

Peter Freeman

The following is Peter's talk given at the LIGHT: craft symposium October 2008
Crafts Study Centre, University for the Creative Arts, Farnham, Surrey

Introduction

Hi! My name is Peter Freeman. I am an artist who creates light sculptures and installations using light as the medium and the message.



I have just completed the interactive lighting installation Reflexive installed inside the front façade of the Crafts Study Centre.

*Reflexive
Crafts Study Centre*

Today I am going to talk about how light has influenced my practice.

I am going to focus on how I got into lighting, my current work and what the language of lighting means to me. I am going to show examples of my previous projects and talk about how they developed my ideas in relationship to the reflexive installation at the Crafts Study Centre here at Farnham.



*Guardian Portrait
1998*

It's interesting to be talking about using light as medium in the context of the Crafts Study Centre because I work between the boundaries of the conventional political enclosures of crafts and art.

My practice has developed over the years from an initial interest in sculpture, through many years with the craft of making neon to where I am now working with architects and urban planners in the built environment using different types of light sources. Its part artist, lighting designer, crafts person, fabricator and computer programmer.

Over the last few years nearly all of my work has been created as public art in the public domain away from the sanctuary of galleries and teaching.

This is an interesting area where categories of art, craft and design blur. These are sculptures and installations that are site specific and commissioned. There's no safety net for me but I feel very lucky to doing the job I love and getting paid for it to. It's a satisfying occupation because it has the creative elements of creating art works that have never been made before, working with architects and urban planners and I get to use some of the coolest technologies around to create pieces that are unique and made for a particular time and place.

But being into light is also a sub-cultural activity with it's own peculiar world-view perspective.

This first picture was taken a few years ago by a photographer for the Guardian newspaper. I am showing it now because it still makes me laugh at how mad I look and it'd a graphic illustration of me looking at the world through the strange glasses of neon lighting.

I was not very academic at school and it's fairly classic that I ended up in the Art Room and then in Art college studying fine art sculpture in the nineteen seventies.

When I was a college there was a lot of interest in expanding the material possibilities of sculpture.



*Oriel Gallery, Cardiff
Craft Commission Room*

At the time there was a lot of discussion about the nature of sculpture and its relationship to the space of the gallery. All visual art is about the manipulation of light. In traditional art this is reflected light, to create a visual language of form and space. Particularly for sculpture it is also about how the form also relates to its surrounding environment usually the gallery.

What started out as an interest in looking at the relationship between space and sculpture led me to be interested in using electric light as an autonomous expressive medium. Because instead of relying on reflected light to create form I found by using electric light my sculptures generated the light and filled the gallery spaces with their presence.

*Toy Boy
Tib Street
Manchester
1998*



This was one of my first large public art commissions in 1998 for the Tib Street area of Manchester. It had been a run down area that was being developed into a cultural quarter for creative businesses and warehouse apartments. This sculpture is called Boys Toy is bright and funky and fitted really well with the aspirations for the area. Its 12 metres high and sits on top of a car park lift tower giving it a height of over 50 metres.

*Toy Boy
Reflections in surrounding puddles*



One of the revelations to me about this sculpture was the way that the sculpture affected the surrounding area. What I had expected was that the tower would create a visual sign and focal point for the area. What I hadn't really comprehended until it was installed was the way the sculpture then spread it's luminous magic of small reflections all over the area. As I walked round I found many small perfect reflections of the tower in all the shiny surfaces from car bumpers, shop windows and even the puddles.

My training



Flamingo Casino, Las Vegas

The first light sculptures I made while studying for my degree used discarded fluorescent lights that I bought from an army surplus shop. I then used the mainframe college computer to work out how to position them at random in my studio space. Bristol was a traditional art college with traditional sculpture values and my experiments went down like a lead balloon being met with horror and disbelief. I was very hurt at the time and unsurprisingly was awarded a 2.2 for my degree. As a result I left university feeling skill less and a failure.

After Bristol I spent a gap year travelling going to Turkey, Germany and America. In all these places I started noticing the potential for neon. In Turkey there was a huge profile of Attaturk in blue neon on the top of a hill. I loved the thin blue line that defined his profile floating in space. In Germany I saw some fantastic window displays that used different coloured tubes to create clouds and shoes.

Then in America I visited Las Vegas and was completely blown away by the incredible neon architecture. I loved the way that it was possible to build a city out of light. During the day the buildings revealed themselves as shabby ordinary sheds but as darkness fell they became glowing palaces with glittering facades.



Spiral lamp

When I returned to the UK I decided to learn the craft of neon for myself and enrolled on a scientific glass blowing course followed by two years working for commercial neon companies before setting up my own studio in London's East end. This is a slide of one of the first lamps I made that I sold in shops like Liberties in London. At this time I also received recognition from the Crafts Council and was awarded a setting up grant as well as getting on the list of selected makers.

An interesting aspect about these lamps was they were great for publicity but didn't sell very well. I think I sold about half a dozen in two years. Shops were quite happy to take them and put them in their windows. I realised that people were looking at them and thinking 'they're cool'. They would be attracted into the shop but buy something completely different probably cheaper and more practical. But the fact that they attracted attention led to the lamps being included in magazine articles and other publicity and from this I started getting contacted up by architects and designers asking if I would do commissioned work for architectural spaces.



*Ribbons of light
Stuart McColl office foyer
London*

The lamps had been aimed at a domestic market but when I started putting the lights into architectural settings I realised that this was their natural home. And it is in this area that I have continued to work and develop my ideas.

Reflexive at the Crafts Study Centre being my most recent.

This is an old picture of my first architectural commission for Stuart McColl's in 1985 office reception area. It's a double strand of hand coloured neon woven into the ceiling space frame and then tumbling down the wall as two ribbons of light. It makes me smile to look at it now. I thought it was the height of fashion when I made it in the mid eighties. It looks quite dated now. I think the new romantic look hairstyle of the receptionist and the rag-roll texture of the walls are wonderful.

Interactive art and reflexive architecture



The Light House
Poole Art Centre

Interactivity has become an increasingly important aspect of my work. Adding interactivity has allowed me to make my installations reflexive. This means that the light installation can use the building envelope or the surface of a sculpture to express an inner life. One of the original inspirations for me was driving endlessly up and down motorways at night and seeing all the high communication masts with red beacon lights on the top and I thought it would be great if I could press a button or send a signal to make them flash or change colour. The advancement in technology and computerisation including mobile telephones and text messages has made this a real possibility over the last few years. And the installations can be made to respond to environmental conditions and human interaction.

Interactivity also has advantages in that it helps to make the artwork more approachable, breaking down the traditional barriers between the work of art and viewer. Instead of seeing the work as being an imposition of alien high culture it becomes something that people can just use and enjoy.

This is an images is of the Light House Poole Art Centre. I was commission to light the exterior of the building. The installation uses the levels of carbon dioxide in the building to control the lighting effects on the outside of the building. The building has a natural ventilation system that is controlled by the carbon dioxide levels given off by people in the building.

When the building is quite and there is no performance my lights gently change colour but when the building is buzzing the carbon dioxide levels increase and the light respond by creating ripples of animated light.

What is light?



Light of the World
Holman Hunt

I've titled this section what is light? I think it is sort of obvious at some levels because most of us have eyes and it's the stuff that informs our primary sense of vision so everybody is an expert in their own way. But I think to me light has a lot of other levels because I use it every day and have to think about it none stop. So I thought I would like to share some of the ways I look at light and then you might see the world through my eyes and hopefully it might help explain how I end up creating works like the Reflexive piece here at the Crafts Study Centre.

The relationship between humans and light is very complex. For us light has deep physiological, symbolic, and mythic resonances.

This is the beginning of creation as described in the bible.

1 In the beginning God created the heavens and the earth.

2 The earth was formless and empty, darkness was over the surface of the deep, and the Spirit of God was hovering over the waters.

3 And God said, "Let there be light," and there was light. 4 God saw that the light was good, and He separated the light from the darkness. 5 God called the light "day," and the darkness he called "night." And there was evening, and there was morning—the first day.

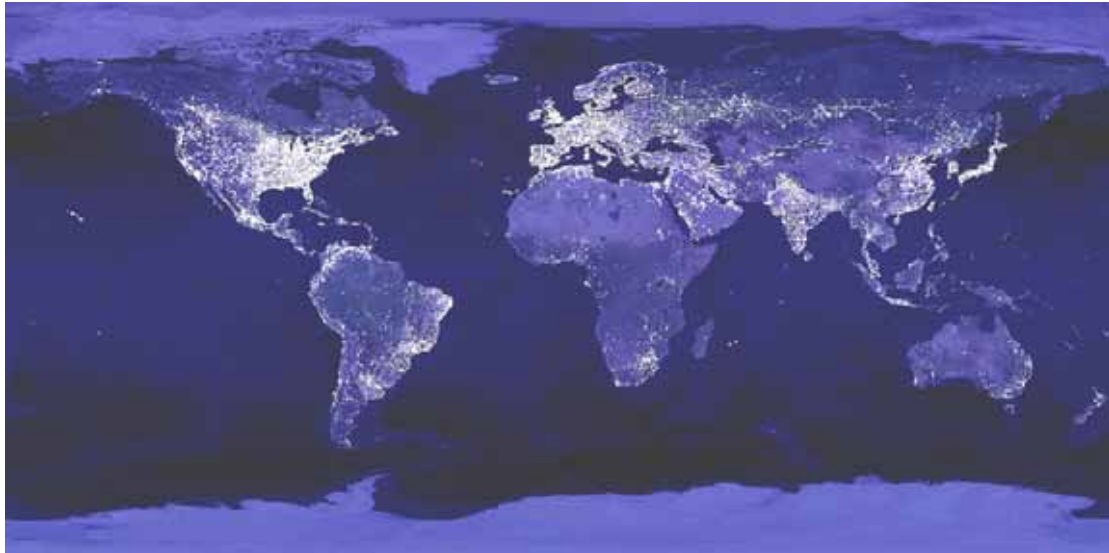
I think this text reveals how important light is in our culture. It's the first act of creation by god and he saw that it was good. Scientifically this light is daylight, radiant light from the sun. It is the visible spectrum, electromagnetic radiation between 400 and 700 nanometers from which all the colours of the rainbow come. Traditionally this is the light of illumination of truth and purity the light of god. It is also the light of Newton and the Enlightenment. It is the light that gives the world form by creating distinctions as the primary division between dark and light.



*Sunrise over
Gwithian,
West Cornwall*

For me it is also poetic light that creates colour and form that feeds the human imagination.

This is a picture of a sunrise over Gwithian. It is a local beauty spot near where I live in West Cornwall. This is the light from the sun that has bathed the world since the beginning of creation. For me looking over the sea and watching how the light plays between the sky and the water is a continuous inspiration in my work.



Night sky from satellite
Courtesy of NASA

Then some time later in the late nineteenth century a new human light, electric light was born.

The credit for the first commercial incandescent electric light usually goes to Thomas Edison although it was really a product of the era with many scientists all over the world discovering parts of the jigsaw that made electric light a possibility for us all. Then in the early part of the twentieth century a man called George Claude discovered how to make neon light. And suddenly man could light up the night skies. Since then the night and the built environment have become a laboratory and playground for people like me.

This is one of my favourite pictures of the earth taken from a satellite at night. It's interesting not only because of its beauty. But because to me it reveals a complex relationship we have with light. I flew back from Frankfurt earlier this year at night and apart from the English channel we flew over a continuous matrix of electric light. In which our landscape and civilisation is mapped out in light. And it's awe-inspiring to feel that we are the first generation to see this spectacle. To see how human civilisation has become luminous.

This map also reveals the way electric light is not only functional but also aspirational. The reason cities glow at night is not only because we need to see in the dark but also because to glow and to be seen from space is an expression of progress and prowess. For me it is only necessary to look at the recent Olympics to see how important it was for China to create vast cityscapes of light to realise that lighting cities is as much to do with projecting an image as utility or vision. So it's also a bittersweet image for me. At one level it makes me very proud to be a human being at the beginning of the naughties and the achievements of mankind and at the other end I see the destruction of the night which has consequences that we cannot imagine and it is also very sobering to look at the dark places on the map and to realise that the gift of light is very unevenly spread.

An inner light



*Luminous Motion
Winchester*

Perhaps I've touched on it above but there is an aspect to light, which is really one of the big areas of interest for me as an artist and that is the subjective nature of light. This is the light that delights the eye, creating beauty and joy and is the poetry of human vision. This is the emotional part of light that has little to do with the science of light and the utilitarian act of illumination.

I made this sculpture for the Winchester Light Art Project. Installed at the end of November 2002. I was inspired by the idea of Winchester as a city situated at the convergence of routes, and how this gave rise to the city's historical importance as a

spiritual and political centre with its fantastic gothic cathedral and the sculpture developed out of thinking about physical and virtual pathways.

The sculpture uses mobile telephone technology and text messaging enabling any one to change the colour of the sculpture by sending text messages.

One of the inspirations for Luminous Motion is the medieval Christian idea of an 'Axis Mundi'. This is the pivot at the centre of the universe, around which all creation rotates. It is also a symbolic silver thread that allows spiritual communication between heaven, earth and underworld.

I loved the location of the sculpture just inside the cathedral grounds but close to the commercial centre. I wanted this work to form a dialogue between the language of Spiritual that is part of the Cathedral and Christian tradition and the secular commercial light that is part of the high street. I believe part of my remit, as an artist is to take the commercial light that is used to dazzle and sell products and return it a purer aesthetic domain.

The ancients Greeks believed that there is an inner light that projected from the eyes rather like a torch and for sight to take place the external light of the physical world must meet the inner light of the eye. From a modern scientific point of view this seems misguided but it turns out that there is a lot of truth in their assumptions.

There is a wonderful book that I read whenever I need inspiration by Arthur Zajonc (Zionce), who is a professor of physics at Amherst College in America, called 'Catching the Light – The entwined history of light and mind' – it deals convincingly and rationally with this subject of the inner and outer light in great depth. He is a quantum physicist, which is reassuring when the subject has a

possible whiff of the dodgy mystic. His book starts with studies of people who were born blind and have recovered their sight through operation but still found impossible obstacles to seeing. He then goes through a history of light in different cultures and religions through the ages and ends up with the dilemmas facing him as a quantum physicist trying to pin down what really light is. He suggests that we are still not close to understanding light because of the limitations of our imagination or as he would say we haven't developed our inner eye. He talks a lot about the subjective relationship between humans and light and how to understand light you must understand their interdependence. This is a quote from the beginning of his book.

Quote. Two lights brighten our world. One is provided by the sun, but another Answers to it – the light of the eye. Only through their entwining do we see; lacking either, we are blind.... He goes on to say Besides an outer light and eye, sight requires an 'inner light' one whose luminance complements the familiar outer light and transforms raw sensation into meaningful perception. The light of the mind must flow into and marry with the light of nature to bring forth a world.

As an artist I'm interested in using electric light to engage with this inner emotional light.

Seeing requires making light visible and that requires the human and his or her sensory system to turn invisible rays of electromagnetic radiation into messages that the brain then turns into vision. Without the eye and the brain there would be no light only invisible electromagnetic radiation. All light is interpreted through the human senses and what is seen and understood is dependant on the particular human system and that is made of a mixture of biological, cultural and learnt elements. If any of these elements are missing we simply don't see.

I find this idea that light requires both rays of invisible radiation and the interpretation of the eye and brain before vision is attained a very liberating view of our relationship to light. It supports my artistic view that it is important that lighting should appeal to the emotions rather than traditional scientific enlightenment view of the world that sees light in terms of useful levels of illumination for work tasks.



Colour Shift, Gallery Oldham

This picture is of a project I made for a new gallery and museum in Oldham. There are two lifts on either side of a double height foyer in the entrance hall to the gallery that was designed by architects Pringle Sharrat and Richards. I was commissioned to create complementary light installations in both lifts. I filled one lift with green light and one lift with pink light. If you go up in the pink lift, as the doors close your eyes are saturated with pink light and your visual system tries to compensate. Two floors later when the doors open and you step out the world looks a shade of green because your eyes have over compensated and now have to readjust to the natural light. The reverse happens in the green lift, your eyes are saturated with green light and when the doors open the world looks pink.

What was interesting to me was that when you go in the pink lift the pink light flatters the skin tones and everybody has a great complexion however when the doors open the world looks green and slightly unattractive. In the green lift the reverse is true the moment the doors close you realise you have probably made a mistake in taking the lift as all your companions look like green aliens. This is very odd and worrying but the pay off is that when the doors open the world looks pink and fantastic. The lifts have been a great success with school parties but the staff complain that instead of visiting the galleries the children just go round and round up and down riding the lifts.

Dystopic light



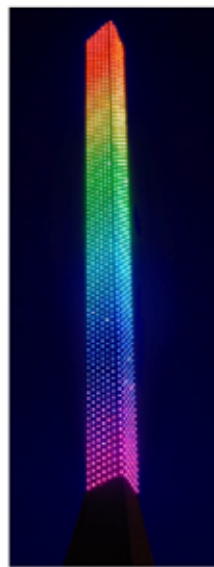
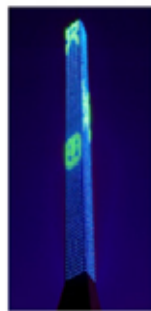
*Travelling light
M5 Weston*

This is a picture of travelling light a 13metre high sculpture that I made to go on the side of the M5 motorway at the Western super Mare Junction.

The idea for this sculpture that was commissioned by Persimmon Homes and North Somerset District Council was to create a beacon sculpture on the M5 that would mark the entrance to Weston super Mare and the South West of the UK.

The M5 is the main route to and from the SW and as a result I travel the road often. My other aim was to create a piece that would have the potential to amuse and surprise me whenever I or other commuters drove past.

One of the really big advances in lighting since I started using it as a medium has been the development of LEDs and the possibility of computer control. Travelling light is a mirror stainless steel column that is covered in a matrix of 2000 digitally controlled led pixels. This means that I can control each pixel and each pixel has the possibility to be any colour imaginable. Rather like a low-resolution video screen. So during the week the sculpture is a single colour gradually changing from day to day with a machine gun sparkle.



*Travelling light
Special days*

But Travelling light has special days. On Saturday it throws up rainbows. And Sunday it's a wonderful golden colour. However the sculpture knows exactly where it is in the year and has individual colour arrangements for special days like going up in flames on bonfire night. Space invaders on Halloween and it covered in a river of pink hearts on Valentines Day. There are also surprise programs for all the solar and some other calendar events of the year.



*Travelling light
M5 motorway*

A motorist who drives past the sculpture everyday sent me this picture. It reminded me of a contemporary grunge poetic version of the subjective nature of light from a cult book called the History of Luminous Motion by Scott Bradfield that I like a lot. This is different angle on poetic light. It's a crazy disturbing story about a young boy and his drug addict mum written from the young boy's point of view. To me the quote I'm about to read is weird and a bit mad but

articulates a different angle on poetic light. It's an alternative emotional world of light that describes a contemporary menacing dystopia.

"Mom released the emergency brake and the V-8 subsided to a rough hesitant idle. Then we glided down the long cement driveway. God I was filled with light that night. We were moving again. We would travel together in the world of explicit light. 'The history of luminous motion is that progress men and women make in the world alone,' Mom said. 'We're moving into sudden history now, baby. You can feel the source of all the worlds light in your beating heart, in the map of your blood and in the vast range and pace of your brain. That's the light babe you don't need any other. Just that light beating forever inside you'. We were turning on to the freeway, which was filled with other, hurtling headlights enormous menacing trucks and busses. We are like astronauts; we are like wheeling planes and spaceships. We are like sailing birds with soft stroking wings like oars. We beat against the heavy air and carry our silent regenerate light with us wherever we go."

Light as form



*Glamrock
Blackpool*

Another important aspect of my interest in light and art is in form. All form in some way reflects back or mirrors qualities of the society that creates it. For me light has these qualities in that it has little material and defies gravity. It has no physical mass but immense power. It has high speed and is unconnected. It is fragile it's life can be terminated by the flick of a switch. It is high-Tec and untouchable it creates the world of virtual reality. I like these qualities and try to think about them when I design sculptures because I think they express a quality that reflects what it's like to live at the beginning of the naughties.

Glamrock was a project I made for Blackpool South Promenade. I grew up in Manchester and part of my early life was the annual trip to see the Blackpool illuminations. I think it was probably Blackpool that first corrupted me into thinking about using light and is responsible for my interest in sensual emotional light rather than practical illumination. So it was a great privilege to be asked back years later to add to their collection of permanent light sculptures. Glamrock is a series of computer-generated forms based on the idea of sea smoothed beach pebbles. They are made of concrete and studded all over with fibre-optic light points. This means that the electric and working parts are all located remotely and kids can climb and play around them completely safely. For me it was important to have these objects half way between the sea and the main illuminations so that although there is a nod towards the old bucket and spade razamataz there is also more of a connection to the natural seascape environment. I also think they look like some kind of sci-fi Godzilla eggs and with the title of Glamrock they have a very strange presence on the promenade.

Architecture and light



A quality of Light, St Erth Station

One of the big areas of my work is lighting architectural form. This involves working with existing and new building structures using light to articulate and explore the structure and the envelope of the architectural form.

When I first started making sculptures the relationship between the art object and its location was clearly defined. The object was the light sculpture and its radiance transformed the surrounding space in an interesting but incidental way. Over the years I have become as interested in the radiant effect of the light on its surrounding environment and this effect has become the focus of attention with the source of the light actually dematerialising as in *Reflexive*.

This picture is of one of my first projects where I used light to transform a building and the lights were hidden so that the effect became the work of art rather than the lights. The installation was called *reflections and shadows* and was made as part of an exhibition organised by the Tate St Ives called *A Quality of Light*.

I used modern light to transform this disused space on St Erth Station making it look like a time machine. It was originally a waiting room but had become a storeroom for railway maintenance crews and was filled with the remnants of railway activity of the last 150 years. The lights are placed in a way that you can't see them except in the reflections of an old mirror and in the shadows where the mix of coloured light separates into different coloured shadows.



Lightwave - Exchange Gallery Penzance

West Cornwall where I live has a reputation for a special quality of light that has attracted artists dating back to when the railways made it possible to travel easily to the far West. As somebody who makes light and travels a lot I find everywhere has a special quality of light and believe that the artists who came to Cornwall, came here also for escapist and romantic reasons and brought a special quality of light with them. I am quite interested in watching modern holidaymakers and the energy they bring to have a good time whatever the weather and I can see how they bring their own light with them.

I am not saying we don't have a special quality of light. Sometimes when the rain has washed the air that comes straight from the Atlantic and sun is reflected between the clear clean sky and sea there is a clarity and brilliance of light and colour that is hard to match.

Lightwave is an installation I completed in 2007 for the new Exchange Gallery in Penzance and Reflexive the installation here at the Crafts Study Centre is its direct descendant. Lightwave is a 55 metre interactive light mural that illuminates the glazed façade of the Exchange contemporary art gallery. The installation uses colour changing LED technology to create the colours of the sea and surrounding landscape as an interactive veil of light along the complete length of the building changing colour in response to atmospheric conditions and the movement of pedestrians.



*Reflexive
Crafts Study Centre*

Finally I want to talk about Reflexive here at the Crafts Study Centre.

Simon Olding approached me several years ago about the possibility of creating a work for the Crafts Study Centre it was an exciting idea but I was incredibly busy and everything was put on hold. Simon approached me again a year or so ago and it was the right time to really make it happen.

There is a strong connection through the Leach collection to where I live close to St Ives and the original Leach Pottery. I am interested in the spirit of the

landscape that continues to inspire artists and crafts people to live and work in West Cornwall. It is also a great privilege for me to create an installation for Crafts Study Centre because of my connection to craft practice and the buildings important archive and collection of craft including the Leach collection.

I spent a long time making drawings and working out how to illuminate the glazed atrium in a significant way that would respond to the building, context, collection, students and public. I liked the volume, height and verticality of the atrium space. I particularly liked the upper space with its windows to the stairs and galleries but the eventual solution was a simple elegant interactive installation that articulates and transforms the whole atrium space. I chose to use high-powered LEDs because of the ability to mix colours and low energy consumption and decided the LED lights would only be visible in reflection when viewed from outside so that the work became the illuminated volume of the space with no direct glare from the LEDs.

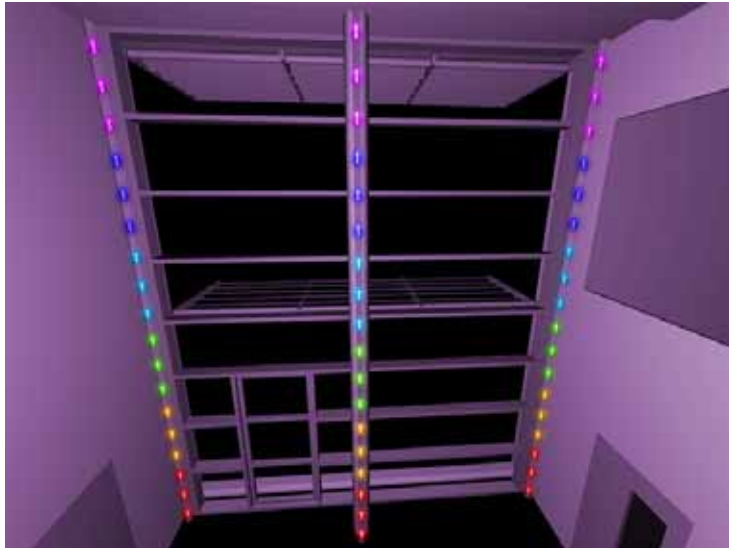
I imagined Reflexive as a large animated woven hanging made of light with horizontal bands of sumptuous colour filling the double height atrium.



Reflexive (detail)

Early on in the project Simon Olding described how the builders had left heating lamps on to dry the plaster when the Crafts Study Centre was first built and how the heaters had filled the space with a soft red light.

I liked this idea and decided to use a palette of warm colours inspired by the autumn colours of our garden and the surrounding Cornish landscape. I took photographs and made drawings of colour combinations in different locations and under varying weather conditions and from these I designed over 30 individual colour maps. All the maps were then programmed into the DMX controller connected to a barometric sensor and a proximity sensor. Every three minutes the controller scans the barometric sensor and uses the atmospheric pressure feedback data to choose the colour of the lights. In addition the proximity sensor positioned by the front entrance changes the colour of the lights in response to pedestrians passing by giving two levels of interactivity.



*Reflexive
Computer model*

The finished Reflexive installation comprises of three custom made strips of high-powered LEDs running from floor to ceiling one on the central column and one on either side of the glazed facade. The LEDs all face inward away from the window and are fitted with 2 degree by 120 degree flares lenses this spreads the light in narrow horizontal beams to create soft stripes of light. The LEDs are arranged in clusters of red, green, blue and yellow LEDs. By controlling the intensity of each colour it is possible to create a complete spectrum of colours as the light from each LED mixes and is reflected back from the walls. There are five separate control circuits creating five levels of horizontal colour from floor to ceiling.



My aim for Reflexive is to realise an interactive installation that redefines the Crafts Study Centre atrium space with sensuous fluid light and gorgeous colour. I want Reflexive to use light to reveal the inner spirit of the Crafts Study Centre with its unique archive of craft history and as an inspiration of vibrant ideas informing contemporary and future practice.

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