A Mediated View

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A Mediated View

"Much has been written about art, but not in relation to the visual brain, through which all art, whether in conception or in execution or in appreciation is expressed" (Zeki 1998, p.1).

An inquiry into the neuroscientific function of the brain in relation to the choices that artists make when creating an artwork underpins the foundation of this research. Specifically, this research seeks to illustrate the intrinsic role that memory plays as a neurological co-factor in the production of artworks. As such, the first section of this paper provides a detailed overview of the processes of memory encoding, storage and retrieval. These functions are examined at a neurological level as a means of illuminating this complex human function. The work of pioneering researchers Professor Semir Zeki, Nobel laureate Professor Eric Kandel, and Dr Nancy Andreasen is referenced, as are papers by numerous other researchers in this field. This research also discusses the role of triggers in the process of memory retrieval and the implications of this for the creative act.

The subjective expression of memory informs the second part of this paper by demonstrating through examples of my own work and the work of other artists, the inherent co-dependence of memory and artmaking. It explores how triggers are enacted as creative potentials and how these potentials loop to and from current and previous studio outcomes and are expressed through sculpture, video and works on paper. Supporting these outcomes either conceptually or methodologically is an examination of the works of contemporary artists Diana Cooper, Gosia Wlodarczak, Do Ho Suh, Hanne Darboven and Gabriel Lester. Historical artists Louise Bourgeois and Paul Klee are also referenced in relation to their overarching influence, both consciously and subconsciously on my practice.

Key words: neuroscience, memory, creativity, drawing, video, sculpture, art

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Signed ……..

Date ……..

Michelle Cawthorn

A Mediated View

Master of Fine Art

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School of Art

Faculty of Art & Design

With thanks to my children, Bruno, Tomasino, Louisa and Matteo for understanding why this was important to me; to Sylvia Ross whose tireless support, encouragement and editorial eye helped me to shape this research; and to my wonderful husband, whose unfailing patience, support and trail of breadcrumb books, ultimately led me home.

For Peter

And by remembering 'houses' and 'rooms', we learn to 'abide' within ourselves.

Gaston Bachelard[1]

CONTENTS

My name is Louise Josephine Bourgeois. I was born 24 December 1911, in Paris. All my work in the past fifty years, all my subjects, have found their inspiration in my childhood. My childhood has never lost its magic, it has never lost its mystery, and it has never lost its drama.

Louise Bourgeois[2]

Introduction

We all have an inner landscape, a private space inhabited by our thoughts and dreams, memories and emotions. It is a space that is inextricably familiar to us, and yet, elusive as well. Sometimes we can access this space at will and sometimes little triggers take us there when we least expect it. I am interested in the little triggers – an old teddy bear, a song, a scent – the 'artefacts' of our experiences.

This research is concerned with the way these triggers evoke memories, then couple in our psyche to form new associations. Because much of the studio work that I produce is either implicitly or explicitly generated by memory, I have become increasingly preoccupied with the role that memory plays in the inception and creation of works of art. Though there are many fields, including cognitive psychology, that have researched concepts of creativity in detail, relatively few have attempted to explore the neuroscience of this fascinating human ability in relation to the visual arts. Before a link can be drawn between the two, an understanding of how memory works is imperative. Therefore, the first part of this paper will explore in detail the function of memory and will demonstrate the role it plays as a neurological co-factor in the production of works of art. To this end, the neuronal (electrical) brain and the glial (chemical) brain will be examined as a means of illuminating this most complex and subjective function.

It is the subjective expression of memory that informs the second part of this paper. Here I will demonstrate through examples of my own work and the work of other artists, the inherent co-dependence of memory and artmaking. I will explain how memory, both explicit and implicit is deployed, and explore its implications for the visual artist. For, as most of us would have experienced, memory is not 'fixed'. It is fluid and malleable and prone to suggestion. We gild

some memories and bury others. Some are so precious we go over them in our minds like a video on loop, whereas others are so nebulous and difficult to define they become abstractions. And invariably they change – with our mood, with our age, and in accordance with how we like to conceive of our own personal narrative.

Memory is a creative construct.

When considering just how creative our minds can be when constructing a memory, it is pertinent to consider the work of Dr. Elizabeth Loftus, Professor of Law and Psychology at the University of California. She has found through her research into repressed memory, that a quarter of any given population sample is susceptible to believing in false memories. That is, one in four of us will claim a memory that is not our own (*Law Report* 2013). This startling revelation casts aspersions over the viability of our own memories and places our faith in them on shaky ground. Why are we susceptible to false memories and worse, defend them as our own? For some it stems from our empathetic, co-operative natures (*Law Report* 2013), for others it derives from the weight of consensus. Still further, because our memories define us, and shape who we know ourselves to be, we want to believe the stories that our memories narrate, no matter how fictitious.

Author David Malouf's book, *12 Edmondstone Street*, is a memoir but reads like a work of fiction. The book centres around the homes in which he lived during certain periods in his life, but his descriptions are rich with details that are either evidence of a powerful memory, or an embellished one. While it is Malouf's ability to draw on this memory so eloquently that illuminates how creatively constructive our minds can be, it is an anecdote about his father on page 5 that illustrates our susceptibility. While describing the house and district his father grew up in the late 1890's he relates a memory that his father had of leaving the family home due to the floods in Brisbane in 1893. Malouf terms this a

"memory by hearsay" (Malouf 1985, p. 5), for as he points out, his father was not born until three years after the event.

Memory is an unreliable witness.

In fact, memory is so intrinsic to our human experience that we have an inherent perception of what it constitutes. The truth is, most people know very little about how their memory works. When people talk about memory, what they are referring to is explicit memory. Explicit memory stores information about people, places, and things and requires conscious attention for recall. Such memories can "be defined in words and are what most people refer to when they speak of memory" (Kandel 2006, p. 437). Explicit memories have a clear or direct association to a trigger - you understand immediately the connection of one to the other. Implicit or associative memories on the other hand, usually present as random thoughts; "implicit memory does not require conscious attention for recall" (Kandel 2006, p. 440) and is linked to the 'illusion-of-truth' effect (Begg, Anas & Farinacci 1992). The 'illusion-of-truth' effect can essentially be summed thus: familiarity. The more we are exposed to an idea or statement, the more familiar it becomes. The more familiar it becomes, the more likely we are to believe that it is true. And because familiar things are easier to process than unfamiliar things, they do not require conscious attention for recall. Therefore, this phenomenon is a direct result of implicit memory and is linked to the choices we make when creating works of art.

To complicate matters further, memory does not reside in any one area of our brain, although all sensorial input is processed through the hippocampus. Memory occurs throughout the brain and a complex system of retrieval triggers brings it to the fore in our conscious. However, this complex retrieval system is by no means failsafe; it is servant to the vast store of electrical and chemical components that constitute our working brain. Memory, therefore, has a way of re-presenting through fragments. This is analogous with the way in which, as a result of this research, my collages, mixed media and sculptural works deploy

both representational and non-representational forms. Often derived intuitively, they draw on both explicit and implicit memories and present as amalgams of these memory fragments. Similarly, British artist Cornelia Parker employs fragmentation in her work, but as a means of drawing the viewer's attention to the materiality of her sculptural installations (fig 1). By her own admission, the forms are often intuitively derived and are an expression of her subconscious (Hattenstone 2010). Parker uses the word 'intuitive' time and again about her work; the art comes first, the meaning afterwards. "I think your subconscious knows far more than your conscious, so I trust it. I just make it first and then it becomes much clearer to me why" (Hattenstone 2010).

Figure 1. ***Cold Dark Matter: An Exploded View*** 1991
Cornelia Parker
A garden shed and contents blown up for the artist by the British Army, the fragments suspended around a light bulb
Dimensions variable
Installation view at Chrisenhale Gallery
With thanks to the British Army

Like Parker, I too trust my subconscious to bring to the fore ideas and images otherwise deeply buried. While much of the sculpture and work on paper I produce is analogous with the way in which our minds reproduce memory, my video works are more reflexive of the way our minds record memory in the first instance. The video works have become a way to record and make meaning of events and feelings too complex, nebulous or significant to put into words. Like the memories we play over and over again in our head for fear of them being lost, the video works are an expressive simulacrum of this fear, looped forever in determination of never forgetting. Therefore, across my practice these fragments of memory serve as creative ruptures and the processes whereby they are enacted upon provide, a punctum to the poetic imagination.

In 1958 Gaston Bachelard published a book titled *The Poetics of Space* which was the product of his inquiry into the "problems posed by the poetic imagination" (Bachelard 1958, p. xv) and his desire to make sense of a "phenomenological determination of images" (Bachelard 1958, p. xviii). Throughout the book he uses excerpts from poems to illustrate his considerations and employs metaphor as a means of exploring an ontology of the poetic image. The metaphoric image that he chose was the house. Bachelard's image of the house as a metaphor is appropriate for my own research into memory, as so much of my external expression is housed in the internal.

Seed

A few years ago I found myself struggling to take my studio practice in a new direction. I had been making drawings from the lace and crochet tablecloths that my grandmother had made as well as others that I had collected over time. These drawings were in fact tracings of where the fabric touched the surface of the paper. I would throw the fabric over the paper, just like you would if you were to lay a table for tea. I devised this constraint for two reasons. One was to try to avoid the drawings becoming too literal. The element of chance that the action of throwing provoked meant that I could never be entirely certain what the final drawing would look like. The second was to keep me interested. These slow, labour intensive drawings took many hours of concentrated mark making to complete, so the promise of seeing the final tracing always compelled me to complete the work.

Although there was something very satisfying about completing these works, I could not seem to move beyond the somewhat prescriptive outcome of this working methodology. My practice required a rupture, a punctum for new creative possibilities. So I returned to chance. The tablecloth drawings recorded where the cloth touched the paper, this meant that much of the image was created through tracing the negative spaces of the lace and crochet work. These 'voids' generated organic shapes that carried with them their own creative potential (fig. 2, p 15). The challenge was to harness this potential for new work. But how?

I began by trying to create a mark equivalent to the 'voids' from the lace and crochet drawings through a different media. I poured ink onto watercolour paper and let the ink roll around. These motion-directed, process driven works (fig. 3, p.15) produced simple organic ink drawings that did not move my practice far enough away from the original voids.

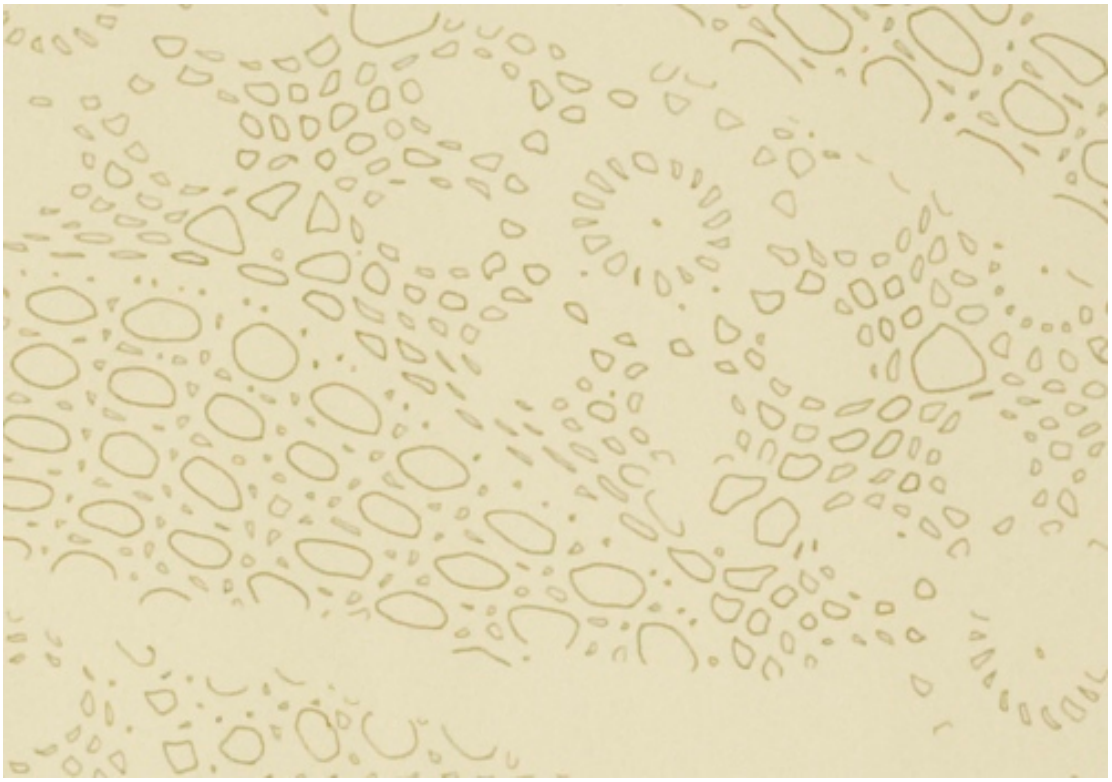

Figure 2. Detail of lace drawing

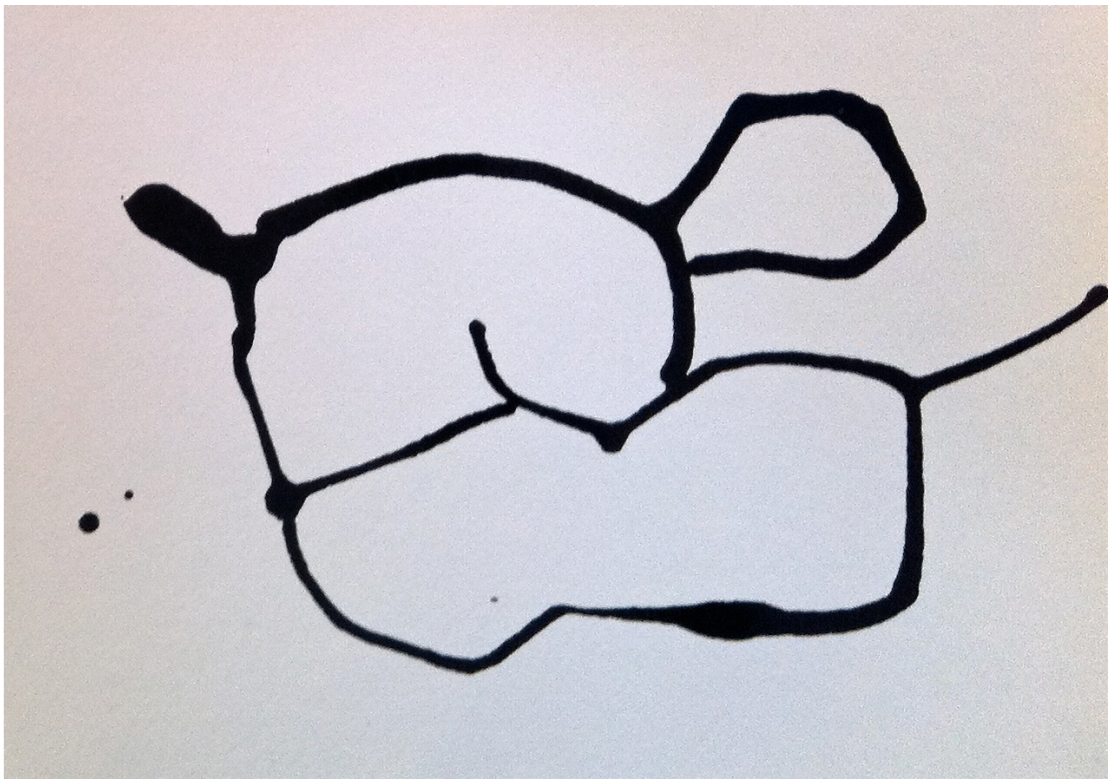

Figure 3. Detail of equivalent ink drawing

They needed something else, so I began to experiment with what I had at hand. Amongst other things in my studio were decorative Japanese rice papers and some old First Aid textbooks I had kept because of their watercolour illustrations. I decided to incise some of the ink drawings to create physical voids. Under the voids I placed the rice paper. This created non-representational images that, although pleasing enough, still 'seemed' to me to be incomplete. Finally, I picked up the First Aid manual and began to flick through the illustrations. A number of the images interested me so I cut them out and absently pasted them onto the ink drawings.

When asked why I had collaged the First Aid illustration onto the ink drawing, I looked blankly and said, "because it felt right". I could not articulate my reasons for arriving at this conclusion to my pictorial composition. American playwright Neil Simon (author of *Biloxi Blues* and the *Odd Couple* amongst other works) is similarly vague when discussing his creative process stating: "I don't know where it comes from; it just happens" (Andreasen 2005, p. 38). That simple question, posed a few years ago, unwittingly provoked the foundation for this research.

What compels us to make the choices we make when creating a work of art?

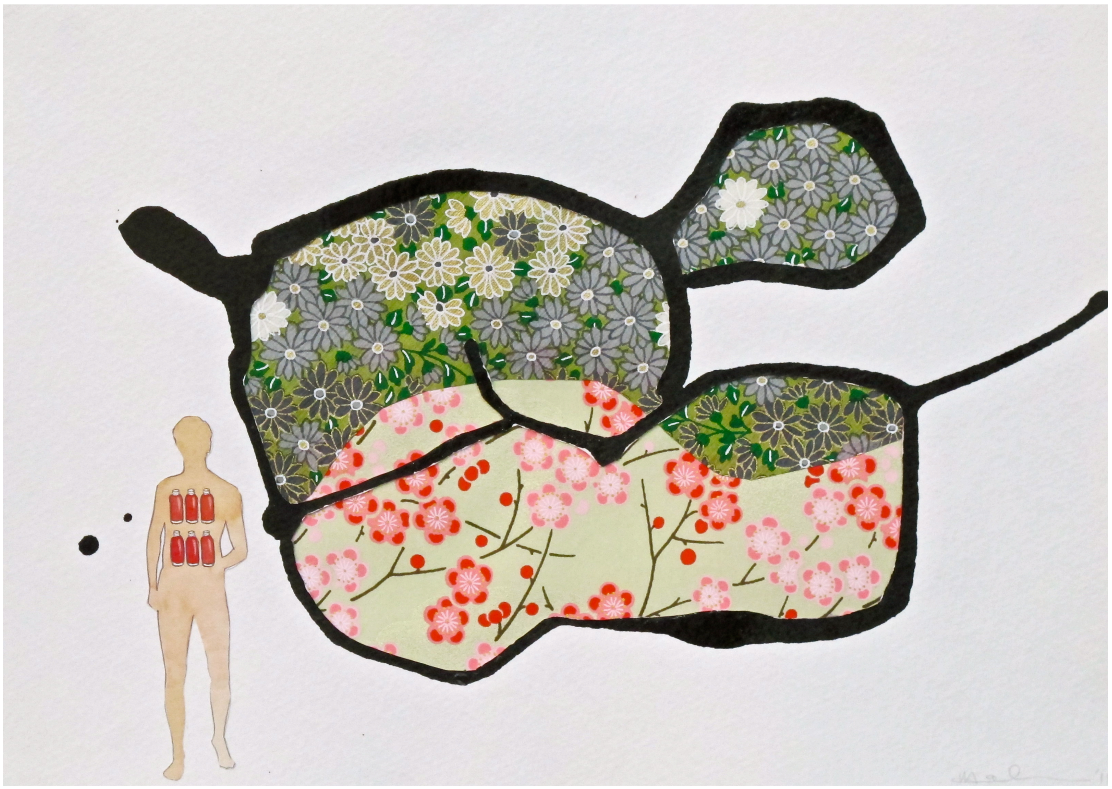

Figure 4. ***InkED*** 2011
Ink and collage on watercolour paper
20 x 30 cm

I began by going back to the artworks. The early collage works all stemmed from the practice of juxtaposing the non-representational with the representational. But why had I done this?

The founder of Neuroesthetics, neurobiologist Professor Semir Zeki, wrote a seminal paper in 1998 titled *Art and the Brain*. Zeki begins his paper by stating that "much has been written about art, but not in relation to the visual brain – through which all art, whether in conception or in execution or in appreciation, is expressed" (1998, p.71). Zeki's research is concerned with understanding the aesthetic experience at a neurological level, primarily through the function of visual processing. As such, he defines the function of the visual brain as "a search for constancies with the aim of obtaining knowledge about the world" (Zeki 1998, p.76). Zeki then extrapolates this notion to define the

> function of art as being a search for constancies, which is also one of the most fundamental functions of the brain. The function of art is therefore an extension of the function of the brain – the seeking of knowledge in an ever-changing world (Zeki 1998, p. 78).

Zeki's hypotheses goes some way to explaining what occurred when I choose to juxtapose the image of a man with the puppy shaped ink drawing (fig. 4, p.17). I 'saw' a puppy in the shape the ink had made. This is a well documented and researched phenomenon known as pareidolia, whereby a random or vague stimulus (usually visual) 'suggests' a known form or "the imagined perception of a pattern or meaning where is does not actually exist, as in considering the moon to have human features" (Dictionary.com 2014). 500 years ago Leondardo da Vinci similarly identified the creative potential in this phenomenon when he observed that,

> If you look at any walls soiled with a variety of stains, or stones with variegated patterns, when you have to invent some location, you will therein be able to see a resemblance to various landscapes graced with

> mountains, rivers, rocks, trees, plains, great valleys and hills in many combinations. Or again you will be able to see various battles and figures darting about, strange looking faces and costumes, and endless number of things which you can distil into finely rendered forms (Onians 2007, p.50).

This stimulus to the imagination illustrates how I may have perceived a puppy through the disassociated ink form, but it does not explain where my perception of the idea of 'puppy' came from in the first instance. Nor does it explain why I chose to juxtapose the figure of the man with the puppy shaped form. For this we need look beyond the function of the visual brain to the place where my notion of puppy and its associations were stored in the first instance – in my memory.

PART I: MEMORY

It is for this reason that I hold the somewhat unusual view that artists are neurologists.

Professor Semir Zeki[3]

Subtractions, additions, elaborations and distortions: defining memory

Explicit memory is highly individual.[4]

When we think about memory, what we are really referring to is conscious memory. Conscious memory is called explicit or declarative memory. Explicit memory stores information about people, places, and things and requires conscious attention for recall. It is the means by which we can "leap across space and time and conjure up events and emotional states that have vanished into the past yet somehow continue to live on in our minds" (Kandel 2006, p.281). Explicit memory can be divided into two categories: episodic memory and semantic memory (Tulving 1972).

Episodic memory is the memory of specific experiences such as autobiographical events and includes people and places, the emotions associated with these, and any other relevant contextual information. The content of episodic memory depends heavily on retrieval of conceptual knowledge. Remembering, for example, that you had toast and tea for breakfast requires retrieval of the concepts of toast, tea and breakfast. Episodic memory might be more properly seen as a particular kind of knowledge manipulation that creates spatial-temporal configurations of object and event concepts (Binder & Desai 2011).

Episodic memory can be defined by nine properties that collectively distinguish it from other types of memory. These include:

1. Contain summary records of sensory-perceptual-conceptual-affective processing
2. Retain patterns of activation/inhibition over long periods
3. Often represented in the form of (visual) images
4. They always have a perspective (field or observer)

5. Represent short time slices of experience
6. They are represented on a temporal dimension roughly in order of occurrence
7. They are subject to rapid forgetting
8. They make autobiographical remembering specific
9. They are recollectively experienced when accessed (Conway 2009, p.2306)

Semantic memory, on the other hand, is an individual's store of knowledge about the world. Historical facts, information learned in school and the ability to recognize friends and acquaintances are all examples of semantic memory. Its "content is abstracted from actual experience and is therefore said to be conceptual, that is, generalized and without reference to any specific experience" (Binder & Desai 2011, p. 527). My notion of 'puppy' resides in this memory system, abstracted from my experience(s) of puppy(ies) and therefore conceptualized. When we consciously recall a memory, we are drawing on this codependent system of episodic and semantic memory. Furthermore, each of these systems stores independent yet related information about the memory in different areas of our brain. To recall the memory, these areas of our brain are simultaneously triggered and the disparate components of our memory are synthesized to reconstruct the event.

> Recall of memory is a creative process. What the brain stores is thought to be only a core memory. Upon recall, this core memory is then elaborated upon and reconstructed, with subtractions, additions, elaborations, and distortions (Kandel 2006, p. 281).

Therefore, memory is an amalgam. It is a concept that refers to the process of remembering (Mohs 2007). The process of memory begins with encoding, proceeds to storage and eventually retrieval.

Encoding

Encoding begins with perception.

Consider the last time you saw your mother. Your visual system registered what she was wearing and how she wore her hair. At the same moment, your auditory system registered the sound of her voice. Still further, her smell and the smells around you in that moment were being registered in your olfactory system. When you hugged her goodbye your somatosensory system registered how her body felt against yours. All the while you were having this perceptual encounter with your mother, sensorial information was being transmitted to your hippocampus for encoding. In the hippocampus, these sensorial inputs were converted into short-term memories that were integrated to into *the experience of seeing your mother*.

The hippocampus then analyses all this sensorial information and decides what (if anything) is important enough to be remembered. That is, not all the sensorial information that you received during the encounter with your mother will be encoded and recorded. Essentially, it is the 'strength' of the sensorial input that determines its ascendance. However, what it does decide to record will be converted into a long-term memory through a process called long-term potentiation, or LTP (Bliss & Collingridge 1993; Kandel 2006; Doidge 2007).

Long-term potentiation is the process whereby short-term memories are converted into long-term ones. Typically, for a short-term memory to be converted into a long-term memory, a persistent increase in synaptic strength through high frequency stimulation occurs. This *potentiation* can last for a very long time, sometimes our entire lifetime, and therefore plays a crucial role in the encoding of our explicit and implicit memories. This pattern of neuronal connections is referred to as an engram (Semon 1921, p.24), the *core* memory Kandel referred to. Engrams will typically stay dormant until they are stimulated

by a trigger, which then evokes the memory (Puiu 2012). The exact location and mechanism of engrams in the brain is currently hypothetical but has, and continues to be, a focus of neuroscientific research worldwide.

Long-term potentiation

1. A synapse is repeatedly stimulated
2. More dendritic receptors form
3. More neurotransmitters fire
4. A stronger link between neurons occurs

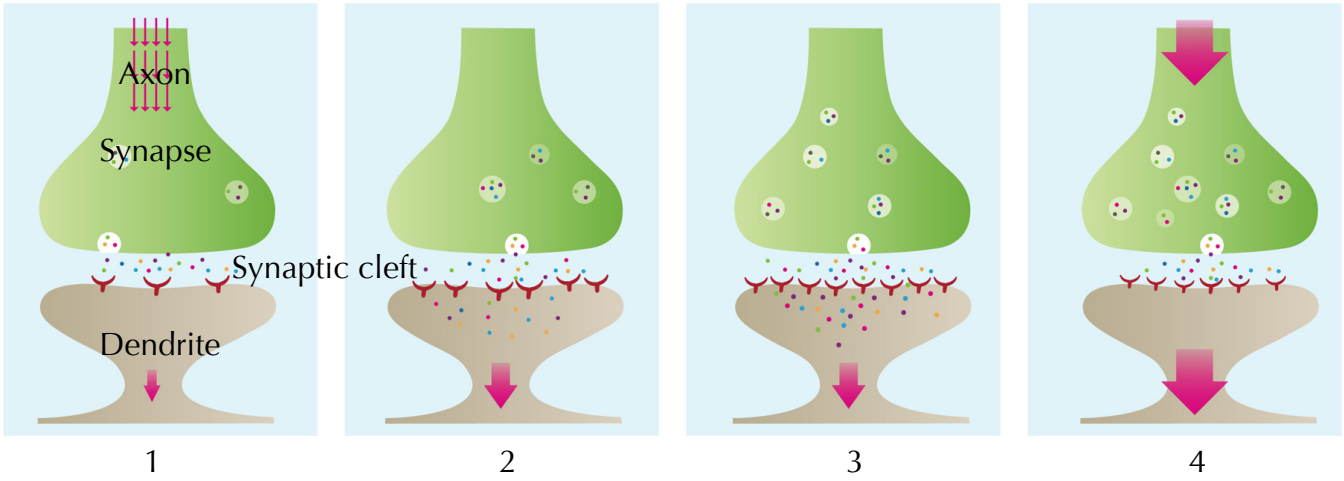

Figure 5. Diagram of long-term potentiation[5]

Long-term potentiation however, is not purely a matter for your neurons only. Nonneuronal cells called glia play an important role in how synaptic strengthening occurs. Glia, short for neuroglia, is Latin for 'neuro glue' (Fields 2009, p.7) For at least a century, neuroscientists have known about the existence of glia. Ramón y Cajal, considered widely as the father of modern neuroscience, first noted these nonneuronal cells through his research into the cellular structure of the brain in the late 19th and early 20th century. However, with the tools at his disposal at that time, he could not explain their function, and for most of the 20th century neuroscientists considered that they played a supportive role; that they were in fact the 'glue' holding the neurons in place. However, recent technological advancements in brain research, including imaging techniques such as fMRI (functional magnetic resonance imaging) and PET (positron emission tomography) scans, have allowed researchers to discover that rather than being the inert matter that neuroscientists had previously thought, glia play an integral role in brain function.

If we refer to the diagram on the previous page (fig. 5), we can see that there is a space between the synapse and the dendrite called the synaptic cleft. Neurons fire electrical impulses to convey messages – the impulse travels along the axon, through the synapse to the synaptic cleft. At the synaptic cleft, the information is passed from the presynaptic to the postsynaptic neuron in the form of a chemical substance called a neurotransmitter. These neurotransmitters diffuse across the synaptic cleft and it is during this process that they come into contact with glia. What we are now beginning to understand about the role of the various glia in our brain is that they play a pivotal role in how neuronal information is transmitted (Fields 2009). Their significant ability to strengthen or weaken the transmission of information throughout the brain invariably affects the way we encode, store and retrieve memories. For this reason they must be acknowledged in any neuroscientific consideration of memory function. A detailed exploration of their role and the corresponding field of research however is beyond the scope of this paper, though it may prove an invaluable focus for future research.

Storage

So, where and how are our memories stored?

Once a memory is created it must be stored, no matter how briefly. There is much that we are still learning about how our brains store memories and experts in the field continue to debate the various hypothesized systems of storage (for example modal or unitary). But there is some consensus in regards to the three stages of storage: sensory, short-term and long-term. In order to function in this world we need to be able to remember things, however, it is not necessary to maintain all the information that we receive all the time. So these different stages of memory help our brains to filter what is important.

Your sensory memory therefore, is the stage of memory related to perception. It is the stage at which the percept is registered as a sensorial input before being stored in short-term memory. As previously discussed, short-term memories are filtered and processed in the hippocampus and important memories are gradually transferred from short-term to long-term ones through the process of LTP. Without LTP, short-term memories degrade quickly and cannot be retained – this is a good thing, as without this process, our brains would quickly become overloaded and overwhelmed. Once converted, long-term memories can be stored indefinitely and in unlimited amounts (Mohs 2007).

Long-term memories (the core memory, memory trace – engram) are stored globally throughout the brain, and are incumbent upon the nature and context in which they were originally perceived (Andreasen 2005). For instance, the memory of your first kiss is an example of episodic memory. Episodic memories are consolidated and stored in the frontal cortex (Costandi 2013, p. 94). However, the different elements of this memory (the feeling of your lips touching, the excitement this generated, the smell of their skin etcetera) reside in the different areas of the cortex that generated the sensorial percept in the first

instance. After processing in the hippocampus these different elements are “sent back to the parts of the cortex where [they] came from and [are] stored in the original cortical networks that first produced its various sights, sounds and so on. So memory is widely distributed throughout your brain” (Doidge 2007, p.386). Our memories are therefore fragmented and our recall of a memory is more accurately a reconstruction that is highly susceptible to subtractions, additions, elaborations and distortions.

Retrieval

Triggers

This is where it starts to get interesting. If we refer back to the example of *the memory of your first kiss*, during encoding your hippocampus filtered aspects of this experience according to the strength that the sensorial percepts (inputs) were received. The touch of their lips may have generated more neuronal activity than the smell of their skin. The excitement you felt (or did not feel) would also have been competing for ascendency. So these elements of *the memory of your first kiss* were encoded according to synaptic strength. Each time you think about the kiss you are reactivating these memory traces, which generate activity in your synapses. This principle is known as Hebb's Law which states that "neurons that fire together, wire together" (Doidge 2007, p. 117). This increase in synaptic activity strengthens their long-term potentiation.

It is perhaps pertinent to mention at this point that there is also a process called long-term depression or LTD. LTD is the process whereby the brain "unlearns associations and disconnects neurons" (Doidge 2007, p.117). This process is important because, just as our brain would be overwhelmed if it had to store and maintain all the information that it receives all of the time, our neuronal networks would be saturated if we only always strengthened connections. "Evidence suggests that unlearning existing memories is necessary to make room for new ones in our networks" (Doidge 2007, p. 117). Imagine if the only *memory of your first kiss* was your first, awkward teenage one! Gratefully, due to the neuroplastic nature of our brains, the memory of your first teenage kiss decreases in strength as the brain prunes away the synaptic connections that were formed for this memory, to make room for the strong, new memory. So now, under the concept of *the memory of your first kiss* you have more than one memory, but they vary in synaptic strength. Coupled with the fact that the various elements of each of the memories of the first kiss reside in the different

areas of the brain that received the sensorial input in the first instance, you begin to understand how complex and susceptible to alteration, retrieval of memories becomes.

How we access memories also differs. Some memories we consciously recall, while others are triggered by seemingly disassociated stimuli. Our long-term memories are stored and retrieved by association, so when you consciously think about your first kiss, you are actively reconstructing all the disparate elements of this a biographical event from your explicit memory. Over time, some aspects of this memory will prevail over others. Like a game of Chinese whispers, each time you replay the memory in your mind imperceptible elements change (Bartlett 1932, Costandi 2013, p.97). Explicit memory therefore becomes a fiction, grounded in fact, that we narrate to ourselves.

However, we do not only consciously recall our memories. Our random thoughts are in fact memories to which we cannot attach a context. They are usually triggered by an external stimulus, for instance a smell, a song or a childhood toy. This process is called 'free-association' and is

> based on the understanding that all our mental associations, even seemingly 'random' ones that appear to make no sense, are expressions of links formed in our memory networks. [Freud's] law of association by simultaneity implicitly links changes in neuronal networks with changes in our memory networks, so that neurons fired together years before wired together, and these original connections are often still in place and show up in [a person's] free associations (Doidge 2007, pp.223-4).

Combine this with the function of semantic memory, where content is abstracted or generalized and "without reference to any specific experience" (Binder & Desai 2011, p. 527), and the possibilities for 'creative' variants in memory reconstruction is seemingly infinite.

False memories: suggestions and interruptions

Have you ever had the experience where you described an event from memory only to find that in fact, the memory was not your own?

David Malouf's father was guilty of this faux pas when he retold the experience of leaving the family home during the Brisbane floods of 1893, an event that occurred three years before he was born. Malouf's father was convinced that he could remember this experience and yet, as recent research has shown, most of us cannot recall a memory before the age of three (Bauer, 2002). This is because the hippocampus has not sufficiently developed to be able to process and store all the information that it is receiving during those early years.

> Adults can remember relatively few events from below the age of about 7 years, even fewer from the age of 5 years, and it is thought none from the pre-verbal period of about 24 months (Morrison & Conway 2009, p. 23).

Even if Malouf's father had been alive during the floods, it is unlikely he would have been able to recall the event and certainly not with any accuracy. Newcombe et al. (2007, p. 30) suggests that "it is not until semantic [conceptual – my brackets] knowledge is formed in long-term memory that the ability to generate and retain episodic memories begins to emerge". This hypothesis is challenged by Morrison & Conway (2009), however they do assert that "once conceptual knowledge is formed it organizes episodic memories and most importantly of all brings about the creation of autobiographical memory" (Morrison & Conway 2009, p. 30). Acquisition of conceptual knowledge is linked to the development of language, particularly vocabulary. Essentially, you cannot encode a memory unless you have a means of representing it in long-term memory. Once it has been represented it can be retrieved (Morrison & Conway 2009, p.23).

So why did Malouf's father claim this memory as his own? The Brisbane floods would have been a significant experience for his parents and family and were no doubt narrated many times over during the course of his upbringing. This caused the event to become a conceptualized *experience of the Brisbane floods* that would have been encoded in his semantic memory, just as my concept of puppy is. At some point, the familiarity of the story (remember the 'illusion of truth effect') caused him to believe that he had in fact been part of the event. So, when he retold the event to his own family many years later, he truly believed the story he narrated.

For false memories are just as plausible to those who profess them as real ones are. Professor of Psychology at Harvard University, Richard McNally's research into people who claim to have been abducted by aliens has discovered that alien abductees

> have very pronounced psycho physiological reactions to these abduction scripts. And the magnitude of their reactions was at least as great as the reactions that we'd seen in our previous research with childhood sexual abuse survivors, with Vietnam veterans with combat related PTSD (*Catalyst* 18 March 2010; McNally et al. 2004).

False memories occur because memory retrieval is an associative process, incumbent upon how we encoded and stored conceptual knowledge in the first instance. "The human brain, with its trillion neurons and quadrillion synapses, has nearly endless components to self-organise" (Andreasen 2005, p. 63). The research into false memory phenomena is broad and beyond the scope of this thesis. Suffice to say that memory is highly susceptible, and, due to the fact that our brains are comprised of many large and small feedback loops, "it is the perfect organ for producing dynamic nonlinear thought" (Andreasen 2005, p.63).

That is, creative thought.

PART II: PRODUCTIVE SUBLIMATION

Drawing is associated with intimacy, informality, immediacy, subjectivity, history, memory and narrative… We use drawings to denote ourselves… it is the means by which we can understand and map, and come to terms with our surroundings.

Emma Dexter[6]

The Perversity of Slow

Loop number one.

My drawing process is slow. My drawings evolve. Sometimes they begin in the real world - the world of the tangible, the concrete, the explicit. Sometimes they begin in an imaginary world - the world of the intangible, the immaterial, the implicit. A shape from one work informs another. A childhood toy becomes the impetus for a new composition. A favourite pastime is conveyed. A 'mistake' is played with and developed with rather than erased, or a line is followed because it feels right. Other lines 'go for a walk', as Paul Klee famously observed. Planes of hatched lines fold and move, from dark to light – from concealed to revealed. Slowly, ever so slowly, they take form. At an almost glacial pace, into a space that allows my thoughts to wander and collide, tumble and meander.

The drawings that I make are paramount to my practice. They are the indexical artefacts of my thinking made manifest. The forms they present are all expressions of my explicit or implicit memories and each finished work represents hours and hours of hatching that, by virtue of this type of mark making, is conducive to a meditative state.

Amanda Robins' Ph. D thesis *Slow Art* (2006) is an examination of the role of meditative processes in painting and drawing and the repercussions of this for studio practice. She states that:

> … works produced in this way are often invested with intense emotion without necessarily portraying anything directly emotive, and the artist will often talk about their work in a way that indicates a large degree of commitment and perhaps a deep compulsion to make and continue making work (Robins 2006, pp.10 -11).

And so it is with my drawings. The process of making these labour intensive works, with their small repetitious hatched marks is somewhat obsessive and certainly addictive, and compels me to return to my studio time and again. Neurological research has shown that dopamine (the pleasure neurotransmitter) floods the nucleus accumbens when we engage in an activity that satisfies a need or fulfills a desire. It serves as a signal to the brain that the action promotes survival (HEALTHbeat 2004, Constandi 2013). In August 2013, I lost my mother to breast cancer. The making of the large-scale works on paper has been as much about surviving this loss as it has about accessing a creative space. Over the course of the year leading up to and immediately after my mother's death, the compulsion to make these works was incredibly strong. They presented both a way to escape reality and also a way to record it. The physical act of drawing links the memory of the experience (of drawing) to the act. The drawings made during that time will forever remind me of the experience of that loss. The repetitious and rhythmic process that hatching requires produced, and continues to produce, an environment conducive to a meditative state from which thoughts and creative ideas emerge.

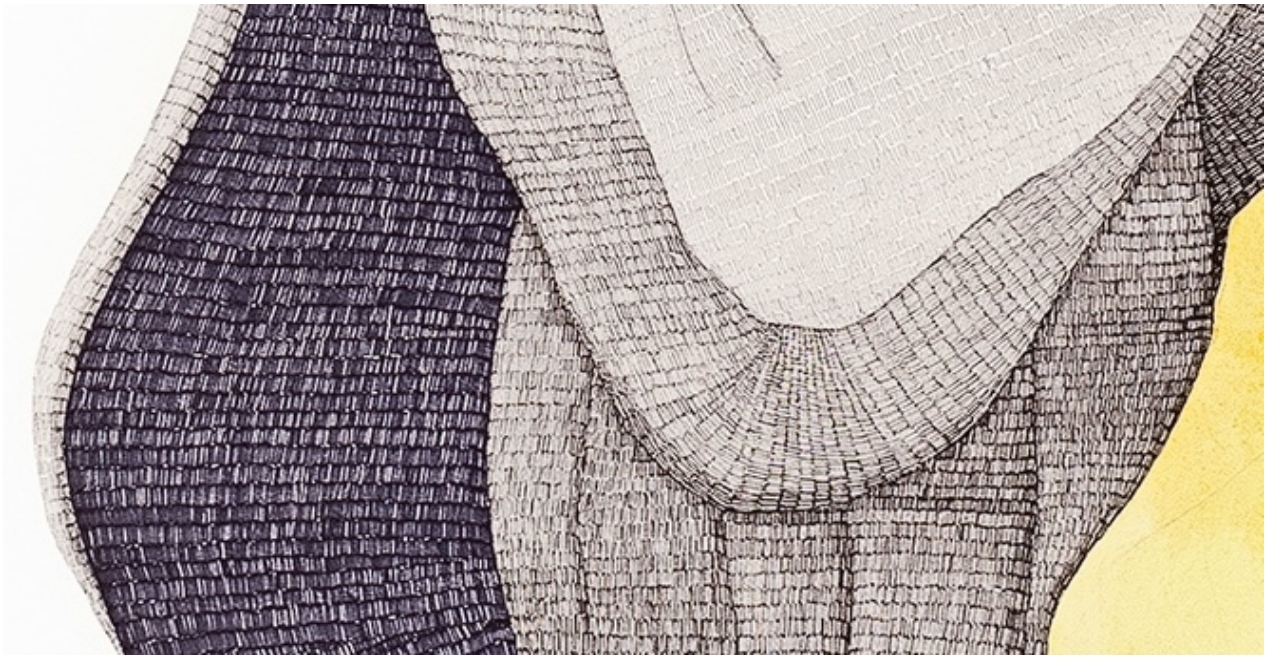

Figure 6. ***Troubadour*** 2014 – detail

Figure 7. ***Troubadour*** 2014
Pen, graphite, watercolour and gouache on Hahnemühle paper
108 x 79 cm

Robins' investigations reveal that a slow and meditative approach to "the kind of work and work practices that can facilitate this state, enable the artist to develop a [unique] relationship with the work and to be immersed within it" (Robins 2006, p.33). This place of complete immersion can also be considered a place of 'flow' where "the contents of consciousness are pared down to only those needed to perform the activity" (Robins 2006, p.39, Csikzentmihalyi 1990). It is in a state of flow that a person/artist can "outwardly appear(s) conscious but 'lost in thought'. This reality is similar to an unconscious state, a place where words, thoughts, and ideas float freely, collide, and ultimately coalesce" (Andreasen 2005, p.37).

It is in this place of 'flow' that memories and creative thoughts appear as if from nowhere. It is as if, by the very act of being immersed wholly in mark making, a space opens for other creative potentials to occur. These potentials then form in my conscious mind, and I am quick to sketch them out before consciousness intervenes. Louise Bourgeois similarly observed that,

> Drawings have a featherlike quality. Sometimes you think of something and it is so light, so slight that you don't have time to make a note in your diary. Everything is fleeting, but your drawing will serve as a reminder; otherwise it would be forgotten (Bourgeois & Rinder 1995, p.21).

It is only after I have recorded the form do I consider how it may be experimented with and extended. This is how my practice loops back onto itself. I make 'slow' work - the work allows me to fall into a place of 'flow' and from this flow new creative potentials occur. I follow one of these potentials and a new work is born. And so the cycle continues. This is how *Sleeper* (2014) came into being.

Figure 8. ***Sleeper*** 2014
Pen, graphite, watercolour and gouache on Hahnemühle paper
108 x 158 cm

Sleeper (2014) (fig 8) was the final work in the series of works on paper titled *Sleeper,* created between October 2013 and April 2014. Though the title work in the series, it took the longest to resolve. *Sleeper* consists of two sheets of Hahnemühle paper. The practice of creating the larger scale works in this way eventuated from my preference for using Hahnemühle paper (for its cloth-like qualities) which is manufactured to a standard size of 79 x 108 cm. In this work, the non-representational form on the right hand side of the image came first. However, like the earlier collage work, it needed a representational form to create a dialogue. For five months this work was pinned in my studio waiting to have a conversation with another form, but nothing came. I juxtaposed a range of representational forms with it to give it a narrative, a context, but nothing 'felt' right. I put the piece away for a brief period to continue with other works-in-progress.

After a week or two I put the piece back up in my studio while I continued to work. Sometime shortly after this, needing a break from the work at hand, I turned to look at the piece. Immediately the non-representational hatched form seemed clearly reminiscent of a guppy. Da Vinci's observation of the creative potential of pareidolia was now apparent. Freed from the drawing's previous context on my studio wall, its reintroduction provoked sublimated associations to occur, a process similar to Freud's 'law of association by simultaneity'. This was possibly due to the fact that I had moved on to other work thereby resulting in new creative potentials.

The resolution to *Sleeper* was then swift. As thoughts move at lightning speed from one to another, memories of fishing from my childhood came flooding back. Fishing continues to be a meditative pastime that I have always enjoyed, and my favourite fish is whiting. Interestingly, I had wanted to make a work that featured a whiting for some time, but in this instance, the whiting was the resolution rather than the impetus.

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The repetitive mark making inherent in the practices of Australian artist Gosia Wlodarczak and American artist Diana Cooper facilitate a place of flow through which they translate sentient experience. For Wlodarczak, her "drawing is the means by which her consciousness is made concrete" (Ryan 2014, p. 75). For Cooper her 'meta-doodles' (Maclagan 2014) represent the 'spontaneous transformation' of her 'subconscious thought into wildly imaginative musings on paper, canvas, the wall and three-dimensional space' (Crutchfield 2007, p. 15). For both artists, as for myself, the drawn mark is a foundational element in their otherwise multidisciplinary practices.

Wlodarczak's drawings represent a trace or residue of her experience of a place over a given time. Ephemeral by intent, the accretion of marks record the artist's relationship to the surrounding she finds herself in and "materialize what the artist sees and experiences in the time they take to make" (Ryan 2014, p. 17). Her seven-day drawing performance and installation on glass recently for the Dobell Australian Drawing Biennial 2014 is a good example of this (fig 9, p. 41). Using pigment pen, she quickly records what her eye encounters, both activity and object. Over time, the marks build and spread across the surface of the glass with increasing layers and density. The resultant drawing has an abstract, unfinished quality that "capture(s) the reactive moment when her eye alights on something before registering what it is" (Ryan 2014, p.17). Her work involves the "conscious creation of unconsciousness, of a kind of 'flow' state in which the artist can see (and transcribe) without comprehension, without identification" (Hansen 2006). The act of making the mark is thereby a subliminal link in her memory to the event, at the conclusion of which the work is removed, reinforcing the temporal nature of her performative practice.

Figure 9. ***On the sky and water, frost drawing for the AGNSW*** 2014
Gosia Wlodarcszak
A seven-day drawing performance and installation on the Art Gallery of New South Wales window, *DRAWING OUT*, the Dobell Australian Drawing Biennial, Sydney, Australia.
Pigment pen on glass
Overall dimensions: 310 x 1050 cm

Unlike Wlodarczak, Diana Cooper's practice is not concerned with recording an experience of place, however, both artists engage in methodologies that concern mark making as a physical expression of an "absent (or unfocused) mind" (Crutchfield 2007, p. 29). The result of this for Cooper is work that employs 'doodling' as a means of conveying her subconscious musings as well her interest in the mechanics of the human brain (DiQunizio 2007). Her interest in neurology is expressed through her "ongoing endeavor to translate human thought into abstract line and form" (Crutchfield 2007, p. 69). As such, her large-scale, labour intensive drawing installations are compelling evidence of the creative and transformative potential of repetitive mark making processes.

> The scale and intensity of the drawings is important. My doodling is very dense and extremely layered. So the work becomes about time – time passing and passing time away – which is what doodling is, ultimately. Also, I deliberately try to enter into that absent-minded state of the doodler when I begin to draw. I try to create a situation for myself of feeling free and not questioning. It's hard to do and it gets harder to do because you get used to certain ways of working (Crutchfield 2007, p. 87).

Cooper's current practice was born of her graduate years at Hunter College, City University of New York where "in a deliberate break with her training as a painter, [she] abandoned paper, canvas and paint, embraced felt-tip markers as a primary medium, and gave herself over to doodling on a grand scale" (Crutchfield 2007, p. 29). The support for her grand doodling was her studio wall at Hunter College. Titled *Hunter Wall* 1994-1995 her 'meta-doodle' finally measured 3 m x 43.9 m long and was drawn entirely with Sharpie pens, straight onto the wall.

[Image unavailable due to copyright]

Figure 10. ***Travelling the Exosphere*** 2000-2002
Diana Cooper
Felt tip marker, acrylic, felt, foam core and acetate on canvas
213.36 x 287.02 x 12.7 cm

Following this Cooper continued to extend the boundaries of her drawing practice by pushing it out into three-dimensional space. Employing everyday materials such as those found in office supply stores, Cooper uses pencils, felt-tip markers, ball point pens, Velcro, push pins, vinyl, tape, pipe cleaners, foam core and assorted plastics to build her drawings out into three-dimensional wall reliefs and installations.

[Image unavailable due to copyright]

Figure 11. ***Emerger*** 2005-2007
Diana Cooper
Acrylic, ink, acetate, felt, paper, foamcore, wood and map pins
Dimensions variable

Like Cooper, my works moved beyond the constraints of the two-dimensional as the need to liberate my practice from the wall increased. The drawing assemblages of my current practice evolved from the interplay between the positive and negative shapes in my earlier collage works. The individual shapes for these works are derived from the leftover cut-outs from the pentagonal planes of my earlier cubbyhouse sculptures (see fig 17, p. 53 in the following chapter). By experimenting with different arrangements of the forms, new creative potentials emerged.

Figure 12.
Untitled (fragment) I 2012
12 mm hoop BB grade plywood,
acrylic wash and screws
50 x 60 cm

These assemblage works also simulate the methodology of my collage process (whereby an image is derived at through the juxtaposition of representational and non-representational forms). Like a metaphor for the process of memory reconstitution itself, the amalgamated forms are visual expressions of this sublimated process, which, through further experimentation, are now enhanced by the activation of the planar surfaces through drawing.

This new process constitutes a breakthrough in my drawing practice and broader studio methodology, and has resulted in two outcomes. The first represents a convergence of my collage and drawing practice. In this incarnation the plywood replaces the paper as the support and each plywood shape informs the resolution of the drawing that sits upon it. These drawing pieces can then be experimented with in a multitude of ways to form new compositions. Figure 13 illustrates the fragmented drawings as they appear on the plywood shapes. Figure 14 (p. 45) illustrates one of the outcomes of this new process.

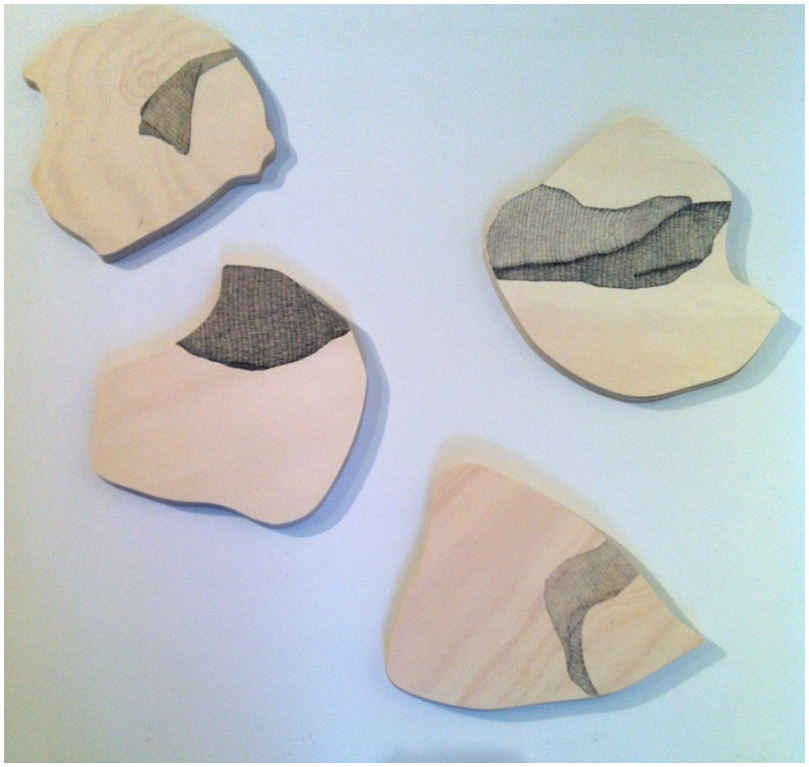

Figure 13.
Plywood shapes

Figure 14. ***Between two thoughts*** 2014
Pen and acrylic wash on 3 pieces of 12mm hoop BB grade plywood
122 cm x 100 cm

The second outcome has been the means by which my drawings have moved beyond the confines of the two-dimensional into three-dimensional space. This has opened the possibility for new creative potentials, including sculpture, which will be discussed in the next chapter.

More and more it was a little world of its own, to be mapped, explored, re-mapped, interpreted and made the repository of its own powerful mythology.

David Malouf[7]

"…when the lights come on"

Loop number two.

Our perception of home is inextricably embedded within our identity. Bachelard expresses this binary of home and identity by observing that, "the house image would appear to have become the topography of our intimate being" (Bachelard 1958, p. xxxvi). The houses that we call home chart their spaces, both intimate and shared, throughout our memory and mold us as much as we mold them. They are "in us as much as we are in them" (Bachelard 1958, p. xxxvii) and remain bound to our notion of self.

My notion of self was significantly challenged the year I left home to study architecture. To undertake this study I had to move from the country to the city. The childhood self, with its attachments to home and place was rent from the known and cast adrift. The young adult self was now forced to reconstitute a sense of place within this new unknown. This unsettling period of change eventually manifest through an outcome I generated for the final project of first year architecture studio. The project was to create 'your dream home'. The dream home that I designed was a large white tent, based on the cubbyhouses of my childhood.

My childhood cubbyhouses were always of the makeshift variety, bricolages of whatever was at hand - left over packing boxes, a sheet draped between two chairs or a table with a blanket thrown over the top. My favourite cubby consisted of a white sheet slung over a painter's plank that rested between two sawhorses. If I built the cubby indoors it became a world within a world. If I built it outside on a hot summers day it provided a temporary reprieve from the glare of the sun and the diffuse interior light created a dreamy cocoon. Mark Wakely in his book *Dream Home* observes that, "…children can muster their imaginations to transform domestic spaces into places grown-ups can never

hope to enter" (Wakely 2003, p. 11). By "bunkering down under a blanket or in a box, children are reducing their domestic space to a scale with which they feel comfortable. They're creating a room within a room" (Wakely 2003, p. 30). Whether cardboard box, blanket or sheet, the memory of the intimate scale of those childhood spaces was always of feeling safe and cocooned.

The impetus to design the 'dream home tent' stemmed from an explicit desire to create a home that I could take with me wherever I went. It represented a symbolic mollification for my homesick heart. It also expressed a subconscious yearning to remain connected to my childhood home, or more accurately, my experience of home as a place of safety, security and family. German philosopher Martin Heidegger states that, "To say mortals *are* is to say that *in dwelling* they persist through spaces by virtue of their stay among things and locations" (Heidegger 1971, p. 157). It was my desire then, as it is now, to create a form that approximates my internalized experience of home, as a symbolic referent.

This internalized experience stems from where one lives, the environment that surrounds us, and the people with whom we share our lives; and deeply imprints on us. William Goyen in his novel *House of Breath* writes,

> That people can come into the world in a place they could not at first even name and had never known before; and that out of a nameless and unknown place they could grow and move around in it until its name they new, and called with love, and call it HOME, and put roots there, and love others there; so that whenever they left this place they would sing homesick songs about it and write poems of yearning for it, like a lover;…(Goyen 1949, p. 40).

Our notion of self is inextricably bound to memory. Accepting that the provocation for the aforementioned work was incumbent on my desire to recreate my experience of home and its connotations, *Memory Tent* (2013) (fig

15, p. 51) represents a continuum of this desire and a physical manifestation of the conscious process of identity. It also represents an indexical iteration of those simple sheet cubbies that I made as a child. Appropriating their materiality, the large-scale (approximately 300 x 300 x 300 cm) work is made from laundered bedsheets and doona covers donated by my immediate family.

Figure 15. ***Memory Tent*** 2013
Bedsheets, doona covers, faux fur, crochet tablecloth, rope, bricks and lamp
300 x 300 x 300 cm (approximately)

Previous research in my BFA Honours degree in 2012 included a pair of structures that were originally conceived as a hybrid form of the Tupperware Shape Sorter (fig 16) I played with as a child. By recreating the Shape Sorter's dodecahedral form as a maquette I could manipulate the way the separate pentagonal planes interacted.

Figure 16. Shape Sorter

Experimentation with these forms resulted in two cubbyhouse sculptures (see fig 17, p. 53) that were designed to evocate those places of play that stimulated my daydreams and imagination when I was young. As a means therefore of structurally linking the two materially different cubbyhouse forms, I deployed the pentagonal template I had devised for *Cubbyhouse I & II* for *Memory Tent.* Each plane of the tent is a patch-worked pentagon that also 'collages' other found household fabrics, such as faux fur and crochet tablecloths. The impetus for this was two-fold. Firstly it simulated my collage methodology and secondly it allowed me to extend the use of each sheet. Sewn together, the twelve planes attempt to replicate the dodecahedral form of the Shape Sorter. *Memory Tent*, with its familial connotations, represents both the metaphoric and physical fabric of my family. When the work is lit from within, it warms the sheets, causing them to release a faint smell. The closeness of the folds and this olfactory trace, trigger memories of those cubbies and returns me to my childhood home.

Figure 17. ***Cubbyhouse I & II*** 2012
12mm hoop BB grade ply wood, acrylic wash, primer, wallpaper, brackets and screws, a doona, blanket and picnic mat
120 x 120 x 120 cm

If “place is a location of experience” (Malnar & Vodvarka 1992, p. 279) and our homes exist as ‘place’, they therefore constitute a significant proportion of our experience of location. “Man’s relation to locations, and through locations to spaces, inheres in his dwelling” (Heidegger 1971, p. 157). Much of Korean artist Do Ho Suh’s work explores the meaning of home and location, longing and belonging through the dwellings in which he has lived. Beginning with his early work *Seoul Home/L.A. Home* (1999) (fig 18, p. 55) and explored through many iterations since, it represents the artist’s desire to “transport[ing] space from one place to another – a way of dealing with cultural displacement” (Art21, 2003). In an interview in 2003, the artist explains that the provocation for *Seoul Home/L.A. Home* began many years before its actualization when, frustrated by his inability to get a good night’s sleep in his small apartment near Columbia University, New York, he recalled the last time that he had a “really good sleep” (Art21, 2003). It happened to be in a small room in Korea in the ‘place’ where he grew up. Suh decided that he “wanted to bring the house, somehow, to my New York apartment. So that’s where everything started” (Art21, 2003). *Seoul Home/L.A. Home* is an ethereal evocation of the traditional Korean house of his childhood.

Suh’s use of fabric for this work, and the many iterations of this project since, was motivated by his desire to create “something light and transportable” (Art21 2003), something that you could “fold and put in a suitcase and bring with you all the time” (Art21 2003). The material choices for my early architectural studio project and for *Memory Tent* were also informed by this need to be able to take them with me where I went. Suh’s use of translucent fabric “allows him to translate some of the spatial and temporal displacements and collisions he has explored metaphorically elsewhere, into the realm of actual experience” (Rose 2015, p. 240). It allows him to recreate the ambiance of space and imply the ephemeral nature of home.

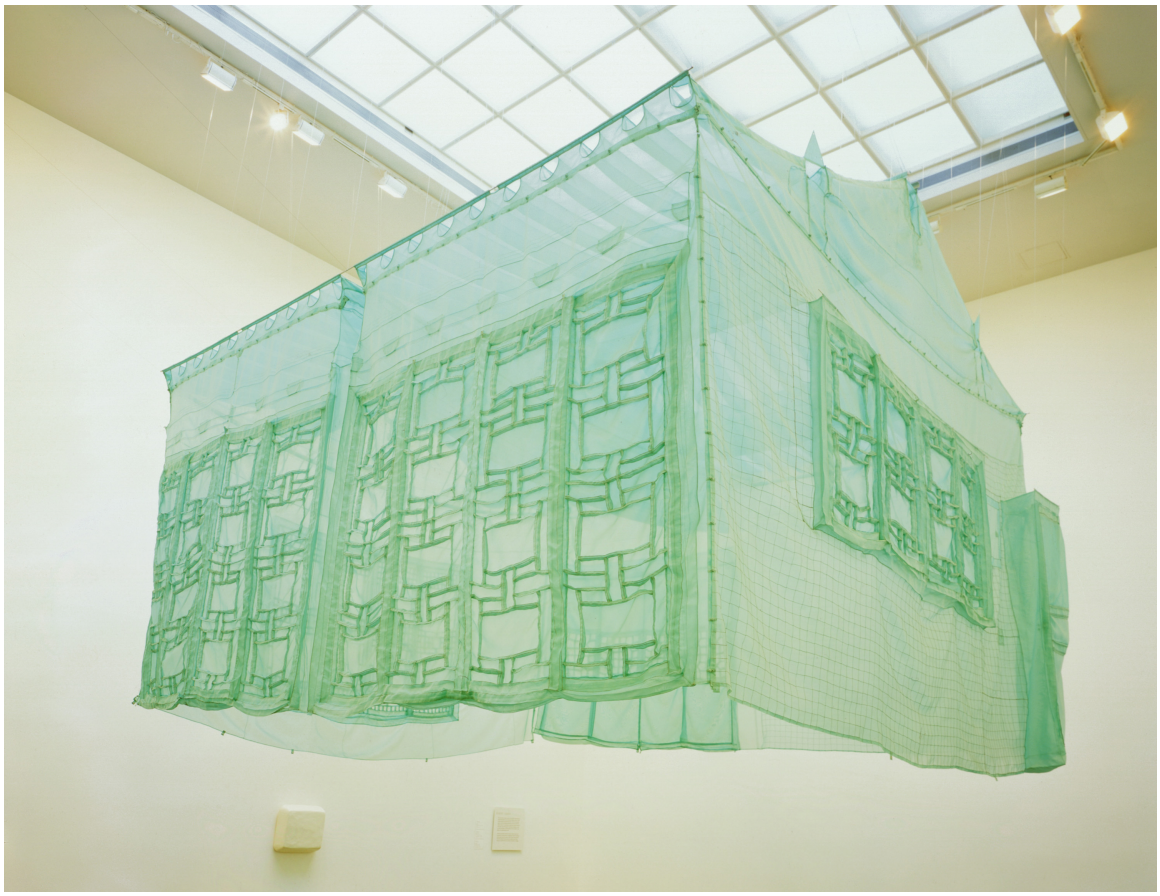

Figure 18. ***Seoul Home/L.A. Home/New York Home/Baltimore Home/London Home/Seattle Home/L.A.Home*** 1999
Silk
149 x 240 x 240 inches
378.5 x 609.6 x 609.6 cm
Credit line: © Do Ho Suh, Courtesy of the Artist and Lehmann Maupin Gallery, New York and Hong Kong

Fabric, expressed as curtains, clothing, sheets and the like, pervades our everyday. We wake in it, clothe ourselves in it and often use it to provide privacy and reprieve from the world outside. So although the translucent fabric Suh uses allows him to allude to the ephemeral nature of home, there are many other fabrics contained within our houses that can be harnessed to express notions of home.

Though my decision to use sheets for *Memory Tent* was determined by the memory and materiality of my childhood makeshift cubbies, the use of fabric as a creative material has been an undercurrent throughout my life, from mid childhood to the present. I sewed clothes for my dolls, cushions for my bed and later in my teenage years I made my own clothes. I have sewn curtains, bed covers and bags. When my children were small, I made them dress-ups that were nearly always from old clothes and sheets I had lying around the house. The knowledge that I could reconstitute these fabrics was deeply satisfying. The impetus for *Boy* (2014) (fig 19, p. 57) stems in part from my desire to reuse the discarded shirts of my husband and sons, significantly the shirts that my sons have outgrown; their functional redundancy making them particularly poignant.

Boy (2014) therefore is an expression of my desire to reconstitute both the materials and memories attached to these artefacts as well as representing a tactile outcome of this research. Both *Memory Tent* and *Boy* employ fabric in a patch-like manner, simulating my collage practice. The hand stitching and rhythm of the sewing machine are also analogous with the repetitive mark making of my drawing practice. Made from 10 discarded mens and boys shirts from my immediate family, *Boy* is a soft sculpture whose form is entirely composed of the material memory of my family and alludes to the Shape Sorter that triggered my recent sculptural practice in the first instance.

Figure 19. ***Boy*** 2014
10 men's and boy's shirts from family members and mixed assemblage
150 x 150 x 150 cm

The final iteration of the cubbyhouse motif that has, on reflection, been a signifier of my relationship to the notion of home and its ensuing connotations is *when the lights come on* (2015). Conceived in the months proceeding my mother's death, its inception may have been provoked by my fear of losing a connection not only to home, but of the memories attached to my first home - my mother. "The fear of forgetting anything precious can trigger in us the wish to raise a structure, like a paperweight to hold down our memories" (de Botton 2006, p. 123). Like the wardrobe in C. S. Lewis's *The Lion, the Witch and the Wardrobe* (1950) that I read assiduously as a young teenager, the cubbies become portals that, like Suh's fabric homes, transport me to a place where memories of my mother and home coexist.

when the lights come on (fig 20, p. 59) is a 110 x 246 x 200 cm sculpture that consists of 6 irregular planes of 9.5 mm BB grade Hoop pine plywood and pine batterns. The irregularity of these planes is intended to approximate the 'at hand' or found nature of the materials that I used as a child. The structure is deliberately irregular to give the impression that it has been pieced together ad hoc, in much the same way as children are not concerned with the form for it's own sake, only for the play space it can provide, the interior space, a place of autonomy where they fell cocooned and safe.

Australian artist Mikala Dwyer observes, in her MFA thesis titled *The Cubby House*, that the cubbyhouse;

> …is often a temporary thing – a homeless house, vagrant but often a thing of such accidental beauty and invention. The drive to create an autonomous space, container or frame is a strategy to survive the world of big things where one has little say. A world where one can have momentary control; the cubby house contains something of an optimistic sculptural possibility…or a sculptural possibility that could sneak in is an architectural one (Dwyer 2003, p. 14).

Figure 20. ***when the lights come on*** 2015
6 irregular planes of 9.5 mm BB grade Hoop pine plywood and pine batterns, acrylic paint, acrylic wash and pen
110 x 246 x 200 cm

The layered, hatched drawings that cover the planar surfaces of *when the lights come on* are an amplified extension of the drawing methodology discussed in the previous chapter. Though some of the drawing resembles how cloth might fall over the structure, most of the forms found thereon are abstracted, just as my memories of those childhood cubbies re-present to me now.

Indeed, the scale of this work is designed to be more suitable for a child to enter rather than an adult. While the scale of *Memory Tent* was intended to provoke the audience's own experience of being inside a childhood cubbyhouse, *when the lights come on* is a threshold space. The space that it occupies physically and the size of the entrance opening, trick the adult into believing that they might just be able to enter. This is a false invitation that creates a dichotomy of intention whereby the adult is invited to enter, but excluded because of their physicality. You want to re-enter that childhood space where you have autonomy, the walls are close and you are cocooned womb-like - but you are denied.

Increasing this anxiety of your inability to re-enter this safe place are various recordings of my mother's voice. Triggered by a motion sensor as you kneel to peer into this space denied, her disembodied voice reminds you that you need to be home and safe "before the lights come on".

So this is why, when often you come home to it, down the road in a mist of rain, it seemed as if the house were founded on the most fragile web of breath and you had blown it. Then you thought it might not exist at all as built by carpenter's hands, nor had ever; and that it was only an idea of breath breathed out by you who, with that same breath that had blown it, could blow it all away.

William Goyen[8]

The Unreality of Reality

Loop number three

In May 2013 I was making my way to the house of my mother; not my home, but an amalgam of all that constituted my childhood home. Seven hours of highway stretched before me; seven hours of revolutions of wheels and thoughts. Every kilometre marking the collapse of space between the reality and the unreality of an imminent actuality of a life without my mother, my keystone, the one person to have known me from the womb. My present felt like an abstraction.

The loss of someone you love is devastating in itself, but for many, the loss of one's mother also means the loss of the associative connections to self that help us to define who we are. Mothers are like a mirror, both absorbing and reflecting the perceived notions of ourselves that become our conscious reality. We share a past with them, and they in turn share memories of us from a time before we can store or make sense of them ourselves. As Merleau-Ponty (1945, p.5) remarked, "we make perception out of things perceived". Our perception of our self and our world therefore is a construct to which mothers play an important early and ongoing role.

The phenomenological neurobiologist Thomas Metzinger argues that "the world we see around us is internally created and fundamentally a subjective experience" (Metzinger 2003, p. 15). That is, the way that one person perceives and processes a given place compared to another is fundamentally unique and incumbent upon the multitude of ways that we receive and synthesize sensorial input. As previously discussed, "explicit memory [of space] requires selective attention, filtering some objects for further processing [while] implicit memory is involuntary; it is where the unconscious emotional perceptions get processed" (Stafford 2007, p. 107). So this is why, when we think of a home that we once

lived in, we get only glimpses - fragments of the whole. Our memory of place is mediated by our age; the experiences that we had there – and since, and the people with whom we shared the space. For as Kandel (2006, p. 28) has expressed, and as previously illustrated, our memory is a creative process that on recall is elaborated upon and reconstructed, with subtractions, additions and distortions. Our memories therefore are abstractions, the by-product of our complex neurobiological retrieval system; the realities of our unrealities.

In 2006, Hanne Darboven created an installation for Deutsche Guggenheim in Berlin titled *Hommage à Picasso* (2006) (fig. 21, p. 64). Stafford (2007, p.110) defines the work as "the closest modern analogue I know to an archaic and deeply engraved cave mentality". Stafford is referring to Plato's *Allegory of the Cave*, the philosophical metaphor for the 'reality of unreality' and the dichotomy of perception. In this work Plato challenges the notion of perception by offering the following allegory.

In a cave deep underground, prisoners are chained opposite a blank wall which they face their entire lives. Behind them and out of view is a fire, in front of which a progression of people and objects pass. This progression casts shadows onto the wall the prisoners face. These shadows form the prisoners' perceptual reality because for them, there is no other. However, one of the prisoner's is released and ascends up through the cave to the fire, and sees for the first time the forms that produced the shadows in the first instance. What he sees are the true forms, but for the prisoner at first, the shadows remain truer than the real forms. In the final stage of Plato's allegory, the prisoner ascends through the aperture of the cave to observe and contemplate a world governed by the Sun, "the author of the seasons and the years….[and] cause of all those things that he and his companions used to behold" (Plato 514A -516C, cited in Wright 1906).

Darboven's immersive installation of floor to ceiling rectangular sheets of paper encased in hand painted glyphic frames, creates a chamber, or series of

chambers through which the viewer must navigate a path. Like a metaphor for the act of remembering itself, her "cryptic symbol system constructs an insulated netherworld composed entirely of numinous letters and numbers" (Stafford 2007, p.111) in much the same way as our brains deploy symbols as a means of reconstructing our own realities.

[Image unavailable due to copyright]

Figure 21. ***Hommage à Picasso*** 2006
Hanne Darboven
Installation view, Deutsche Guggenheim Berlin. Pencil on paper. Photo Mathias Schormann, ©Deutsche Guggenheim Berlin; Courtesy of Galerie Crone.

In the car on my way to my mother's house I contemplated the symbolic meaning of home and its ensuing connotations. Bachelard considered the house the perfect metaphor for a consideration of an ontology of the poetic image, and although my work is not concerned with this specifically, my considerations are concerned with an ontology of home that exists between the reality and the unreality of my memories of my mother and home. To that end, Stafford's (2007, p. 112) remark that "Darboven's destabilizing realm of the in-between makes us keenly aware of how place has never merely been a location but, rather, always the experience of one" describes how dematerialized our experience of place really is. It occurred to me then, as I drove towards my mother's home, that I too was entering a 'destabilizing realm of the in-between' where, like Plato's prisoner, what I had once always accepted as the real now flickered as if in that subterranean firelight.

The video work, *Through Her Window* (2013-2015) (fig 22, p. 66) is an expression of that destabilizing realm between the real and the unreal, of an ontological transition zone between two states of experience: one that housed my mother and all her connotations and one that never will.

Figure 22. ***Through Her Window*** 2013-2015
Single channel video installation, film loop to DVD
3-minute duration

In this work, the view from the interior through a curtained window to the world beyond forms a deeply layered metaphor, where the curtain manifests as the material expression of Stafford's 'destabilizing realm'. The curtain marks a threshold between a world of the known and a world to know. It is a symbolic intermediary that frames our perception. On one level, this window above my mother's deathbed became an expression of the imminent transformation my mother was to experience, the death of her physical body and release of her spiritual one. She was on the threshold of another reality, a reality that no longer contained the body that had constrained her. And just as her reality was shifting from the known to the unknown, so was mine. I, like she, was being cleaved from a world that had always contained her, to one beyond. Like Plato's prisoner, my perceptions were shifting.

The 19th Biennale of Sydney in 2014, 'You Imagine What You Desire', contained a work by artist Gabriel Lester titled *Where Spirits Dwell* (2014). This work was created specifically for the Biennale and is a further iteration of a work created previously in 2011 and dedicated to his late friend Huseyin Bahri Alpetkin. Titled *Melancholia in Arcadia* (2011) Lester draws on his early training in cinema to create works that "both suggest rational consciousness as well as associative magic thought" (Lester 2014). He describes his work as *cinematographic* that is, he engages with conventions of cinematic practice without necessarily employing film or video. He does this to "propose ways to relate to the world, how it is presented and what mechanisms and components constitute our perception of it" (Lester 2014). In *Melancholia in Arcadia* Lester challenges our perceptions of the real and the unreal by creating a work that resembles lace curtains caught in mid breeze.

Figure 23. ***Melancholia in Arcadia*** 2011
Gabriel Lester
Lace curtains and textile hardener
Dimensions variable
Credit line: © Gabriel Lester, Courtesy of the Artist

This installation contains a poetic dichotomy. Our perception of the curtains is that they appear to be billowing in the breeze, yet they are fixed. The curtains have become sculptural forms onto which we project our understanding of how curtains move when animated; we can imagine how they would billow back and forth with each eddy of air. But they resist, incapable of fulfilling their perceptual promise due to their materiality. Lester captures this moment like a freeze frame in a film, deploying cinematic conventions that imply a continuing narrative. For Lester the work "refers to the gesture of opening the windows to set free the soul of the deceased, as well as the idea of a spirit present in a room, mysteriously lifting the curtains to reveal its presence" (Lester 2014). Conversely, although the curtains in *Through Her Window* (2015) remain still, the video is looped, continually replaying over and over, this memory narrative of one of the last afternoons I would ever spend with my mother.

This looping is analogous with the way in which we convert sensorial input into long-term memories, via repeated firing of our neurons, or more specifically Hebb's law which states that neurons that fire together, wire together. That is, when "any two cells or systems of cells that are repeatedly active at the same time will tend to become associated, so that activity in one facilitates activity in the other" (Hebb 1949, p. 70). Hebbian theory concerns how neurons might connect themselves to become engrams, and as we recall, engrams are the "presumed encoding in neural tissue that provide a physical basis for the persistence of memory" (Dictionary.com 2014).

PART III: A MEDIATED VIEW

The *im*-persistence of memory

Making Visible

im-variant of in before b, m, p

Our notion of self derives from our ability to form memories. The person that I know myself to be begins with competing memories of carefully peeling then eating camellia buds atop the climbing equipment at Mrs Grimshaw's pre-school; taking ballet lessons with a girl with a withered arm; waking up in a children's ward after an operation with my favourite bear at my side and hiding under my bed after running away from home. Though I cannot say for certain which of these is the earliest, for some reason (most likely their novelty) they have prevailed over others. When I consciously try to recall my earliest memories, it is these and a few others that present themselves time and again. The same holds true for the rest of my autobiographical memories. Like the game of Chinese whispers that Frederic Bartlett used as his model for the unreliability of memory (1932), the *im*-persistence of my memories mediates my life story, which changes infinitesimally with each retelling. Like Malouf's father, my personal history has possibly become a fiction, grounded in fact, that only I can vouch for.

During the course of this research my mother finally succumbed to breast cancer and though it was not my intention to create work specifically related to her, I came to realize that her influence in my life and on my work was deep and intrinsically bound to my notion of self. Although my earliest memories are not of my mother specifically, she is the overarching presence in them. It was my mother who walked me to and from Mrs Grimshaw's pre-school, drove me to ballet class, sat by my bed in the hospital ward and threatened the wooden spoon on me when she finally caught me running away from home. She may not be visible in my earliest memories; more importantly, she underpins them all.

Throughout her career, Louise Bourgeois was entirely cognizant of the co-dependent role of memory and artmaking. Her practice was unashamedly founded in her own personal narrative, which provided a deep store of creative possibilities throughout her long and productive life. Of her practice, Bourgeois observed that, "I need my memories. They are my documents. I keep watch over them. They are my privacy and I am intensely jealous of them" (Bernadac 2006, p. 176). Bourgeois implicitly understood the potency of and potential for catharsis by expressing her experiences through her art and unapologetically deployed her memories to do so. If, like me, she was not consciously aware of the pervading influence of memory on artmaking at the beginning of her career, she was certainly in command of it as her practice matured.

Though Bourgeois' practice has had an undeniable impact on the way I consider my own practice, my most enduring artistic influence however, has been the work and research of Paul Klee. Throughout his career he sought to understand the nature of creativity and his diaries and theoretical writings explore the motivations and influences that drove his artistic output. His aesthetic approach and search to understand his compulsion to create, ground his practice in a deeply reflective framework that resulted in works that 'approximated the complexity of his experience of reality' (Osterwold 2005, p. 129). Similarly, this research has resulted in an expression of my 'experience of reality' by examining provocations to the creative act in my own practice and by deploying memory as a conceptual framework through which to investigate its potentials.

When I began this research it was my intention was to explore the link between memory and artmaking and how memory influences the choices that we make when creating an artwork. To do this I first had to understand how memory works. Through that process I came to realize that our brains encode and store memory in a fragmentary manner, which upon provocation (either through trigger or conscious recall) is retrieved associatively. This associative system of retrieval is susceptible to alteration, and it is in the liminal space between trigger

and recall that creative variants in our memory occur. And it is these variants that can provide infinite creative potentials.

The quest to understand the role that memory plays as a neurological co-factor in the creation and inception of artworks, and how it mediates artistic expression, continues to be an elusive search that has been illuminated to some degree through the outcomes of this research. Although I cannot say for certain that any of the papers, texts or interviews that I canvassed for this research can say definitively what 'creativity' is, one thing I have concluded is that creativity, like memory, is highly individual. It is incumbent on an individual's personal experience and the neurological connections they have made to those experiences over the course of their life. It is inextricably linked to our memory and our memory is servant to the fictions we choose to narrate. It is impossible to separate the form an artwork takes from the mind that conceived it in the first instance, but through it, it is possible to make visible, the invisible.

Hence - a mediated view.

GLOSSARY

Association by simultaneity: this concept of neural plasticity is usually known as Hebb's law, although Sigmund Freud proposed this theory sixty years before Hebb in 1888. Freud stated that when two neurons fire simultaneously, this firing facilitates their ongoing association (see Hebb's law).

Auditory system: the auditory system is the sensory system for hearing. It is concerned with the transduction of sound via sound pressure waves into neural action potentials.

Axon: the long output fibre of the neuron that appendage of the neuron that transmits impulses away from the cell body.

Cortex: the cerebral cortex is a sheet of neural tissue that is outermost to the cerebrum of the mammalian brain. It covers the cerebrum and cerebellum, and is divided into left and right hemispheres. The cerebral cortex plays a key role in memory, attention, perceptual awareness, thought, language, and consciousness. It consists of up to six horizontal layers, each with a different composition in terms of neurons and connectivity.

Dendrite: the branched structures on most nerve cells where the neuron receives signals from other neurons.

Dopamine: a neurotransmitter in the brain that plays a major role in long-term potentiation, the control of attention, voluntary movement and cognition, and in the action of many stimulants (e.g., cocaine). Dopamine deficiency results in Parkinson's disease; dopamine excess contributes to the positive symptoms of schizophrenia.

Engram: engrams are the hypothetical means by which memory traces are stored as biophysical or biochemical changes in the brain (and other neural tissue) in response to external stimuli. The existence of engrams is not significantly disputed, although their exact location and mechanism are the focus of ongoing research.

Episodic memory: is the memory of autobiographical events (times, places, associated emotions and other contextual who, what, when, where and why knowledge) that can be explicitly stated. It is the collection of past personal experiences that occurred at a particular time and place.

Explicit memory: the storage of information about people, places, and things that requires conscious attention for recall. Such memories can be described in words. Explicit memory is what most people refer to when they speak of memory. Also known as declarative memory.

fMRI: (functional magnetic resonance imaging) is a noninvasive biomedical imaging technique that employs a large magnet to detect changes in blood flow and oxygen consumption in the brain. Blood flow and oxygen utilization increases in regions where neurons are more active, such as the performance of a cognitive task.

Frontal cortex: also referred to as the frontal lobe, is one of the four lobes of he cerebral cortex. The frontal lobe is primarily concerned with executive function, working memory, reasoning, planning, speech, and movement.

Glia: (Greek for 'glue') neuroglia or glial cells, are non-neuronal cells that maintain homeostasis, form mylelin and provide support and protection for neurons in the brain. As non-neuronal cells, they do not communicate via electrical impulses as neurons do, but rather by communicate chemically in washes that transfuse across the brain.

Hebb's law: also known as Hebbian plasticity, this theory proposes that "when an axon of a cell A is near enough to excite cell B or repeatedly or persistently takes part in firing it, some growth or metabolic change takes place in both cells such that A's efficiency, as one of the cells firing B, is increased" (Hebb 1949). This theory is commonly referred to as cells that fire together, wire together.

Hippocampus: a major component of the brains of humans and other vertebrates. It belongs to the limbic system and plays an important role in the consolidation of information from short-term memory to long-term memory and spatial navigation.

'Illusion–of-truth' effect: The 'illusion-of-truth' effect can essentially be summed thus: familiarity. The more we are exposed to an idea or statement, the more familiar it becomes. The more familiar it becomes, the more likely we are to believe that it is true.

Implicit memory: The storage of information that does not require conscious attention for recall – usually in the form of habits, perceptual or motor strategies and associative and nonassociative conditioning. Also known as procedural memory.

Long-term depression: or (LTD) is an activity dependent reduction in the efficacy of neuronal synapses lasting hours or longer flowing a patterned stimulus.

Long term potentiation: or (LTP) is a long-lasting enhancement in signal transmission between two neurons that results from stimulating them synchronously. It is one of several phenomena underlying synaptic plasticity, the ability of chemical synapses to change their strength. As memories are thought to be encoded by modification of synaptic strength, LTP is widely considered one of the major cellular mechanisms that underlies learning and memory.

Modal (memory storage): asserts that human memory has three separate components 1. a sensory register where sensory information enters memory
2. a short-tem store which receives and holds input form both the sensory register and the long-term store and
3. a long-term store where information which has been rehearsed in the short-term store is held indefinitely.

Neuron: an electrically excitable cell that processes and transmits information by electrical and chemical signaling, it is the fundamental unit of any nervous system. The human brain contains about 100 billion neurons, each of which forms about1000 synapses.

Neuroplasticity: refers to changes in neural pathways and synapses due to changes in behavior, environment, neural processes, thinking, emotions, as well as changes resulting from bodily injury.

Neuroscience: is the scientific study of the nervous system.

Neurotransmitter: a chemical substance that is released by one neuron and binds to receptors on another neuron, altering the flow of electrical current or internal biochemical events in the second cell. The specific action of a neurotransmitter depends on the properties of the receptor. There may be many different kinds of receptors for a single neurotransmitter.

Nucleus accumbens: is a region in the basal forebrain rostral to the preoptic area of he hypothalamus. The nucleus accumbens plays a significant role in the cognitive processing of motivation, pleasure and reward and reinforcement learning and hence has a significant role in addiction.

Olfactory system: is the sensory system used for olfaction, or the sense of smell. This system transduces chemical signals into perception.

Positron-emission tomography (PET scans): a computerized tomography technique for imaging brain functions in living organisms. This technique employs radioactive molecules to probe specific brain activities, such as blood flow and metabolism.

Semantic memory: refers to general world knowledge that we have accumulated throughout our lives and is intertwined with experience and dependent on culture. For instance, semantic memory might contain information about what a cat is, whereas episodic memory might contain a specific memory of petting a cat.

Somatosensory system: the sensory system is concerned with sensation from the skin at the body surface (touch, vibration, pressure, pain) and the sense of limb position. Signals are carried form the peripheral nervous system to the brain.

Synapse: the specialized site of communication between two neurons. A synapse consists of three components: a presynaptic terminal, a postsynaptic cell, and a zone of opposition – the synaptic cleft in between. Depending of the nature of the zone of opposition, synapses can be categorized as chemical or electrical, each using a different mechanism of synaptic transmission.

Synaptic cleft: the gap between the pre-synaptic and the post-synaptic cells (axon terminal and dendrite) at a chemical synapse.

Unitary (memory storage): proposes that memory is unitary over all time scales, from milliseconds to years. Support for this hypothesis comes from the fact that it has been difficult to demarcate a clear boundary between short-term and long-term memory.

ILLUSTRATIONS

10 men's and boy's shirts from family members and mixed assemblage
150 x 150 x 150 cm

59 ***when the lights come on*** 2015
6 irregular planes of 9.5 mm BB grade Hoop pine plywood and pine batterns, acrylic paint, acrylic wash and pen
110 x 246 x 200 cm

64 ***Hommage à Picasso*** 2006
Hanne Darboven
Installation view, Deutsche Guggenheim Berlin. Pencil on paper. Photo Mathias Schormann, ©Deutsche Guggenheim Berlin; Courtesy of Galerie Crone.

66 ***Through Her Window*** 2013-2015
Single channel video installation, film loop to DVD, 3-minute duration

68 ***Melancholia in Arcadia*** 2011
Gabriel Lester
Lace curtains and textile hardener
Dimensions variable
Credit line: © Gabriel Lester, Courtesy of the Artist

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