exists and that doesn't exist is required. When we learn from nature, instead of about nature, we develop a sense of reverence for her. Life becomes no longer an object, and we are no longer a subject. In this shift, we move away from this dualism by removing the conceptual boundary that separates us and move back to understanding phenomena and ourselves within context. I see this process being of great importance so that humans once again connect to the web of life and in doing so, develop a renewed reverence and compassion for all life. Not only is this important so that we can quantitatively meet our collective needs, considering our visible material and sustenance needs, but the more qualitative needs. E.O Wilson's hypothesis of Biophilia, meaning the love for life, suggests that we depend on nature for the deeper human needs of "aesthetic, intellectual, cognitive and even spiritual meaning and satisfaction." (Wilson, 1993, p. 20). This could not be more obvious to me, and it is of these qualitative needs and connection to the rest of the web of life that gives me authentic meaning, and in moments of deep connection, I feel in alignment with my true-nature.

Dualism has removed us from understanding our problems within their immediate context and our emotional capacities to connect and empathise with them. For example, in the rapidly growing palm oil industry, deforestation is occurring worldwide to make way for plantations leaving humanitarian and ecological crisis in its wake. Palm oil is found in both food and cosmetics and is proven to harm DNA and cause cancer. Palm oil-based biofuels have three times the climate impact as fossil fuels and the entire palm oil industry was temporarily responsible for more greenhouse gas emissions than the whole United States in 2015 (Rainforest-Rescue, 2019). I put this example here to illustrate how desensitised humanity has become to the unjust suffering that humans are causing through this monoculture of rationalist thinking. Collectively we have become disconnected from our sensuous bodies and intuitive hearts, and in facing crises, we don't recognise them, or we freeze and become paralysed by fear (Ojala, 2019).

From birth, we become subject to dualistic conditioning from our experiences and environment. This becomes unconscious and why and what our deepest desires and aspirations are, and how these affect us, is not always clear. It is often hard to determine how the factors outside of ourselves determine our outlook and viewpoint as the different personal, cultural and universal layers of information and embedded values are often confused. What we see externally changes as these factors change, however, the intrinsic qualities, the most profound qualities of what it means to be alive, do not.



SHOWING THE DIFFERENT SPHERES THAT CONSCIOUSLY AND UNCONSCIOUSLY INFLUENCE US, AND THAT WE INFLUENCE THROUGH OUR ACTIONS

Creating good or helpful solutions to the issues we face through the lens of habitual separative consciousness cannot be effective as these actions work to reinforce the separative habits and patterns, which in turn increase the chaos of disconnection. To understand actual reality, we need to understand wholeness before the separation of opposites and our conditioned experiences. Luckily, this underlies all of creation, and it is only the misguided perception of the conditioned ego working in its self-interest that is stopping us from perceiving it. Once we recognise the whole, we can act and adjust our behaviour in service of it and all of life instead of ourselves, for in truth we are one and the same. What is required is an integral change within us to practice wholeness through recognising that separation isn't truth, and then for our actions to ripple out through the interconnected web of life in favour of the greater whole.



THE DYNAMIC PLAY BETWEEN COMPLEMENTARY 'OPPOSITES' IS WHOLENESS

I believe it is of great importance that we focus working on the boundary between the ego and the 'self', our true nature, through the process of Self-realisation. Carl Jung called 'Self' the human manifestation of the World Soul (Stevens, 1994). In this age of the individual, where the dominant way of operating is from the ego, it is no wonder that we view everything in the outer world as being separate from us. By working on ourselves to uncover our true natures, the boundary between the ego and the Self becomes more permeable, which in turn allows the boundary between the inner and outer worlds to become more permeable too, as we soon start to realise our interconnection to all of life. As spiritual teacher, Eckhart Tolle says, "You are not IN the universe, you ARE the universe, an intrinsic part of it. Ultimately you are not a person, but a focal point where the universe is becoming conscious of itself." (Tolle, 2006). I believe that in this light, we can manifest in the outer world the intrinsic qualities of love, equality, interdependence, freedom and beauty. In this global age, we are becoming ever more connected through technology to the rest of the human world, and with that, our understanding of life's complexities and the importance of interdependence. However, there is still a lag in our consciousness, and our ego is too narrow to comprehend this.

To truly understand the importance of our interbeing with the web of life, we require an opening of the mind, heart and will. Otto Scharmer says that when we go through this process "we go through a profound shift from ego to eco. We begin to see a situation not only from our own point of view, but also from the viewpoint of all the other players in our eco-systems." (Scharmer, 2018). When this shift happens, we start to see the content within the context and make meaning of the world through a planetary consciousness. However, the conditioning of our minds runs deep and to recognise this, we will have to do it in ways that do not use the conditioned rational mind.

What is required is a new story of the union and reunion within the web of life. When nations are separated by religions, ideologies and competition, they go to war. When there is acceptance of diversity and cooperation, there is mutual respect and peace. When individuals are broken, divided and fragmented, fear and distrust take power over our hearts, pushing us further away from one another, making us mentally and physically unwell. What will it take for us to become

whole again? When we realise that we are all inextricably connected to each other and the world around us, united in love and compassion, we can work to heal ourselves. We become healed when we move towards wholeness, and from there, we live in favour of all of life. It is only from the inside out that we can heal ourselves, communities, cultures and world.

SEPARATION THROUGH ARCHITECTURE

The environments we occupy shape us as much as we shape them. The ways that we place, design and occupy our buildings in towns and cities is not based on our true natures. Instead, it is by the economic system which prioritises profits of human life and fulfilment. Much like trees, tower blocks designed like cabinet files, rise ever higher in cities competing for daylight as urban planners race to maximise the number of people in any given metre. In the pursuit of unlimited growth and the profits to get us there, we have mass-produced the spaces in the same vein, with most being lifeless boxes best suited for storing mechanistic bodies and their accompanying stuff in. No animal makes rectangular nests and nor do the geometries match our bodies, yet these dead spaces are what we must live our lives in. To bring life into these spaces requires the purchasing of stuff, and lots of it, which all come with their own accumulating ecological cost. Rectangular spaces are both "a product of, and a fuel for materialistic culture" (Day, 2014, p. 34) which makes it a significant contribution towards GDP at the cost of the human spirit.

Contemporary architecture and modern buildings reflect little to no understanding of their connection to ecological processes and are separated from place. Due to the choices of materials and design ideas, "most tell its users that energy is cheap and abundant and can be squandered. Most are provisioned with materials and water and dispose of their wastes in ways that tell its occupants that we are not part of the larger web of life. Most resonate with no part of our biology, evolutionary experience, or aesthetic sensibilities" (Orr, 1999). Through occupying a built environment that is by large offered to us by an economic system that rationalises the needs for profit over planetary health, we are born into an urban environment of disconnection.

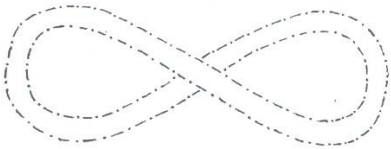
Our homes and buildings float, seemingly separated from any union with the web of life, and the parts that interact with larger systems are hidden from our immediate consciousness. Out of sight and out of mind is mostly responsible for the harm being caused to the planet. If we had to clean our faeces out of drinking water, we certainly wouldn't put it there in the first place. If we knew of the existence of toxic, cancer-causing volatile organic compounds off-gassing in our paints and carpets, we wouldn't use them. If we could see the carbon emissions in the creation of cement, we would object its use. Where the hidden effects of the construction industry meet ecosystems, ripples of harm move and compound through local, regional and planetary scales. The creation of homes and buildings has been hijacked by big industry in favour of unjust and inequitable profits. In doing so, the quality of human and planetary health has been sold without our permission. Through the externalisation of costs, our awareness of reality has become externalised too.

The illusion of separation inhabits our minds through our conditioning from birth and starts with the places closest to us; our families, communities and education. But how much do the physical spaces around us affect us? Environment affects us in many subtle ways through our senses and at many levels. Generally, the deeper the level, the more powerful the influence, but

less likely we are to notice it (Day, 2014). Through moving into the interior of a building we move from the outside form that is only part of our surroundings into the internal space, and in doing so, the inner parts become our whole multi-sensory experience. The very subtle unconscious ideals, values and forms of profiteering and efficiency are unconsciously built into the fabric of our lives. It is therefore essential that we create spaces more consciously so that they work to connect us with nature and our true nature, rather than the economic ideals that separate us. Therefore, these spaces do more to heal than harm our psyche. When we create conditions conducive to our inner lives, naturally what manifests in our outer lives is in alignment with them.



A PLACE I'VE FELT WHOLE IN. DHARMALAYA INSTITUTE FOR COMPASSIONATE LIVING.
ARCHITECT - DIDI CONTRACTOR



THINKING WITH MY HANDS

The Terrapin – Wendell Berry

*The terrapin and his house are one.
Though he may go, he's never gone.
He's housed within, from nose to toe:
A door, a floor, and no window.*

*There's little room; the light is dim;
His furniture is only him.*

*He sits alone, says naught aloud;
Where no guest comes, a thought's a shout.*

*He pokes along; he's in no haste;
He has no map and no suitcase;*

*He has no worries, and no woes,
For where he is is where he goes.*

*Ponder this wonder under his dome.
Who, wandering, is always home.*

(Berry, 2014)

AN ALMOST UNEXPECTED DESIRE TO MAKE

Returning home to live with my parents at the start of the dissertation period marked the beginning of my transition away from community life at Schumacher and a return to normal life. This return *back* home presented me with many insightful opportunities revealing many layers of my unconscious childhood conditioning and how this affected my ways of thinking, being and relating to the world. I felt a growing dissonance between who I wanted to be and the influences from the place I was living in. There was increasing resistance to where I was presently, both geographically and internally, which in turn shifted the focus of my thoughts towards the future post-dissertation where I was becoming fixated with what I wanted to do with my life. My value system was out of alignment with the unconscious consumerism and materialism that I could sense around me, and my courage to stand confident on my own was shrinking as the offerings and seductions of the system were too plenty. This future-oriented thinking severed me from the present moment, causing an increase in anxiety and the uncertainty internally that I felt lead me feeling a lack of belonging to the place and people I grew up with.

This period was filled with an increased sense of self and a diminished sense of other due to the pain and confusion I felt living in a way that was challenging and not in alignment with my desires and values. During this period, my ego sneakily gained strength in a way to find solutions to a problem of its own creation in the world around me. Through this, I sensed a rift in

separation in my own true nature, ironically through the judgement of separation in others. This was momentarily remedied by spending vast amounts of time amongst the growing bluebells in the beautiful forests of the High Weald, wherein the presence of many beautiful flowers, trees and animals being in their own true-being. Here I remembered that I needed to be who I was, not who I wanted to be or what society wanted me to be.

During this time at home, while in a very divergent and exploratory phase of this project, I had an insatiable desire and calling to work with my hands. I started to work on converting my van into a campervan, a home on wheels that would enable me to be wherever I wanted.

The desire for this freedom was born out of the calling to live a life that granted me the spaciousness to follow my interests, to travel, work and learn from a diversity of people and places without having substantial financial commitments binding me to a specific location. It would be a tool to follow my dreams and pursue the projects my heart was called to at a moments notice, the ones that would seem unfeasible if I was renting, and working a regular job. This desire to live only with minimal possessions and to maximise lived experience is as much a spiritual desire as it is material, with fewer things and a smaller footprint there would be more opportunity to live a more ecologically conscious low impact life in a way that enabled me to become an expression of my being.

I have always enjoyed making things due to the sense of peace I find in the process of using my hands and the warming, lasting sense of accomplishment received from bringing something into creation that seemed to slowly fade over hours. Based on my architectural background and interests, mainly in objection to contemporary architecture and favouring natural architecture and vernacular traditions due to the level of craftsmanship and connection to place, I am mostly drawn to the making of natural buildings and spaces. My hands have been familiar with various tools since a child and having worked on multiple building sites since my early twenties, a reciprocity of comfort has developed between tools and my fingers. I am by no means a qualified craftsperson but able enough in my skillset to give anything a go, and as my skill set has improved so too has my understanding of materials and construction methods, enabling me to understand the built environment with a more delicate measure of understanding. Richard Sennett outlines craftsmanship as "an enduring, basic human impulse, the desire to do a job well for its own sake" (Sennett, 2008). To take the skills embodied in my being and to create something of form at the best of my pre-existing ability with the possibility of refining and bettering myself in the process, brings me great satisfaction. Knowing the efforts that I put into the making could potentially reflect into me.

WHY MAKING?

I am called towards making as I am drawn into immediate reality, away from the distractions of the mind and into engagement with the world. I believe making is an innate human desire, one that removes the boundaries between mind and body. Since graduating in my undergraduate studies in architecture 5 years ago, I have always been called to further my learning through making, as opposed to designing in an office. Part of this was due to only having a conceptual understanding of the construction industry, which made me feel insecure in my grounding of chosen field. Once I started working with my hands, I felt free from the world of concepts, and I felt enlivened from spending vast amounts of time outdoors using my body. It felt natural, and like something that I was meant to be doing on a human level. Soon a familiarity started to

develop within myself, the tools and the materials, and I desired to learn more. I travelled to the Indian Himalayas to work at Dharmalaya, an institute for Compassionate Living. Where, as an intern architect, I continued to learn and build.

Dharmalaya is nestled on the mountainside, a forty-minute walk up from the nearest town. Here we worked mostly on-site, working with our hands with adobe (mud bricks), stone, bamboo, timber and clay plasters. Many of the materials could be found on-site or from local towns, so we developed a very intimate relationship with them; handling and processing them from their raw materials. We dug, processed and mixed the earth on site selecting it from specific areas based on their qualities of plasticity, texture and colour. We harvested bamboo and smoked them in kilns by burning a local weed which released a fragrance that repelled insects and woodborers, naturally increasing the longevity of the material, and we felled and processed timber from the site.

I learned a great deal from master masons and carpenters through spending vast amounts of time with them. However, our relationships stood outside of the usual apprentice-master relations as we could only communicate in very basic English and Hindi, which in the beginning was a barrier that was bridged through earning their respect through persistence and hard work. The majority of how I learnt was through subtle observation and where necessary, my technique would be improved through demonstration and gesture. Learning in this manner, I paid more careful attention to how these craftspeople lived and worked, their relationships to themselves and to their worlds. I was deeply moved by the reverence that they had for their tools, materials and craft. At the first use of their tools at the start of the workday, they would gently lift and press them to their lowered foreheads, in a bow of respect. When working, no tools would be left in materials; no shovels in the earth or saws in timber out of respect for the materials and land. When it came to break-time, everyone, and the tools would take a break. This included the string lines that were pulled taught for marking out brick courses being relaxed. This mutual respect was not offered solely for their tools but extended out towards their co-workers, displaying a deep kinship that I have never seen on British worksites. These daily rituals and way of attending have been handed down from a thread of village craftsmen through generations, whose ways of working and being in the world was seemingly untouched by the heavy hands of capitalism, consumerism and materialism. The attitudes and outlooks these craftsmen had of life were spiritual; the grace in which they made their movements and used their bodies was as conscious as their breathing, which made their work effortless and a joy to watch. The boundaries between their work and life were thin and seemingly non-existent, which provided a personal inspiration for how I wanted to attend to the world. Warm memories of learning and practising these ways alongside these men and women always be with me.

DESIGNING AND MAKING WITH WHOLENESS IN MIND

I had the desire to create a space that would have qualities of wholeness subtly embedded in the design, to slowly reflect into my being as I inhabited the space in a way to support me in living a life of my highest potential. For this, I would need to go through the process of putting life into a small geometrically dead volume. I would be designing a life-renewing space to the brief of my soul, the intrinsic qualities embedded deep within me. Alexander reinforced this idea by sharing in *The Timeless Ways of Building* that, “to the extent that buildings are alive, they let

our inner forces loose, and, set us free; but when they are dead they keep us locked in inner conflict.” I was challenged to convert the raw space into a place that was to become a home to dream in; to dream into the possibilities of the future, of myself and of the world. Michael Pollan shares this notion, and says in *A Place of my Own*, that “daydreaming is likely where we go to cultivate the self, without daydreams the self is likely to shrink down to the size and shape of the estimation of others” (Pollan, 1997, p. 7). The brief was set high, and to breathe life into this void of a car would be a challenge like no other.



THE DYNAMIC PLAY BETWEEN COMPLEMENTARY 'OPPOSITES' IS WHOLENESS

Having been fascinated by Christopher Alexander's work and deep understanding of wholeness in architecture, I wanted to draw on his work to consciously bring these elements into the space. The problem that stood was that this quality of wholeness is not graspable with the thinking mind, and in his words, it is the central "quality which is the root criterion of life and spirit in a man, a town, a building, or wilderness. This quality is objective and precise, but it cannot be named (Alexander, 1979). This very subtle quality of life that emerges greater than the sum of its parts that cannot be named was what I was after. The key to allowing this quality to emerge was to include as many living patterns within the space as possible (Alexander, 1979). It is through the relationships between these patterns whether they originate in; biology, physical forces, pure geometry, or colour that would manifest the quality with no name and in doing so bring the presence of harmony and life into space (Alexander, 2002). For this quality to emerge into this space would require a sensitive approach in the making and designing of the space. This quality that cannot rationally be known, but can only be experienced through the senses would require an intuitive approach, and to train my awareness to this I sensed I would need to relinquish the majority of the designing from the thinking mind and to hand power to the intuitive mind. For this learning experiment, I would design and make simultaneously by making, improvising and reflecting at the same time until the point was reached where I deemed it to be finished.

By the form being dictated by the size and shape of the van, the interior space was already predefined, roughly 2.4m long, 1.5m wide and 1.4 tall. The volume certainly wasn't cuboid; corners and edges were rounded, and the walls angled inwards ever so slightly. It wasn't much space at all, but plenty enough to get all the functions I needed with some clever design and

would be a real test to see how much space is really required to live comfortably in. After insulating the floor, walls and ceiling, there were to be 3 main components to the design to consider: storage for clothes; a double bed; and further storage for water, an extra car battery and inverter to allow for mains power, a fridge and a desk. From the offset, I had a rough idea of what I wanted to do but decided to leave the details to improvisation. The bed was the only fixed dimension required, and everything else could be built based on the space left over, so this as best suited to become the datum; the points from which everything else could be built off. To lay out the bed required measuring out and placing a rectangular shape into an irregular form, which was the cause of many lines being drawn and redrawn as I sought to make life easier for my future self when it came to making the other parts. Little did I know this did not matter as the side walls were slightly off parallel and it would be challenging anyway. At this moment I realised that it wasn't going to be as simple as I had first thought and hoped and that many angles needed to be cut to get things to fit well. At least this extra work would be accompanied by the satisfaction of doing things well for the sake of it.



MATERIALITY

From the offset, I wanted to create a space that was as natural and as environmentally friendly as possible for my own personal health and the planets. As with any build, there will be some level of harm created for the environment that is unavoidable, and when it comes to buildings, it is the building that has not yet been built that is the most sustainable. With that in mind, what entailed was an interrogation of my ideals and values to see where and how I could make the lowest possible impact while still meeting my objective. Another unavoidable restraint was the

budget which was on a shoestring. This meant that I would be looking to upcycle and reuse as many materials as possible and somewhere along the line, I would have to compromise on quality or finish. Due to the small volume of space, it was paramount that I used as many natural materials as possible and avoided synthetic and chemically-laden ones to ensure high air quality. Sick building syndrome, a sickness from poor indoor air quality is becoming widespread due to the number of toxic pollutants releasing from the production of synthetic materials and products (Pearson, 2000). The most commonly available materials from builders' merchants are likely to contain toxic substances as the harms are not widely known or tightly regulated yet, but better (not perfect) materials are available with some persisting. The effects on human health are known for individual toxins, but there is only limited research on the impacts of toxin combinations (McDonough & Braungart, 2002). That being said, I was not willing to be a test subject, so I did my best to source materials that I was comfortable with using. Unfortunately, due to the unaffordability of the natural insulations suitable for a van, I had to choose a synthetic one. In the end, I chose recycled glass mineral wool due to it being formaldehyde-free and being made from recycled material, however, at the cost of it being a high embodied material. To clad this with I chose to use a 4mm plywood due to the ease of use and is lightweight. This too was formaldehyde-free. The majority of the timber I used for framing the cupboards and bed was 44mm planed softwood that was already in the van, and when I needed more, it was easy to find from responsible sources. For the majority of the cabinetry doors, I used pallet wood, which took plenty of work to restore so that it would look good enough for the van. I used two methods, the first was simply by planing the edges and then sanding to clean them up. The second method made use of power tools; first passing the planks through a thicknesser so that each piece of wood was uniform in thickness and planed smooth, then using a router to make grooves in the edges so that they could take a flat wooden biscuit which would be inserted into them to create a joint between the two butted pieces of wood. They were then glued, clamped and sanded. This process renewed the wood, making them look as if they were straight from the mill and with machine perfection. Despite this finish being smoother, it lacked the rustic-ness of the first method and was more timely due to the many steps. The skills required were detached from the materials as there was an analytical requirement to calibrate the power tools. The heavy machinery shaped the wood through the sheer forces of power to a precision beyond the eye. The finished cabinet doors were still very satisfying to complete, yet felt like a shallow victory, much like tracing a drawing instead of sketching it.



From this point onwards, I decided to keep the use of power tools to a minimum. Even the time saved in sawing hundreds of pieces of wood using a powered mitre saw was not worth the satisfaction I received from doing it by hand. By using a hand saw I was able to keep a coherent flow through my actions, with all my senses being attuned to my bodily movements opposed to the piercing squeal of a spinning steel-toothed blade ripping through the wood while dulling my sensuous body-mind connection in the process. As the design of the space was evolutionary and not bound to particular methods, from this point onwards, I favoured a slower pace whereby how I worked became the priority.

THINKING THROUGH THE HANDS

There is an embodied knowledge that lies within the skills of a craftsperson that cannot be recorded through words in a manner that successfully honours the time spent experientially learning through the senses. It is the knowledge that flows through the entire body; the neurons, nerves and muscles through the hands as it joins and communes with materials and tools. It is through this process of thinking with our hands and working that the material subtly reveals itself and begins to work with us. It is on the surface of the material, that is continually changing, where knowledge freely exchanges with the environment (Ingold - Thinking Through Making, 2013).

It is through the handling of materials that we understand what they are. The rational mind does not decide the properties of their attributes and then place those onto them, it is through the senses that we understand their individual beingness of what they are and how they handle. It is through this present moment intuitive knowing that we learn and understand the grain structures of wood. We can measure and objectify the characteristics and make blanket judgements for individual species, however this knowledge doesn't fit the uniqueness of the piece of wood that is in your hands, that is unique to the story of its life, the context where it grew, climate and its relations with insects, animals, microbes and fungi. Ingold says craftsmen do not impose form on matter but in a sense finds the grain of things, enters the grain and then bends the grain to his or her evolving purpose (Ingold, 2010). Through making I found that it is in this joining of myself and the material through my hands and senses, that the voices of judgement, cynicism and fear cease as the ego quietens and the boundaries between my inner and outer realms momentarily dissolve. In this space, the dominance of the rational mind and cartesian thinking recede, making space to experience the underlying calmness and joy from simply being. However, the continual dance between making and designing was challenged between the present and the future as new insights and ideas arose while making. This newfound knowledge in this state of quietness leads to separation from the present as the rational mind reflected on insight and started to plan. These moments were signified by me looking up from what I was doing and seemingly staring into space within the van; integrating the knowledge from my hands and imagining new possibilities. It is here where I began to understand when Ingold said, "the art of the maker is to keep his or her eyes trained on the far horizon while still engaged in the labours of the approximate." (Ingold - Thinking Through Making, 2013). Both designing and making are about the creation of form, and for me the challenge is to not lose myself in the process of doing, to not become uprooted from my inner being and become stressed through the ego prioritising the world of form, action and outcome. The challenge that arose was to bring balance between being and doing within the making and designing.



THE DYNAMIC PLAY BETWEEN COMPLEMENTARY 'OPPOSITES' IS WHOLENESS

Within these states of flow and presence awareness of the forms, textures and inherent qualities of the materials arose, and the conditions of life within them was slowly revealed to me. Where possible, I started to prototype in real-time by moving materials around in space, seeing if relationships were being created between parts and sensing into whether the quality with no name was emerging in the whole. The new addition of a material or object was decided subjectively, whether I intuitively felt within myself a sense of wholeness was being created or not, and to what degree. This was based on Alexander's theory where "the life of a thing, building or system, depends on the extent to which centre's in this thing cohere and help each other." (Alexander, 2002, p. 144). It was through real-time prototyping, where I began to understand how the relationships between objects in space were being formed and whether a sense of aliveness was emerging or not. Through Alexander's observation in wholeness in the forms and spaces of the natural world, he found out that fifteen fundamental properties create wholeness that can be applied to designing and making (Alexander, 2002, pp. 144-295). By testing out the use of some of these properties in the design, I hoped to gain a better-embodied understanding of wholeness by bringing life into space. This process started off slowly at first, but as each new component or thing was added there would exponentially be more new relationships.

By using natural materials instead of synthetic materials, I intuit that the sense of aliveness was inherent in the materials, which meant there was less of an emphasis required on the design of the shapes and forms within the space to make it feel whole. The use of timber throughout appealed to me due to the warmth it would bring to the space. The ever-changing details in the grains of wood echo through the space bringing a subtle stimulation to the senses. The difference with sameness in the grains calms the senses without deadening them, nourishing them and in turn, the soul.

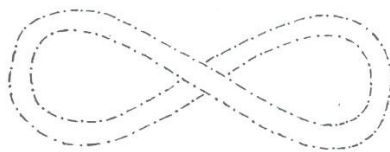


THE USE OF SIMILAR MATERIALS GIVES CONTINUITY. SIMPLE SHAPES WITH SLIGHTLY UNUSUAL PROPORTIONS GIVE A SENSE OF INNER CALM. THE USE OF ALTERNATING REPETITION, LOCAL SYMMETRIES, AND DIFFERENT LEVELS OF SCALE ALL ADD UP TO A SENSE OF WHOLENESS (Alexander, 2002).

A HEARTFELT OUTCOME

The van was decidedly finished in its current iteration when all the desired functions were fulfilled, and the moment it felt like home. The van no longer felt like a space but had become a place of deep comfort to dwell and be in harmony with myself and all of life. I had created a place where I feel I truly belong, where I can retreat to, and that nourishes my spirit and soul. The nomadic way of living that is made possible by living in a van enables the possibility of living a life with deeper spiritual contact to plants, animals, fellow humans, the earth and to the heavens. Living in the van while travelling in Europe offered many of these opportunities daily as I sought to park in wild places. Living in this manner close to the mysteries of life is beautifully life-affirming, healing and renewing. I received deep satisfaction that lasted for days after finishing the van and realising one of my dreams in life. Having dreamt it and dreamt in it, I wondered about how the space I shaped would continue to shape me.

At a time where I was getting in the way of myself, where my ego was grasping futureward and muddying my perceptions, I discovered great healing in the making. I found joys and meaning in creating and designing and through the times of attuned presence, the facades of the ego dissolved and connection to Self grew. In these moments, I found acceptance within myself and was able to see clearly what was worrying me, and the importance and unimportance of it all. This offered valuable course correction in my thinking and brought happiness and appreciation back into my life. To make and design in an unfolding improvisatory manner was very fulfilling as it allowed me to implement new knowledge quickly, and while being attuned to the present made the outcome insignificant.



IN SEARCH OF THE HEART

“Beauty itself is a painful convulsion in the heart, an abundance of vitality in the soul, and a mad chase undertaken by the spirit until it encounters the heavens.” ~Naguib Mahfouz (Lane, 2003)

Almost anytime I am in the process of making, I notice an increase in my wellbeing. Alexander said that when he makes something of wholeness or life, he becomes more alive in the making of it, which I agree entirely with (Alexander, 2004, p. 263). It was through realising this that excited me to explore a little deeper to understand why this happened and to see the potential that making could have for self-realisation and individuation, the process of becoming whole through allowing our unconscious to become conscious (Laurie & Tucker, 1993).

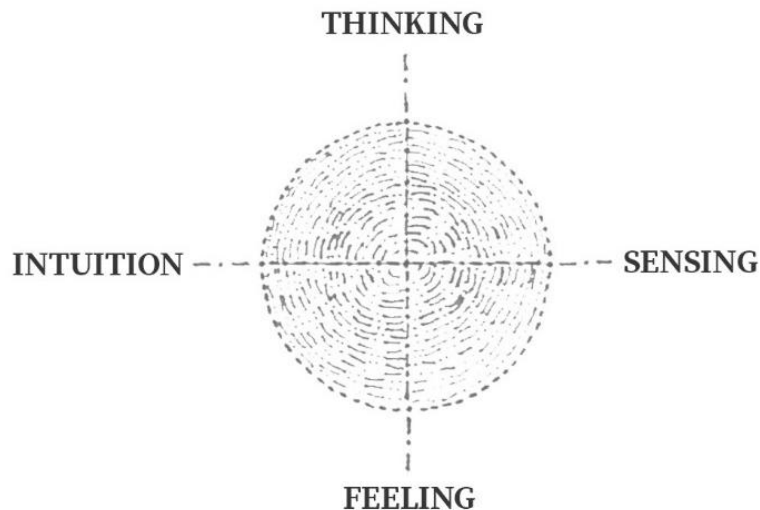
WHOLENESS THROUGH FEELING

Jung came up with the four ways of knowing, sometimes called the four ego functions, which are responsible for how we make sense of the world (Laurie & Tucker, 1993). These are as follows:

Thinking	Is a reflective function where we use our intellect to rationalise, connect ideas and arrive at general understanding. It is associated with the head.
Feeling	Is the interpretation of things at a value level through rational judgement, and answers the question, how do I feel about it? It is associated with the heart.
Sensing	Is how we make sense of the world through conscious sensory perception relating to the world through physical stimuli.
Intuiting	Is an unconscious perception that isn't based on physical stimuli. It is more like a hunch. Like sensing, it is an understanding that is irrational, meaning it happens directly with consciousness as opposed to arising through mental activity.

Interpreted from (Hall & Nordby, 1973, p. 98)

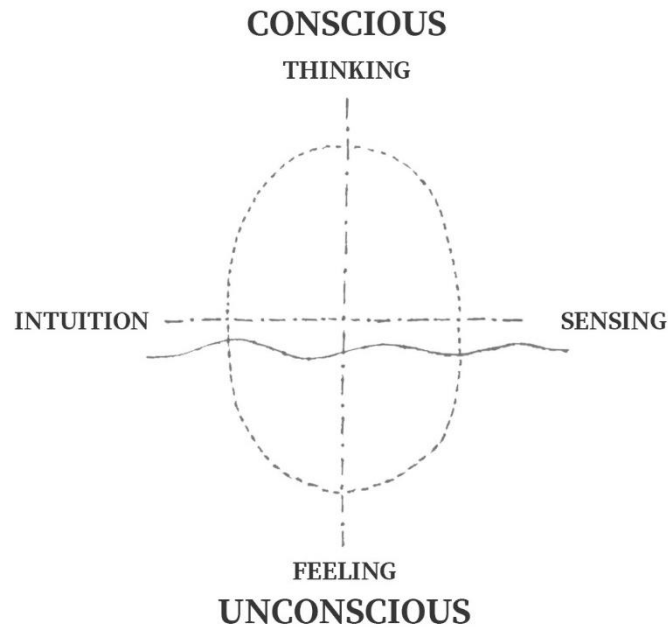
Jung said that we orient ourselves to the world through all these functions but become dominant in one more than the others as we learn and react to the world in our psychological development (Laurie & Tucker, 1993). Based on the Jungian Mandala, our dominant function is well developed in our consciousness and directly opposite lies the undeveloped function in the unconscious. The goal of individuation is to return to wholeness and create a balance between the dominant and inferior functions. At this point, a person is said to be able to draw on each and all ways of knowing.



JUNG'S FOUR WAYS OF KNOWING IN HARMONY REPRESENTING WHOLENESS

The importance of an individual to work on returning to wholeness is important as the inferior function can break out of the unconscious and start to master the personality (Laurie & Tucker, 1993, p. 167). As the repressed aspects of the personality rise to the surface, they can be harmful to the individual and lead to the development of mental illnesses. It is important to note here that Jung's conclusions were made over seventy years ago, and though these ideas are recognised by many, this is the voice of one man. That being said, I can relate my own subjective experiences in the world to these particular findings. Within myself, I have recognised that my dominant is thinking (head) and therefore, my inferior is feeling (heart). At times when I am most unbalanced, this is noticeable where my mind tries to rationalise and control everything in existence, which leads to unimportant over-rationalising and anxiety. In these times, I have a heightened sense of ego through the grasping to rational ideas and concepts. I lose touch with the world around me and become cold to my feelings, feel and seem closed hearted and un-empathic to myself and to others. This state is not my true nature.

If our collective outer worlds are manifestations of our inner worlds, then we need to pay great attention to the internal aspects that are unconscious. As we have seen in chapter one, western thought has been greatly influenced by the illusion of separation, that has been dominated by quantitative rational science, logic and reasoning. In an individual, these qualities are commonly understood to be of the dominant thinking way of knowing, and whilst acknowledging each individual is entirely different and Jung's view is only one of many, I am suggesting that western thought has influenced the majority of the western population to relate and make sense of the world in this manner. This leaves a void of feeling in the world, and the importance of recognising the intrinsic values of being human has been taken out of the picture. We can see this in the world where greed dominates empathy and compassion, the sense of self is more significant than other, and human more valued than separated nature.



JUNG'S FOUR WAYS OF KNOWING AS I THINK THEY MANIFEST IN MYSELF, AND WESTERN SOCIETY

MAKING A CASE FOR THE HEART

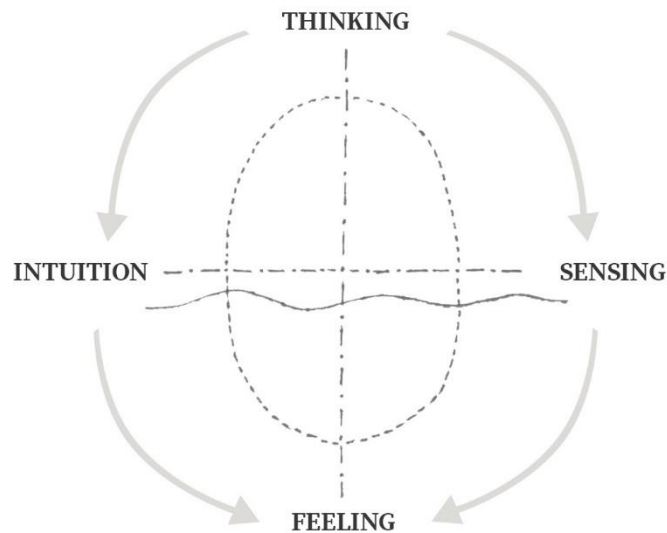
There are different physical and emotional definitions of the heart due to the separation of the mind and body in modern medicine; where the stresses and thoughts of the mind have been split from their effects in the physical body (Martin, 1999). The heart can be understood as a multichambered muscular organ that pumps oxygenated blood around the body, or by its more spiritual or philosophical understanding based on its perceptive qualities. Indigenous people attest to receiving their ancient wisdom from their hearts, and many sages and philosophers throughout history encourage us to listen to ours. (Hutchins, 2014). It is in our language, we say that she spoke from the heart, or he gave her heart to the project. The word courage is derived from the Latin word for heart, *cor*, and old French *corage* meaning the seat of emotions (Online Etymology Dictionary, 2019). The qualities of heart; love, compassion, courage, and strength tend to resonate with most people as they encompass the intrinsic qualities of what it means to be human. (Martin, 1999, p. 6).

The HeartMath Institute has been undertaking scientific research into where the non-physical and physical hearts meet, and in doing so, the meeting of science and spirituality. They have found that intelligence and intuition are heightened when we learn to listen more deeply to our hearts and that the positive emotions of happiness, appreciation, compassion, care and love improve hormonal balance and immune system response. Sixty to sixty-five percent of all the cells in the heart are neural cells and make up the 'brain in the heart,' which connects directly to the body's nervous system, gut and brain (Martin, 1999, p. 23) (Buhner, 2004). The heart has the largest magnetic field of all organs, making it the biggest biological oscillator in the human body. Entrainment is the phenomena that causes pendulums that are swinging out of sync to synchronise with the most powerful rhythm. In the body, when we feel appreciation or love, the rest of the bodies systems can be pulled into entrainment with the hearts rhythms, which leads

to increased clarity and a greater sense of wellbeing. (Martin, 1999, p. 38). This state is called coherence, and when our bodies are in this state virtually no energy is wasted, we thrive mentally, emotionally and physically. The net effects of internal coherence lead to less stress as the body spends less time maintaining health and consumes less energy on inefficient thoughts and reactions. Conversely, when we are in a state of incoherence, our body is stressed leading to our heart rhythms and nervous system becoming desynchronised which diminishes our capacity to perform and live a quality life (Martin, 1999, pp. 18-19).

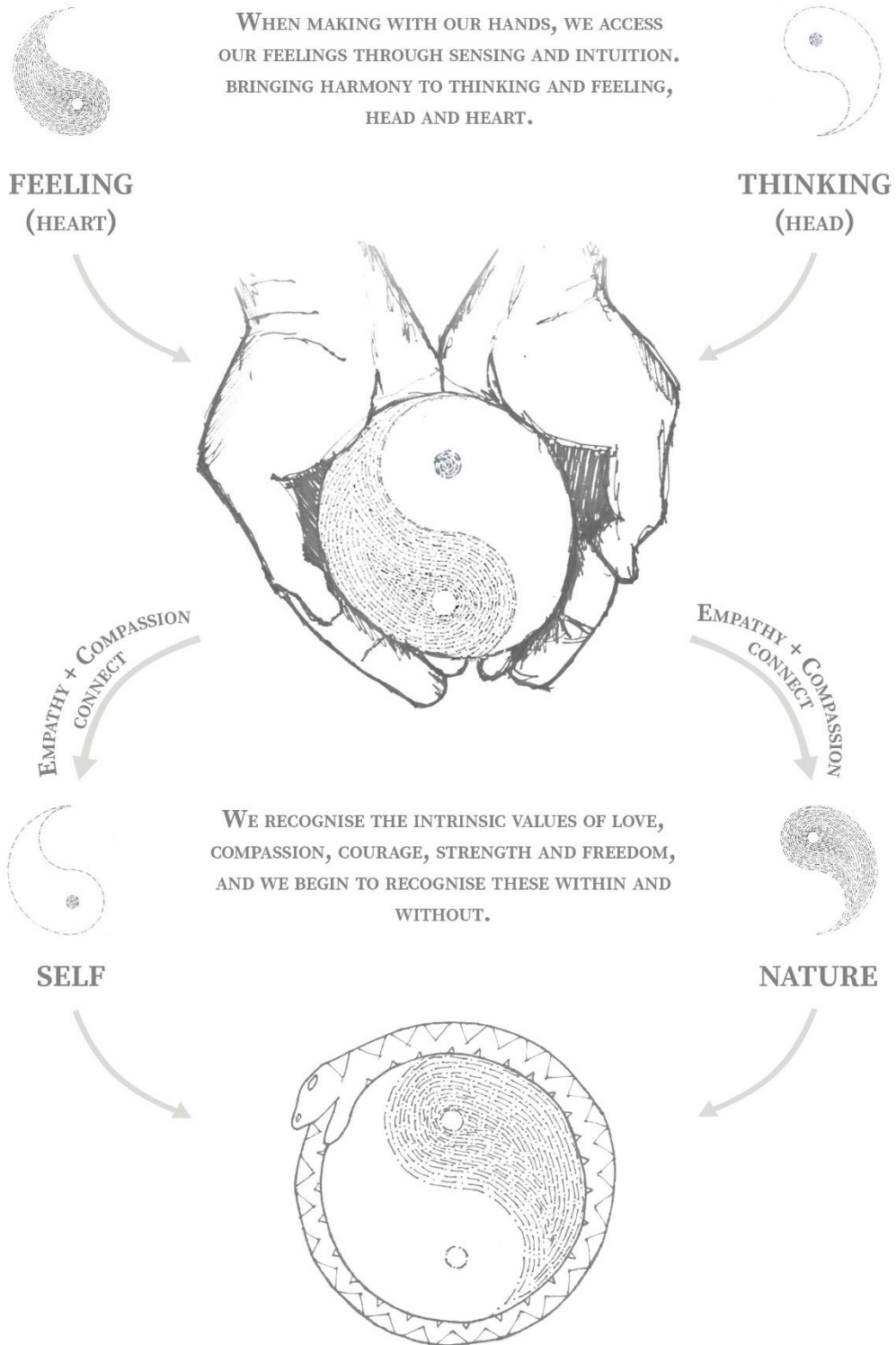
When we are in a state of coherence, a harmony develops between the brain and the little brain in the heart, and we access our intuition in a way that bypasses the rational thinking mind and the ego. What I found through making was that my mind quietened through the engagement with repetitive tasks like sanding and sawing. Throughout this process and slowly at first, the grasping of my doubts and fears subsided. In this spaciousness, I was able to connect to my feelings about the issues of mind with less ego. Here I was able to make better-informed value judgements about the things that were concerning me, feeling how I really felt and not what I thought I should feel or what someone else says I should feel. From this place of clarity, I was able to discern the importance of what was at hand and take the appropriate action without ruminating on options. I deem this way of relating to myself to be closer to my true-nature, free from the confusion of the ego.

To access the largely unconscious inferior function, Jung said it is much easier to access it through the other two functions. To access feeling from thinking you need to move through sensing or intuiting (Hillman & Franz, 2015). In understanding this, I know see in my own experience how making is a great path to feeling.



USING THE SIDE FUNCTIONS AS A WAY TO ACCESS THE INFERIOR FUNCTION

BIRTH OF A PRAXIS



WHEN MAKING WITH OUR HANDS, WE ACCESS OUR FEELINGS THROUGH SENSING AND INTUITION. BRINGING HARMONY TO THINKING AND FEELING, HEAD AND HEART.

WE RECOGNISE THE INTRINSIC VALUES OF LOVE, COMPASSION, COURAGE, STRENGTH AND FREEDOM, AND WE BEGIN TO RECOGNISE THESE WITHIN AND WITHOUT.

EMPATHY CONNECTS US TO THE NATURAL WORLD WHERE WE RECOGNISE THE VALUES WITHIN US ARE PRESENT IN ALL OF LIFE, AND THE BOUNDARIES BETWEEN HUMAN AND NATURE BECOME PERMEABLE.

TESTING THROUGH MAKING

To test these ideas, I sought a simple craft that used natural materials and relied upon repetitive motions while still engaging the senses. The Japanese art of Hikaru Dorodango, meaning shiny mud dumplings seemed well suited, as it is slow, meditative and conscious. To practice this, artform requires any soil and no special tools. It can be practised almost anywhere and by anyone. It is predominantly a children's game, and its origins have been traced to a school playground in Kyoto, Japan. A Dorodango is to the eye, a perfectly round ball that is shiny beyond belief and can be easily mistaken for a glass marble or crystal rock. The basic technique can be taught in a couple of minutes, but it is only through the hands and with time that you really learn what you are doing. The basic technique is as follows:

DORODANGO INSTRUCTIONS

1. Dig some dry earth that is free from topsoil and living matter. Any will do, but through trial and error, you will start to learn what soils are best suited based on the feel and soil texture (ratio of silt, clay, sand and stones).
2. Break any large clumps into smaller pieces using hands, sticks, spades etc.
3. Sieve the soil using a gardener's riddle to remove large stones.
4. Separate half of this earth and sieve the fine dust out using a fine kitchen sieve.
5. With the earth from step 3 mix the earth with your hands by breaking it apart and pressing it together again. Slowly add small amounts of water if necessary until it is all a similar consistency.
6. Start to shape the lump of mud into a sphere using your hands.
7. Start making the outer shell of the Dorodango by first wetting it and then rolling it in the dry dirt from step 4. Continue to shape it for about thirty minutes with your hands until it is round and dry.
8. Rest the Dorodango for twenty minutes in a plastic bag so that the moisture in the centre has a chance to come to the surface.
9. Now by using the end of a jar with a round aperture, start to gently shape the ball into a perfect sphere by moving it around.
10. If there are small holes first wet the area and then fill them with a slightly wet layer of fine clay, let it dry for a minute or so and then and continue to shape using the jar.
11. Repeat until desired shine is reached.



The first Dorodango I made was the toughest as I had received little instruction, was distracted and couldn't understand why it was not shining. It seemed like I had been trying to make the mud shine for the best part of the day before it did. In the beginning, I jumped between different techniques I thought were working every few minutes. With a desire for the outcome, I became frustrated by the perpetual dullness of the ball, and instead of it shining, it was slowly eroding and shrinking. This was an error not only in technique but of presence. Occasionally I would lose focus ever so slightly, and I would end up chipping it with the jar or scratching it with my nails. What had happened was what I was doing had become more important than how I was doing it, and through being focused on the outcome I had lost connection to my inner rootedness, and the internal stress was manifesting outward in the clay. It was at this point when I realised, I needed a break from the making and to return with a renewed perspective to enjoy the process. Through re-centring myself, I was able to approach the making from a place of simply being and participate in the process that required being simple. It was in this state of active meditation that I was able to feel and see the frustrations I had been holding onto since the morning, accepting and making peace with them. Through the process engaging with the materials and myself more lightly and playfully, a lustre started to surface on the ball, which then grew and spread around. In these short moments the normal clay became something I cared about and through the shine, its personality was slowly revealed to me. There was so much joy in the process that I could have continued forever. The slow, repetitive movements that were required, expended much less energy than the force I was initially putting in. When I was completely present, I moved effortlessly, paradoxically without friction, working with the clay in the way it required, instead of trying to control it.



Over a few weeks, I continued to make Dorodango's. I would be so engrossed in enjoyment or fun when playing Dorodango that every time I looked up, the tide in the Dart would be at a different height, rising or retreating as time floated by. When making in the forest, the single-pointed focus towards my hands would suddenly expand as the tree canopy and shrubs came into reflection on the transforming shining clay surface. At this moment my sense of self would radiate out beyond the reach of my eyes as the world beyond came into my senses, and for a few

moments I would feel an intense connection to my surroundings as if the forest was perceiving itself through me. In relaxing into the making, I would feel deep, restful satisfaction and joy. Making in this way allows our bodies and minds to reverberate with what is being made in a continual flow between the inner and outer world of consciousness. When we become perceptive of this, what David Abrams calls the 'reciprocity of the sensuous' (Abrams, 1997, p. 49), we begin to realise that consciousness is not in our bodies, but that we are, as well as everything we experience, flowing in consciousness. In recognising this, our egos become porous, and the sense of self as separate from nature diminishes. In making Dorodango's with presence and focus, I have experienced connection to the web of life and what feels to be my right place in it, as the separations of subject-object and human-nature fall away. By allowing presence to flow through my being and through my hands, it is almost as if I was participating in the transformation of the clay, allowing beauty to emerge as a product of the play between presence and earth. Through a supple firmness in my hands and heart, it was as if the Dorodango was revealing itself before my eyes and unfolding into a pointlessly meaningful object.

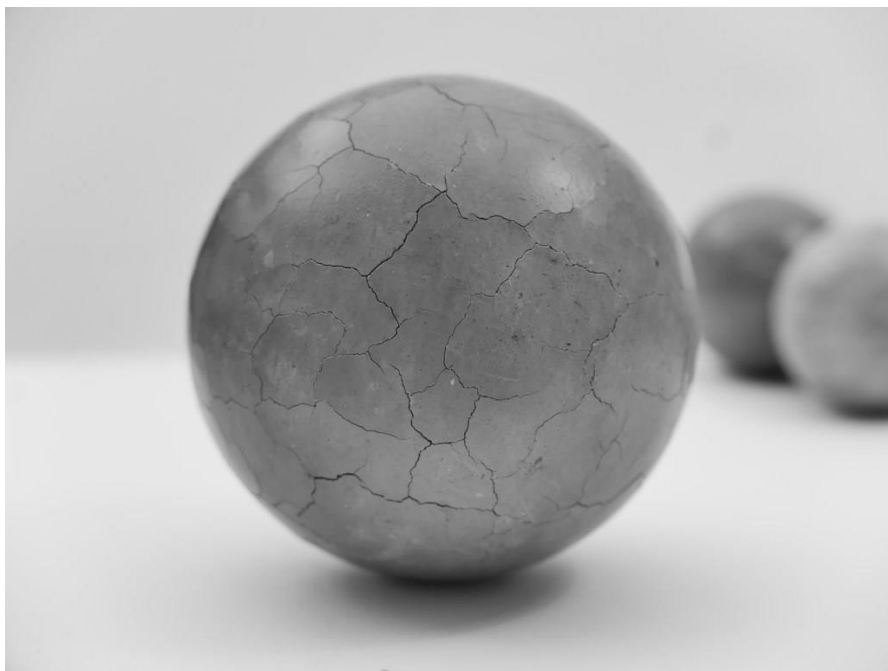


DIFFERENCE WITH SAMENESS, MUD BEING DIFFERENTLY

Beauty, like wholeness, is something that I haven't been able to fully grasp with reason. With the rational mind, I cannot make sense of why beauty exists or analyse the finer details of what makes something beautiful, and like the other mysteries in life, trying to make sense of it detracts from its raw experience and enjoyment. Through the irrational faculties of sensing and intuiting we begin to make sense of beauty through the present moment experience of its being.

From this, we can form value judgements and deem what is beautiful. In modern western civilisation, beauty is no longer the driver for creation, and the instinct to create beautiful things has been replaced by the desire to make a profit. John Lane writes that we only need to look around to see that "the toxin of ugliness has invaded our souls... and the wound inflicted is more grievous, it destroys the physical environment in which culture orders its meanings" (Timeless Beauty pg16). The neglect for beauty is breaking the connection between the intrinsic qualities of being a natural human and how we relate from this place with the world. For me, the life of the whole human, living from the heart is to be both the dancer and dance of beauty, to play our part in the natural world through appreciating the natural beauty in all creation around us and to allow it to flow within and through us into the things we make and interact with. In slowing to the world, we become awed by the beauty unspoken in the most delicate details of creation, the undefinable wonder that is present in all of life. In regaining our sense of this timeless quality, there is hope for the future. Like James Hillman said, the environmental crisis may well be a crisis of aesthetics (Lane, 2003, p. 149).

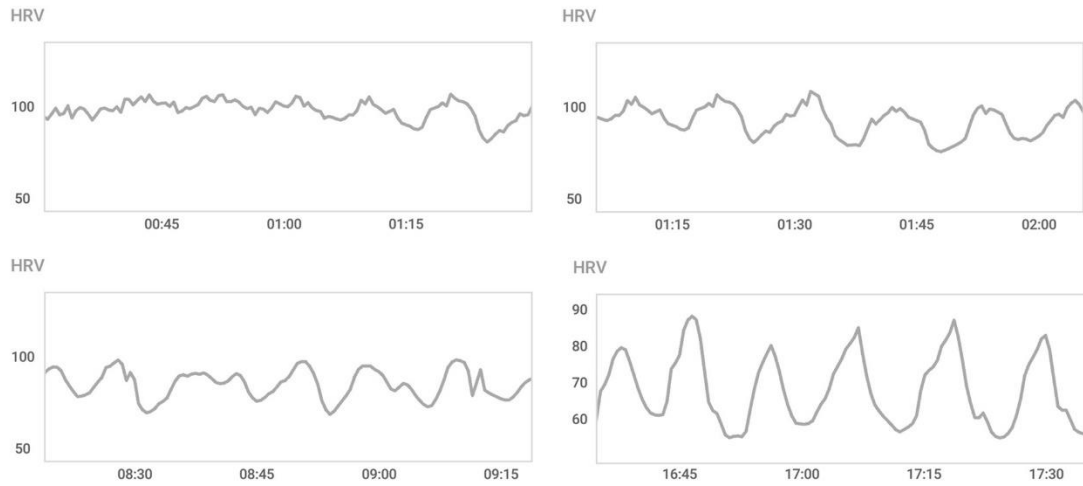
After witnessing the death of my grandfather at his bedside, I had become humbled in realising birth and death are just two moments in the continuing circle of life. His passing was beautiful, and I am glad I got to spend time with him before his passing and with my family. The days before and after were stressful, but we moved through the grief together. I sought making as a way of therapy, to calm the mind and reflect on my grandfather's life and my own. I found a lot of immediate relief in making Dorodango's, which helped in grounding the experience. In quiet contemplation, I was able to let everything settle in, and to really feel into my emotions, accept them and learn from them. In experiencing death up close for the first time in my life, I was really moved by it and began to accept death, not just conceptually, but in my entire being. I came to realise that we are always in the process of dying, where in death the self that we think we are ceases to exist. Yet paradoxically for the underlying Self that we are, there is no death, just continual life. Making allowed me to move past the thinking mind and into direct experience in body and heart. When order suddenly turns to chaos, I see immense value in making to keep the contents of our minds within the context of life.



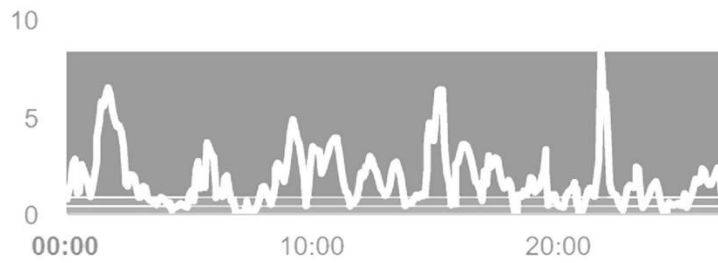
Heart math has created a device that measures the variations in heart rhythms using a sensor, and the data is translated into visual feedback on an app indicating whether you are in a state of coherence or not. The device measures heart rate variability, the milliseconds of difference between beats in our wild hearts. These patterns have been scientifically proven to reflect our inner state. I had an inclination that when I was making and in entering a flow state that I would enter into this state of coherence. When in a state of coherence our bodies are in a state of healing, opposed to being incoherent which is likened to being in the fight or flight response, where our bodies expend energy to stay alert. Modern living is tough and puts a lot of stress on people, it is estimated in the UK that one in six people experience a mental health problem each week (McManus, et al., 2016). In modern western living, we are not taught how to live from the heart and being chronic thinkers, we are away from our hearts and often out of coherence.

Below are graphs with data recorded using the HeartMath Inner Balance heart rate monitor while I was making Dorodangos with conscious presence. The graphs reflect my inner state. Where the graphs for heart rate variability are jagged, this signifies stress, frustration or anxiety. In this particular case I was anxious and very irritable. When the rhythm is smoother they represent renewing feelings of appreciation, care, love and compassion (Martin, 1999). The data indicates that over time my heart rhythms relaxed, and in the process, I moved into attentive coherence. Due to my state of mind, at first it was hard for me to consciously keep my awareness on what I was doing and my mind would quickly wander. The heart rate monitor is very accurate as you can see by looking at the graph showing coherence over time. The amount of coherence that we are in is constantly changing as we are working and can change quite dramatically as we react to things around us. Due to this I have only included this one graph out of many tests as the others were similar, indicating increased coherence over time when making. To what degree, why and how, is research I'd like to do, but beyond the scope of this project.

Over the past few weeks I have tried different active meditation techniques while making. This includes focusing my awareness on my breath, into my body, into my senses; touch, sight, and sound, and around my heart. Each technique had a different quality, some were all absorbing, and others more passive. Of the techniques, I found directing my awareness into my senses the most enjoyable, and easiest to keep focused while working. I found it almost immediately calming the mind. I see vast potential for further research into different techniques that can be used, and easily taught to anyone who uses their bodies while working.

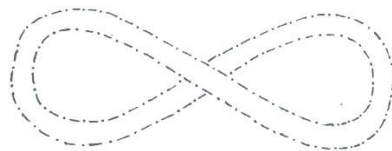


HEART RATE VARIABILITY



COHERENCE

A TYPICAL MAKING SESSION WHILE USING THE HEARTMATH INNER BALANCE HEART RATE MONITOR



THE MAKING OF OURSELVES WITH OTHERS

Making as a way of connecting to yourself is one thing when you are alone, but how does it work with other people? Humans are social beings and crafts developed in communities to meet our collective needs, so it is only natural to work with others. Working in collaboration enables the sharing of ideas and skills and allows individuals to work on something more complicated than they could by themselves while enjoying the rewards offered by community spirit. I am interested in seeing how making with others affects us, and if there are still therapeutic and healing benefits.

DORODANGO WORKSHOP

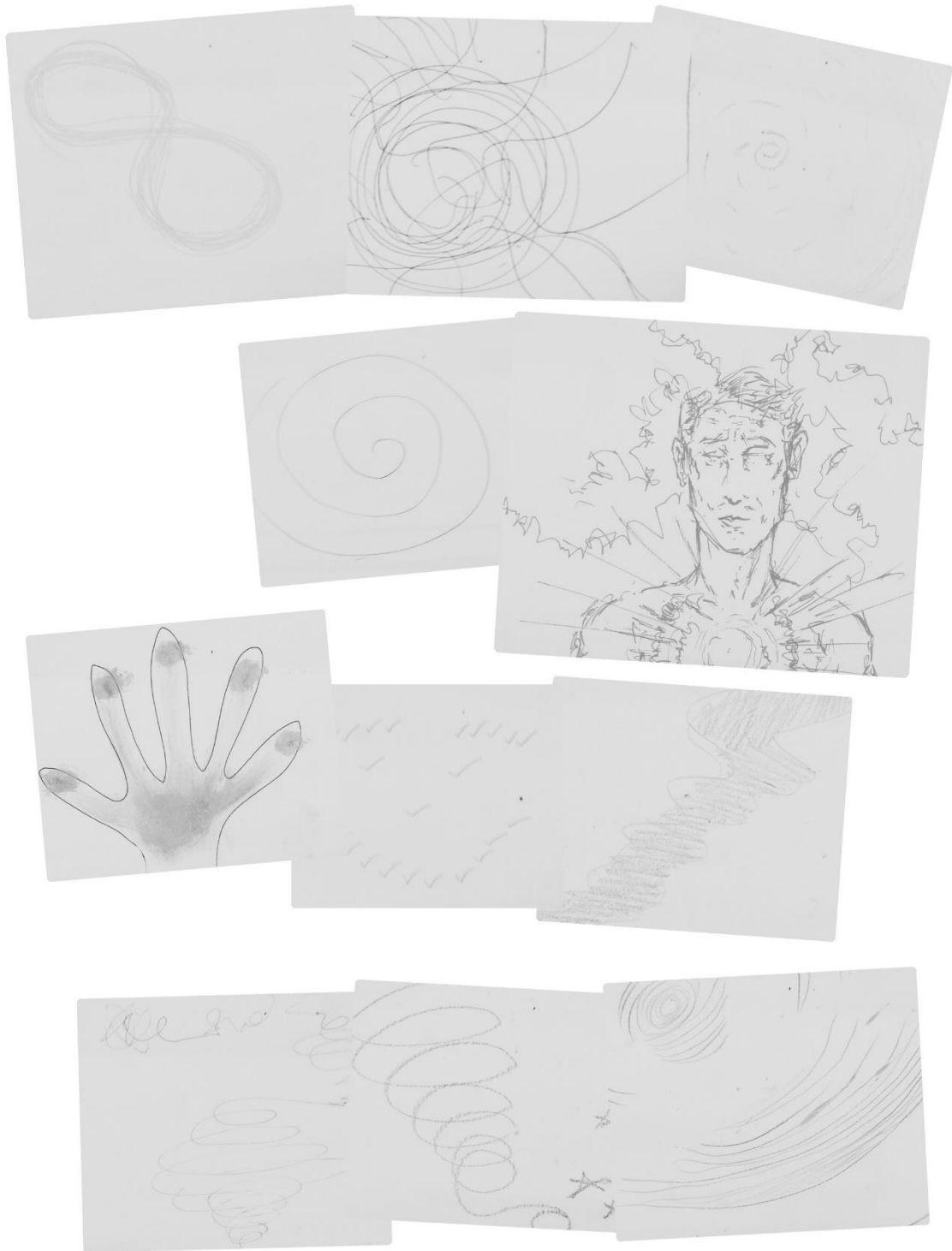
To test the praxis that is set out above I organised a Dorodango making workshop for other masters students and a few volunteers. As it was raining the workshop was conducted indoors in the chicken shed. There were thirteen participants in attendance, and it was meant to run for two hours, but due to everyone's interest, it overran an hour. The goal of the workshop was that everyone would be able to work the Dorodango until it shined and to take it home to continue working it if they wanted. The workshop was held two weeks before the submission deadline, and most of the participants were feeling stressed as they had been spending most of their time writing in front of their laptops. It was my intention for this session to be fun, restful and therapeutic. To make things easier, I prepared the materials before using clay dug and sieving from the forest. By crushing and finely sieving the clay, I knew it would be easier for participants to make the outer coating quickly and hoped they would have enough time to finish it in the allotted time.



The workshop was split into two sections. First, an eyes-closed guided meditation for twenty minutes, with a focus on quietening the mind and connecting to the body and heart while working with the clay. Throughout, participants were encouraged to explore the clay in different ways; through movements with the hands and fingers, various senses, and then in any way, they were called to. During this time, the over half put the clay to their hearts, with two putting it directly on their skin. This brought a smile to my face. After this, everyone opened their eyes as I gave the instructions and demonstrated the simple techniques. After a little while, I sensed some people wanted to talk, so offered the invitation to speak quietly to the person next to them if they wanted to. I would say roughly a third of the group did not talk and engaged very intently with their Dorodango, while the remainder engaged in conversation. Throughout the making, a lightness grew in the participants, and a lot of fun and laughter was being made. In between the laughter, there were moments of quiet as people became engaged with what they were making. During the workshop, I gave attention to the topics of conversation that were happening around the table. I found on multiple occasions that different people were talking about their own feelings, methods for working with emotions and the importance of listening to their feelings. I think there are too many factors at play to suggest a causal link between making and talking about the emotions, but amongst this group of open, accepting and non-judgemental friends, people felt that they could comfortably talk about what was on their minds, or hearts. It was beautiful to see how people were connecting to themselves and each other through the clay. At the end of the workshop, collectively, the participants seemed lighter and stress-free, which many people expressed.



Apart from an open sharing at the end, the feedback was collected in an informal questionnaire that had two questions. The first asked to draw a motion, gesture or picture capturing your feelings when making (in today's session).



PARTICIPANTS FEELINGS WHILE MAKING DORODANGO

As you can see, the majority of the drawings are very gestural and flowing, often with a spiralling motion. Subjectively, I think that could suggest a release of some kind, or be representational of a meditative state.

The second question asked: to choose a colour best describing the moments when you felt most connected when making and 3 words to describe the feelings. Here are the results.

Colour	Words describing feelings when feeling most connected while making		
Light Blue	Calm	Present	Capable
White	Free	Curious	Open
Ochre	Whole	Repair	Perfecting the Imperfect
Yellow	Calm	Happy	Light
Pink	Motion	Flow	Relaxation
Blue	Smooth	Gentle	Love
Blue	Peace	Held	Smile
Blue – Green	Stillness	Focus	Serenity
Blue – Green	Calm	Curious	Grounded
White	Reconnected	Confronted	Acceptance
Red	Love & Love	Love & Joy	Love & Just want to do it

Blue is the most common colour chosen to represent how people felt when they were most connected while making. Blue, based on colour theory, is used extensively "to represent calmness... and is also associated with peace" (Chapman, 2010), both of which appeared to be a commonly shared feeling when making. Words such as 'repair and reconnected' suggest a quality of renewal and healing, as do 'grounded and free.' Overall, I feel there was a therapeutic outcome to the workshop due to the participants experiencing reduced ruminations of the mind, enhanced self-esteem through the completion of creating something beautiful, and having a sense of relaxation and calm.

COLLABORATIVE MAKING WITH OTHERS

To test the praxis on a larger collaborative project, I worked with three childhood friends to build a two person Canadian style canoe. We made an Orca Lakelander canoe as part of a workshop hosted by Steve and Dan over 4 days in their workshop in the Lake District. The canoe is 15ft long and is made of 7 planks of plywood stitched together with fibre glass tape and epoxy. The method of construction was simple, and we all had experience making things; different ways of working and levels of perfectionism, which is where I thought any friction would lie if there were to be any. Apart from 'bodging' a wood workshop with Will a few years ago, I hadn't worked with Joe or Liam to this capacity before, but we have all been great friends since secondary school. We all brought our unique selves to the build, our individual skills, personalities and peculiarities. Each day I would offer questions for the group to reflect on during our tea breaks which they were very open and engaged with.

Working in a group went very smoothly, and there were few and insignificant disagreements. The group was naturally inclusive of each other's ideas and suggestions, and collectively we found a flow to work in, where everyone had a task and an awareness of what others were doing, which meant there were only a few moments where we were idle. Decisions were made as a group through talking out the options and preferences which enabled things to go very smoothly. This was mostly due to our friendship, which 'created a comfortable working

atmosphere that allowed us to be who we are' (Hills, 2019). Liam mentioned how 'humbling it was to step back and drop individual ideas in favour of the group's flow' (McGowan, 2019), which we all agreed benefitted the dynamic. Will added that it was that we 'trusted the capabilities in each other which was key for this' which enabled us to focus with our task at hand without worrying about anyone else's work (Gubbins, 2019).



I was interested in how our individual flow merged with the groups, primarily through different modes of working; discussions, decision making, measuring, repetitive tasks and crucial tasks. Each of these required a nuanced awareness and requirement for each one of us. I feel that it was the trust that made the transitions between these modes so easy and allowed us to individually give our full presence to what we were working on. Liam commented about how he was 'surprised at the constant awareness that was required for self and others mental and emotional states throughout the build as all our states were constantly in flux' (McGowan, 2019). I see it is through having this understanding that we were able to allow ourselves to go deeper into our own work. Liam felt at peace within himself when applying putty as he could 'imagine and witness the putty smoothing at the same time due to being fully in the moment' (McGowan, 2019). The build went without a hitch due to many hands making light work and a good dynamic.

We made a conscious effort to make the boat look as good as possible and made good use of all eight of our eyes. We spent a considerable amount of time perfecting the curves on the gunnels, the two sweeping sides of the boat. These curves were eyed up from many directions by the four of us working together. This process involved quite a bit of trial and error, and often took screws out to make minimal adjustments. For me this process may have otherwise been frustrating; however, the excitement to get the curves as perfect as possible and seeing it happen in real-time, watching the form of the boat appear from the space around, made it all worth it.



The flow of the project made it relatively easy to stay centred and consciously work from a place of being, and not doing. However, working with three other people was more challenging than making on my own despite our coherence. At times it was easy to get taken out of the flow and I could feel my mind pulling me forwards into the future or worrying about the small things. The complexity of this project was much greater and to stay present throughout was challenging. It was incredibly satisfying to work on the canoe each day, and we all left the workshop each day with a smile. Completing the boat left a glowing satisfaction with me for days and thinking of that long weekend warms my being.



CONCLUSION

“Out beyond ideas of wrongdoing and rightdoing there is a field.
I’ll meet you there. When the soul lies down in that grass the
world is too full to talk about.” ~Rumi

It's a challenge to draw a line in the sand and conclude an inquiry that is still ongoing and will transform and take many forms past these pages. That being said, it is with gratitude that I can release this chapter of my life and explore the many threads that have frayed into new possibilities while exploring these and integrate the newfound knowledge along the way. This journey has brought up many feelings I had never experienced with such intensity before, and a course has been set to continue to make sense of them, embrace them and understand the world through them. It has marked a softening between the boundaries of ego and self where I have released the desires to conceptualise, rationalise and intellectualise my experiences of life through attending with the world in a sensory and heartfelt manner. Through spending large amounts of time making and being, I have had glimpses of my true-self and nature. When making I attend to the work, and life, through my senses, intuition, heart and intellect and have come to feel the most alive when doing so, and comfortable in my soul.

Climate breakdown is a signal that many things are out of alignment. Instead of understanding the problems in the system and fixing them, we need to create a new system where the symptoms no longer manifest. We have an opportunity to transcend the problems and assume a higher perspective if we are willing to let go of our mindsets, habits and desires related to this paradigm. All the intelligence that we require to live in equitable abundance is available here already in the greater whole and is present in every moment. The answers are already with us, likely within us, and it is a matter of adjusting our perceptions and attuning with the intelligence of our true nature so that we recognise them.

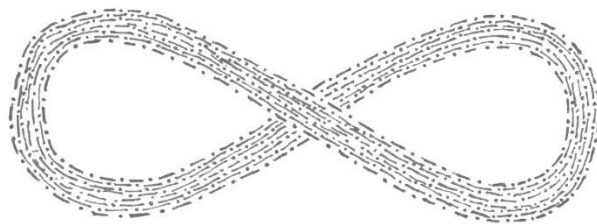
In learning from nature, I have slowed down, and in doing so, I have been humbled by the beauty that exists in all of life. By relinquishing rational ideas and embracing what I do not know, I have realised that there is much more that I do not know, and that knowledge is not everything. Life functions on an intelligence much higher than my intellect, and through these other faculties I can connect with this and cooperate more effectively with the larger ecological spheres I interact with. In grasping for impossible certainty through uncertainty, I became disconnected from my immediate lived context. Through conscious making, a flow of warmth softened the rigidity in my grasping thoughts and diminished my sense of self, and with that released emotional and mental pain. A relinquishing of control and letting go of self-importance is required so we can dance with the systems of life and engage from a place of humble not-knowing.

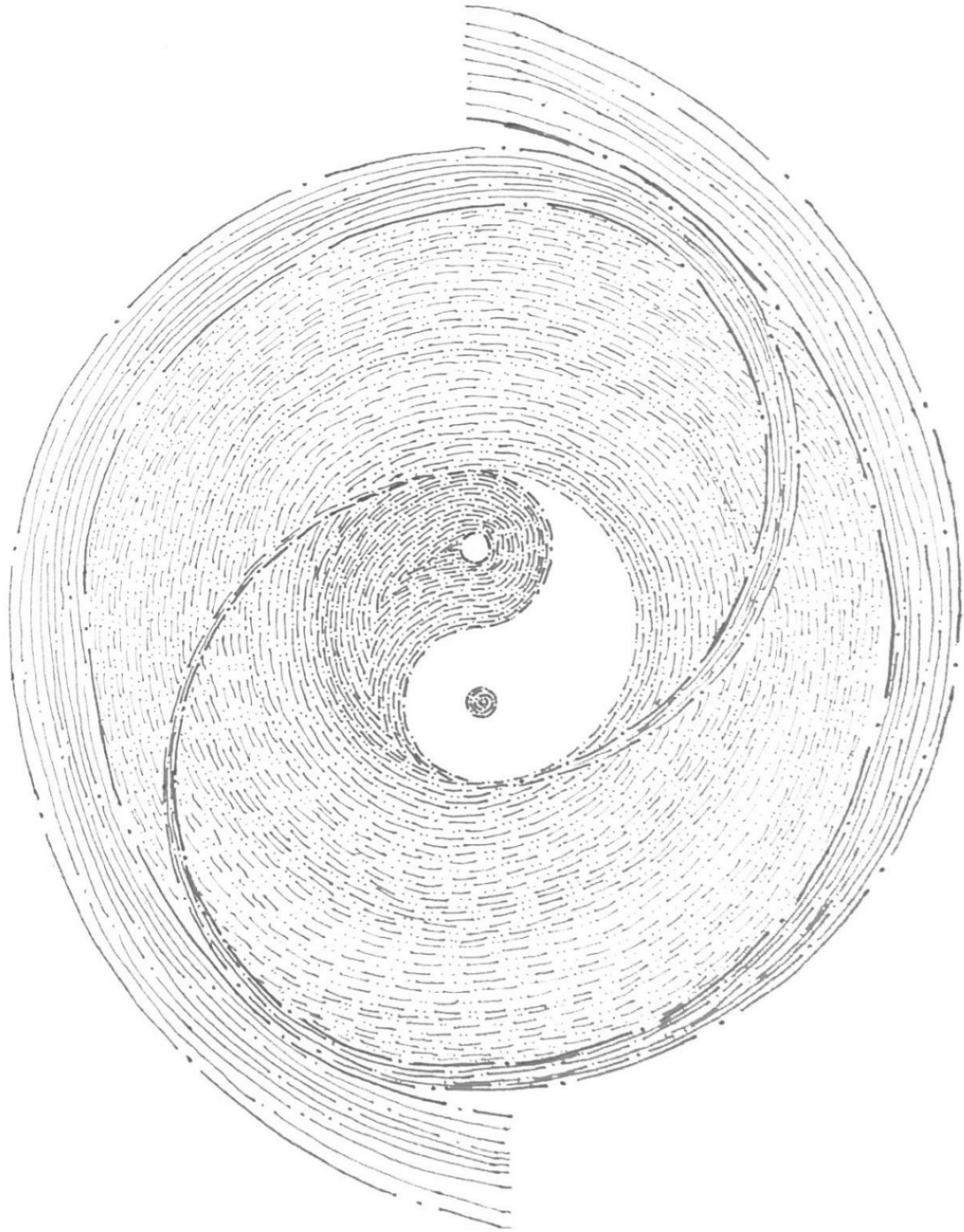
I see the value of making not solely as a more ecological approach to making material things, but as a conscious way of healing our relationship between the immaterial and material, and in the process uncovering true meaning. It is from this place that our actions move out into the wicked complexity of our interconnected lives through our interactions and relations. I am still

walking on this path of unlearning my conditioning, healing separation and learning to live from the infinite potential my heart. This is my life's work.

Rather than perceiving the inner world and outer world as separate, we can recognise the relatedness of our 'self' and 'other' through empathy. Through empathising with all of life, we become expressions within the unfolding of life, instead of being separate and in competition with life. Spirit and matter are within each other, and as humans who are always creating things, we are literally spirit becoming matter. Through our actions, we affect the world around us. In seeking our own individual wholeness through reawakening our senses, opening our hearts and trusting our intuitions, we allow the divine intelligence of the world to grow inside of us and radiate out. In striving to uncover our true-natures and to interact and design in the world from this understanding, we have the opportunity to create authentic meta-design resolutions that will, in their own nature, cause deeper questioning and lead to a shift in value systems or world view. A more holistic design approach leads from a more authentic perspective, and from a place of being, not doing.

In the material world we have enough technology, things and food, yet what we lack is love. The source of the suffering lies in the heart. To be grateful and have love for all beings is the compassion that the world needs. If we take the actions of life itself - generosity, virtue, love and wisdom - then this can only lead to joy and well being for all. The gift of life we have been given is to become the gift we give to life.





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All diagrams and photos are my own