DRAWN: an exploration of space, perception and three-dimensional line drawing

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Signed statement of originality

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ABSTRACT

This research is an investigation into the way the outline is perceived when drawn three-dimensionally in space. I wish to question if the outline in nature is a human construct. Lines, which define a recognisable solid object, are the ‘things’ that do not exist in reality. Current thinking on outlines involves a contrast of light at the edge of an object against a background that, combined with movement, is perceived as an outline. I am interested in the artificial framework and the invisibly rendered mass that result from making an outline of an object. By creating several linear structures from various materials such as copper tubing, steel, aluminum and wire, I have explored visual perception to discern meaning. The choice of objects chosen for depiction and the subsequent titles that evolve from the works derive from thoughts and visual ideals that float over my consciousness. Social, political and emotional nuances such as futility, fear, privacy, safety and consciousness of self are imbued in the artworks.

How does the apprehension of a three-dimensional linear structure differ from that drawn on a two-dimensional plane? Drawing is associated with mark making on a two-dimensional surface. These works seek to experiment with lifting the line off the page to make three-dimensional drawings. These drawings physically engage space. The movement of the viewer around the object becomes significant in the experience of perceiving the forms. The use of bright colours and the lack of a solid mass confuse the figure-ground relationship. The contrast flattens the objects out visually, particularly at a distance, creating an illusion of two-dimensionality.

During my research I have looked at Alberto Giacometti, David Hockney and Paul Klee for their life-long enquiry into visual perception. I have mentioned Hossien Valanamesh, Susan Hiller and On Kawara because of their simultaneously subjective and objective approach to art practice. Alexander Calder, Gertrude Goldschmidt and Robert Owen have used wire, steel and aluminum
in a linear fashion and the resultant artworks have been of interest
to me.

The last piece of work is different in that it is a video installation
exploring the theory of movement of a solid object in the formation
of outlines. There is a strong emphasis on sensory responses to
colour, sound and visual repetition. I felt compelled to do this in
order to look at perception.

Luminescence, I have found, is a key quality in determining depth
perception and the resultant figure-ground relationships. I have
deduced that even though I have produced many ‘contained’ spaces
and representations of a solid mass, these objects are perceived as
two-dimensional from a distance.

In creating linear structures, I have discovered that the viewer has
to ‘work harder’ visually to apprehend the object. This can be
explored using time, movement and colour. I have revealed that the
use of this form of object making is an exciting way to explore
other concepts that impact on my daily life. There is a thrill in
creating a line, which cuts through space, applying colour and
marveling at the visual and psychological responses that it imparts.
INTRODUCTION

To be drawn is to be delineated, pulled, attracted to, provoked, elicited, inhaled, eviscerated, formulated, shrunk, sketched, gathered and subjected to tension.

If I take a solid cube of wood in my hand, I can feel the weight of the mass and the shape of its form. If I draw an outline around the perimeter of the block using a piece of wire and remove the block itself, I am left with a structural wire lineature which becomes a representation of the original piece of wood. The block is eviscerated and negated. The lineature is a construct which surrounds a space where there once was weight. By looking at the lineature I can visually imagine the mass that had once existed. The block has been drawn and the weight of space is palpable. The memory of the mass remains. This is the first component of my research.

If I create three-dimensional line drawings, which represent various objects and place them in a designated space, they will occupy the space in such a way that there will be an interruption to that space. I want the viewer to have an experiential response upon entering the space, which is altered in a way that the viewer is forced to look at their progress forward and think about how they see and move about the objects contained within it. The work is a collection of individual objects displayed within a gallery space.

There is a moment when the act of perception becomes conception, and that is thought.

Thirdly, the objects will become more than drawn lineatures. The objects are conceptualised from a concern with universal states of consciousness and thought. In particular, insecurity and the thwarting of our position perceptually and psychologically underpin my thinking on these works.

The fourth component of my research is colour. I have chosen bright fluorescent colours for the outlines of the structures. I am attracted to the nature of these colours and there is an element of deliberation in my choice. This is used to stymie the way the viewer perceives the form in space. Semir Zeki, a neurobiologist, states that ‘colour is perceived before form which is perceived before motion.'\(^2\) I have discovered that the use of bright colour tends to flatten out the objects visually from a distance and sets up a heightened contrast with the surrounding space. The artificial nature of the colour lends itself to a sense of otherness from the represented form.

I plan to discuss in the following chapters each individual work in relation to these concerns, how the objects were conceived, pursued, created and any resultant revelations that occurred during the making process.

\(^2\) Zeki, Semir. *Inner Vision – An Exploration of Art and the Brain*, Oxford University Press, USA 1999, p66
EARLY WORKS

The world in front of our eyes is extraordinary. The difficulty is in seeing what is in front of our eyes. The difficulty for the artist is in acknowledging what he sees...the experience you have as a viewer, at the moment of viewing – that is the experience of a work of art.  

The first major work completed in my research was Islandhome. This work was conceived for the Sculpture-by-the-Sea exhibition at Roaring Beach in 2001. Islandhome was a three-dimensional life-size drawing of a 1950s caravan made from steel covered with fluoro-orange coloured hose. There was a rectangular window on the door side of the caravan that was fitted with reflective laminated Perspex and was attached with stainless-steel shackles. The structure was staked to the ground with long steel pegs. This was a site-specific project.

I discovered an abandoned old caravan off the driveway into the site at Roaring Beach. There was a connection between the form of

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1 Islandhome 2001, Mixed media H 2170mm x W 4900mm x D 1730mm

the caravan and the shape of Wedge Island at the end of the coast. I had been considering the significance of the drawn line and the creation of delineated objects in space whilst viewing the site. The context of this work reflects the notion of the similarity between the intimate nature and enclosure offered by the home and the island. The viewer was able to enter the caravan and see Wedge Island reflected in the window. There was also a self-reflection in the window placing the viewer bodily in the caravan, the landscape and in relationship to the island. An island and a caravan represent forms of containment and insularity, yet in this instance both the island and the caravan were exposed and connected.

The caravan displayed elements of physical and psychological vulnerability. The bright orange fluorescent colour of the hose outline contrasted starkly with the surrounding environment, so that from a distance it appeared as if there was a flat image of a caravan on the horizon rather than a three-dimensional structure. This play on the perception of colour and line in space was a surprise outcome that became the starting point for my research.

Islandhome buckled in upon itself by either 80 kilometre per hour winds or vandalism and I removed it from the site three days after the exhibition began. Although this was disappointing, I gained knowledge from the experience and the object fulfilled all my expectations in relation to what I had set out to achieve.

I was invited to submit a small work to the State Library of Tasmania for the 10 Days on the Island Festival with the theme of ‘Island’. I had not made many small object-based works prior to this so it posed a new challenge. I made Adrift which was a three-dimensional line drawing of an old fishing boat set in a fluorescent green Perspex upturned rectangular form. The boat was constructed from fluorescent orange painted garden wire. I made up the boat from memories of boats that I was attracted to at the docks. The boat served as a metaphor for a type of island. Once again this was a nomadic form of human containment, but an unsustainable one because of its leaky transparency held still in a solid block of green water without an anchor.
The scale did not allow for a similar flattening of form into an image like the caravan, but both were visibly linked. The idea of a fishing boat being integral to the survival of some islanders appealed to me and I considered the fact that boats such as this physically linked islands together.

*Drawing the Line* was a major work constructed for the space at the Foyer Café in Salamanca Place.
This was an installation created to fit the confines of the space. I have reconstructed this for my final submission in the Plimsoll Gallery. The work is a physical separation of the space in the shape of a wire line drawing of a dry-stone wall approximately 1690 mms high stretching from one wall to another rendering the inner space inaccessible. The wall defies the nature of a true dry-stone wall by being tenuous curls of wire in the shape of stacked rocks but is transparent so that the viewer is able to look through. The installation becomes a large extended drawing that consumes the space with the use of a focused light source. On the back wall it is seen re-drawn in shadow.

*Submerge* is another small object based work made in response to a period of thinking and introspection. I decided to combine the concept of *thought* and the image of an old diving platform in the sea.

*Submerge* 2002, Perspex and painted wire  H 550mm x W 300mm x D 300mm

The construction is similar to the fishing boat, using a linear structure, plastic-coated wire and a tall, square Perspex box. The fluorescent green transparent base represents the water. Outside the box is the top section of a diving platform which is painted
white (conscious thought). Below the surface and within the box is the underneath of the diving platform that is painted black (unconscious thought). I exaggerated the length of the ladder beneath the surface so that the viewers’ gaze would be drawn down. The flat diving platform surface is invisible and incapable of the function of support, implying an uncontrollable slippage of the user straight through and beneath the surface. The visual perception of the platform is of an object of support because it visually fills in the planes and yet it is clearly only an outline, rendering it dysfunctional. Hockney discusses this notion of how our memory of known objects and places does the perceptual work for us resulting in an individual interpretation:

But memory must be a part of vision as well, because in that sense everything is now, the past is now. Again, this proves to me that objective vision cannot be, because each of us has a different memory. When you look at this, you remember that you’ve seen things like this before. Your memory comes in and forms part of it, contradicting the objectivity of vision.4

The Safe House was created next. This piece was an investigation into making a two-dimensional blueprint for a cardboard box into a three-dimensional line drawing of what I chose to call a ‘safe house’. The Safe House is 2244 mm high and 1020 mm wide and is constructed from thin steel rod welded to make the shape. I painted the steel bright yellow and attached black car-detailing tape to the rod to create a dotted line on the areas that marked the fold lines in the pattern. The Safe House does not invite entry due to the nature of the shape. The desire to make this object was prompted, firstly, by wishing to convert a two-dimensional plan drawing into a three-dimensional line drawing (literally lifting the line off the page) and secondly, the conceptual questioning of ‘how safe is a safe house?’

The resultant combination produced a reluctantly transparent hut-like structure.

These works established the objectives that I was going to explore: the creation of three-dimensional line drawings and the resultant perception of these objects in space. At this stage there appeared to be recognisable forms of containment, which were fragile, linear, and transparent and which made reference to the human condition.

I believe that the nub of my research was not realised until I began devising *Hindsight*. The idea began as an image in my mind of a rounded unit in which the viewer sat and looked at a reflective panel. I originally toyed with the idea of this being a video projection, the object serving the function of a viewing station to engage the viewer in another time and place, which I imagined to
be like a small helicopter cockpit. I did some sketches and kept thinking about it over several weeks until I had a clear picture in my head that I wanted the panel to be mirror-like and that the work was to be situated outside. I made a three-dimensional wire model of the object (1:10 scale). I paced out the distances and waved my arms around to establish the imagined dimensions. I found the model exciting because it was the imagined form realised. The finished product resembles the outline of a head and I have positioned the viewer facing the forehead that reflects the sky behind them. This prompted the title *Eyes in the Back of Your Head* that was altered to *Hindsight*.

![Image of Hindsight 2004, Painted steel and Perspex H 1795mm x L 2515mm x D 1190mm](image)

*6 Hindsight 2004, Painted steel and Perspex H 1795mm x L 2515mm x D 1190mm*

The object is a fluorescent yellow-green painted steel structure with a thick, clear Perspex slanted seat and footrests positioned within it. The reflection was achieved by the fitting a Perspex mirrored panel to the linear steel tube frame. This work is deliberately intended to simultaneously thwart and increase the viewer's bodily awareness
of their position in space. There is a correlation between being forced into a predetermined bodily position by the angle of the seat and the act of looking.

*Hindsight* achieves direct interaction with the viewer whose engagement determines the work’s completion. It is a work about the act of looking. The rounded body and reflective surface is reminiscent of a caravan and (perhaps unconsciously) I resolved the structural issues that I had in relation to *Islandhome*.

Hockney has been a huge influence on my thinking and work at various stages of art making over the last six years. I share his persistent enquiry and fascination with the act of seeing. Hockney taught me, through his examination of Chinese scrolls, that it is possible to enter a two-dimensional drawing. He pursues the examination of space, in his photo-collages and large paintings of architectural spaces familiar to him, by describing many planes simultaneously. *Draw a Deep Breath* was a work which I conceived after seeing an image called *A Member of the Wardens’ Service fitting a Gas Mask* in a book on photography by Hockney.

![A Member of the Wardens’ Service fitting a gasmask](image)

7 *A Member of the Wardens’ Service fitting a gasmask*, colour photograph by John Hinde c. 1944

The photograph shows an elderly woman and a young girl watching a warden fitting a gas mask on a woman (presumably the child’s mother and the elderly woman’s daughter). He is demonstrating the function of the mask by holding a piece of paper beneath the filter
as the woman draws a breath. There are visual clues in this image that immediately align my memory with that particular historical period. I was reminded how it was reported on the news that the disposal stores ran out of their supplies of gasmasks within a matter of days following the terrorist attacks on the World Trade Centre, September 11th 2001. I thought that this demonstrated futile anxiety. If we were under nuclear or biological threat a gasmask was unlikely to save us.

I used these associated thoughts of a general malaise and a current felt vulnerability in my conception of *Draw a Deep Breath*. I obtained a gas mask and proceeded to make a three-dimensional wire drawing of it. I made several of these masks from copper, garden and steel wire and presented them in a pile on the floor. The masks are painted ‘flat black’. On the wall behind the masks is a corresponding row of hooks.

![Image: Draw a deep breath (detail) 2003, painted wire](image)

I make more than one artwork at a time. This suits my personality, as I like to move between works as the whim takes me. Sometimes a particular artwork is labour intensive, where there are many hours work involved and an engagement in a repetitious process. This was the case with the work *Standard Deviation*. This artwork took the entire span of the research period to complete due to the fiddly nature of its making. There were long periods of time when I did not continue with it at all. The linear formation of *Standard Deviation* is different from the other works in that it is a solid
object. *Standard Deviation* is a rectangular form made up of multicoloured plastic clothing markers randomly attached to aluminum strips and riveted together to create a form 1750 mm high, 500 mm wide and 150 mm deep. The form is anthropomorphic in nature and is configured from adding the dimensions of my body to someone else’s and averaging the size.

In contemporary culture people are unnecessarily obsessed with body size and there is a literal reference to body size by the use of tags as well as the scale of the object. The intention of this work was to pursue the notion of bodily awareness in an abstract form. The concept of normalcy is immeasurable. I believe that we are all ‘standard deviations’ from the norm in body and mind. It is this concept that constructs our perception of each other as individuals. The visual perception of the frontal plane is not linear in nature and the eye travels randomly over the surface which is broken with small patches of different colours. In this work I have literally, in a sense, coloured the object to create the outline.
LATER WORKS

The work *nothing near zero* began with a found metal object in the shape of the letter ‘O’ and involved a simple replication in a linear steel form. Both ‘O’s’ were then painted in fluorescent blue and hung together. Zero is where the reckoning begins which is near nothing. However, nothing always amounts to something. The philosophical discussions on nothing go round and round infinitesimally. There is a frustration in the finality of nothing and there is a pointlessness in trying to imagine it. ‘Nothing’ for me conjures up thoughts of a vanishing, an emptying out and a rendered void, which is impossible because something is always found.

*Silent Protest* was created in response to a sense of futility at the onset of the war in Iraq in 2003. This work is a statement for the invisible, voiceless masses that plead to be heard. In this sense the work is a socio-political expression of contemporary events.

![Silent Protest 2003](image)

The work is made up of twenty-one placards drawn in a linear manner. The frames of the placards are black and white dashes that activate the visual space where a solid plane normally exists. This eradicates the possibility of words or messages being visible on
the placards. The placards are suspended, in a group, from transparent fishing line attached to a ceiling line. There is a sense of absent bodies that would normally be present in a protest holding the placards. This is important because it represents the anonymity of the individuals engaged in such a protest. The viewer’s engagement with this work is significant as it is deliberately installed so that the direction of the flow of people is uncertain. Is the viewer with the flow or against the flow? The work is also intended to operate on a personal level of frustration for anyone who has been rendered voiceless, for whatever reason.

A predominant change that occurs in two of the later works is the loosening of form. This can be seen in Limbiferous (see subheading ‘The Thoughts’, page 38) and Pregnant Pause. Creating objects that have a more relaxed drawn line enhances the experiment with the visual perception of the object. The form of Limbiferous is less literal and predictable. This is heightened by the organic nature of the tree limb, making the edges drawn more expressive than controlled.

![Limbiferous 2003 Copper tubing and enamel paint H 1090mm x W 2600mm x D 700mm](image)

This led to the making of Pregnant Pause which is a randomly drawn line creating a dense scribble suspended in space. In effect, this altered the original purpose of delineating a form and became a
Pregnant Pause has a common bond with Silent Protest in that it is about the depiction of dialogue which is not visible. This is dialogue withheld, transparent and unknown to the viewer. The difference between the two is seen in the shape and manner of the construction of form. Silent Protest is geometrically constructed using several mathematical formulae whereas Pregnant Pause is 'free hand' and unpredictable in its outcome.

I examined a Cy Twombly painting to gain further insight into the formation of expressive line drawing. The work Untitled (1970) is an enormous painting/drawing on canvas spanning an entire wall. The background is painted dark grey. The next layer is made using white crayon marks diagonally across the canvas the length of a full wrist movement (approximately 200 mm). The marks are scrawled back and forth in patches like 'backhand' writing. The interesting thing about observing the first layer of crayon marks is that depth of field is established with this layer. The marks are smaller than the surface marks; lighter in pressure, blurred in places and rubbed out to mute their lightness. This places the lines merging with the under-painting of grey behind the larger loops of crayon. There are a few patches that are heightened in their luminance to bring this layer momentarily to the surface. The surface layer is roughly
circular drawn marks in white crayon that equate to a full-outstretched arm movement (approximately 2000 mm) in the bottom two-thirds of the picture. These circles appear to be moving left to right across the canvas and are hesitant in places, differing in pressure, shape and size. In the top third of the painting there are two more rows of circular drawn loops that are about half a metre in height. These have an uncertain jagged quality as if Twombly has used his 'other' hand to draw them.

This painting is reminiscent of swimming against a 'rip' where arms circle and pummel against the pressure of a persistent undercurrent; a 'demon rip' which one is told to surrender to and allow our bodies to be taken, at its will, to wherever it chooses. The arm loops remind me of the awkward motion of attempting to fight the undercurrent in order to move forward.

One of the last and completely different works in this research project is titled *F Sharp*. This was conceived whilst on holiday. I was lying on a bed in 30-degree heat staring at a fan revolving above me and saw the opportunity to experiment with the motion of
a solid object capable of creating lines. I became obsessed with resolving the problem and filmed the fan in motion to see the result. The outcome was the visual perception of the edges of the fan, albeit blurred and uncertain. There is no doubt that the shape of the fan was delineated by its movement through space. The title *F Sharp* relates to the sound of the fan clunking through its motions. I thought of adding or manipulating the sound but decided to leave it as ambient sound. However, I did change the overall colour of the image, to heighten the viewer’s response to the total sensory effect, by bathing the perpendicular fan spinning towards the viewer in red.

*This insert has a protective coating* is the last work made for this submission. This work is a fluorescent orange painted wire drawing of a poncho-style raincoat. I found a raincoat folded up into a very small flat square and when I laid it out it revealed itself to be a double-sided two-dimensional square with a flat hood shape attached. As soon as it was placed over a person, the person’s body determined its three-dimensional form. In the form of a wire drawing the presence of a body is obvious, yet absent. The wire structure is suspended from the ceiling at the height in which it would be if being worn. On the floor beneath it is the sentence ‘This insert has a protective coating’. This sentence is found on the flipside of the small strip of paper found inside fortune cookies. This work alludes to the concept of a naked self, metaphorically unable to disguise the true nature of themselves no matter what protective coating is worn. The raincoat, in this instance, is transparent, alert and delicate; unable to perform the function of offering protection.
Introduction
I am interested in the artificial framework and the invisibly rendered mass that results from making an outline of an object. The objects are drawn in such a way that they are rendered empty and exposed. The lack of solid planes makes them susceptible to altered attributes. For example, a caravan represents a private space of habitation, however Islandhome was stripped of intimacy and resembled an after-image of a caravan. The gasmasks in Draw a Deep Breath, being anthropomorphic in nature, appear skeletal, bare and dysfunctional. It is as if whatever purpose they were pulled off the wall for, obliterates their surface skin. The lack of surface on the object means that the perception of the object takes longer to realise. This is because the object is static but our vision is not. Seeing is a time-based activity. Our eyes travel over and around objects in space. The shape of what we look at is perceived through examining a variety of angles.

Giacometti photographed his wife passing through his studio and discovered that slivers of her were all that were captured in the image. David Sylvester commented that Giacometti’s ‘experience of seeing it (the figure) is inseparable from his desire to trap that experience in a work of art’.\(^5\) This informed his thinking on perception and movement in space and he subsequently created elongated narrow forms of sculpted figures.

Our memories and accumulated knowledge are intertwined with the present when viewing objects.\(^6\) During the process of making I have been trying to define this fascination with the realisation that some of the objects resemble memories of representations which once existed. For example, the delicate wall of Drawing the Line

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\(^6\) This references the earlier quote by David Hockney ???
looks as if it was drawn in space as a remembered wall and has materialised from the past.

In the course of my research I have read theories of phenomenology, perceptual psychology and neurophysiology in order to come to grips with understanding how we perceive what is before us. It is interesting to discover explanations as to how and why we perceive but it is clear that ultimately the greatest impetus for the creation of art works is an intuitive and artistic questioning which engages a sort of legerdemain of the visual, the tactile, the experiential and other modes of practice. I have aimed to understand why I chose this particular mode of representation for my ideas and to discuss art from the past and present that has a similar fascination with the use of the drawn line.

With this in mind, I shall divide this section of the paper into four sub-headings: Meaning, Apprehension, Inference and Function.

**Meaning**

I began this work with the discovery of the notion that lines in nature are a human construct. In *Man on his Nature*, Sir Charles Sherrington discusses his theory on the perception of lines:

> Visual contour dominates visual space. Perceptually a contour is a line. When we hear that Nature has no such thing as a line, vision answers that all contours are lines. That every contact of fields of light or colour is sharpened and stressed into a line – a psychological line. ‘Contrast’ develops a ‘line’ at every contact between abruptly distinguishable areas. If the mind did not deal in ‘lines’ an outline drawing could hardly be the magical thing it can be. Simple outline diagrams, serving to illustrate clearly by the thousand. The mind dealt in ‘lines’? The so-called rivalry of contours is a master key to

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‘meaning’ in visual perception. As far as the mind thinks spatially its thinking largely accepts ‘lines’ and manufactures them. 8

Sherrington has made lines psychologically visible by removing the edges or contour of a form. The above quote was written in the 1930s and was revisited by the neurobiologist Margaret Livingstone in 2002 who stated that:

Line drawings can be excellent representations of reality, yet there are very few lines in real life. There are contours, which are borders between regions of different colour or lightness, but there are rarely actual lines, which are thin regions of a different colour or lightness than the background. An artist will represent a contour by a line, even though a contour is not a line, and we have no problem interpreting it as it was intended. 9

Lines, which define a recognisable object, are the very ‘things’ that do not exist in reality. Contemporary thinking on outlines involves a contrast in light at the edge of an object that serves the purpose of an outline when combined with movement of the object against a background. This occurs if we are looking at a solid object, capable of having such an edge, against a background but what happens if the object is a linear marking in space? The contrast is lost, and with the use of a bright colour the object tends to flatten visually, particularly from a distance, and look confusingly two-dimensional. This is interesting in view of the fact that for centuries artists have grappled with creating the third dimension on a two dimensional plane. This is reversed in this form of object making in that the sculptural linear drawing in space requires no such illusion as it is an actual depiction of the given form and is consequentially perceived as a two-dimensional image. To create only the perceived outline of an object in the form of a sculpture is to reduce the thing to a surrogate stimulus. 10 This occurs because


in the absence of planes to make a differentiation in light from the background the viewer is reliant on memory and signs.

I have deliberately taken the edges off objects in many works to create structures that generate other thoughts and feelings and in doing so shift the meaning. A strange kind of exposure occurs like a photographic negative revealing all the dark recesses of an object. In Silent Protest, involving placards without words and without people traffic to hold them, the viewer is unable to ascertain whether they are with or against the flow of a moving protest, or whether the placards are merely an abstract collection of geometric flat shapes. They are floating like jumbled picture frames, framing each other's edges.

Underpinning the depiction of three-dimensional structures is the chosen subject matter. The objects are derived from ideas that float over my consciousness and result in a sculptural object. Initially, there is no conscious acknowledgement of the subliminal origin of the artworks; I am purely in the pursuit of a visual ideal. The conceptual base or thoughts only become apparent during the construction of the work or after it is completed.

*You are standing talking to a friend who is imparting angst about a sick child. You try to focus and be a good listener but your mind wanders and wonders if there are any individuals you know who are not hovering several centimeters above the ground. You ponder this state of anti-gravity which appears to be an affliction of the times – the media, friends, family, strangers viewed from a distance, fictional characters whose psychological profiles are described intimately in the novels you read – and try to re-focus on the words falling from your friends mouth; something about a doubtful partner now and by the way what do you think of the war? You feel uneasy and wish this talk would stop. You are afraid. You are afraid that if a gust of wind hits you will both be blown away.*
William Tucker, in his introduction to *The Condition of Sculpture*,\(^{11}\) discusses the quiddity of sculpture itself, proposing that by challenging the limiting factors of sculpture its condition will be revealed and advanced. Tucker defines the primary condition of sculpture as being 'subject to gravity and revealed by light' and that 'movement is the prerogative of the spectator'.\(^{12}\) Tucker chose a group of young artists in the 1970s who challenged the freestanding weight of solid realistic sculptures to produce abstract works such as Loren Marsden's *Bricks* and *Steel Rods*. Thin steel rods defy the heaviness of the bricks precariously balanced on top of them to create an uncertain fragile paved surface. Instead of the usual association of paving being a grounded surface for walking on, Marsden has defied the pull of gravity to offer the viewer a sense of instability. Artists for decades since have explored the weightlessness of objects in sculpture and installations, using light, transparent materials and suspended forms. I am attracted to this weightlessness and transparency in the process of creating sculpture. My aim is to create not formless but recognisable objects to depict the uncertainty of feelings in contemporary society. Rather than address the condition of sculpture, my work attempts to make a social and cultural commentary through the process of making objects.

These works are concept driven. Several artists, such as On Kawara, Hossien Valanamesh, Susan Hiller and Bill Viola, have explored the marriage of subjectivity and objectivity. Hiller, in her work *Witness*, created an installation consisting of hundreds of small speakers dangling in an open space from the ceiling at ear-level. Voices whisper true tales of alien sightings and experiences. The recordings are in the language of the teller and initially a babbling sound of murmuring can be heard until a small speaker is brought to the ear of the viewer. The audience is implicit in bringing the meaning to their consciousness in this experiential

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\(^{12}\) Ibid, p7
aural way. Hiller has a long standing interest in the paranormal and this curiosity is communicated and transformed into an exploration of the merging of many languages in a collective space, raising the viewer's awareness of self and language through sound.

**Apprehension**

How does the apprehension of a three-dimensional linear structure differ from those drawn on a two-dimensional plane? My primary interest is in the use of the line. Most of the literature written on the perception of linear representation engages the line in relation to the creation of a third dimension on a two-dimensional plane.

Artists such as Klee extensively pursued an enquiry into the composition and portrayal of space with drawn lines on paper.

14 Paul Klee *Town with Watchtowers* 1929, Ink on paper, H 455mm x W 300mm

*Town with Watchtowers* is made up of several geometric-like rectangular structures poised throughout the picture plane to create the illusion of a town with watchtowers. The image is
reminiscent of Chinese scrolls that were popular during the tenth to the sixteenth centuries in Japan. Two small groups of figures that are located in the foreground make reference to the scale of the buildings surrounding them. This allows the viewer to imagine meandering through the buildings when following the visual narrative of the scrolls.  

Klee introduced ‘false attachments: junctions that represent two unrelated corners, or lines which represent two unrelated edges.’ These can be seen in the depiction of the watchtowers rendered simply with two connected vertical parallel lines and small marks that indicate windows. The tower in the top right-hand corner straddles a transparent cube beneath it as if it is a two-dimensional plane. The line on the right continues unbelievably down the page, randomly connecting buildings and intercepting the pictorial space. Willats suggests that Klee possibly ‘introduced these anomalies deliberately, partly for compositional reasons and partly as a way of investigating depiction itself.’ This has lead me to question the


15 Ibid, p30

15 From *Wu-his to Suchou*, the seventh Nan-hsun-f'ú handscroll, by Wang Hui, 1691-98
consequence of this practice in the third dimension. A gestalt occurs when viewing *Town with Watchtowers*, as our understanding of the image is immediate, despite the parts which comprise the picture being loosely drawn geometric forms (the buildings), scrunched up little scribbles (the people) and dots (the windows).

*Drawing Without Paper* (1976) by Gertrude Goldschmidt\(^\text{16}\)-otherwise known as Gego- is made up of freely constructed rectangular structures of stainless steel wire, coloured plastic insulation and metal twists. Where Klee experimented with the depiction of three-dimensional space on paper, Gego delicately defined actual space with a huddle of abstract forms to create a singular hanging structure 64.7 cm by 69.5 cm by 20 cm. We can conclude that the Klee drawing offers an illusion of depth. However, Gego evidently views her work as a drawing, devoid of two-dimensional paper support as indicated by the chosen title that offers a physical real interception of space. Klee’s intention was clearly to give the viewer an image of a town with watchtowers whereas Gego pierced the space with abstraction.

\[16\] Gertrude Goldschmidt *Drawing Without Paper* 1976 Stainless steel wire and coloured plastic insulation H 647mm x W 695mm x D 200mm

\[16\] Gertrude Goldschmidt (1912-1994) was a Geometric Abstractionist who relocated from Central Europe to Latin America.
Gego’s object is visually difficult to grasp as the use of coloured plastic insulation on random lines of wire confuses our perception by flattening out the structure and distorting the depth. It is the mystification of our perception of depth of field with the experimental use of line which both Klee and Gego exploit that intrigues.

The lack of depiction of a solid static mass is influential in the way that we appreciate the figure-ground relationship of linear structures. We can see a redefining of sculpture into a form of intervention in the work *Reticularea (ambientacion)*, created by Gego in 1969.

The sheer weightlessness and scale of this intervention simultaneously encompasses a white-walled space while engaging the bodily movements of the viewer within it. This ‘astonishing tessellation of suspended, interlocking stainless-steel wire elements’\(^\text{17}\) rather than being grounded reflects a complex, tangled, impenetrable netting. Despite the apparent lightness of the

\(^{17}\) Storr, Robert. *Art in America*. June 2003, p110
structure of this work, it remains held fixed and actually unable to collapse in upon itself. The connections Gego used to fix the wire strands make a delightful dot-to-dot reference that crosses and traverses itself.

In my earlier work, my intention was to offer a realistic and delineated interpretation of a familiar object. In *Drawing the Line*, rather than intending to give the impression of an abstract mass, the wire is deliberately bent to resemble what I imagined to be the edge of each plane of each individual stone that make up a rough-stone wall. I anticipated the viewer 'to see emptiness (as a) means to place into a percept something that belongs there but is absent and to notice its absence as a property of the present.' Despite this objective, I am open to the installation alluding to being a form of biomorphic abstraction.

Robert Owen, a contemporary Australian artist, installed *Ghost Tantras and Coloured Spaces* in the Anna Schwartz Gallery in 1995. The geometric computer-generated forms or 'ghost tantras' appear to be alive through their mere positioning within the gallery space. Owen's models originate from computer generated experimental drawings on a grid.

18 Robert Owen *Ghost Tantras and Coloured Spaces* 1995

The painted steel linear structures utilise Willats false attachments (in the third dimension) making them 'impossible' objects, unable to be covered by a skin to create a solid form. Nevertheless, they seem to have emerged from some space beyond the gallery walls. There is a sense of movement in the places where they have come to rest as if, after crawling around the space, this is where they have chosen to settle. Owen, I realised much later after some close inspection, has inferred that the linear steel objects have come out of the drawings on the wall.

**Inference**

Artists for centuries have provoked questioning in the eye of the beholder, imbuing works of art with intellectual inference. The process of drawing in space, using malleable material to represent forms in outline, is an experiment in the depiction of reality upon which the viewer may infer further meaning. The distinction between what we actually see and what we infer through the intellect is as old as human thought on perception and is a separate issue to visual illusion. If an object is deliberately incomplete, the viewer must analyse this and draw a conclusion from what is perceived. Bearing in mind that 'there is a difference between a thing and its presence,' as Michael Craig-Martin stated in his exhibition catalogue. This is what I mean by inference.

So far I have discussed the perception of abstract linear artworks where qualities are judged on formal issues rather than humanist concerns. Artists are influenced by a multitude of triggers in their everyday lives. These triggers are in turn imbued into the works

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21 Ibid, p12

they create. In my own work I have mainly made recognisable objects that require the audience to elicit their own meaning from them. Other issues are inferred by the mere fact that the reality of my objects is in a reduced form. In Safe House, the title itself infers the literal meaning of a 'safe house' and the 'safety-type signage' colour yellow with black dashes reinforces this concept. The resulting oxymoron is that the object fulfills our expectations as a graphic-like life-size symbol of a 'safe house' and yet is transparent, and indeed can theoretically (and metaphorically) fold in upon itself as it originated from the diagrammatic drawing of a box construction.

Kawara, a Japanese conceptual artist, impeccably paints each day's date on a monochrome coloured canvas. When confronted with these works lined up in a gallery space, the viewer is provoked to question the time and place of their own being. Kawara also invokes a sense of time and place by selling the work in a box lined with a page of a newspaper from the same day. A sense of mortality is inferred and a questioning of the artist's own existence on each particular day.

**Function**

I think questioning the function of an artwork is interesting as it differs from meaning in that it asks 'how do they discern meaning'? Clearly, the Kawara date paintings evoke a sense of time and morbidity, placing the viewer in a frame of feeling for the present and their own existence.

Alexander Calder, best known for his mobiles, was a prolific sculptor who used the manipulation of wire to create a large body of his work. His Circus group of sculptures allows the viewer to enter the fantastic world of the circus on a small scale. The moulded wire figures depict a fluidity that we associate with the constant movement of circus performers. In Circus Figures (1929), instead of representing the figures by the delineation of edges, Calder provocatively and economically uses the tension of a single line, such as the spine of the female dancer, to magically create an
interaction between the two figures which have stick-like limbs but are devoid of discernable faces.

The seated male is anxiously poised with his buttocks raised off the surface of a trampoline-like structure to meet the dancer’s gaze. His hands, represented by simple single twists of wire, cling to the sides of the seat. The pole in the hand of the acrobat, rather than being completely straight is bent threateningly towards the man. The function of this diorama appears to be the depiction of movement and tension and the importance of the relationship between the players as being integral to the scene and atmosphere of a circus. There is an emphasis on the drawn line rather than the depiction of an outline in Calder’s work. The figures are sketches in the third dimension. They do not function to question the shape or surface of a solid, but rather represent figures and circus equipment in its simplest form. This shifts the importance of the work onto movement and an engagement with place through the
performing figures.

Owen's abstract structures also merge with the gallery space by nature of their installation. The viewer attempts to make Owen's forms into outlines of a solid mass by puzzling over the visual perception of them.
THE TECHNIQUES AND HOW THE WORK WAS PURSUED

The Thoughts
Before an artwork is conceived I have an idea that is usually subjective: a vision of something in my head that is placed on pause, eventually to be made real. The intention or meaning that I wish to impart involves collective concepts regarding nuances of the human condition.

For example, in *Limbiferous*, meaning 'provided with a border or outline', the origin of the idea and title can be traced to the common saying 'out on a limb', which in turn lead me to think of 'in limbo.' This induced many limb-like words with fantastic meanings such as limbeck (to extract or distill an essence) or limbation (a border distinguished by colour or structure). All the while I kept an outline drawing of a tree limb in my mind for construction. I started by making a soft wire drawing first out of plastic-coated garden wire. The manipulation of this type of material is immediate, like the use of a pencil for sketching. Half thinking of *Limbo*, the game of arching your body under a stick which is progressively lowered with each success, I decided to make a large life-size limb which begins as a sawn-off trunk coming out from the wall. The first attempt failed due to the wire not being thick or supportive enough. I made the final work from copper tubing which has the wonderful ability to bend and move. The physicality of shaping the material was difficult, but after surrendering to the nature of the material I enjoyed the spontaneity and lack of complete control in literally wrestling the tubing into the form of the limb. The object was painted bright red, which I chose for its alertness both emotionally and in the perceptual field of vision.

You are stuck. Your friend needs you to hear everything and give answers. You stand, shift and contemplate the hover. You convey that things are transient. Being transient means that they can be relegated backwards and put away to be used at a later date.
because what is now has already changed.

I am interested in pursuing the creation of objects that resemble the schemata of objects. In *Limbiferous*, the sculpture of the limb can be viewed objectively as a colourful limbation. The viewer has the opportunity to perceive it as such and reflect on its lack of solidity. It conveys what may have been a tree branch re-presented like a visual thought of what we recognise as such. The condition of these sculptures is a product of the condition of 'now'. I view the present historically. The images that come into my mind are a result of thinking about the seeking of the meaning of thinking; sifting through thoughts, conversations and feelings about how I think. The sculptures offer a resolution of my thoughts. I believe that this is a time of transience, fear and transparency. This is why I have chosen to use the outlines of objects; unclothed, without weight and in a state of uncertainty.

*You are alone. You close your eyes and quickly open them again. You imagine that you see your friend again but it is just your conversation hanging; convoluted in the air like a pregnant pause.*

A significant element in the techniques utilised in this research is the response to what is happening at a daily level at the present time. The result of this is that the work is concept driven. Concepts engaged with include the onset of the war with Iraq which created an atmosphere of uncertainty and fear.

The relationship between the viewer (the perceiver), the object (the figure) and the space in which it is contained (the ground, gallery walls and surrounds) is a significant consideration in the final installation of the works. Artwork on display in a gallery environment is in a privileged position of viewing, unlike the constant movement and flitting focus which engages our usual visual movement through everyday spaces. *Pregnant Pause* is one of the last works in this research and rather than depicting the outline of an object it is the thing itself; a repeated drawn line in a collected mass suspended in the air at approximately chest height.
The Materials

In my studio I am surrounded by coils of aluminum cable, garden wire, fencing wire, copper tubing, steel rods, stainless steel welding rods and aluminum tubing. The garden wire is useful in making marquettes of objects I have for proposed ideas. In *Submerge* and *Adrift* I made the final artwork from painted garden wire in combination with coloured Perspex. The Perspex box constructions function as supports and, more importantly, signify psychological spaces in the unconscious. My work is made easier by the fact that these materials are familiar and accessible allowing for the rapid resolution of works. The aluminum cable originates from twisted bundles of cable that are covered in a thick plastic coating. At the metal scrap yard, a mechanical wire-stripping machine roughly tears off this outer layer. This leaves the outer cables with a jagged rough edge not unlike a scratchy pencil line on a page. I think this quality is desirable, particularly in the work *Pregnant Pause* where the intention is for the finished work to look like an expressionistic frustrated scribble in space.

Judy Pfaff, who has worked as a significant installation artist since the 1970s, gathers contrasting materials around her to assemble in large-scale spatial works. Susan Krane states in the catalogue titled *Judy Pfaff* that her combination of materials, created in situ similar to studio-based constructions, ‘transform(ing) an environment into a fury of visual activity.’ In Pfaff’s installation *Deep Water* the viewer is confronted with a cacophony of coloured lines and swatches of irregular colour fields in space and on walls. The negotiation of movement through this installation is frustrated by hanging wire and a disorientation which is created by the vivid colours splashed through the space like an expressionist painting in the third dimension. Despite this, the work invokes a desire to journey within it and to reach out and touch the forms. I find her work interesting in that she has an enduring interest in visual

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illusion and her works ‘explore notions of weightlessness and displacement.’ The linear and brightly coloured aspects of her work specifically thwart the viewer’s spatial perceptions and allow a shift in the way the viewer perceives the objects location within the exhibition space.

The Perspective

The perspective of a solid form depends on the direction of light falling on the planes of the form. This delineates the contours and enables visual perception of the object’s shape. The viewer automatically perceives perspective by siting points on the object that calculate distances between the length and breadth. Solid objects are perceived as a whole according to variations in contrast, light and tone. As the viewer moves around a solid form, the scale and nuances of shape are confirmed. Colourful linear forms ‘drawn’ three-dimensionally in space are difficult to visually grasp immediately. The movement of the viewer around the object distorts rather than confirms the form, as at each angle the interpretation of the lines changes dramatically.

One of the intentions of this research has been to explore the outcomes of removing the planes and contours of recognisable forms thereby rendering them transparent and unpredictable in their form. The figure-ground relationship fluctuates with the movement of the viewer through the space in which the object is contained and the reading of the object changes according to the position of viewer.

Margaret Livingstone states:

Understanding luminance is important because our perception of depth, three-dimensionally, movement (or lack of it), and spatial

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24 Ibid, p9
organisation are all carried by a part of our visual system that responds only to luminance differences and is insensitive to colour. The relative luminance of linear objects and gallery surrounds are different. The more luminescent the colour, such as the yellow-green of *Hindsight*, the greater the difference between the object and its background. Not only does this determine the figure-ground relationship but flattens the three-dimensional properties of the object, as the luminance is uniform along the lines of the object. Without contours or tonal changes our brains perceive the object as flat. Occlusion (one line behind another in this instance) is ill defined because of the brightness and evenness of the colour which aids in the visual flattening of the object.

**The colours**

The selection of colour is an integral part of the process in the completion of the artworks. Some of these selections can be seen in the statements that follow:

*Limbiferous* is painted in enamel ‘Hi Chroma Red’. This is reddish like arterial blood, wild, passionate, alert, sexual, vulnerable, aggressive and attentive. This colour choice fits the expressive winding nature of the limb, which I subconsciously picked to highlight its anthropomorphic nature; legs and arms twisted and entwined, butting into the gallery wall. The use of the properties of the red is a ploy to enhance the line and thus improve the visual acuity of the form against the background of the gallery walls.

‘Red light has an enlivening and stimulating effect upon the heart, while blue, on the other hand, can lead to temporary paralysis.’ Kandinsky stated this in one of his lectures on colour theory in the Bauhaus. The synaesthetic qualities of colour have diminished since then due to the over

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26 Ibid, p101

stimulation of the senses, but I believe the symbolism of colours is still relevant today. To obtain a synaesthetic effect with a colour, I feel the viewer needs to be consumed by the colour physically such as I intended in the DVD installation *F Sharp*. By covering a wall with a red/orange coloured projection the aim is for the space to be enlivened with the colour so that the viewer feels ‘inside’ the colour.

Merely painting an object blue is not going to render oneself paralysed at the sight of it. The colour fluorescent blue makes me think of the void, nothing, emptiness and vastness. In current information technology jargon, when a computer crashes there is the ‘blue screen of death’. Hence, I painted *nothing near zero* a bright fluorescent blue.

Kandinsky apparently thought ‘that black and white were silent.’28 This choice of colours for *Silent Protest* was innate. The black and white segmentation around the geometric forms of the placards gives the visual clue of danger, such as road-markings, but most importantly, isolates the shapes like ‘marching ants’. ‘Marching ants’ describe the dashes in computer imaging editing software programs to ‘cut’ a portion of an image for saving and ‘pasting’ elsewhere. The completed selection is referred to as ‘the marquee’. Visually, this has a similar effect to bright colours such as red by confusing the figure-ground relationship of the placards against the white walls of the gallery space.

The black of the gas masks in *Draw a Deep Breath* is still, silent and deathly with a silent after-taste of disaster.

The fluorescent yellow-green of *Hindsight* conjures, for me, the notion of purity, clarity and freshness as the desire is for the viewer to have a crisp vision and concentration on the reflective mirrored surface contained within the lines of yellow-green of the object. This particular kind of paint is rare and is used for painting fishing lures as its luminosity attracts prey.

The deep blue-purple colouration of *Drawing the Line* is introspective, sad, congested and uneasy.

The white of the diving board in *Submerge* is deliberately light and quiet to metaphorically represent conscious thought. Beneath the surface of the

28 Fletcher, Alan. *The Art of Looking Sideways*. Phaidon, p65
bright yellow-green box (representing water), the black drums and ladder moving downward into the depths signify a journey into unconscious thought, dreaming and the unknown.

Fluorescent orange is an intense and vibrant colour. This was the colour of the first work *Islandhome* and the last work *This insert has a protective coating*. The startling luminosity of this colour is responsible for the visual difficulty in apprehending whether the line drawings are three-dimensional. The colour tends to draw the viewer toward it, yet alert to some kind of danger simultaneously. With *This insert has a protective coating* I feel that it accentuates the absent body.

Apart from the apparent symbolism of the various colour choices a significant outcome in this research has been my discovery that luminescence is registered in a separate part of the brain to colour. It is the luminous qualities of the colour chosen which defines the figure-ground relationship of the object and the surrounding space.
CONCLUSION

My preoccupation with the visual perception of lines in space has been the enduring premise for this research. Hoffman, a cognitive scientist, states amazingly:

Our current understanding of visual anatomy and physiology suggests that you put too much effort into making lines. It may feel effortless, but in fact you employ millions of neurons.29

More frightening still is the statement by Semir Zeki, a neurobiologist, that 'colour...is a construction of the brain. There are no colours in the outside world.'30 What does this mean to the artist? Artists intuitively explore the science of colour and form through the process of trying to create what we imagine is in front of our eyes.

If I go back to the first piece Islandhome, I thought that the viewing and subsequent apprehension of the work was through a process of image transmission beyond my comprehension. I have since learnt that perceiving objects is a complex process of information processing utilising different areas of the brain.31 For example, depth perception, light and movement are processed in a separate area from colour perception.

The outcome of this research has been the reduction of objects to their simplest form by the use of lines and the colouring of these lines with a single colour. Klee states 'I begin where all pictorial form begins; with the point that sets itself in motion'32 across a two-dimensional surface with the intention of creating the illusion of three-dimensional space. The point that is set in motion in these works is a physical line dissecting 'real' space. This results in a


questioning of (a) the figure-ground relationship, (b) the effect of the movement of the viewer in the space in which the objects are contained and (c) the way in which these objects are apprehended. Meanings are inferred by the choice of object represented, their colour, luminescence and the way in which I have elected to install them in the gallery.
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