

National College of Art and Design

Faculty of Design

Ceramics, Glass, Jewellery & Metals

'Technicolor Shadows

Current Pioneers in the Art of Light and Glass'

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Declaration of Work

I declare that this work is my own and all sources have been properly acknowledged.

Signed:

Date:

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Introduction

This thesis will examine how the existing categories of both 'glass art' and 'light art' are not satisfactory in describing the work of a selection of contemporary practitioners who produce art through a combination of glass and light, the effects of which are painterly, theatrical and ephemeral. It will argue and attempt to show that the use of glass and light combined is a powerful art medium, capable of reaching out to many people, speaking with clarity without being condescending. The potential of the medium is often overlooked or dismissed as empty spectacle or kitsch illusion, an association this study will aim to denounce.

Compiling this study was a challenging labour drawn from my own studio research in glass. I have always been drawn to the relationship between glass and light and to ephemeral and elusive work combining these materials in new ways. The artists chosen to explore here - Alan Jaras, Sydney Cash and Stephen Knapp - were individuals whose work I personally found fascinating: I eagerly wanted to know how their work was created, what pushed them to make it and what their influences were. While their work crosses the major art disciplines; photography, sculpture and painting, they are each using properties of glass to harness light.

While there is much written about 'glass art' and 'light art' separately, there is a distinct lack of literature regarding their use as the combined medium as it will be explored in this study. The lack of critical discourse surrounding the work produced by these featured artists is related to the fact that their practice mainly evolved outside the typical cannon of art institutions and galleries. Most information on the artists and their work has been sourced online from their own websites, blog entries, interviews, gallery pages and YouTube videos. While both Sydney Cash and Stephen Knapp have been featured in articles and magazine publications, there is as yet no published in-depth examination or compilation of their work. Due to the ephemeral and experiential nature of their art, videos provided some of the best insights into their practice. This is especially true in the case of Stephen Knapp, whose YouTube channel 'shadowstylenet' hosts a selection of documentaries on his public installations. These videos feature interviews with the artist, clips of the installation and also audience reaction.

Alan Jaras, by contrast, is a new to the art scene having only started to exhibit work in the last few years. Information regarding his work has been gathered from blog articles and interviews, in particular one by David Sommers from 2008. His *Flickr* page, where he goes by the name 'Reciprocity', was also a great resource for deciphering audience reaction as well as Jaras's own thoughts about his work. To complement the information available online I contacted the artists via email with more specific questions pertaining to this study. Their responses are included as appendices at the end of this study.

Chapter one will begin by introducing the materials glass and light with particular attention to their universal appeal. It will also consider what exactly it means to be a glass artist and a light artist. With respect to light art, research on James Turrel's work has been of great relevance to this study. Turrel's work involves harnessing the phenomenological effects of both natural and artificial light. Much of my research on light as a material was drawn from critical studies of Turrel's work specifically from the book *First Light* (2006, Ed. Etherington-Smith) which is referred to throughout this study.

We will then move to introduce the material glass. Glass is an amazingly diverse material but what shall be dealt with in this study is glass's relationship with light and its use in art. Concerns about glass as an art material are varied but one particularly relevant to this study regards how the allure of glass can cause it to fall into the category of kitsch: Pretty, yes, but meaningful - no. This issue is discussed, by craft writer Bruce Metcalf in his speech *The Glass Art Conundrum* (2009).

On the opposing side, it can be argued that the material allure of glass is its biggest advantage, attracting a wide variety of people who may not normally engage with art at all. Demonstrating this broad appeal is glass artist Dale Chihuly. He, more than any other glassmaker, has been embraced by the public and been both loved and loathed by critics generating an abundance of literature on his art work. Two notable essays for use in this study are *The Spectacle of Beauty* (2000), by Dana Self and *Dale Chihuly: Paradise Regained* (1996) by Barbara Rose. These texts address the loud-and-proud, colourful beauty of Chihuly's glass, which this study will

appropriate for discussing the equally beautiful, if less opulent, works of our featured artists.

Having introduced the materials, two critical concepts have already emerged; the phenomenological experience and the notion of spectacle. The next part of the chapter will address the concept of Phenomenology as a way to experience this type of art as discussed by philosopher Merleau-Ponty. The notion of spectacle will be examined but rather than the usual academic notion of spectacle as defined by Guy Debord we will look instead to Jasmine Allen's *Stained Glass and the Culture of the Spectacle* (2012) for a more suitable perception of spectacle and discuss the manner in which such a spectacle can be experienced.

The final part of Chapter one will introduce theories of light that emerged in the Modernist period of the 1920's. At this time, artists of the Bauhaus began experimenting with the possibilities of artificial light for producing new types of art. The key theorist and practitioner this study will look at is Laszlo Moholy-Nagy (1895-1946) with particular attention to his iconic book *The New Vision* (1938). In this text Moholy-Nagy traces the development of painting, sculpture and architecture on what he sees as their journey towards immateriality in the use of light and transparent materials.

The remaining Chapters 2, 3 and 4, will function as case studies for the artists - Alan Jaras, Sydney Cash and Stephen Knapp respectively. They will be discussed with reference to their use of light and glass as a combined medium in the production of

their art. While they are not the sole practitioners in this as yet undefined field, they are chosen because they are involved with the exploration of light via glass on an ongoing basis rather than one-off studies. Each case study will conduct a visual analysis of each artist's work and highlight their apparent motivation to work with these materials in the manner they do. The reception and experience of their work by their respective audiences will also be examined. Throughout, this study will present an argument for the appreciation of the role of these artists in pioneering new methods of working the materials of glass and light. It will also call attention to the ability of these works to provide an uplifting, accessible and pleasurable experience of art that can appeal to both the art-critic and the average man on the street.

Chapter 1: Key Concepts

This chapter will serve as an introduction to glass and light as art materials, focusing on their universal appeal. It will also question what it means to be defined as a glass artist or as a light artist. Following on from this it will outline some specific critical concepts relevant to this investigation including: the phenomenological experience, spectacle and the modernist theories of light and glass as novel and paradigm changing materials in the future of art. These concepts are important frameworks that will later be used in the analysis and contextualization of the work of the three artists.

A brief introduction to light and glass

Light:

Working to capture light is not a new theme in art. Image-making in all forms could be considered an effort at capturing light since it defines everything we perceive around us. For centuries humans have been trying to capture the effects of light in nature with pigments and oils. From cave paintings, all the way through to the twentieth century, art has arguably been on a journey towards dispensing with the need for paint and, as Modernist theorist Moholy-Nagy saw it, developing the ability to create with 'flowing, oscillating, prismatic light' (1938, pg78). The development of photography, fixing memories of light on film, brought us one step closer to mastering this intangible material and if we consider that today projections and holograms are capable of creating incredibly detailed compositions

entirely from points of light perhaps the aspirations of the modernists have been reached. Either way, humankind's fascination with light does not seem to be waning. Since the beginning of our time we see 'all cultures worshipping light' (Coward, 1997). Over and over it emerges as a symbol for energy, the otherworldly, the divine, the good and the mysterious. *First Light*, published in conjunction with James Turrell's exhibition of the same name, remarks on the fascinating paradoxes of light; we cannot touch light, yet it can burn us, it is insubstantial as shadow yet capable of travelling across vast distances through empty space (Etherington-Smith, 2006). Light is the creator and instigator of all optical phenomena surrounding us. In the words of James Turrell, probably the most prominent light artist; 'Light is a powerful substance – we have a primal attraction to it' (Etherington-Smith, 2006, pg2).

We should consider before moving on, what exactly constitutes a 'light artist'. Through it seems like a straightforward concept the term 'light artist' does not have a specific categorization. This study will look to the most recent development in light art, The Light and Space movement of the 1960's to establish some parameters. The movement saw the creation of perceptual works of light and space. Its members were sometimes called 'architects of nothingness' because of the object-less nature of their work (Butterfield, 1993, pg16). Because of the material based nature of the work produced by the artists in this study while they can be compared and related to artists like James Turrell, they do not qualify in the same field. The art they produce is much closer to the decorative arts than the vast scale and minimalist nature of the artists from this movement.

Glass

Glass is a tool, an amazing instrument that allows light in and keeps the elements out (Blanche, 2008), a material whose depth and shape in a lens can magnify and minimize what the eye sees (Wolberg, 1971), a material that can reflect a spectrum of colour while having no colour of its own - a tool that can hold and focus light. The aspect of this study that is different from existing texts on light-based art is the importance of glass as a medium. 'Glass art' is an overly broad term covering a whole range of practitioners whose one common trait may be the material they work with rather than the way they use it or why (Harrington, 2011). Despite the broad scope of practices that can now be categorized under the term 'glass art' interpretation of the term is still associated with the hand-craft, or decorative arts tradition. In general, glass artists are thought of in the role of a skilled maker (Metcalf, 2009). The works produced by the artists in this study are in a sense 'hand-made' – which will be explained later, however the actual forming of the glass is not done by the artists themselves. While glass is an integral part of their work, their use of it is more akin to the painter's paintbrush – he does not make the brush - he might test it, modify it and figure out which brush is most fit for his purpose but the brush is the tool that allows his create his product. Because of this these artists cannot classify as glass artists, their work is beyond the scope of its definition.

More than any other material glass has a historically entwined relationship with light, which it can absorb, reflect, refract or filter according to its surface treatment.

From stained glass windows in gothic cathedrals to decorative tableware designed to catch the light and showcase the display; glass shines, glows and sparkles for our attention. Some critics such as Bruce Metcalf acknowledge it may sometimes be too seductive, he argues; 'everybody knows that light passing through transparent glass is incredibly seductive' - it is not very difficult to make something appealing out of glass (2009). This natural appeal draws suspicion from art critics, who feel glass's inherent material beauty distracts from the work's artistic intention (Waston in Yelle, 2000).

Yet from another angle, it can be argued, as curator Elaine Gustafson does, that; 'glass's universal popularity proves it represents an international voice', which reaches and resonates with both the high-end gallery owner and the average Joe on the street (Yelle, 2000, pg317). The spectacular appeal of glass and light that often generates its biggest criticism is also its greatest strength giving it an ability to speak 'in a language everyone can understand' (Rose, 2000). Talking about the glass art of Dale Chihuly, whose work often comes under critical fire for being considered purely sensationalist, critic Dana Self praised it for its unashamed alluring appeal, arguing that: 'Beauty, far from a guilty pleasure, allows us to examine the re-creation of meaning through ... the wonder of looking' (1996). The work produced by the artists under study use glass as a tool to manipulate and modulate light. Their work is undeniably beautiful but also appealing to a general public that may otherwise consider art as above their comprehension.

An encounter with wonder - the phenomenological experience

The artists under study here do not produce work which is conceptual, that is 'relating to or based on mental concepts' in a conventional sense (Oxford English Dictionary, 2012). Rather, as the artists themselves declare, their work is the result of technical experimentation which they explore for both personal satisfaction and to produce for their respected audiences, an 'experience they have never had before' (McIlgorm (b), 2012). This experience is not intellectually driven; rather the experience of their vivid, captivating works is more akin to a phenomenological experience of nature as described by French philosopher Merleau-Ponty (1908-1961). The value of what Ponty identified in the concept of Phenomenology was that through these experiences, we restore contact with 'things themselves... (in) our lived world' and experience life with the same pre-reflective wonder of a child (Carmen & Hansen, 2005, pg158). Sadly, for many this instinctive awe of the world may become suppressed by knowledge and humdrum conventions of society.

This child-like sense of wonder however, buried though it might be, lies dormant not dead. It can still be awoken when we experience a 'jolt' out of our normal existence. This 'jolt' can be triggered by many factors but is most commonly created by an experience of natural phenomena; the feeling of mesmeric awe while standing on a mountain-top or seeing a rainbow bridge the heavens. The artists that shall be discussed produce work, this study will suggest, that elicit that same emotion in their audience. Their work engages the imagination and provides a delightful momentary reprieve from everyday reality.

The much criticized 'spectacle' in modern life

When discussing anything man-made that is fantastical or diverting in the way that these artists' works are it is impossible to disregard the critical concept of 'spectacle'. Spectacle in critical theory has acquired many negative connotations linked to the iconic text *Society of the Spectacle* (originally published 1967) - Guy Debord's pessimistic stance on what he sees as:

Societies where modern conditions of production prevail, life is presented as an immense accumulation of spectacles. Everything that was directly lived is now merely represented in the distance. (2002, pg6)

Since the publication of this text, manufactured spectacle has been linked academically with the loss of all meaningful experiences in life into a series of empty appearances (Harris, 2012). It has come to represent the desensitizing effect of capitalism, mass media saturation and excess in society. This parallels with the reception of many artists producing bright, attractive and likeable work being accused of producing vacuous art devoid of any worthwhile experience. Jeweler and craft writer Bruce Metcalf remarks in *'The Glass Art Conundrum'*, that this is a particularly poignant issue in the reception of glass. He gives the specific example of John Khun's glass work, which he claims is;

All about the seductive appeal of fractured light. Beyond the glitter, there's no contribution to the history of sculpture, and only a marginal connection to the history of decorative arts. (2009)

While this type of art may be appealing and popular – Khun has been immensely successful commercially - it is seen as lacking depth. Underneath it is just another piece of empty spectacle. While there is no denying that this is one definition of

'spectacle' this thesis will appropriate the definition put forward by Jasmine Allen in her article *Stained Glass and the Culture of the Spectacle 1780–1862*(2012) where she defines spectacle as 'a mass public show, characterized by a profusion of light and colour, a sensual feast for the spectators' eyes' (2012, pg3). A spectacle is not in every case a show of beauty; it is anything that evokes wonder, admiration and attention from those that behold it, however, beauty will draw said effects most often (Griffiths, 2008).

The spectacle discussed throughout this thesis is a visual experience. Gazing at these spectacles can take us on an imaginative journey into what we are looking at, evoking memories, telling a story. This captivated gaze¹ may be referred to as 'enchanted' when the depth of concentration and focus on the object excludes all other surroundings (Self, 1996). It is not too much of a leap to consider this enchantment with the work a form of imaginative immersion. In *Shivers Down Your Spine* (2008) author, Alison Griffiths classifies immersion as 'something that takes us into a "virtual" reality... an inter-terrestrial space where we are never fully there because our bodies can never fully leave "here"' (pg285). Griffiths is referring to the immersive experience of cinema but the concept can be appropriated to this study because of the somewhat virtual reality, comprising of the real material (glass) and the temporal and ephemeral effects of light created by it, in the works of our featured artists. The experience of these works is very absorbing, possibly because the way in which they are created defies normal parameters of dimension and is

¹ 'The gaze' can refer to the critical concept of 'The Gaze' made famous by Jacques Lacan (1901 – 1981) – this study acknowledges this concept but is using the term in a literal way.

often enhanced by the gallery setting in which they are viewed. To give a name to this unclassified experience, this study will refer to the blending of the 3dimensional and the un-dimensional – for what are the dimensions of light? It is constantly in flux – as the creation of 3.5Dimensions, where the tangible and the intangible meet.

Novelty and investigation

The work produced by Alan Jaras, Sydney Cash and Stephen Knapp is often driven by material investigation and technical development. Furthermore, all three artists work in a hands-on way with their materials. This method of working bares similarities to the practices of re-introducing hand-craft, coupled with an enthusiastic embrace of new technology that was pioneered by the Bauhaus in the 1920s. Light and glass as a combined material in the modernist period was laden with utopian and spiritual associations (Wilk, 2006). Artificial Light was seen as a man-made equivalent to natural phenomena and its potential application in art, design and architecture was a cause for much excitement and experiment.

Some Modernist theorists such as Paul Scheerbart saw glass, particularly coloured glass, as the ideal building material for creating a social utopia, even claiming that ‘coloured glass destroys hatred’ (Olsson, 2004, pg94). This spiritual association with colour and light was also shared by abstract painter Wassily Kandinsky (1866-1944). The most notably theorist for this study is Lazlo Moholy-Nagy, widely regarded as a key founder of of light art. Moholy-Nagy saw light art as the pinnacle of artistic development (1938) His own experiments with light, via photographic and

sculptural processes were conducted in an almost scientific manner, the process and the journey being of as much value to him as the finished piece. The artists featured in this study have also explored and developed their mediums as part of a continual investigation that is just as important to them as the finished product. We see in their work a connection to this optimistic investigation of material that was last seen in the modernist era.

To conclude, the use of glass and light as a medium is not limited to 'glass artists' or 'light artists'. It is not limited to those with an art school education or a refined sense of 'taste'. Glass and light combined produce a sensory experience and as such, interpretation of these works is not reserved exclusively for high-brow intellectuals. The quiet, sensory experience of the work, involves its viewers, linking it to other 'revolutionary' art movements such as Op art that wanted to remove the elitism from art and surprise and delight its audience; be they of the art-world or the ordinary world (Hollein, in Hollein et al, 2007, pg10). These works made by glass and light, can be and indeed are enjoyed, as we shall discover, by individuals of all ages, cultures and professions. As Bauhaus teacher and visionary Lazlo Moholy-Nagy said in his iconic book, all healthy persons are:

Equipped by nature to receive and assimilate sensory experiences. Everyone is sensitive to the tones and colours... This means that by nature everyone is able to participate in all pleasures of sensory experiences - (1938, pg14).

Nagy's statement testifies that everyone, regardless of culture or status, has the ability to partake in the visual experience and enjoyment of the work produced by the artists featured in this study. For those that might argue against the authenticity of work made from these inherently attractive materials, surely the

opportunity for base level, innate interaction with art is a more constructive and positive experience than that given by a distant piece of the avant-garde, overly laden with theory and concept that discloses nothing to the public (Self, 2005). Their works will also be analysed for their aesthetic qualities and related to previous movements in art, situating them in a broader historical context. The three case studies presented will show the diversity of glass and light as a combined medium, highlighting its pioneering use in the photography work of Alan Jaras, sculpture in the creations of Sydney Cash and painting as realized in the work of Stephen Knapp.

Chapter 2 – Alan Jaras - Light Catcher

'I'd like more people to experience the wonders of science and nature and use their eyes more to observe the world in a little more detail.'- Alan Jaras (Sommers, 2008)

An experience of wonder. The application of science. Perception of nature. In the above quote Alan Jaras has already pulled out many of the themes which this study is based around. In his efforts to bring a little wonder into our lives Jaras has become a master at capturing patterns of refracted light in his fantastical photographs. Light in his work could be described as 'the theme and the medium, the subject and the substance, the content and the form' (Moholy-Nagy, 1938, pg21). The material properties of glass are the tool that has enabled him to manipulate this intangible substance.

It may seem strange to start an exploration of art fashioned from glass and light with a retired scientist-turned-photographer but Alan Jaras is exemplary in this field precisely because of his distance from the art world and from the tradition of glass craft. A self taught, amateur photographer, Jaras retired early from his career in optical and electron microscopy to invest more time in photography however, the immensely positive reception of his light photography online has forged him a whole new career path. If we recall Bauhaus teacher Moholy-Nagy's proclamation that 'by nature everyone is able to participate in all pleasures of sensory experiences' we can hold up Jaras's new-found artistic career as confirmation of its validity (1938, pg14). Jaras developed his own innate skills and talents, independently of hierarchical institutions. In addition, his success has not come

from gallery representation but from the wide-reaching appeal and emotive effect his work has had on his audience of the World Wide Web.

This case study will analyse Jaras's unusual relationship with glass and light art and his reason for producing the work he does. Taking several examples from his extensive catalogue (freely available on *Flickr*), we will examine them first in terms of their visual aesthetic and then move to analyse their possible perception as similar to our subjective perception of natural phenomena, involving the imagination and notions of the sublime. Lastly, we will reveal Jaras's photographic process and scientific methodology and relate it to Moholy-Nagy's experiments with photograms and modernist theories of light.

Jaras's relationship with glass is that of an enthralled collector and admirer, not a maker - his work focuses on what light can do in glass rather than what can be created from glass. He and his wife have been collectors of British studio glass for over thirty years (Sommers, 2008). Their glass collection was an early subject for Jaras's photography but it was the material's special relationship with light that proved to be his biggest inspiration. He found himself more drawn to the optical effects produced from sun shining on their glassware displays than the glass itself. These patterns, familiar to all of us, are known as caustics and are caused by the physics of light refraction (Bompas, 2012). Light rays travelling through a transparent surface, such as glass, are bent according to the surface's shape and optical properties - such as the texture, translucency and thickness. Light is not uniformly distributed as it would be through a flat plane, instead it is concentrated

and dispersed irregularly, forming some areas of intense brightness and others that are scattered and feathered. In order to share his fascination and 'hopefully arouse an interest' in this largely ignored light phenomenon with others it was necessary to find a way of capturing these bright shadows, holding them in focus for our attention through photography (Sommers, 2008).

Jaras's images bear undeniable visual similarities to natural phenomena. According to Land, 'sunrise, sunset and aurora displays are nature's grandest manifestations of coloured light' but Jaras's refractographs extend the imagination further, out beyond the limits of familiar imagery of this earth (1972, pg103). The abstract images bring to mind strange galaxies and exploding stars. Comments on the photo-stream involve varied interpretations of the images, reading them as; deep sea fish, microbes swimming in primordial soup or extra terrestrial flowers, all born in light (Reciprocity, 2012). They are dreamy, mesmeric glimpses into a possible world. The above image (fig 1), *Phantasma of Light* (2006) is an early experiment in the *Bending Light* series which comprises of his earliest experiments continued up to present works. The patterns were formed through a glass object, possibly a bowl or jug from their collection but there is no allusion to the origins in the final image which is breathtakingly remote from an ordinary object that might reside in one's kitchen.



Figure 1 – Alan Jaras, *Phantasma of Light*, 2006, (*Bending Light* series no.39)

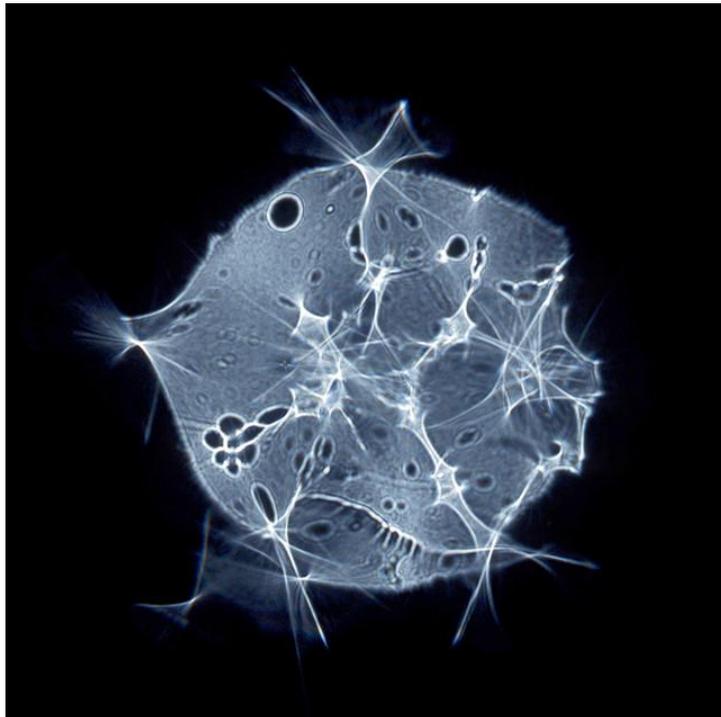


Figure 2 – Alan Jaras, *Fins Ain't Wot They Used T'Be*, 2008, (*Taming Light* series no.29)

The radiant colour in Jaras's imagery gives the pictures an illusion of three-dimensionality. The light seems to hover above the black surround yet some areas seem to push ahead of others. This is achieved from the focal position of the camera on each exposure as well as the optical effect which causes brighter colour to appear to leap forward in the picture-plane (Sommers, 2008). Even in images with a more restricted colour pallet (Fig 2) there are rainbow effects that enliven the composition, adding to the fanciful notion that these will-o-the-wisps of light might have a life independent of the images. In his book discussing lens-less photography (featuring work similar to Jaras's - where an intensely bright image appears to hover above an inky black background), Martin Barnes, senior curator of photography at the Victoria and Albert Museum, London remarks that, perhaps light is an energetic life-force 'so strong it cannot be held back by the darkness' (2000, pg120).

This second image (fig2) is from Jaras's latest and most developed series of 'refractographs', *Taming Light* (2008). This series features more constructed and controlled compositions within each frame but they still bare resemblance to possible configurations that could be found in nature. Jaras will sometimes leave the interpretation of the image totally open but often, as seen here, he titles an image with what he imagines to be emerging from the pattern. This title, '*Fins Ain't Wot They Used T'Be*' immediately conjures up associations with sea creatures, deep water puffer fish perhaps. Our reading of the images is subjective; they stimulate the imagination but Jaras understands that the interpretation can only draw on

what is stored in our personal memory (Collet, 2012). It can be assumed that the above image (fig2) will read differently to the marine biologist and the businessman depending on their lived experience of what a marine creature might be. Without the suggestive title it can be supposed that other wonders would be interpreted – perhaps the light at the end of the tunnel or a luminous moon reflected in water.

For comparison, this image *Friiled with Light* (fig3) has a much less evocative title. Even though it is compositionally and visually similar to the image in Figure 2, the audience's interpretation of this image was much more varied and included the following; 'a star caught in process of supernova', 'a fruit' from a planet of light, 'light gem', a 'berry of light' and 'an intergalactic Christmas pudding' (Reciprocity's Photostream, 2008). Readings of all Jaras's images range from the playful and the scientific to the quasi-spiritual but importantly, there is no right or wrong answer. The artist engages with the audience's interpretations in the comment stream, often expanding on their interpretations with a humorous continuation of the story of linking pervious images up to continue the tale.

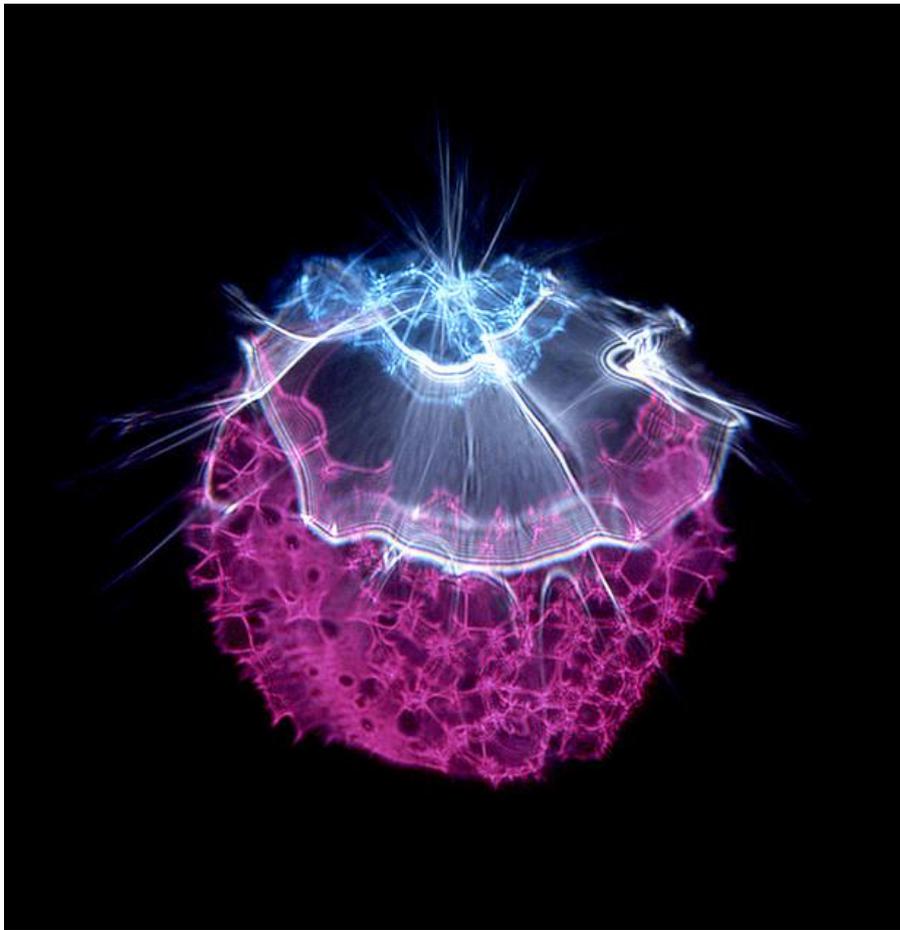


Figure 3 – Alan Jaras, *Fried with Light*, 2008, (*Taming Light* series no. 24)



Figure 4 - Alan Jaras, 2012 Refractographs at the Richard Goodall Gallery, Manchester

The abstract images that Jaras captures remind us of the wonder of nature and make us feel an awareness of ourselves in the weird world around us. According to Wolberg 'there is a natural existence of art within science', a claim that Jaras would agree with (1971, pg1). It can be seen from images such as; telephotographs of the earth from space, close-ups of microscopic cells structures and renderings of atomic particles to name but a few, that manifestations in the natural world often resemble abstract images and inevitably connections will occur between the two. It is evident from the reaction on *Flickr* that the audience delights in Jaras's imagery likely because of their similarity to natural phenomena, to which Wolberg suggests pleasure is an almost instinctive response (1971). Furthermore, each piece's subjective interpretation, based on memory and experience relates to Merleau-Ponty's idea that we can only experience occurrences from our personal and unique perspective – 'The world and I are intelligible each only in the light of the other' (Carmen and Hansen, 2005, pg70).

The level to which these works stimulate the imagination creates an immersive gaze such as one might have while regarding a film, which is, at its best, an optically 'totalizing experience' (Rose, 2000) that involves us on both a bodily and mental level. To appropriate Barbra Rose's description of Dale Chihuly's installations, Jaras immerses in a 'psychedelic, magical... panorama without drugs' (2000). Such immersive involvement with the work gives rise to romantic ideas about the beautiful and the sublime. According to Edmund Burke, 18th century philosopher, 'mere light is too common a thing to make a strong impression on the mind' and so cannot ordinarily be considered sublime (Burke, 1922, pg73). Jaras creations,

however, are far from ordinary. Journeying through our imagination into a *Phantasma of Light* (fig 1) could be a terrifying experience that reminds us of our insignificance in a vast and mysterious universe. It might conjure up an ethereal world of ghosts and demons, uncontrollable to us; yet it is still pleasurable to imagine this possibility from our distant position in reality. According Immanuel Kant's Romantic philosophy of the sublime, the magnificent and the terrifying allow us a certain kind of pleasure, provided our position in relation to them is safe. These experiences are 'readily called sublime (as they) raise the soul' above the everyday experience and remind us of the 'omnipotence of nature' (Chou, 2007).

As already mentioned, the majority of Jaras's audience experiences his work through his *Flickr* profile but he has also shown the refractographs in a number of exhibitions. It may seem farfetched to claim that anything viewed on a computer screen can resemble a phenomenological experience of nature however in some senses viewing them online allows for maximum appreciation of the subtleties and colour purity of each image. Viewed on the dark background of the photo-stream, their sense of 'scaleless-ness' is enhanced. Our gaze is not distracted by our surroundings and the image is free of any sort of frame or fixing that reminds us of our position in reality. Jaras's is still working on the best way to mount and display his images. Their presence in a gallery however (as shown in fig4) does not create the same immersive experience. Once they are taken off the screen a number of physical and technical factors dictate their experience including keeping the gloss finish free from scratches. At the moment Jaras is working on other methods of displaying the prints such as making large transparencies to be viewed on a light

box (Sommers, 2008). This display, especially if presented in a black room might possibly come nearer recreating the optically immersive experience of viewing his work on screen.

It does not appear that a re-creation of a sublime experience is a key intention in Jaras's work but he does acknowledge the somewhat otherworldly affiliations of light; recognising that when ancient peoples saw images and shadows of flickering flames they probably thought such fantastical imagery could only be made by mysterious spirits, a notion that filled them with 'awe, wonder and possibly fear' (Sommers, 2008). However, even now with so much scientific knowledge and understanding of the natural world - the phenomenon of light is still amazing. Understanding how something occurs does not make it any less spectacular or wondrous – 'The fact that you know how an optical effect is formed doesn't detract from its visual impact,' as Jaras himself admits; 'I still look at rainbows (and) marvel at the iridescent colours on a beetle's back' (Sommers, 2008).

Now that we are assured knowledge of the process will not detract from our admiration of Jaras's work we can reveal how he chases and captures these light beams. As Barnes states;

The essence of a photograph lies in its *seemingly magical ability to fix shadows* on light sensitive surfaces (2010, pg8, *my emphasis*).

Firstly it must be highlighted that Jaras's images have not undergone any digital manipulation. It is remarkable in the age of computer technology but all his equipment, images and edits are analogue (Collet, 2012). This hands-on method of

production lends a crafted element to Jaras's images. The fact that they are analogue rather than digital also gives them grounding in actual, not virtual reality, despite however far from reality the end product appears. His 'refractographs' are not conventional photography; rather they have more in common with photograms. A photogram is a filmless photographic print made without a camera. The photogram was discovered by Henry Fox Talbot who gave various names to the 'little bit of magic' that was fixing light to paper, including a 'photogenic drawing' and a 'sciagraph' which means a depiction of shadows (Barnes, 2010, pg11). The term 'refractograph' was coined by Jaras because all his images are created by this process of refracting (bending) light through transparent mediums that replace the camera lens, the camera body working as a mini dark room to expose the film (Sommers, 2008).

There was a technical challenge involved in capturing these caustic patterns and true to his background Jaras embarked upon it like science experiment, dutifully noting variables and keeping records of each set up and exposure. In science, 'experimental results are used to reach factual conclusions; with refractographs, the results are meant to stimulate the imagination' (Collet, 2012). The undertaking of these experiments pertains to a kind of curious innocence that very often, 'contemporary culture robs us of' (Rose, 2000). Jaras is applying old technological processes in a new manner to visualise the invisible and reveal it to the amazed public (Cheng, 2008). This kind of playful investigation can be connected to the efforts to develop the use of light within art and design practice that emerged from the Bauhaus in the 1920's, the members of which also affiliated their studies with scientific investigations. This strong link between art and science is one of the

essential themes to have been passed down from the Modernist era. (Hollien et al, 2007)

Moholy-Nagy, worked extensively with the photogram throughout his career. He was drawn to the photogram as he considered its aesthetic to be less about representation and formed from the immateriality of light alone (Heyne, 2009). As Barnes discusses, the photogram is ambiguous in its rendering of depth; ordinary objects are abstracted and enigmatised from their original forms, often hovering in an undetermined, scale-less region (2000). For Nagy, these represented new explorations in new relations of light and space. In this period there was still great novelty in the potential of artificial light and new technologies of photo and film. Artists of the period were like children with new toys, investigating with wide-eyed optimism. Moholy-Nagy did not regard his photograms as finished pieces, he would often re-use or re-expose old images to see what new effects could be achieved (Heyne, 2009). This shows that the ongoing process of re-evaluation, trial and error was more important to him than the final results.

Jaras takes the traditional process to a new level. While Moholy-Nagy created his compositions with objects abstracted beyond all recognition (Fig5) Jaras uses the transparent object to cast light patterns, thus distancing the image even further from its source. Moholy-Nagy's compositions are usually read as odd, constructed spaces in a strange world without shadows. It is interesting to note that in both the catalogue raisonne of Nagy's work and in the feedback Jaras receives on *Flickr*, audiences always speculate over the original object used to form the image. While Jaras publishes and exhibits his images as finished pieces in their own right it is clear

that as it was for Nagy, the process is just as important as the finished product. He states;

It's really one long series of scientific experiments and exploration, trying to gain a deeper understanding of how these patterns form and how to make images that hopefully can be considered as a form of art - (Jaras in Sommers, 2008)

Both Moholy-Nagy and Jaras took the same step as their work developed taking to what Moholy-Nagy refers to as 'The modelling of the plastics'. The former undertook this process to create constructions he referred to as 'sculpture-paintings' or 'space modulators' (Heyne, 2009). Bending plastics, he created curves to catch and refract the light, distorting the surface plane and changing the form with new highlights and shadows. Jaras also took to distorting small pieces of transparent plastic when he grew frustrated at the limitations of relying only on the found patterns generated from glass objects. Moving to thermo-plastics allowed him more control over the type of patterns produced. Arguably, if Jaras was a glass-maker he could achieve the same effects with glass but plastic is obviously a cheaper and more convenient choice. Most of his images in the later series', *Twisting Light* and *Taming Light* (as shown in Fig2, Fig3) where more structured formations are evident, are formed by passing light through a formed piece of plastic.

In conclusion, Alan Jaras's refractographs are a most unusual and surprising result of a continued experimental approach to capturing on film, an ephemeral effect of light that the artist personally found fascinating. Their resemblance to natural phenomena stimulates viewer imaginations and they interpret them subjectively

based on impressions stored in their own memories. A conceptual interpretation of the images is not warranted by the artist, he delights in simply stimulating the imagination, nor is it necessary. All that is necessary to experience them is perception, or looking which links to the notion of a phenomenological experience of 'things in themselves' as put forward by Merleau-Ponty. Jaras is using glass (and later plastic) to manipulate light, just as glass workers use heat and tools to manipulate glass in the hotshop. The glass is his paintbrush, allowing the light to create fantastical drawings and form elaborate patterns. He refers to the works as experiments but each can be considered an art-work in its own right.

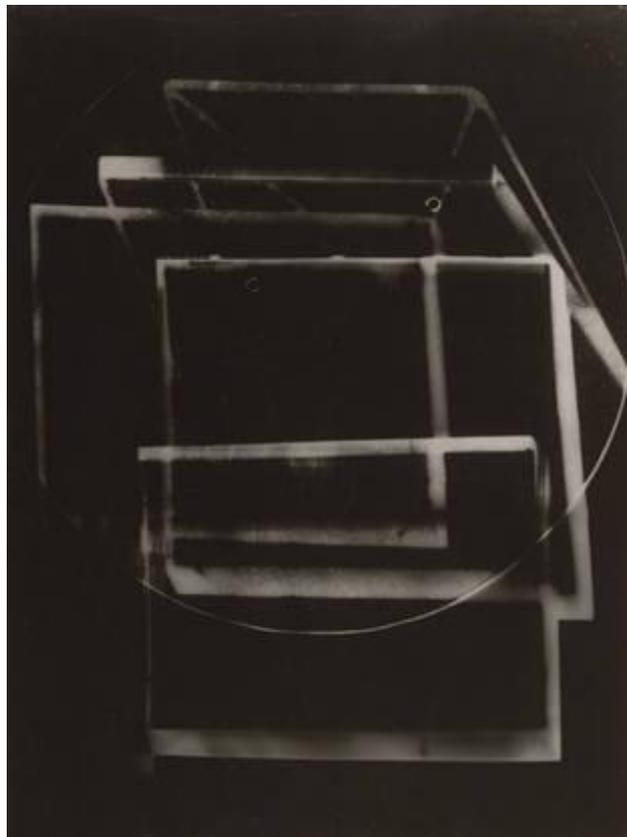


Figure 5: László Moholy-Nagy, *Untitled*, (c.1924), Gelatin Silver Print, MoMA Collection, NY

Chapter 3 - Sydney Cash – Shadow Sculpting

New York based artist Sydney Cash creates, in his own words, ‘sculpture out of light and shadow’ (radoswisswatch, 2011). Cash credits a constant innovative engagement with materials throughout his diverse career that has led to the creation of his best known series of works which he most appropriately calls, light sculptures. Cash is no newcomer to the art world and has been actively and continuously producing work since the 1960s. Interestingly, Cash began working with glass simultaneously to the rise of the Studio Glass Movement, pioneered by Dale Chihuly and Harvey Littleton among others, but Cash’s practice evolved independently of their efforts. For almost a year in 1970 through to 1971, through technical experimentation with sheet glass he pioneered slump-forming flat glass over wires in a small electric kiln. Cash’s early, ‘over-cooked mistakes’ that cracked, pooled and dripped, were the starting point for his continued work with glass (McIlgorm (a), 2012).

Having worked with slumped glass, optical glass and mirror, Cash has been featured in many glass art magazines including *New Glass Review* and has work in the permanent collection of the Corning Museum of Glass, New York. For regular income Cash also designs ranges of optical glass jewellery and tableware for production (Cash, 2009). Out of the three artists discussed in this thesis Sydney Cash could most easily be classified as a ‘glass artist’ but as has been stated, that description defines the field of his work too narrowly. This chapter will examine Cash’s light sculptures, moving from an account of his making process to an analysis

of their reception. His 'illusionary' style of work will be related to the work of light and space artist James Turrel. Following this, the growth of his relationship with glass as a material will be related to the modernist theory for the development of sculpture as described by Moholy-Nagy and also with the Op art movement that proposed perceptual art as an art form that could be enjoyed by all. This study will conclude with evidence of how Cash's work achieves this goal with an account of the reception of his exhibition at the *Butler Institute of American Art* in Ohio in 2010.

In my correspondence with Cash he has commented that he feels;

'Light is alive it will always be the primary medium' (McIlgorm (a), 2012)

The light sculptures Cash creates are made of primary structural materials; mirrored glass panels, supporting brackets, shadow and light. *Hourglass* (2006) is typical of many of Cash's singular pieces where light and shadow create the illusion of virtual volume, transforming the empty space into an apparent 3d object (fig6). Turn off the light and you could be forgiven for mistaking a Sydney Cash exhibition as a collection of impractical, empty glass shelves. But look again – It is possible to understand from watching video footage that each panel is decorated with mirrored patterns, which Cash describes as being 'reflected above the piece and shadowed below', resulting in an illusionary form, dependent on the light source to bring it to life (radoswisswatch, 2011). Cash uses laser cut plastic stencils to mask off areas of the glass panel. The panel is mirrored but the areas protected by the plastic templates remain transparent, resulting in a negative/positive image of

mirror and clear glass. Cash developed a process of applying copper mirror (Visible in Fig 7) which adds warm tones to the otherwise cool and silvery reflections. Full panels are cut into varying sized pieces and then wall mounted. The addition of a light transforms them from 2d graphics into an art-work that hovers in 'an ephemeral place' (McIlgorm (a), 2012), a realm of 3.5 Dimensions – a blending of intangible imagery and structural objects.



Figure 6 - Sydney Cash, *Hourglass*, 2006, location unknown



Sydney Cash
Halinacyatanya, 2008, Glass, Mirror, Light & Shadow, 69" x 53" x 6"
Figure 7 - Sydney Cash, *Halinacyatanya*, 2008, Location unknown

Intrigue is most commonly the first reaction for the viewer. Despite the simple construction of Cash's sculptures, 'people look and somehow sense that there is more than what they are seeing. When you get people curious, you have already got them involved in your work, (Sydney Cash in Tabala, 1982). There is an overwhelming desire, when confronted by a Light Sculpture like *Halinacyatanya* (Fig7), to investigate it further by touch as viewers cannot fully trust their eyes to understand the illusion. This desire to touch shows the sensory appeal of the pieces. It is not a cognitive reaction but a bodily one, a phenomenological experience that need not be conceptually articulated and can be experienced by all regardless of education or knowledge. After initial perception, touch is the 'most basic bodily mode of access to the world (Carman and Hansen, 2005, pg51). We see evidence of this in the manner in which a child, after seeing an object, will then reach out to touch it, in order to learn and know it better. First time viewers are prone to react with amazement; "'What, it's not painted?... But you mean it's not painted?'"... And then they want to run their hand over it to feel it but there's nothing there' (Cash speaking in radoswisswatch, 2011). The pleasure of looking increased by the unexpected (Self, 1996) and our sense of, as Ponty described it, 'pre-reflective' childlike wonder is reignited with the discovery (Carman & Hansen, 2005). These works of glass, light and mirror, by delighting the audience, produce an uplifting little jolt out of our everyday existence. They are a meaningful encounter with light that brightens the day.

A similarity can be drawn between Cash's light sculptures and the 'projections' of artist James Turrell. Turrell's projections create the appearance of a 3D shape of voluminous light floating in a corner by carefully controlling the light's shape with opaque frames (fig 8). When discussing Turrell's works one writer questioned the use of the word illusion to describe the experience of looking at one, arguing that it is not 'quite applicable... At least not in the sense of the work being a trick that ceases to be astonishing once it's understood' (Adcock, 2002, pg11). This is also applicable to Cash's light sculptures, they are a type of illusion in the sense that they are not what they appear to be however the enjoyment of them does not diminish once the 'magic' is understood.

It is likely that Bauhaus visionary Lazolo Moholy-Nagy would have been a fan of Cash's work had he lived to see it. He predicted that the field of sculpture would move towards immateriality. He championed the use of transparency and moving light to create 'virtual volume' and contour that while bodiless is still perceivable, and so 'real' on the 3D plane (Moholy-Nagy, 1938, pg134). Moholy-Nagy's life work was dedicated to exploring the potential of light as an artistic medium and the creation of new space with intangible materials. Cash's restrained colour pallet of grey, silver and copper tones would also have pleased the modernist theorists as they held the idea of 'pure light' as liberation from colour. Light Sculpture's are a kind of handcrafted holography but the use of an analogue process as opposed to digital projection to create these ephemeral objects is something Cash feels viewers are sympathetic towards, possibly because as they can understand with the process more easily (McIlgorm (a), 2012).



Figure 8 - James Turrell, *Alta White*, 1968, Cross corner projections



Figure 9, Sydney Cash, *Chest Web* (Detail) 2011

The unique property of glass which allows it be silvered and mirrored is the tool that allows Cash's work be realized. Glass's inert material status bonds to the metal without reacting and keeps it from tarnishing (Leferti, 2002). Mirrored glass can shine brighter than the finest polished metal (Yelle, 2000) and be masked off to retain areas of crystal clear transparency. Sydney Cash utilizes these properties to create layered compositions of multiple reflections and shadows. The craftsmanship of the glass panels is not the focus of the pieces as they would be thought of in a traditional 'glass art' manner. The panels themselves fade into the surrounding composition as they work in translating light from 'its radiant state into images on a blank wall' (McIlgorm (a), 2012)

Cash uses strong graphics including text, in his work. Cash is often vague on the reason specific imagery is used. When questioned he was unclear but it is reasonable to assume that it is chosen on an intuitive basis to please his personal aesthetic. The style lends itself to sharp differences between negative and positive and thus light and shadow. This difference could lead to an interpretation on a conceptual level regarding the connection between light and darkness. Just as in photography a positive cannot exist without a negative, every image has a counter image (Heyne, 2009). There is symmetry in Cash's compositions what is above appears to be mirrored below. Where there is light there surely must be shadow and on close inspection these pieces remind us that 'one cannot live long without the other' (Caruso, 2012, pg20).

The use of these graphic patterns is also reminiscent of the Op Art movement. Op Art (short for optical) took off in the early 60's and was concerned with 'illusions and optical effects of perceptual processes' (Popper, 2009). It was another attempted revolution to create a new art form that would appeal directly to spectators, claiming that there were to be no more 'productions exclusively for the cultivated eye, the sensitive eye, the intellectual eye' only the human eye (Gale, 2005). As previously discussed, this sensory engagement with art can elicit a basic, innate response from an uneducated viewing audience without necessity for conceptual critique, whether concept is present or not. Op Images were typically composed of abstract patterns that produced optical illusions and perceptual movement. While the style was an immediate hit with the public it was coolly received by the critics who dismissed it as 'trendy kitsch', 'mere gimmickry devoid of serious content' (Popper, 2009). Here we see aspects of the negative critical reaction to spectacle at work, where the artist involved is written off as producing no more than a cheap gimmick to please a crowd, like a magician at a child's party. Even Turrell's early work, which has already been related to Cash's, was criticized as being 'too theatrical' and 'invoking the vulgar spectacle of cinema' (Etherington-Smith, 2006, pg30).

Cash's most theatrical piece to date is a commission for The Falcon Jazz Club in Marlboro, New York (Fig10). Previously Cash had made optically kinetic work such as his *Broadway Windows* installation in 1987 (McIlgorm (a), 2012) but this was his first kinetic light sculpture. Made of multiple components that interact with each other it creates a focal point behind the stage. Like some of the finest jazz

compositions the piece came out of improvisation. During its installation Cash noticed 'that the stage outlets were attached to the light control board, and that we could vary the intensity of the lights' (Areilza, 2012). He also noticed a second set of lights, slightly off-set from the first, would generate very different imagery. Using the control board the lights can be alternated and faded from one set to another and changed in time with the music. The Falcon installation changes the experience of Cash's work from something quiet and intimate into a dramatic, multi-sensorial experience. The effect of the controlled lighting is comparable to Jasmine Allen's interpretation of the illuminated stained glass cathedral, as a 'three dimensional Kaleidoscopic spectacle, which changes over time' (2012, pg2)



Figure 10 –Sydney Cash, 2011, Installation at The Falcon Jazz Club, New York



Figure 11 - Sydney Cash Exhibition at the Butler Institute, 2010, Ohio

Art critic and writer Dana Self comment that, 'beauty connotes pleasure (and) gazing at the beautiful in artwork... allows us visual and sensual pleasures', seems like an apt remark to apply to the experience of Cash's work (1996). The spectacle of wonder, ever present when dealing with glass and light has not been forgotten. Cash is aware that his work is alluring, he admits, 'people are phototropic, they are attracted to the light' (radoswisswatch, 2011). But beyond the initial appeal of something shiny, the pieces are still capable of engaging with people on an intimate level. Cash claims he makes the work, as he does all his work, to fulfil his personal sense of adventure and discovery but during the assembly process light sculpture he often feels involved in a deep, metaphysical relationship with the piece, 'as if it were a light portal into another dimension. And then, while working, time quietly slows down and the world is more luminous and wondrous' (McIlgorm (a), 2012)

This experience of a more beautiful reality, drawn from engaging with these sculptures, does not stop with the artist: Cash's exhibition at the Butler Institute of American Art (fig 11) was supposed to run from October 3rd to November 31st, 2010 but was specially extended through December due to its popularity. In a letter of thanks the museum curator informed the artist that the work left 'a very special impression on museum visitors' and remarked that the show 'encourages conversation and questions far beyond the normal experience' (Zona, 2010). Cash naturally delights when his audience reactions are so positive but does not work directly to please or entertain, 'Hopefully the viewer gets a shift of perspective, possibility, inspiration... but viewers can only get what they bring to an artwork' (McIlgorm (a), 2012). This experience of art is inarguably phenomenological. The

scope of visitors that identified with the exhibition highlights its accessibility and the direct contact the work had with the audience. Students from primary to third level were intrigued by the pieces showing theoretical knowledge and understanding of art is not necessary to engage with these sculptures but nor does possessing such an understanding belittle or discourage enjoyment of the work. The sculptures appeal to our 'pre-reflective phenomenological integrity', the wide-eyed wonder of a child that Merleau-Ponty defended as a fulfilling method of experiencing the world around us (Carmen & Hansen, 2005, pg159).

In conclusion, Sydney Cash's work is the result of an innovative use of simple materials to create compelling and illusionary effects. Though he has worked with glass in the more familiar 'craft' method of slump forming and could qualify as a 'glass artist' due to the indeterminate qualification of the term, the work he now produces goes beyond the scope of that. The unique property of glass that allows it be mirrored is key to his process, allowing light to be manipulated as if it were solid to form sculpture. Cash's work appeals to the senses and as can be seen from the reaction to the Butler Institute exhibition it can be appreciated and enjoyed by both the gallery curator and by a child on school tour. This experience of art is phenomenological and requires no preconceived ideas. It is a more generous art form than much contemporary art, over-laden with theory and concept. It should not be dismissed as just clever shadow-play or empty spectacle as it can be related to established movements within the development of sculpture and is evidently capable of providing a meaningful experience of art for many.

Chapter 4 - Stephen Knapp – Painting With Rainbows

This study comes to a grand crescendo with the work of American artist Stephen Knapp. Knapp is the most prolific artist in this study, his art-work attracting worldwide attention. He has exhibited work all across the United States and has been featured in many international publications. Throughout his career he has completed public and private commissions in a variety of diverse media from ceramic to kiln-formed glass but more than anything he has become known as the inventor of what is being called the ‘first new art medium of the 21st century’ (Gallagher,2012). Like all new discoveries, the new method of working needed a name and Knapp has christened it – *Lightpainting*.

This chapter will examine Knapp’s development of this new art form, starting with an aesthetic analysis of the works before situating them within contemporary art practice and relating them to other movements within modern art such as abstract expressionism and the work of Kandinsky. Knapp’s pieces are a generous art that can be appreciated and engaged with by a wide community. This will be investigated by looking at some of his large scale public works and relating the experience of them to a phenomenological experience of nature.

Lightpaintings are the culmination of Knapp’s life-long obsession with light. A self taught artist, his career began with photography before progressing on to more sculptural materials. But no matter what the medium it is a fascination with light; ‘both for what it can do and for the effect it has on us’ that informs his work (Garnett, 2006). He has been developing ideas and techniques for the *Lightpaintings* since the mid 1990’s but the work has only been shown publicly

since approximately 2002 (IIDEXNeoConCanada, 2009). Since then, interest in this novel way of working as well as Knapp's own mastery of the technique has been growing incessantly.

Looking at Knapp's *Lightpaintings* in their full glory our eyes are met with what seems to be a frozen explosion of a rainbow. Light is the medium but the artist controls and manipulates it with pieces of glass. From a frontal view the construction of these pieces is difficult to discern; the glass pieces that control the light slip seamlessly into the overall composition. Each glass piece is cut and polished to a specific shape that determines the shape of the light reflected by it. The glass used is always metallic coated safety glass and each piece is held in place by stainless steel brackets. Knapp is resolute on the importance of the steel brackets: as well as allowing him to adjust and reposition the glass shapes, the brackets ground the glass allow the 'ephemeral colour of light to float above' (shadowstylenet, 2007). The polished brackets create a mirror-like reflection as well as a dark shadow on one side. Art historian, Jasmine Allen, remarking on the glowing effect of stained glass, notes that the lead line's opacity only serves to highlight the brilliancy of the coloured glass it surrounds (2012). The small shadow created by each steel bracket in Knapp's pieces, functions in a similar manner, emphasising the richness of the coloured light.



Figure 12 - Stephen Knapp, 2004, *Hadrian's March*, light, glass, and stainless steel



Figure 13 - Stephen Knapp, *False Prophet*, 2012, light, glass, stainless steel, Conduit Gallery, Texas

Art and culture writer Vince Carducci has commented that the smaller mounted *Lightpaintings* such as *Hadrian's March* (fig12), because of their composition, scale and portability, seem to fit within the tradition of easel painting (date unknown). However, *Lightpaintings* have more dimension and vitality than a conventionally constructed painting. When viewed in optimum conditions, such as the darkened exhibition space of a gallery (Fig12), the light appears to emerge and spill out over the shadowy frame with fluidity that oil and pigment could never possess. The frame could be described as another 'illusion'; it is in fact just a shadow, caused by offsetting of the panel from the wall behind.

Knapp's pieces exhibit a striking three-dimensional quality as optically light seems to come forward from the wall. When the light goes out, or the pieces are seen in daylight, their effect is less spectacular. The glass pieces become noticeable and the colour wash fades to the faintest pastel. This temporal change is something the artist embraces claiming it gives the work life (shadowstylenet, 2007) Knapp calls them paintings but 'sculpture, architecture... with a little bit of performance art' all contribute to what he is doing (McIlgorm (b), 2012). They are meant to be viewed from all angles; Knapp suggests walking up to the work sideways, seeing the glass obliquely and inspecting the subtle colour relationships at close range (shadowstylenet, 2007). They are both 'physical objects and illusions' with glass, the tangible material, modulating intangible light (Garnett, 2006). They qualify as occupying the same virtual realm of 3.5 dimensions that has been referred to already in this thesis.

Knapp's *Lightpaintings* have been described as exploding rainbows but as Adrienne Garnett points out, while the rainbow is amazingly pretty, it is not *just* about 'being "pretty"... Rainbows are mythical, magical and aesthetically awe-inspiring' (2006). Contemporary critics are not always at ease with glass art or this style of light art, because of its obvious, unsubtle beauty. The fact that, as Metcalf explains, 'it's not hard to make something in glass that is incredibly appealing... bothers elitists' (2009). Knapp's work is undeniably attractive and is therefore vulnerable to this easy catch-word criticism. For those that might dismiss his pieces as sensational; too much glitter and colour, just a grown-up disco light, Knapp likes to point out that; 'Not all my work is beautiful in the colourful sense' – it is not just about creating spiralling rainbows of glowing colour (McIlgorm (b), 2012). This more subtle expression can be seen in his recent work *False Prophet* (2012) (Fig13). The discovery of how to make grey was a cause of great excitement for Knapp. The grey light is muted in tone, but not muddy - more akin to dawn light on a cloudy day than the fireworks of his more colourful work, subdued but still beautiful. *False Prophet* also shows evidence that Knapp has begun to experiment with texturing light by adding small areas of opacity in the glass which adds pattern to the reflected beam.

Knapp's process as a painter with coloured light is very modern in its use of the material glass. While he describes himself as a 'light artist not a glass artist', glass is the catalyst that brings his whole concept together (McIlgorm (b), 2012). In Knapp's pioneering material exploration and use of glass, he has possibly contributed more to the sector of 'glass art' than many that would consider themselves 'glass artists'.

Lightpaintings push the boundaries between art and science and utilise many new glass technologies: For instance the colour reflected by each piece is dependent on the order the sequence of layers the metallic coating is applied in. Essentially, the coatings turn the glass into a 'super-selective prism' that breaks up white light but only filters one colour though (Dayton Art Institute, 2011). Furthermore, once the glass has been cut it is laminated with industrial resin glues to preserve the colour.

Knapp has worked closely with glass manufactures to develop the colour pallet of glass he can paint with. It is an ongoing, slow and very expensive process (IIDEXNeoConCanada, 2009). Glass exists as a product of 'man's technical know-how' (Massimo Barbero, 2008). It is an artificial, exciting material whose possibilities are continually being expanded by technological development. Artists like Stephen Knapp, with his technical investigation of the artistic applications of dichotic-glass, are furthering the possibilities of the material and discovering new methods of expression by blending old and new traditions.

Light is regarded as immaterial yet Knapp's paintings are just as laboriously crafted as any 'real' painting. Though they are a unique expression of art, parallels can be drawn between them and abstract painting. Knapp works directly from a library of glass, pre-cut and polished by his assistants then categorized by shape, size and colour (shadowstlyenet, 2008). Like the abstract expressionist painters, he does not draw or plan the piece before hand; rather he works intuitively with each piece towards an idea of a composition within a decided colour range, trying to capture an abstract feeling or memory or light and space (IIDEXNeoConCanada, 2009).

Knapp paints with light - a term that seems as free and spontaneous as playing with sparklers – but each reflection is a carefully considered alignment of light, shadow and reflection. The artist himself is most interested in the borderland areas of each piece; the way the light fades out from intense colours at the centre to soft washes at the edges, the mid tones of each colour range, the interaction of the shadows from the steel brackets with the brighter colours, how the atmosphere of a piece can be changed completely by altering just one component.

The reflected light is layered creating ‘under-painting’ much like traditional canvas priming that serves as a base for the final image. When you block the light at one point, what’s happening beneath becomes visible because the reflected light is coming back from another direction revealing the hidden layers (shadowstylenet, 2008). These effects and delicacies are subtle but present and contribute greatly to the richness of each *Lightpainting*. The subtleties within his technique are informed by the history of painting. What Knapp is doing, painting with ‘oscillating, prismatic light’ is what Moholy-Nagy envisioned as the future of the discipline (Moholy-Nagy, 1938, pg78). His work cannot be written off as superficial attempts to attract an audience with something shiny

Knapp’s style could be compared to abstract painter Wassily Kandinsky. Both Knapp’s and Kandinsky’s work is recognisable for its use of bright colours, abstract shapes and a sense of energy and movement. With regard to one of Kandinsky’s iconic paintings *Improvisation no19*, contemporary art writer Mel Gooding described; ‘the colour in this painting is that of the spectrum, as if the rainbow has been magically scattered to occupy the rectangle, a figurative moment of light and

energy, an atmospheric chaos' (2001, pg20). Knapp's work could be read as a realisation of a kind of energy and movement Kandinsky was trying to convey with pigment. No metaphor is necessary to describe Knapp's 'paintings'. They really do move throughout the day with the fluctuation of the light around them. They produce and affect the atmosphere in the room surrounding them. His work, which splits white light into pure colour, really does harness and scatter the rainbow for our enjoyment.

Like Kandinsky, Knapp's work is heavily influenced by music. When Kandinsky and the Modernists were moving visual art towards abstraction, they claimed to be aspiring to the condition of music; abstract and yet able to connect to the audience directly (Gooding, 2001). While creating his *Lightpaintings* Knapp allows himself to sit back and have the opera 'transport him to a different place' (Knapp in shadowstylenet, 2007). Furthermore, many critics as well as the artist himself, compare *Lightpaintings* to an immersive performance of a piece of music. Curator Jeffrey Kraft, of the Kraft Lieberman Gallery suggests that when you 'really get into' a *Lightpainting*, it is like losing oneself in a symphony,

There is a palpable sense of vibration and the vibrations talk to my pulse, to my internal experience and to my external response. I get flickers of perceptions, flickers of what is there and what is not fully there (Quoted in Garnett, 2006)

When Knapp unveiled *Seven Muses* in 2007 (fig10, below), he compared its brilliance and intensity to the 'Richardson Symphony (Orchestra) doing their final number' (shadowstylenet, 2007). Another of Knapp's public commissions was in Indiana, for the Ball State University's new music building in 2006. Here again

sponsors and organisers noted the artworks' rich associations with music. He called this installation *First Symphony* but Knapp would also hope that someone's first symphony will be inspired by the piece (IDEEbsu, 2008). A natural connection can be drawn between light and sound: each exists as a wave, they have no mass, they cannot be touched - yet their effect can be felt. Both allow the audience 'a freedom of imagination, interpretation, and emotional response' that cannot be achieved by direct representation' (Ward, 2006).



Figure 14 – Stephen Knapp, 2006, *Seven Muses*, at the Charles W. Eisemann Center, Texas

The spectacle of Knapp's work is best experienced in his large scale public commissions such as the installation of the *Seven Muses* at the Eisemann Center in Richardson, Texas (Fig14). The installation consists of seven energetic bursts of *Lightpainting* that dance across the large wall surrounding the foyer. At night time when the work shines brightest, the piece is reflected in the large window and is visible also from the outside plaza. Inspiration for this site-specific installation came from the space in the centre itself, how it is used by the community and the diverse range of activities that are undertaken there. Carraduci, sees them as a socially unifying because their spectacular presence draws a communal audience together to appreciate them (date unknown). As a light-dependent piece the *Seven Muses* changes constantly (shadowstylenet, 2007). With the passing of the day it will grow or fade in intensity, a passing cloud may cause it to jump into technicolored brilliance, and then have it be washed back to faint pastel by sunlight. The temporal nature of the piece reflects the ever fluctuating nature of the centre and the community that use it; it reflects life.

The nature of Knapp's work, allows it be experienced in a phenomenological way. The popularity of his public work is testimony to its ability to engage a wide breadth of persons who would not normally be involved with art. That first gasp when a *Lightpainting* is unveiled is the audible exclaim of wonder but the work has a genuine and lasting appeal that endures long after the initial gasp. This appeal was best summarised by Gayla von Ehr, a principle donor to the *Seven Muses* (fig14) when she described her continual reaction to Knapp's work as;

It's like when you're a little kid and you see fireworks for the first time, you say 'Wow!', and when you're ninety years old and you see fireworks you still say 'Wow!' (Quoted in, shadowstylenet, 2007).

Like fireworks, our experience of the natural world, rarely gets old. Knapp's *Lightpaintings* continue to absorb and amaze the viewer because they 'mirror life' (shadowstylenet, 2007). The colour ebbs and flows, they do not always look the same. Observing a *Lightpainting* is a sensual and absorbing experience. We can become lost in our gaze; as Jeff Liberman described, 'you can't tell where you are. It's like being in a multi-dimensional maze' (quoted in Garnett, 2006). This relates to Merleau-Ponty's claim that perception is our most basic bodily mode of access to the world (Hansen & Carman, 2005). According to Ponty, not everything needs to be 'understood in terms of linguistic meaning', so perhaps that one inarticulate gasp of wonder and awe, when one regards the phenomenon of *Lightpainting* for the first time, says more than can ever be written about the experience (Hansen & Carmen, 2005, pg114).

In conclusion, Stephen Knapp has created a unique style of painting using only glass and light. His work is the result of technical engagement and experimentation with glass to allow it to function as both his 'paintbrush and his tincture' for creating his *Lightpaintings* (Laquidara, 2006) While his work is totally original in the art world it is directly influenced by developments throughout the history of painting, such as the rise of abstract painting. *Lightpaintings* are a particularly generous form of public art; they convey 'opportunity, hopes, visions and dreams' (Garnett, 2006). Like the music that inspires their creation, they can be enjoyed by all simply by perceiving, they do not need to be understood conceptually.

Conclusion

This thesis has looked at a range of current, visual artists whose work is created using a combination of the materials glass and light. The processes used by Alan Jaras, Sydney Cash and Stephen Knapp are varied, crossing the disciplines of photography, sculpture and painting but several themes, aside from their choice of materials, serve as a common thread, connecting their work across this study.

The first of these threads is the undeniable allure of their work. Human beings are, 'almost magnetically attracted to light' (Garnett, 2006). The effect of light through glass, its glints and highlights, glowing colour and rainbow refraction, is universally appealing. This of glass seductive visual property of work made from glass and light can sometimes cause it to be perceived as 'empty spectacle'; all glitter and sensationalism but lacking depth (Debord, 2002). This study has show that the art produced by these artists cannot be rejected in such a manner. Their work captures the ephemeral quality of light with nets of glass and mirror. It is not simply an attempt to dazzle the audience with colour and light. Rather, it is a meticulously considered arrangement of physical materials - mirror, glass, photographic paper, steel, in order to harness light and, as Alan Jaras articulates 'visualise the invisible' (Sommers, 2008).

Another thread linking all three artists is the common audience reaction of wonder to their work. Looking at Jaras's fantastical galaxies, the prismatic rainbows 'painted' by Stephen Knapp or the volumetric shadows of Sydney Cash, as the case studies have shown will almost always generate delight and amazement in the viewer. This study has explained the experience of their work as phenomenological;

akin to an experience of nature's phenomena that are capable of giving us a 'jolt' out of our everyday reality and reminding us of our connection to the world around us. Phenomenology, as Merleau-Ponty describes it, relates to an innate 'pre-reflective' experience of the world rather than an intellectual response to it (Carmen & Hansen, 2005, pg158). As such, phenomenological art like those discussed within this study, do not need to be understood conceptually to be enjoyed and so can be enjoyed by everyone purely by sensorial experience.

There is an element of public-ness to much of the art produced by the artists in this study. Be it the large public commissions of Knapp and Cash or the engagement of Jaras's *Flickr* audience with the development of his images. Abstract art is generally the most inaccessible art for the public to engage with but even though these works share, as Rose terms it, 'the basic concerns of abstract art – colour, light, form and space' they are capable of speaking to a wide audience and as has been shown, can really reach out and touch the human spirit (2000). This study has argued that this ability to connect with both the ordinary person and the art-critic provides a more generous, meaningful experience of art than that offered by obscure, conceptual work capable of engaging with only an elite few.

Finally, the material engagement of the artists with glass and light has been analysed and compared to previous developments in the history of art, most notably the Modernist light experiments of Laszlo Moholy-Nagy in the 1920s. They have also been related to other developments of perceptual art like the Op Art movement of the 1960s and the works of the Light and Space artists such as James Turrell. Critics have credited Stephen Knapp with creating a new form of art for the

21st Century, but this claim is difficult to agree with wholeheartedly (Gallagher, 2012). While Knapp's method of expression is new, his, like all the artists' works' in this study are built on developments that have gone before. They relate to traditions of stained glass, abstract painting, early photography and perceptual sculpture. They call on technology and science to realise their artistic goals. They are, perhaps the kind of art Moholy-Nagy envisioned for the future when he called for when he called for artists to "paint' colours with flowing, oscillating, prismatic light' (1938, pg78).

There is much more that could be written about regarding light and glass as a medium and this study does not claim to represent them fully. Indeed a document of this size could possibly not represent the full scale of the work produced by even one of these artists since the very nature of glass and light are so rich with associations. What has been provided in this study is a review of the work produced from light and glass combined by the current pioneers, Alan Jaras, Sydney Cash and Stephen Knapp, calling attention to their methods of working and the experience of their art-work as received by the public. Working in 3.5 dimensions, these artists use glass as a tool to form work from light a 'formative force in the world, capable of healing and uplifting us both emotionally and spiritually (Garnett, 2004). Encountering these artworks, like encountering light itself is capable of brightening a day.

Appendix A

Email Correspondence with Sydney Cash (McIlgorm, 2012)

Questions for Sydney Cash

Author: Sculpture could be pared down to the creation of volume and form; your sculptures create virtual and intangible volumes. The 2d imagery, light and physical material interact, to create something more than a simple object and greater than the sum of its individual components. I refer to this magic as the creation of 3.5 dimensions, if this magical place existed would you say your art belonged there?

Cash: These sculptures are part of a body of work where light is manipulated as if it's solid. The mirrored panel and the light that shines on it, work together to transform a focused beam of light from its radiant state into images on a blank wall. The finished work rests in an ephemeral place between image and object. And when the light switch is turned off, the sculpture just... disappears.

Author: I have described your light sculptures as a kind of hand-crafted holography, how do you feel about this description and how important is being a maker to you? I know you have mentioned that you have been a maker from childhood, since you have become well known as a designer and artist are you still involved in the making process or do you now take more of a designer-director role in the production of your work?

Cash: The Making Process: In the first part, my "making" ability and ordinary aesthetic judgments are involved, fabricating image in copper/silver mirror into glass panels.

Next comes the installation of the structural matrix for wall and ceiling, which allows for experimental manipulation with both the panels and light bulbs, and the resultant combination of reflections and shadows. Sometimes as this discovery process unfolds, I find myself in relationship with the piece, as if it were a light portal into another dimension. And then while working, time quietly slows down, and the world is more luminous and wondrous. Something analogous seems to also affect sympathetic viewers.

Author: Tell me what you most love about working with light and glass.

Cash: Light is alive. It makes the world in which we live. It will always be the primary media.

Email Attachments, Sent to author by Sydney Cash

1 - 'Theatre in Glass' by Paul Hollister - *American Craft Magazine* October 1981, Issue Unknown, Sent to author December 2012

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For about nine months in 1970-71, when probably no one else had thought of doing it, Sydney Cash slumped sheet glass over wires to make the glass bend and ripple. The work was done in his loft in lower Manhattan, and after the bent sheets were annealed, he had them mirrored by mirror-silverers who worked in the neighborhood. One mirrored sheet was shaped into peaks, another was sagged into a mold to give it a sculptured look. Cash was interested in the imagery reflected in the rumped shapes. The mirrors encouraged the viewer to move about, thus creating gliding distortions. As with most pioneering efforts, there were mistakes and Cash, reluctant to throw anything away, put the mistakes aside. Six months later he got them out again and thought to himself, "Boy, look at this stuff."

With money he had saved from a Greenwich Village shop where he had made and sold cast reproductions in plasterlike Hydocal of gargoyles, angels and other medieval figurines, Cash turned now to colored glass, slumping it on wires into sculptural forms suggesting the dance. He was taking a dance class at the time. At the turn of 1971-72 Cash had his first one-man show of these colored glass forms in Soho. The announcement featured a prouetting, green glass, leaflike form reflected in an opaque blue glass circular base that lent it additional motion. But glass did not have general acceptance as a sculptural material in 1972, and the show was a disappointment to Cash, who felt his artistic expectations had been unrealistic. As he puts it, "I wasn't famous and rich. I realized that if I was going to do worthwhile work there was a lot I needed to learn."

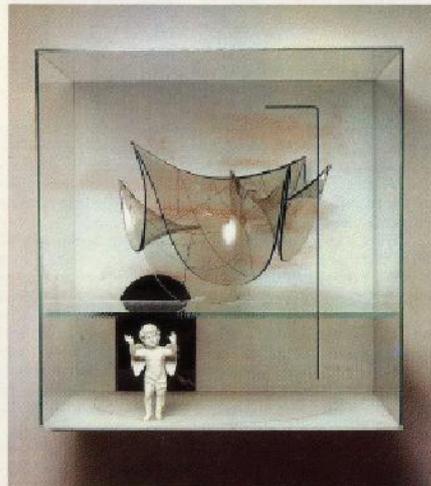
Cash returned to his studio and began working with "cruder, ruder stuff," with scavenged objects in various materials

THEATER IN GLASS

TEXT BY PAUL HÖLLISTER PHOTOGRAPHS BY DAVID RILEY



LEFT: Sydney Cash in his studio in New York City. RIGHT: Red Sky, formed glass, wire, ceramic angel, painted background, 12"x12" x7 1/4".



combined with glass. One wall of his studio preserves a grid of stacked boxes crammed with found objects that were potential raw material for his sculpture: ceramic flowers, bones, velvet, Indian corn, a fire-hose nozzle, the stuffing of a baseball he had played with as a boy in Michigan (where he was born in 1941), the shell of a turtle he had once eaten. The dusty miscellany shows what Cash did not make but might have, had he not absorbed its presence and worked around and beyond it. Nearby, a hanging golden ball with iron callipers and a lightning attractor spiked like a mallet represent incompleting ideas.

To support his family during these years of artistic reevaluation and development, Cash did a variety of things, often taking on jobs he did not know how to do. Relying on a natural manual dexterity and a BS in mathematics from Wayne State University in Detroit, and learning from books, from questioning people and from experimentation, Cash was able to complete such jobs as carpentry, renovation, plumbing and electrical wiring to the satisfaction of his customers. The job might not have been done the union way but it worked, and sometimes his solutions were ingeniously suited to private needs. In the process he learned about tools and materials. "I learned how to learn," he says. In addition to these activities Cash worked at flea markets with his two young children, buying and selling antiques. He also sold industrial equipment acquired when the neighborhood around his studio was in transition. He taught at the Brooklyn Museum Art School from 1972 to 1975, and at Pratt Institute, 1973-74.

Through the 70's drawing became for Cash a way of working less self-consciously in two dimensions than he had previously done in three, of developing his art without the pressure to sell. "Over the years drawing gave me the strength, the psychic

reviews
arts

SYDNEY CASH Broadway Windows

By *BARRY SCHWABSKY*

SYDNEY CASH

While most window installations at Broadway Windows—or at comparable sites like Windows on White—use the windows as large vitrines, containers in which to display three-dimensional objects, Sydney Cash's installation used the convention of the window in the way that a painter uses the picture plane, mediating between flatness and depth. Here, striated or mottled sheets of glass was the primary material being used—something like the kind one might find on shower doors, backed by another planar surface that might be variously colored, drawn over, or written on. Cash designed the piece so that the two layers would interact with the movement of the passing viewer, to produce shimmering, optical patterns within a severe geometrical framework. There were five pieces, most of which were divided into three horizontal rectangular zones, and of these the one in the center was usually somewhat wider. Although these pieces clearly refer to the Op and Kinetic art of the '60s, they possess a gravity that was rare in such work, thanks in part to the beauty of the intensely colored light playing through the glass, as well as to the totemic tripartite division so reminiscent of Rothko, but above all to the fact that while Op art was purely an art of surfaces, that of Cash is an art of layers in depth—of mystery and disclosure.

Like anyone who has spent a great deal of time in downtown Manhattan, I have walked by many installations at Broadway Windows over the last few years. Some have been silly and some have been intelligent, but I have never seen one as immediately striking or as memorable. There's something wonderful about the way Cash has used the motion of

the passerby to trigger the effect that seduces him or her into stopping to look and to reflect on what has been seen. Art in public places is rarely so gentle or generous in its interpellation of the mobile urban subject. (*Broadway Windows, February 27-April 5*)

ARTS MAGAZINE
JUNE - SUMMER 1987

Appendix B

Email Correspondence with Stephen Knapp (McIlgorm, 2012)

Questions for Stephen Knapp

Author: You have worked with many materials over the course of your career what is it that makes glass special for you? And indeed would you consider yourself a glass artist?

Knapp: Glass is special for me for the properties that allow me to “paint with light”. The various coatings I use work to separate white light into pure color and I can then mix and work the light. I am a light artist, not a glass artist. Glass is simply a means to manipulate the light.

Author: For me one of the best things about your work is that it is handmade – people are quite used to seeing light displays, projections, laser shows and other digitally illuminated media, the Lightpaintings are just as eye-catching as these but I think when people realise that they are ‘just glass and light’, they are even more impressed. Is this handmade crafted element important to you and why?

Knapp: The glass is “handmade” in the sense that each piece is cut and shaped and polished by my assistants. What is most important is that this is the only way I have control to get the shapes I want that become my palette when I manipulate light.

Author: You’re Lightpaintings are beautiful, I don’t know how anyone could argue otherwise but a criticism of much glass art/light art is that it relies on spectacle and sparkle to attract its audience that the material is too seductive, too beautiful and it can overshadow the artistic value of the work. What do you think about this?

Knapp: Beauty is an easy catch-word criticism that is often used by people who haven’t looked at enough art to see what I’m doing. And not all my work is beautiful in the colorful sense. Look at “False Prophet” in Facebook. It is hard to

overcome that criticism in an age when shoddy work and detritus from the streets substitutes for art.

Author: Again regarding the Lightpaintings the overall composition is much greater than the sum of its individual components. There is an interaction between the pieces of glass, steel and the intangible light that creates something no 2d like a painting and not quite 3d – I call this magic and artwork of 3.5dimensions, what do you think about this description?

Knapp: I'll attach a press release from the Lowe Museum about my upcoming exhibit.

Author: Do you consider your art as conceptual? (I am writing about it in terms of an almost phenomenological experience, like looking at sunlight falling on water, or the sun streaming through clouds that people can't help be intrigued by simply by what it is but perhaps you don't intend them this way – Do tell)

Not conceptual in the normal sense. I'm simply trying to create the best paintings I can with light and give people an experience like none they have ever had before.

Author: Is there anything in the grater art-world that you relate you're art to? (For example, stained glass? abstract painting? performance art?)

Knapp: Abstract painting, sculpture and architecture all play a part, with a little bit of performance art thrown in on the side.

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STEPHEN KNAPP: NEW LIGHT
January 26 – March 24, 2013

CORAL GABLES, FL (January 26, 2013) – Formed at the intersection of painting, sculpture, and architecture, Lightpaintings are intangible, multi-dimensional compositions of pure radiance. **STEPHEN KNAPP: NEW LIGHT**, presents 14 of Knapp's Lightpaintings on view January 26 – March 24, 2013 at the University of Miami Lowe Art Museum.

Stephen Knapp is an American artist best known as the creator of Lightpaintings, which have been called the first new art medium of the twenty-first century. Dispensing with traditional media and narrative content, Knapp is one of a small group of artists who work with light, creating Lightpaintings that make visible the light that surrounds us and transforming it into something physical yet inherently transcendental.

Deriving inspiration from his studies of light, color, dimension, space and perception, artist Stephen Knapp has been creating art that interacts with and is transformed by light for over thirty years. He began his career as a photographer and evolved his own specialized processes through research and experimentation. He progressed to building large metal panels and glazed ceramic murals that are reflective and responsive to changing light conditions. What followed was the fabrication of kiln-formed glass walls and glass and steel sculpture, all leading up to his more recent focus on Lightpaintings, a word Knapp coined to describe his light-based installations. Created with light, treated glass, and stainless steel mounts, Lightpaintings exist at the crossroads of abstract painting, sculpture, and technology.

In speaking about his work, Stephen Knapp states, "I have been fascinated with light all my life, both for what it can do and for the effect it has on us. In all my prior mediums I've used light in ways that are not always apparent. When I found a way to uniquely express myself in light, I embraced it fully. With my Lightpaintings I separate white light into pure color and 'paint' with light. Each piece has a presence that far exceeds its physical dimensions. At once both physical objects and illusions, they remind us that dreams,

hopes and aspirations are the centre of art's ability to touch the human spirit.”

Knapp has gained an international reputation for large-scale works of art held in museums, public, corporate and private collections, in media as diverse as light, kiln formed glass, metal, stone, mosaic and ceramic. He has had solo museum exhibitions at the Boise Art Museum, the Chrysler Museum of Art, the Naples Art Museum, the Butler Institute of Art, the Dayton Art Institute, and the Flint Institute of Arts, among others. His work has appeared in many international publications including *Art and Antiques*, *Architectural Record*, *ARTnews*, *Ceramics Monthly*, *The Chicago Sun Times*, *Interior Design*, *The New York Times*, *Progressive Architecture*, and *Sculpture Magazine*.

A member's preview on Friday, January 25, 2013 will feature a lecture by the artist beginning at 7pm at the Storer Auditorium, University of Miami School of Business, with a reception following at 8pm at the Lowe Art Museum. The lecture is free for Lowe members and University of Miami students; the reception is free for Lowe members and \$10 for non-members. The exhibition opening is in conjunction with the exhibition, *Infinite Mirror: Images of American Identity*.

Support for the exhibition at the Lowe Art Museum is provided in part through a grant from The Miami-Dade County Department of Cultural Affairs and the Cultural Affairs Council, and the Miami-Dade Mayor and Board of County Commissioners.

The Lowe Art Museum is located on the campus of the University of Miami at 1301 Stanford Drive, Coral Gables. Museum gallery and store hours are Tuesday-Saturday 10-4 and Sunday noon-4. The Museum is closed Mondays and University holidays. General Admission (not including programs) is \$10, senior citizens and non-UM students are \$5, and the Museum is free for Lowe members, University of Miami students, faculty and staff, and children under 12. Admission is free on Donation Day, the first Tuesday of every month. Public Program Admission is \$10 for non-members and free for Lowe members. For more information, call 305.284.3535 or visit www.lowemuseum.org.

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