# Healing, Reverie and Somaesthetic Anchors

## Designing objects of soft fascination to move from fight and flight, to flow and flourish

*Chloe Cassidy*

***Abstract:*** *My emerging awareness of a void that lingers with mind-body dualism brought me to this research. I live with the impacts of complex post-traumatic stress disorder, marked by a tendency to ebb between perpetual states of fight and flight, or freeze. Examining my lived experiences in relation to two trauma-informed care principles (safety and empowerment), I present the potential for cultivating an aesthetic appreciation in nature, and improved body consciousness. I hope to empower others to reach a sense of safety by sharing my experiences as I reanimate my creativity to move from fight and flight, to flow and flourish.*

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## Introduction

A gnawing sense of mind-body dualism has pervaded my life. Masked by grief, but emerging nonetheless, my awareness of a void that lingers with this dualism brought me to embark on this research. This work has enabled me to honour my lived experiences, articulate aesthetic sensitivities I express through my creative work, and acknowledge my practice as an empowering tool to regulate my mind, body, and soul. My personal goal has been to reanimate my creative practices through somaesthetics, and move from fight and flight, to flow[1] and flourish. By examining my personal trauma as a lived experience in relation to two trauma-informed care principles (safety and empowerment), I propose that cultivating an aesthetic appreciation has the potential to empower a sense of safety through improved body consciousness. Through the account of my lived experiences, I intend to contribute to my own healing through my practice-based research and present a case for the potential for others to integrate somaesthetics and trauma-informed practices in design.

1 Mihaly Csikszentmihalyi (2008) positioned flow on a continuum channel between anxiety (arousal) and boredom (efficiency), achieved with an optimal challenge to capability axis. For me, the optimal state of arousal that flow induces can be better described as intersecting the opposing axis of fight / flight with freeze states.

**Figure 1** *Somaesthetic Anchor, Chloe Cassidy (2021)*

In healing from trauma, an anchor can also be something that evokes an interoceptive response to an external stimulus and brings a consistent emotional state. Anchors act as transitional objects, helping people move from trauma to thriving, and navigate the healing process as a form of self-care by offering symbols to be connected to the environment and self (Hartman & Zimberoff, 2005). In this article the term somaesthetic anchors (Figure 1) is used to describe the objects I make in practice-based research. The objects are made by drawing on somaesthetic practices in my designer-maker practice, with the intention to bring a sense of calm to my mind and body through aesthetic and somatic sensory experiences that improve my body consciousness. The anchoring I experience and intend to embed in the objects is an associative mechanism of re-experiencing the calming sensations of finding materials in nature and while reforming the materials, through sensory engagement with the objects.

This article extends on advances in transdisciplinary research that highlight higher instances of dysregulation of the nervous system regardless of the initial trauma which lead to an increased risk of incoherence in somatic relationships experience (Van der Kolk, 2014; Dowds, 2016; Kozlowska et al., 2015). In such research, self-regulation has been promoted as an empowering action for people to engage with autonomously, to bring their nervous system into equilibrium. I draw on two aspects of somaesthetic discourse, lived experience and embodiment, and provide examples of the potential for somaesthetics to be considered as an approach to empowerment in the context of healing from trauma. The inextricable connection of the mind and body, as the soma, is a concept that unites somaesthetics and trauma research. I introduce a conceptual framework I have developed, the ART of living better lives, to capture the inherent value of nature in trauma recovery and potential value of somaesthetics to add value to trauma-informed practices in design. I conclude with photographs of somaesthetic anchors as exemplars of my practice-based research, and descriptions of experiences cultivating aesthetic appreciation in reforming burnt remnants from the catastrophic 2019 Australian bushfires.

My practice-based research draws on Richard Shusterman's somaesthetic project[2] by referring to philosophy in theory and practice, through bodily examples being integrated in

2 Richard Shusterman developed the somaesthetic project as an embodied philosophy that values both the body and mind, the soma, as being necessary to experience the world. This perspective requires both theoretical and practical engagement with the dimensions of the soma to cultivate knowledge and purpose in everyday life.

my designer-maker practice. I examine the role of somatic practices engaging proprioception and interoception in my design processes and outcomes, to consider the agency of the artifacts I am making in relation to empowerment and a sense of safety. I retain the aesthetic roots of somaesthetics with John Dewey's consideration of experience being double-barrelled,[3] embracing both subject and object, how and what, without distinctions between acts and materials (Dewey, 1925). A twofold negotiation that has also been referred to as inner and outer realities (Maclagan, 2001) resonate of my experiences of living with the impacts of trauma, and I ask a twofold research question: *How can I cultivate a sense of safety (by way of improved self-regulation of the nervous system) through somaesthetic designer-maker processes that evoke flow? How can somaesthetic anchors be designed in a way that might contribute to others being empowered to flourish through creative practices?*

## Personal Trauma as Lived Experience

I am one of an estimated five million Australians living with the adverse impacts of trauma each year (Kezelman, Hossack, Stavropoulos & Burley, 2015). Suffering the long-term impacts of living with complex post-traumatic stress disorder (cPTSD)[4] is most distinctly marked by a personal tendency to ebb between perpetual states of fight and flight, or freeze. In these states I found myself void of creativity, lacking flow, yet longing for the protection it has afforded me in the past. My unrelenting pursuit for a sense of meaning to be drawn from my own experiences is helping me to reframe my trauma-informed disposition and embrace the complexes I bring to my designs. I now acknowledge a state of flow to be an experience of embodiment that brings a sense of safety that opposes my trauma-informed hyper/hypo-vigilance.

Lived experiences present a considerable variable in the context of trauma, thus I cannot make an all-encompassing claim through my practice-based research. To appreciate the catalyst of loss that informs my research, I will introduce the moment that intersected with my history of developmental trauma and well-honed suppression of complexes which accompanied that. In 2015 my brother died tragically in his sleep. Sober at the time of his death, his mind, body, and soul were however, tired from years of addiction and anguish. He was 36, the same age I am as I undertake this research. With the sudden loss of him, a part of me disappeared too. Until I began this research in fact, I had not created any new designs or artworks due to a deep sense of loss which inhibited my creativity. I struggled to articulate the impact of losing a kindred spirit and fell further into survival mode, a heightened yet numbed state of living. A love of art and design had once flown through both mine and my brother's veins. It was how we communicated. Our creativity was in part a protective factor for us both to escape when life was too much in our trauma filled childhood. It gave us new worlds to creep in to and allowed us to see our own world in unique ways. It was also our shared vulnerability. Our creativity was born from our emotional depths as a reverie, as we felt very deeply but were discouraged from showing emotion. We were broken down by our broken father. A shadow in our reverie.

3 John Dewey refers to William James' discussion of experience being a double-barrelled word, in *Experience and Nature*, stating: "it includes *what* men do and suffer, *what* they strive for, love, believe, and endure, and also *how* men act and are acted upon… [Experience] denotes the one who plants and reaps, who works and rejoices, hopes, fears, plans and invokes magic or chemistry to aid him, who is downcast or triumphant. It is 'double-barrelled' in that it recognises in its primary integrity no division between act and material, subject and object, but contains them both in an unanalysed totality. 'Thing' and 'thought' as James says in the same connection, are single-barrelled; they refer to products discriminated by reflection out of primary experience" (Dewey, 1929, p8).

4 Complex trauma may be a result of cumulative traumas and / or adverse experiences occurring in young ages, when the brain is still developing. The phrase complex trauma, or complex Post-Traumatic Stress Disorder (cPTSD), has been adopted by practitioners in trauma industries to differentiate research and practices that have a specific focus on developmental or cumulative trauma, not classically defined Post-Traumatic Stress Disorder.

The introduction of somaesthetic design in academia also presents challenges related to documenting subjective inner sensations that are dependent on inherent somatic differences (Höök, 2018; Vidal & Segura, 2018). I draw on autobiographical life experiences and sensory ethnography (Pink, 2009) with the aim to further test and develop potential methods of somaesthetic appreciation to combat cPTSD. I document my practice-based research from a first-person perspective using embodied writing of concrete accounts of my experiences, poetry, photography, and in the articulation of the objects themselves. I draw on descriptive practices of phenomenology, and interpretive and re-evaluative practices of hermeneutics, to inform a context-sensitive and reflective methodology. I place contextual significance on empowerment and safety in the context of trauma, and body consciousness and a sense of safety in the context of healing.

## The Void: Reigniting Imagination from Within

In 2016 I began therapy for the grief of losing my brother, and fear of being a mother responsible for nurturing my son's soul when I felt soul-less. In 2018, I was diagnosed with Complex Post-Traumatic Stress Disorder (cPTSD) The diagnosis brought with it a sense of validation to my mind and body feeling disconnected. Over time I had developed systems to function as if I was under attack and had no option but to fight, flee or freeze. Being a designer, a trained 'problem solver', I searched the literature for ways to repair myself. I discovered Dr Bessel Van der Kolk's' (2014) seminal text, *The Body Keeps the Score: Mind, Brain and Body in the Transformation of Trauma*. In this text I was introduced to the evidence-based argument that the mind and body are inextricably connected as the soma, and the key to healing from trauma is improving body awareness of felt sensations connected to emotional triggers, as somatic experiences. Upon my first reading of *The Body Keeps the Score* I highlighted the claim:

> *"It is one thing to process memories of trauma,*
> *but it is an entirely different matter to confront the inner void"*
> (Van der Kolk, 2014 p296).

The notion of an inner void is a recurring idea I have been drawn to over the years. Reflecting on the highlighted words I recalled a passage I came across when I was fifteen and have carried the original torn piece of the passage (Figure 2) in various wallets and moving boxes for over 25 years. As the context of my life has changed, the significance of the passage has never waned. I live in hope to dwell not in the inner void. A feeling so deep within that I had not linked it to my unconscious disconnection from my body to survive a complex childhood. I have come to realise my perpetual state of living as if responding to threat was, is, my deepest void. A void I have avoided. Until now.

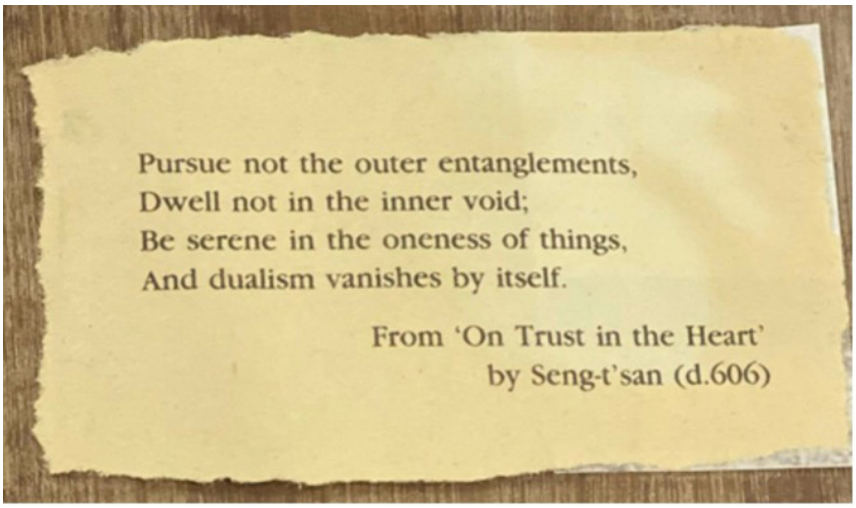


**Figure 2** *Author's own page clipping and photograph. Excerpt from 'On Trust in the Heart' (Send-t'san, d.606).*

In hindsight engaging my creativity after losing my brother would have been beneficial, however my grief and complex trauma history rendered me frozen. Van der Kolk (2015) was asked the question "How can we notice the self to feel what goes on to heal?" to which he responded, "trauma patients tend to have lost their will of creativity and imagination." The importance of people accessing their imagination [creativity] for curing themselves is also presented in *The Body Keeps the Score*:

> "*When people are compulsively and constantly pulled back into the past, to the last time they felt intense involvement and deep emotions, they suffer from failure of imagination, a loss of mental flexibility. Without imagination there is no hope. No chance to envision a better future, no place to go, no goal to reach.*" (Van der Kolk, 2014, p17).

In seeking to reanimate myself through creativity, I have been inspired by Carl Jung's reflections on active imagination and his assigning the creative archetype as an expression of the soul. Jung considered the possibility of the 'voice of the depths', the soul, to return after an extended silence, encouraging a spark of hope that my soul might be reanimated after what has felt like an extended silence. To appreciate the light in the darkness, Jung repeatedly refers to 'la noche oscure del alma' ('The dark night of the soul')[5] to express the enduring quest in humanity to learn from suffering. This notion echoes the poet and artist Khalil Gibran who wrote "Out of suffering have emerged the strongest souls; the most massive characters are seared with scars" (1912). And Rollo May, psychologist and author, also said "The creative act rises out of the struggle of human beings" (1975/1994). Suffering as a fundamental aesthetic aspect of life has been examined through hermeneutics as a source to 'dwell in the mystery of life' (Fidyk, 2015) in a way that I interpret as a parallel to my dwelling in a void. The widely referred to light, strength and creativity arising from suffering has given me hope that in sharing my experiences I may draw strength from my own darkness. It is through such experiences, that I draw upon somaesthetics to enlighten my own practices, to cultivate self-compassion, and to empathetically contribute to the growing fields of somaesthetic and trauma-informed design.

5 'The dark night of the soul' dates originally to the 16th Century by St John of the Cross.

Höök (2018) refers to Dewey's perspective of aesthetic experiences warranting evaluation of both disturbing experiences and positive sensations and feelings of safety as problematic, because somaesthetic designs aim to improve lives through repeated engagement and everyday use. It is Dewey's evaluation of positive and negative aesthetic experiences however that I am drawn to, to create a meaningful existence out of the depths of my anguish through my creative practices and engage more completely in everyday life. It is in the aesthetic roots of somaesthetics that I feel I can reanimate my creativity. In the context of trauma, being able to interpret and act on physical sensations, even if they are initially perceived as negative, ultimately enables people to enjoy a life with value and safety (Van der Kolk, 2014). Through soma design elements of slow storming and iteration I have been able to examine the materials and processes central to my research, first as symbols of destruction, then as objects to be healed. Most recently I identify the artifacts as having the potential to heal and act as somaesthetic anchors that aid in building resilience. The heart of my research has only come to light because of my experiences with the 'world of black', my aesthesis of loss, grief, and a deeply rooted aesthetic appreciation in nature that soothes my soul.

## A Conceptual Framework: The ART of Living Better Lives

I have developed a conceptual framework, the ART of living better lives, to capture the inherent value of nature in trauma recovery and potential value of somaesthetics to add value to trauma-informed practices in design. Throughout my life I have had an affinity with the inherent value of nature that is an enduring concept in Zen philosophies, many of which also inform somaesthetics. A primal sense of connection with others and the natural world is critical to experiencing a sense of meaning in our lives, through enhancing a sense of belonging (Dowds, 2016). At times the bush, beach or riverbank offered a place to escape lived experiences of trauma both physically and mentally. In recent years, following the sudden death of my brother, my desire to immerse in and reconnect with the natural environment has become a more deliberate act. I seek the solace of sensory stimulation from natural elements to feel grounded. I feel a deep sense of healing in nature. Beyond my personal affinity with nature, biophilic principles and nature-driven theories are increasingly being introduced to existing protocols for trauma in health, justice and education services.

### Biophilia

Biophilia was first hypothesised by Erich Fromm (1973) to explain a 'love of life and all that is alive'. In later years Edward O. Wilson wrote Biophilia (Wilson, 1984), and extended the concept to be a more innate affinity between humans and other life-forms in nature driven by evolution. Archived medical records from as early as the 19th century prescribe time in nature to reduce emotional distress and mental exhaustion (Duvall and Kaplan, 2014). A seminal study in 1984 by Roger S. Ulrich provided compelling evidence that patients recovering from surgery who had a window with a view to nature had improved health outcomes compared to those who did not. Design of physical environments can both respond to and affect people's behaviour and mood, encouraging a direct connection between design and environmental psychology research (Berto, 2015). Natural environments provide sensory and tangible spaces that allow a feeling of safety and calm, and they can be conducive to recovery from trauma (Lorber, 2011), and reorientation (Poulsen, Stigsdotter & Refshauge, 2015).

The opposite to biophilia is biophobia. It is interesting to note the primal response to biophobia (fears of snakes for example), is a fight, flight or freeze response like the perpetual hypervigilant state complex trauma may induce. Traumatic stress can lead to somatic responses that upset the body's homeostasis (Van der Kolk, 1998), a function of finding balance in our own body. From an evolutionary perspective, juxtaposed with biophobia, biophilia would enable a natural return to balance in the body's neural responses. There are many examples of natural tendencies to seek balance: equilibrium is a biological or chemical state of balance between opposing forces; and the Gaia hypothesis aims to explain the self-regulating effect of forces in opposition on Earth returning to balance naturally (Lovelock & Margulis, 1974). In the context of trauma recovery, nature has been proven to create a sense of safety and connection (Poulsen, Stigsdotter, Djernis & Sidenius, 2016), which in turn enables people to reduce hypervigilance. These experiences although implicit may be the result of what Stephen and Rachel Kaplan (1989) have termed soft fascinations with nature, a fundamental aspect of their attention restoration theory (ART).

**Attention Restoration Theory (ART).**

ART argues that we have a limited capacity for fixed attention (a narrow focus) compared to soft fascination (effortless, involuntary attention) caused by the dynamic stimulation of natural environments. As the third of four stages of restoring attention in nature, soft fascinations include mesmerising qualities of nature, such as dappled light movements in the shadow of tree branches and ripples in water. The dynamics of such activity allow for attention to shift between stimuli effortlessly as there is an organic rhythm that we intuitively sense. There is potential for biophilic design to trigger fascination and enhance psychological restoration (Berto, 2015). The prolonged effort required for fixed attention however may lead to negative emotional states and reduced cognitive performance when exhausted (Kaplan & Kaplan, 1989). My own trauma-informed disposition tends to challenge with sensory gating[6] (tuning out) in my day-to-day activities. I have found the practice of deliberate sensory grounding in nature more effective than in other environments due to the sense of presence in the moment I feel as a result of soft fascinations. It is this presence, as a state of restored attentiveness, that has allowed me to critically exam my own living body that is experienced through sensory appreciation, aesthesis. In nature I feel safe to deliberately bring my consciousness to my body, the objects I form using natural materials also act as a sensory anchor that reminds me of that feeling of safety when I engage with them in my studio practice.

**The Art of Living Better Lives**

By returning to the roots of self-cultivation in philosophy through body consciousness I hope to experience what Shusterman (1999, 2008, 2012) claims might be t*he highest art of all – that of living better lives*. Shusterman's (1999, 2008, 2012) Somaesthetic Project has led to an evolution in philosophy that addresses the complexities of experience, consciousness, and wisdom that may be stored in our bodies. It captures both Eastern and Western philosophical notions of nature, and the pursuit for 'oneness' that has been so influential in my life. Building on somaesthetics soma design theory reinforces aspects of empowerment by emphasising the value of slowing down, self-compassion, self-agency, movement and sensory awareness to effectively design for others (Höök, 2018). It is analytical, pragmatic, and practical, offering an approach to consider

6 "The ability of the nervous system to inhibit or suppress the response to incoming irrelevant sensory input is a fundamental protective mechanism that prevents the flooding of higher cortical centers with irrelevant information". (Howard, Cromwell, Mears, Wan, and Boutros, 2008, p69-70).

the very personal somatic sensations of lived experiences of trauma that inform my practice. I embrace a somaesthetic approach to design as a bridge between my artistic sensibilities and my designer-researcher practices most notably for its potential to engage:

> *"…with bodily rhythms, touch, proprioception, and bodily playfulness, [and] also with our values, meaning-making processes, emotions, and ways of engaging the world. It is individual, as well as social. It deals with self-care, as well as empathy with others. It has to do with movements and bodies, but addresses the whole self, body, and mind, as one. In that sense, to me, soma design is relevant to any design process engaging with aesthetics."* (Höök, 2018, p127).

An example of ART in action in my practice is my increased somaesthetic awareness of the calming action of balancing cold, wet stones on a riverbank, and returning to warm, dry stones that had not moved, yet were further away from the water's edge as a tide receded from the bank, marking time in the dynamic environment. The added kinaesthetic interaction of slowing down to rest and balance the objects on top of each other requires me to be steady handed and I enact breathing rhythms needed for self-regulation of my nervous system. This awareness gained through the iterative process brought me closer to answering my research questions of how I might *cultivate a sense of safety (by way of improved self-regulation of the nervous system) through somaesthetic designer-maker processes that evoke flow. And how somaesthetic anchors might be designed in a way that contributes to others being empowered to flourish through creative practices.* The objects I am designing must also allow users to interact through touch, rhythms, body playfulness and proprioception in a way that helps add value to their experience of the world.

**Safety and Empowerment in the Context of Trauma**

Trauma research has historically been informed by the prolific CDC-Kaiser Permanente Adverse Childhood Experiences study, ACEs, (Felitti, et. al., 1998)[7] which identified long term pathological detriments of trauma. Albeit pervasive around the world, there is no universally accepted definition of trauma (Menschner & Maul, 2016). The Australian Psychological Society defines trauma as the result of either a single or recurring experience that may cause substantial negative psychological wounds, leading to difficulty in coping or functioning normally. This broad definition is adequate, although I challenge the 'functioning normally' aspect of the definition with the support of Van der Kolk's (2014) claim that this is a "normal response to an abnormal experience." This claim is more empowering for someone healing from trauma in my view. Further, it has been observed that people who experience complex trauma may develop highly adaptive coping mechanisms, yet still experience the long-term, far-reaching negative impacts of adverse childhood experiences; mentally, physically, and psychosocially (Kezelman et. al., 2015). My own unconscious, but conditioned, somatic disconnection has served as a mode to survive adversity in my childhood. To view this conditioned response as an abnormality has fuelled negative perceptions of my sense of self.

7 There are 14,452 literature citations to the original Felitti et al. (1998) study as of 7th October 2021.

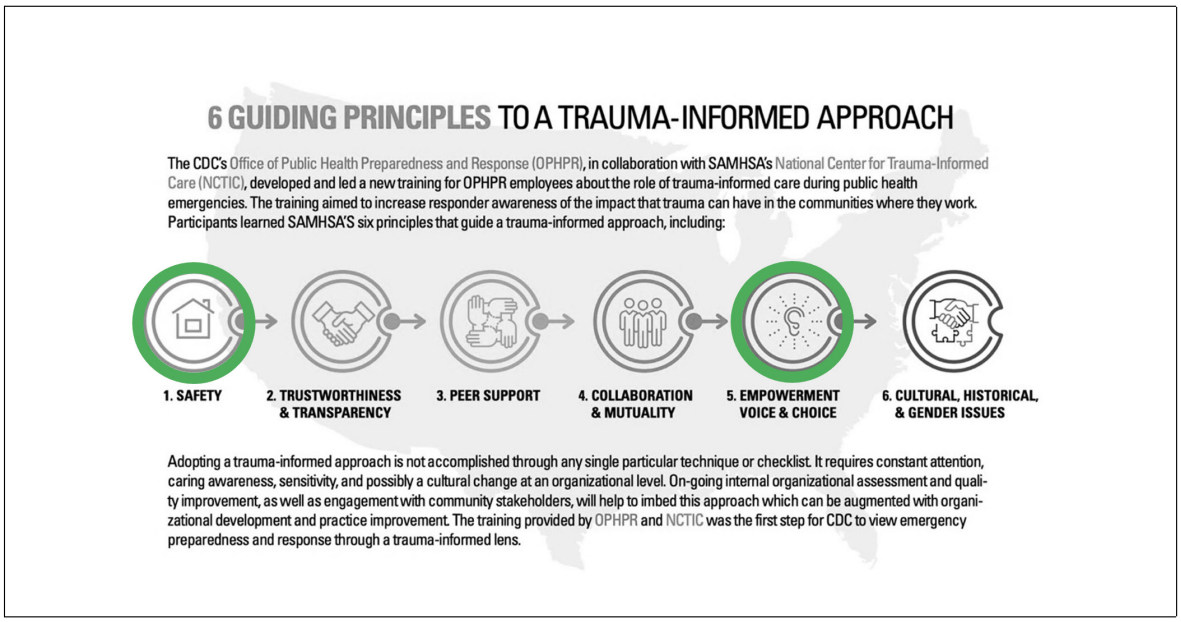


**Figure 3** *'Six Guiding Principles to a Trauma-Informed Approach' from the Centre for Disease Control's Office of Public Health Preparedness and Response, in collaboration with Substance Abuse and Mental Health Services' National Center for Trauma-Informed Care* Green circles added by author (2021)

https://www.cdc.gov/cpr/infographics/6_principles_trauma_info.htm

To balance the pathological focus of ACEs, trauma-informed care (TIC) principles were developed by Substance Abuse and Mental Health Services Administration (SAMHSA) and the Centre for Disease Control and Prevention in 2014 (Figure 3). TIC principles have since been widely adopted in health, education, and justice services to avoid re-traumatisation and empower people to be actively engaged in their own healing processes (Stompolis, Payne, Ulker, Porter & Weist 2017). Value is placed on understanding individual life experiences, creating opportunities for education, and building resilience. To be empowered, TIC principles offer an empathic approach that has informed the development of a trauma-informed design[8] framework (Figure 4) that places a value on lived experience. My research focuses on this aspect of the framework with qualitative and interpretive personal accounts of experiencing a sense of safety and empowerment. One factor which appears to be overlooked is the emerging argument that trauma-informed practices may be further progressed with the inclusion of somatic approaches to reducing the neurological impacts of trauma. Laurie Leitch (2017) and Davis Harte (2019), exemplify designer-researchers at the cusp of change in TID for their advocacy for a focus on the nervous system. This is because it offers an inclusive approach that transcends demographic and stigmatising causes of trauma.

8 In lieu of a formally adopted definition of trauma-informed design, Pable (2019) proposes the following adaptation of Hopper et al's (2010) definition of trauma-informed care and the guidelines developed by SAMHSA (2014): "Trauma-informed design encompasses adaptations in the designed built environment that support 'a strengths-based framework that is grounded in an understanding of and responsiveness to the impact of trauma, that emphasizes physical, psychological, and emotional safety for both providers and survivors, and that creates opportunities for survivors to rebuild a sense of control and empowerment." (p11).

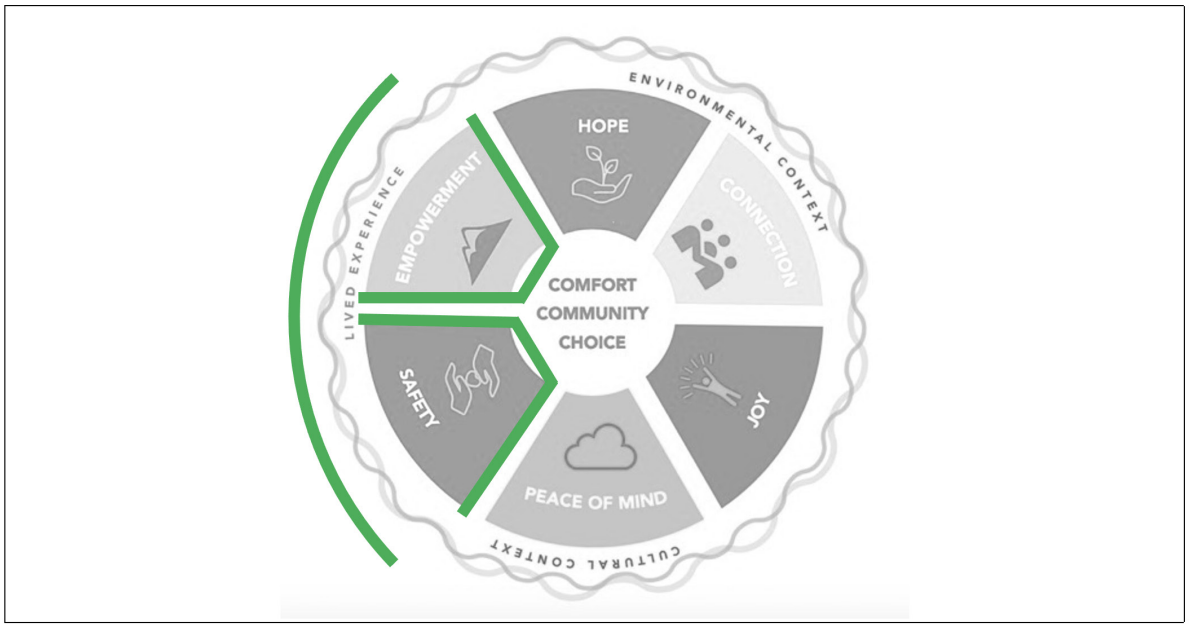


**Figure 4** *Trauma-Informed Design Framework (2020)* Green indications added by author (2021)
Proposed by Shopworks Architecture, Group 14 Engineering, and the University of Denver Centre for Housing and Homelessness Research

Harte (2019) integrates TIC principles, biophilic design and attention restoration theory, together with neurological trauma research, empathy and first-person insights. Harte specifically refers to local natural environments to create positive distractions through soft fascinations with nature (Kaplan & Kaplan, 1989) and provide more immediate connections between people and spaces. Leitch (2017) integrates ACEs and TIC with a specific focus on building resilience[9] through design. This is evidenced in the application of rhythm and syntax in the design and delivery of intake questions in Leitch's work. The deliberate rhythm between calming and activating questions generates a rhythm between parasympathetic (calming) and sympathetic (activating) responses to implicitly reduce the potential for dysregulation (Leitch, 2017). I adopt a similar rhythm to create an ideal state of flow and enhance a state of balanced presence. I need to be very aware of the rhythm my body enacts with the tools I use to help reform the found materials. I feel balanced and able to attend to variance in material density, fragility, and temperatures. I am less distracted by racing thoughts, or the absence of attunement to thoughts, in a way akin to being regulated and experiencing a sense of safety. For me flow is being able to attend to the objects in my hands, to consider the variance in their forms, textures, hardness, and other organic diversities that mean no two objects can be responded to and treated in the same way. The resulting hand-crafted, hand-held objects made from natural materials found in my everyday life serve to connect me with the natural world through somaesthetic experiences.

9 "Resilience as a positive characteristic enables people to overcome challenges and could be drawn upon in design to facilitate regulation of the nervous system" (Leitch, 2017 p6).

## Body Consciousness and a Sense of Safety in the Context of Healing

Explanations of embodiment in somatic practices vary, with multiple terms such as body consciousness (Shusterman, 2008), body sense and embodied self-awareness (Fogel, 2009), embodied mindfulness and somatic intelligence (Kaparo, 2012), embodied creativity (Malinin, 2019), and somatic mindfulness (Stark, 2017, 2020), contributing to the offerings of descriptions across fields of research. The varied perspectives point towards a common aspect that is non-duality in lived experiences informing awareness of self. My trauma-informed disposition renders me as an animation between Merleau-Ponty's phenomenological perception of embodiment and Sheets-Johnstone's (2011) referral to the significance of movement from an evolutionary perspective.

I am both drawn to and conflicted by Merleau-Ponty's (1945) perspective of embodiment because he proposed that we assign meaning to the world through association and focused attention. I engage with associative meaning in my practices through felt sense, symbols, and aesthetic experiences, but I find focused attention challenging, due to my neurological diversity resulting from trauma. The aspect of Merleau-Ponty's embodied philosophy that Shusterman (2012) draws upon to describe the way we experience ourselves as "sentient, intelligent, purposive, skilled [beings, and] helps construct the world rather than being a mere physical object in it" provides a strong foundation for the central role of the body in holding trauma and aligns with the previously introduced notion that 'the body keeps the score' (Van der Kolk, 2014). The body in this instance acts as a sentient vessel to move out of held responses through movement in my practice-based research. Sheets-Johnstone's deductive argument - if we are embodied, then we have the potential to be disembodied, thus risk perpetuating notions of dualism - is a challenging distinction I also have sought to resolve through my research. I live with a tendency to default between hypo- and hyper-vigilant states, and at times disassociate as a learned response to perceived threat. Does the experience of disassociation,[10] of physically being in the body, but cognitively detaching from my bodily awareness mean at times I am disembodied?

Reflecting on this question and my discomfort with counter arguments to embodiment, by way of not being disembodied, I imagine this discomfort might be shared with others who experience dissociation resulting from trauma. A dissociative state spurred on by a real or perceived threat is an altered state of consciousness in which people unconsciously detach mind and body. This state is a protective mechanism, and an adaptive response (Van der Kolk, 2014). Creating a shift to the survival mechanism in the brain, from an evolutionary perspective, is an ideal and short-term response to threat. In an ideal system however, the body returns itself to a state of equilibrium when there is no longer an imminent threat. The instinctive and primal states it can induce are difficult to describe, although Ripley Stark (2017) captured this difficulty drawing on the work of Peter Levine, stating:

> *"These 'instinctual physiologies' are not only automatic (in that they are performed by the autonomic nervous system) but are a function of synthesized mind-body dissociation – disconnection from the lived experience of the self (embodied consciousness)"* (Stark, 2020, p3).

10 "Dissociation is a mental process of disconnecting from one's thoughts, feelings, memories or sense of identity". https://www.betterhealth.vic.gov.au/health/conditionsandtreatments/dissociation-and-dissociative-disorders

A tendency to dissociate the mind and body warrants a reflection on the oppositional term 'unconscious'. Returning to Jung, in 1918, he wrote We all stand between two worlds: the world of external perception and the world of perception to the unconscious." A century on, Shusterman (2020) highlights a similar distinction between perceiving our body's state of balance, rest, activation, and other inner sensations (interoception)[11] from within when engaging proprioception[12] as opposed to perceiving the external world through external stimuli. The void I mentioned previously inhabits the intersection of two worlds of perception that I experience. An intersection of knowing I need to be more aware of my inner experiences and cultivate self-compassion, and unconscious responses that feel like a barrier to accessing my inner experiences. I have an athletic background, am a designer-maker and consider myself a 'hands on' learner with well-honed proprioceptive abilities for balance, rhythm, and other trained movements. I am confident in my proprioceptive sensory abilities when I am in a regulated state. When I am asked to identify sensations in my body in a dysregulated state however, I can lack the ability to identify sensations spurred by emotions. This may be because impacts of perpetual threat responses for people who have experienced trauma can resemble sensory processing disorders (Dowdy, Estes, Linkugel & Dvornak, 2020).

To cultivate body consciousness, both Shusterman and Van der Kolk promote the value of practices such as Feldenkrais or yoga to improve somatic awareness. Unfortunately, yoga and Feldenkrais tend to perpetuate my threat response. Instead, I have adopted felt sense, as a bottom-up approach[13] I confidently and critically integrate in my practice-based research without distress or the need for a certified instructor to guide me. Felt sense is "the experienced body, the lived from body, is where meaning is made" (Gendlin,1978). Developed in 1978, felt sense has gained traction in expressive arts and interaction design as a body-oriented methodology that also allows autonomy (Neunez-Pacheco & Loke, 2015; Bennett, Froggett & Muller, 2019). One reason felt sense offers a suitable alternative to yoga in my practice is the process of 'carrying forward' in which it is essential to slow down and wait patiently for awareness to become conscious. This is significant to me given my tendency to 'lose' words to describe my experiences when I am in a state of dysregulation.[14] This inability to verbally express sensations can feel paralysing in the moment itself and present challenges to written reflective practices. The value of slowing down in felt sense is also a value in soma design theory that has been critical to my practice-based research. Further, the need to 'come to our senses' is applied in sensorimotor psychotherapeutic approaches to communicate 'when words are not enough,' because an emphasis on movement, rhythm, sensory integration, interoception and proprioception is conducive to re-establishing a sense of safety (Malchoidi, 2020). In the context of trauma, a self-regulated awareness of self is a form of consciousness.

Empowering self-regulation as a corrective experience is beneficial in healing from trauma due to the conscious engagement with actions that counter overwhelming states, as people gain a sense of agency (Levine, 2010, 2015). The experience of embodied consciousness may be considered an evolutionary neural response of not being in fight, flight, or freeze (hyper- or

11 Interoception is an awareness of various inner states that arise from emotional stimuli. It is fundamental for self-regulation (Ceunen, Vlaeyen and Van Diest, 2016) and essential for body consciousness and sensing safety. It is a subjective state that has learned bodily responses to emotions and memories (Van der Kolk, 2014; Payne, Levine & Crane-Godreau, 2015).

12 Proprioception is a foundational sense for body consciousness that enables the body to regulate movement and subsequent sensory perceptions (Shusterman, 2020).

13 Bottom-up practices for me are generative and exploratory approaches that allow the research to emerge through my practices of making.

14 Traumatic memory is stored in the parts of the brain that process emotions and sensation, but not language or speech, people might experience trauma through their body that they may not be able to verbalise (Van der Kolk & Fisher, 1995).

hypo- aroused), and instead being in a position of rational thinking and awareness (sensing safety). There are various explanations given to capture this conscious awareness and embodied state, including a window of tolerance (Siegel, 1999),[15] a resilient zone (Leitch, 2017), optimal arousal and experiencing a sense of safety. Given the breadth of perspectives on embodiment that inform my research, for the purpose of clarity throughout this article, I refer to notions of embodiment as a '*sense of safety*'.

## Cultivating Somaesthetic Appreciation

The use of sensory anchors to reduce stress and improve concentration is a common occupational therapy device, in which objects can be used to focus attention through tactile sensations. Sensory tools enable self-regulation respite (tuning out sensory stimulation) and focus tools enable people to tune in. Constant balancing or non-disruptive repetitive movements (of an object for example) requires sensory attention (Biel, 2017). In this instance, anchors are promoted to regulate emotions and arousal levels into a window of tolerance (a sense of safety). The appeal of effortless sensory monitoring is meditative in a way I parallel to ART descriptions of soft fascinations. I propose designing tactile objects of soft fascination as anchors that will act as a potential device to improve body awareness through self-regulation. I refer to these devices as somaesthetic anchors, artifacts designed for people to reconnect and to find a sense of wholeness though somaesthetic awareness.

I have embraced sensory grounding exercises in my recovery from trauma-informed somatic imbalances to improve my sense of safety. Walking barefoot in open natural environments, I engage my senses in that moment. When doing this exercise in March 2020, in an environment that had been so familiar to me for over twenty years, I noticed visceral scenes of charred wood lining the coast (Figure 5a). I felt unusual textures under my feet, I could smell damp organic matter and see darkness on a usually golden surface. I looked closer and saw the darkness amongst the seaweed was burnt timber (likely remnants from the Black Summer fires in 2019/2020). Extreme environmental changes of the bushfires brought on uncharacteristically heavy rainfall and flash flooding across Australia, transporting the burnt remnants thousands of kilometres along the coastline. The stark contrast of the dark material on the sand captured my attention. The burnt pieces themselves represented symbols of damage and sorrow that I knew the country was experiencing. Without thinking about the significance these materials would come to hold, I began picking up the palm sized pieces to embrace them (Figure 5b). An innate love of nature may explain my compulsion to heal the remnants of wood which created such a visceral scene on the coastline after the catastrophic Australian bushfires in 2020. I took a sample home from the beach, perhaps to clear the coastline of this harsh reality, perhaps an inner drive to nurture the symbols of damage to fulfil my inner sense of being 'broken'. Either way, it was an instinctive act spurred on by my sensory grounding.

15 'Window of tolerance' was defined by Dan Siegel (1999) and refers to the emotional state of arousal that is optimal for thriving day to day. It is a state in which threat responses are not engaged (fight, flight or freeze) and a person feels a sense of being grounded, present and able to emotionally self-regulate.

**Figure 5a** *Photograph of Macmasters Beach, NSW Australia 13th March 2020*
**Figure 5b** *Flat lay of the materials collected.*

**Figure 6** *'Giving form and being witness' (Chloe Cassidy 2020).*

In an iterative process of healing the salvaged materials (Figure 6) the artifacts became a vessel of communication. I cannot recall the thought process or drive that came to me to engage with the burnt artifacts and heal their bodies. I felt compelled to repair the charcoal and restore the once living material. It was this process of repair and reforming of the materials that had the most significance to me. It brought forward my awareness of being drawn to broken, damaged or particularly unique natural growth patterns in raw materials. Experiencing the fragility of the natural materials as I reformed them, and reflecting on what impact these catastrophic fires had, I felt compelled to act, to heal the natural objects and to engage more rigorously with my sensory grounding in natural environments. This awareness has given me a sense of purpose to the processes of care and affect I found myself engaging in while experimenting with forms and materials. On returning to this awareness, the unique visual and tactile qualities of the naturally weathered materials personify how I have considered my inner, true self for so long.

Figures 7a and 7b represent three iterations that came from my continued exploration of the materials and my developing body consciousness in flow. They show a developing confidence in the object, where I am informed by the found form of the materials, but also more deliberately in the exploration of how the materials respond to my rhythms and body movements in their reforming. There is a stillness when I am experiencing flow. It is not the same as being in a freeze response, to which I best describe as feeling numb. In flow I feel more present and attentive to my thoughts and sensations. I need to be very aware of the rhythm my body enacts with the files, saws, fire, and other tools I use to help reform the materials. With a piece of burnt timber that has been drifting at sea for example, on first inspection it is difficult to determine how deep the charcoal is, if there is further waterlogged fragility, or if at the heart of the material there is a

hardwood core. If the material is particularly fragile, my pace may change as the material wears away quickly, but with this also comes an adjustment in pressure as I need to hold the material with a gentle grasp and press it to the tool lightly.

**Figure 7a** *'Healing Iterations' (Chloe Cassidy 2020).*

**Figure 7b** *'Healing Iterations' (Chloe Cassidy 2020).*

I recently returned to the sites where I had collected the burnt remnants to photograph the renewed objects. I experienced an incredible catharsis returning these pieces I had felt a part of in my making processes. I have also come to realise that felt sense reinforces metaphors in my designs, through mental matches that have in turn become transformative. Initially I identified with the 'damaged' driftwood material and had an inner drive to heal the wounded objects. I uncovered a burl, nature's expression of self-healing, by sanding away the charcoaled edges of one of the burnt remnants (Figure 9). I experienced a felt sense of relief, with a long exhale, lowered shoulders, and clarity of thought, as I identified the strength and beauty of a natural response to trauma. This experience was the result of a deliberate pursuit of cultivating my aesthetic appreciation through my making processes.

**Figure 8** *'Discover of Resilience' (Chloe Cassidy 2020).*

These experiences resonate with the value of nature in trauma recovery identified previously, in which participants living with PTSD reported an ease identifying mental matches in nature. The term 'broken' may have negative connotations to many. My felt sense from making this mental match conscious, however, has been a positive shift in bringing together my inner, true self and my ideal self. Upon identifying my self-perception of brokenness, I was also able to welcome the knowledge that through care and affect, broken things may be repaired, reformed, and renewed. This led to me being able to engage with the materials with more rigour and identify symbols of resilience found in nature. Recurring notions of healing, reverie, resilience, and growth began to resonate with me by observing nature. The forms began to act as symbols of healing and rejuvenation. I reflected on the experience with 'An Ode to Gaia', a 100-word story published on the Artist and Climate Change Tiny Corona Virus Stories website:

***Ode to Gaia***

*She is healing; but she needs our help.*
*Her body has been ravaged by bushfires so furious they left her hollow.*
*Floods of emotion swept through her outer edges,*
*and afterwards burnt remnants of the fires washed up onto to the shores.*
*I discovered these fragile pieces left to slowly weather away,*
*as the passers-by are now kept at a distance.*
*I tend to the pieces as if I can mend and heal each through repair and reverie.*
*The pieces are renewed. They awaken the senses once more.*
*Gaia is beginning again. We are all in stages of healing.*

**Figure 9** *'Ode to Gaia' Published on 'Artist and Climate Change' website 3 May 2020.*

## A Process of Slowing Down

My experiences of living in a hypervigilant state is that I crave for time to slow down so I can process the world around me. Instead, I am usually pendulating between racing thoughts and acute awareness (hypervigilance) and no thoughts, a sensation of numbness (hypovigilance). Slow storming, a deliberate intention to return to places and objects over time, has resulted in slowing down the production of the artifacts. Materials that require slow or delicate approaches in their reforming have become central to my practice-based research. Moving through environments marked by signs of coastal erosion from long-shore drift led me to contemplate time and the slow processes of evolution and change that can happen in nature. Slowing down my experiences on the water's edge has also informed my making process through biomimicry of materials and processes. The longshore drift that brought the burnt timber to the shores is also responsible for tumbling materials, polishing, and forming rounded edges, slowly. A natural process of erosion (a slow trauma) with the power to reshape and relocate. Material research of the artifacts that began as burnt wood, and drifted ashore in the storms following catastrophic bushfires, led me to discover the unique 'peanut wood' from the Kennedy Ranges in Western Australia (Figure 10).

**Figure 10** *'Peanut Wood raw and reformed, alongside driftwood' (Chloe Cassidy 2020).*

This stone bears a striking visual similarity to the repaired objects I have been forming. I was surprised to find my instinctive act to heal the burnt driftwood using a silicate material is in fact a natural process which I was mimicking. This peanut wood is from the Cretaceous era and is an example of natural healing through petrification.[16] The artifacts reflect two instances of driftwoods healed by silica minerals, 120 million years apart. One healed in nature, forming beautiful stones, and the other as incidental biomimicry from a felt sense response to heal the damaged remnants. I am currently experimenting with this material and exploring the variance in temperature and weight it affords in the proprioceptive function of the designs. The peanut wood being a stone is significantly slower to work with due to its natural strength compared to the burnt driftwood. I have deliberately integrated the same found form influencing the shaping of the objects through proprioceptive push and pull rhythms of griding, sanding, filing, and

16 As the driftwood became waterlogged, holes were bored by shipworms, and it settled on the ocean floor. The cavities slowly accumulated a saturated silica from radiolarian breaking down and filling the cavities. The wood was then slowly replaced with minerals to become a stone.

lifting in my making processes. Tumbling the petrified wood takes a minimum of six weeks, 1000 hours, in a tumbling barrel that mimics hydrodynamics and the movement of organic materials in waves or streams. While the material is tumbled, I observe the natural shaping of each piece when I check the barrels once a week. The process requires multiple stones and grits to work together in the rolling water to achieve a smooth polish. There is something poetic in knowing the function of those pieces is to erode and polish only a few from the container. It's a collective erosion process that I mimic from nature that would not be effective without the support of 'others', a mental match to a social manifestation of healing from trauma. While the stones are renewed, I linger in the thoughts of how they will fit to or with the repaired timber components. I rejoice when the organic forms created over several months do come together.

## Exemplars of Somaesthetic Anchors

The somaesthetic anchors restore attention through soft fascinations with nature and allow me to reflect on somatic connotations of trauma and growth. They embrace damage as a symbol of resilience alongside the healed sections to create dynamic forms. I am noticing a significant difference in scale, weight, and texture as a result of heightened somaesthetic awareness. The anchors have become more fluid with a deliberate embrace of the unique characters of the found materials (Figure 11). Through proprioceptive input I evoke an interoceptive awareness, to reach a state of flow. While in a state of flow I feel I am fostering an inner resilience through improved self-regulation of my own nervous system.

**Figure 11** *'Iteration #120' (Chloe Cassidy 2020).*

**Figure 12** *Chloe Cassidy (2020)*

**Figure 13** *Chloe Cassidy (2020)*

**Figure 14** *Chloe Cassidy (2020)*

## Summary

The somaesthetic anchors arising from this research have been informed by rigorous referral to trauma-informed care principles (specifically empowerment and safety), the use of natural materials (specifically those that induce soft fascinations), and opportunities to engage proprioceptive and interoceptive sensory awareness. The somaesthetic processes applied have unexpectedly heightened my desire to work with fragile and unique organic materials that are underrepresented in biophilic applications in trauma-informed design. I have found the metaphor of healing the materials themselves to be empowering. I engaged with processes in, and materials from, the natural environment to create meaning through a felt sense. The affect and care I experienced in the reforming of the 'damaged' materials has resulted in a reciprocal relationship of nurturing. The more time I spend with the materials and cultivating my aesthetic appreciation, the more I have come to identify with properties in the materials that signify resilience and growth. When I look back on photos and sketches taken while slow storming, I see the direct influence of rock forms, seaweed and other natural elements being brought into the objects through my growing somaesthetic awareness. They have become much more dynamic and organic without deliberate intentions to achieve this. Beyond the symbols of damage, resilience and growth, these artifacts have reanimated my practice and become much more animated in their relationship to the body as well. The relationship of the somaesthetic anchors to the body is two-fold.

1. The materials have been selected by referral to interoceptive senses and used as a grounding to cultivate an aesthetic appreciation of a range of materials stemming from the original burnt remnants found on the beach. I experience a sense of safety while in a state of flow because of my fight and flight responses are being dulled by soft fascinations. I draw on the agency of the materiality of the artifacts to anchor attention through natural symbols of resilience and growth.
2. The anchors are designed using deliberate push and pull rhythms in which my body

movements are articulated in the objects. I hope to provoke others to experience a sense of empowerment that is associated with self-regulation of the nervous system when it becomes a source of solace in applied creative practices.

I engage with somaesthetics to empower myself to shift trauma-informed neural responses out of survival mode and into a state of thriving and flourishing. Self-regulation through sensory grounding and sensory gating enables me to tune in and / or tune out the senses. As previously stated in the discussion of the research, these are acts of self-agency that have potential to empower people to reach a state of equilibrium in the nervous system that is advantageous in healing from trauma. This equilibrium, a calm yet activated state, is one I experience as a state of flow in my designer-maker practices. Engaging flow is empowering me to improve my ability to self-regulate through crafting objects as anchors through soft fascination. I propose the anchors offer a potential place of reverie for others living with complex trauma or seeking to experience a sense of safety, by offering ways to calm the sympathetic and awaken the parasympathetic nervous systems. In sharing my lived experiences through my practice-based research, I intend to contribute to the growing body of somaesthetic and trauma-informed design fields of research through notions of empowerment and safety.

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