There-ness, the unsupported mark and its peripheral view

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ABSTRACT

From the onset, optical holography challenged our established view of 'there-ness' – our understanding of where objects were in the world and what constituted real or unreal.

Until holography became a viable recording and display process for three-dimensional objects, we could easily separate out objects and their facsimiles. We looked at objects and used flat, illusionistic, techniques to reproduce them and, subsequently, mechanical or optical, recording processes. Reproductions were exactly that – reproductions.

This paper examines the use of holography as a methodology, and process, to present the unsupported mark, the surfaces, lines and characteristics which make up objects but which can be utilised to shift an observer's perception and preconception around aspects of the third dimension. It contextualises this approach, using examples of artists working critically within the field and attempts to separate the object from the space around it.

A discussion, involving the visual and perceptual impact associated when marks are, apparently, removed from the surface on which they appear, is interrogated, using examples of the author's gallery installations and speculative studio research. The function and manipulation of an audience's peripheral view, when encountering these installations, is explored and placed into the context of a developing, critical, vocabulary within the visual arts in general, and the author's research, in particular. An exhibition dealing with the unsupported mark, curated by the author, is also used as a framework for these observations.

Keywords: Drawing, Mark-Making, Holography, Holographic, Peripheral View, Perception, Illusion, Installation

1. INTRODUCTION

As observers, we tend to fixate on the marks presented to us on surfaces. We make sense of them, by either extracting a narrative or being comforted with the familiarity of identifying something recognisable. We look at graphic or painted surfaces and, by using complex visual and perceptual systems, are able to 'see' what is there. We identify and understand the 'thing' in the picture. Even if we are unfamiliar with the details of vanishing point or areal perspective, we pick up their clues and their visual vocabulary as we learn to see.

As an art student in the 1970's, I was introduced to John Berger's book 'Ways of Seeing', which accompanied a BBC TV series of the same name. It had a lasting impact and, 45 years later, continues to offer relevance when attempting to consider some of the aspects of mark-making within holography. There were two significant quotations which persist: "Seeing comes before words. The child looks and recognizes before it can speak" and "…there is also another sense in which seeing comes before words. It is seeing which establishes our place in the surrounding world; we explain that world with words, but words can never undo the fact that we are surrounded by it. The relation between what we see and what we know is never settled." [1] Their significance is such that they are both featured on the front cover of the book – a reader does not even need to open the cover. Being 'unsettled' is a key element in our approach to looking – it also has significance when applied to the approach we take when looking at holography.

There is a new generation of digital natives [2] who have never seen a hologram. They have seen the filmatic special effects portraying holographic images, or read narratives which distort the reality of holograms. When they do see their first hologram, they are clearly unsettled – excited, disappointed, confused, but certainly unsettled. It may be possible to define this effect in two ways: unsettled because what they see appears to be real but is not actually 'there'; or unsettled because the abstract marks in space, or areas of light, are unfixed and released from the surface of the device producing them (the holographic plate). What links these two states is the impression, illusion or optical distortion which presents these images and marks in a way which is disconnected from the traditional picture plane. They are not on the surface of the picture. They are not even 'there', but they display all (or enough of) the properties which appear to make them real. "The relation between what we see and what we know is never settled." [3] The relationship between the real object (mark) and its three-

dimensional facsimile moves beyond 'settled' into another emotional, or visual, state and begins to raise questions about our relationship with objects and images around us.

1.1 The Addition Series

In 1986, I worked on an unlimited edition of three reflection holograms which made up the *Addition Series*. Each of these 8 x 10 inch (25.4 x 20.32cm) reflection holograms attempted to explore a simple vocabulary which used, as a trigger, Kandinsky's teaching at the Bauhaus during the 1920's. [4] *Point, Line and Plane Addition* was a collaboration between the author and the Light Fantastic Gallery, based in London's Covent Garden. Organised very much like a printer might approach work, which is subsequently produced by a gallery press, the elements and objects, used to produce these works, were fabricated by the author and then made into reflection master holograms at Light Fantastic's production facility in Shepshed, Leicestershire, UK. Once a laser transmission test master hologram had been made, a white light reflection hologram was produced as a 'proof'. Adjustments were suggested (if required), subsequent masters were tested and, once the required outcome was achieved, a series of reflection holograms was produced.

The starting point for the series, *Line Addition*, used a small version of a rotating structure which made up part of a light installation produced by the author, shown at the Institute of Contemporary Arts, London, in 1980. [5] (figure 1)

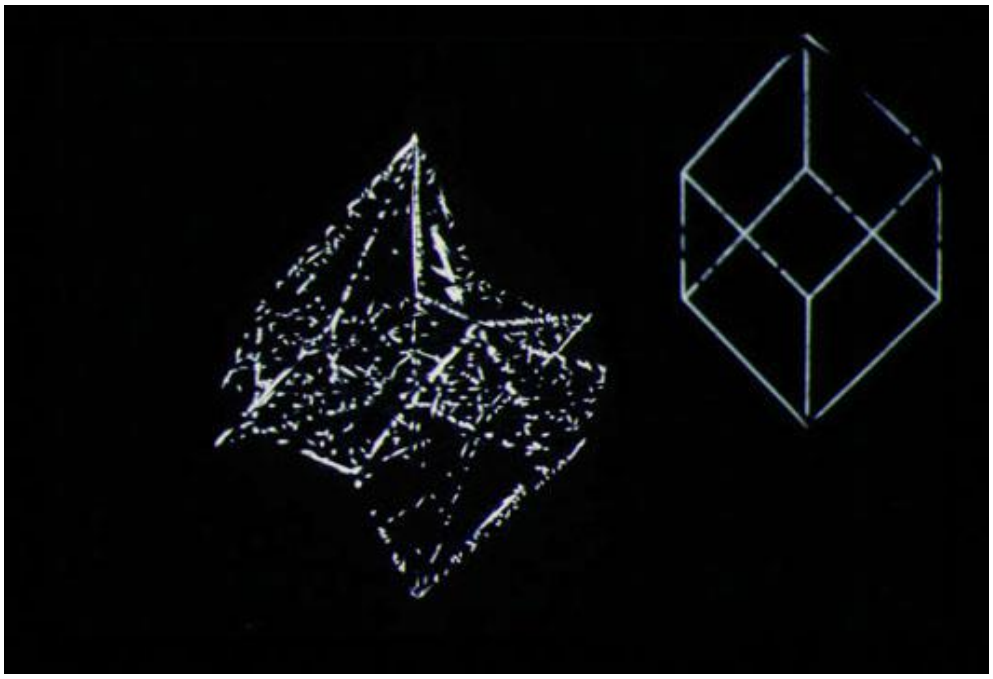

Figure 1. *Random Cube*, 1980. Kinetic projected light installation: 35mm projected slide onto rotating cubic structure.

The small version of the black metal cube used in the light projection was, like the original, filled with individual white lines within the volume of the cubic structure. This was then produced as an image plane, white light reflection, hologram, organised so that a small section of the cube protruded through the picture plane. White adhesive lines were then applied to the surface of each hologram to define a graphic representation of a cube. [6] (figure 2)

The resulting hologram was an early exploration into how an observer might engage with, and interpret, graphic and holographic marks. It also began to investigate the 'peripheral view', an aspect of looking obliquely at images and their holographic representations.

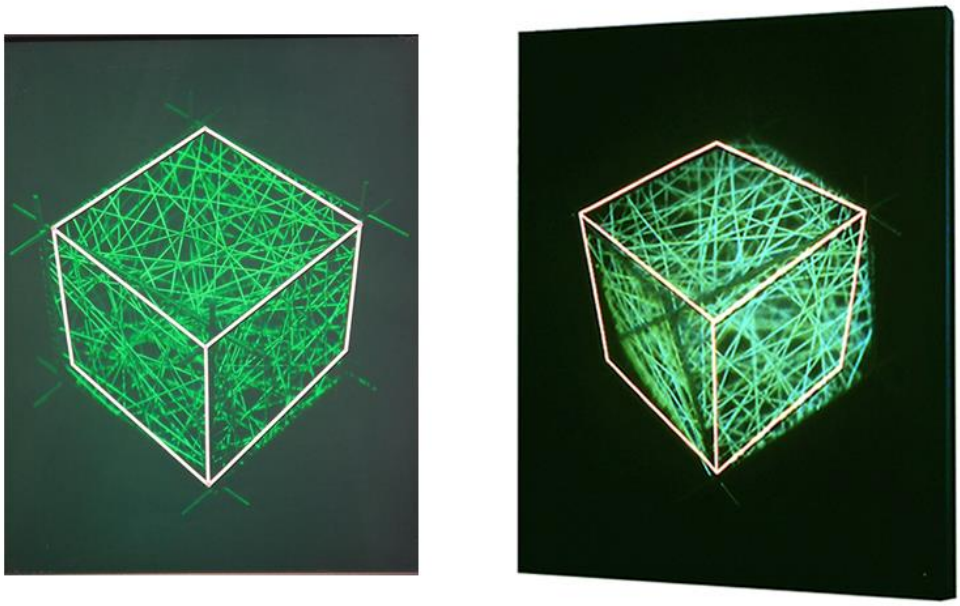

Figure 2. *Line Addition*, 1986, two views (front and right) showing relationship between applied white graphic lines onto the surface of the holographic plate and the reconstructed holographic image.

An issue, often associated with display holography, is the specificity of its viewing restrictions. This is particularly relevant in a gallery situation, where exhibition visitors attend with a precise understanding about how work in galleries is shown. If we use 'traditional' painting as an example, we expect to be able to see their contents peripherally. We accept that when approaching them on a gallery wall, we will be seeing them obliquely. However, once we arrive at a central viewing position, generally directly in front of the canvas, we can view the contents of the painting (its image) without distortion. A discussion about our expectations when viewing flat information and its relationship to 'drawn' elements has been discussed in more detail in a previous paper. [7] When considering holographic images, in a similar display situation, they often appear blank, black, or invisible, when viewed obliquely. For the artist or optical scientist producing the work, this is an accepted restriction of the display geometry. For a gallery visitor, aware of more 'traditional' or familiar methods of display, this is a wholly disruptive model. Perhaps this last statement is becoming less legitimate as exhibition visitors benefit from an increasing familiarity with trans-media presentations and displays where information is present intermittently (video projection) or on shifting and immersive moving image installations. [8]

One of the aims of *Line Addition* was to address this viewing restriction. When observed obliquely (outside of the viewing zone of the reflection hologram) the wall-based 'object' continues to display an image, that of the white graphic representation of a cube. This can be seen from multiple, and extreme, viewing angles (as can a painting or traditional drawing). When an observer approaches the work, and enters the viewing zone, the three-dimensional image of the cubic structure 'shifts' into view, engaging with, interfering with and overlapping (in parts) the 'drawn' cube. The change in position of an observer past the work emphasizes kinetic movement and animation, as in most holograms. In this example, there are moments when the three-dimensional image, and the two-dimensional (familiar) drawing, merge. Marks, now off the surface of the picture plane (the image plane section of the hologram), take on a transformed aspect and exist in a position which is between our definitions of object, line, surface, photograph, drawing or mark. The states compete. This attempt to examine the 'position' of the unsupported mark has been explored in subsequent holograms and projected light installations. [9]

1.2 Lean and Lean Two

A specific exploration, grounded in the vocabulary developed in *Line Addition*, has been attempted recently in a new work for *Analogue Ensemble*, a curated exhibition dealing with experimental film, the relationship between screen space, physical space and the experience of viewing moving image within the conditions of the gallery. [10] *Lean Two* is a second iteration of *Lean*, [11] (figure 3) and produced specifically for this exhibition.

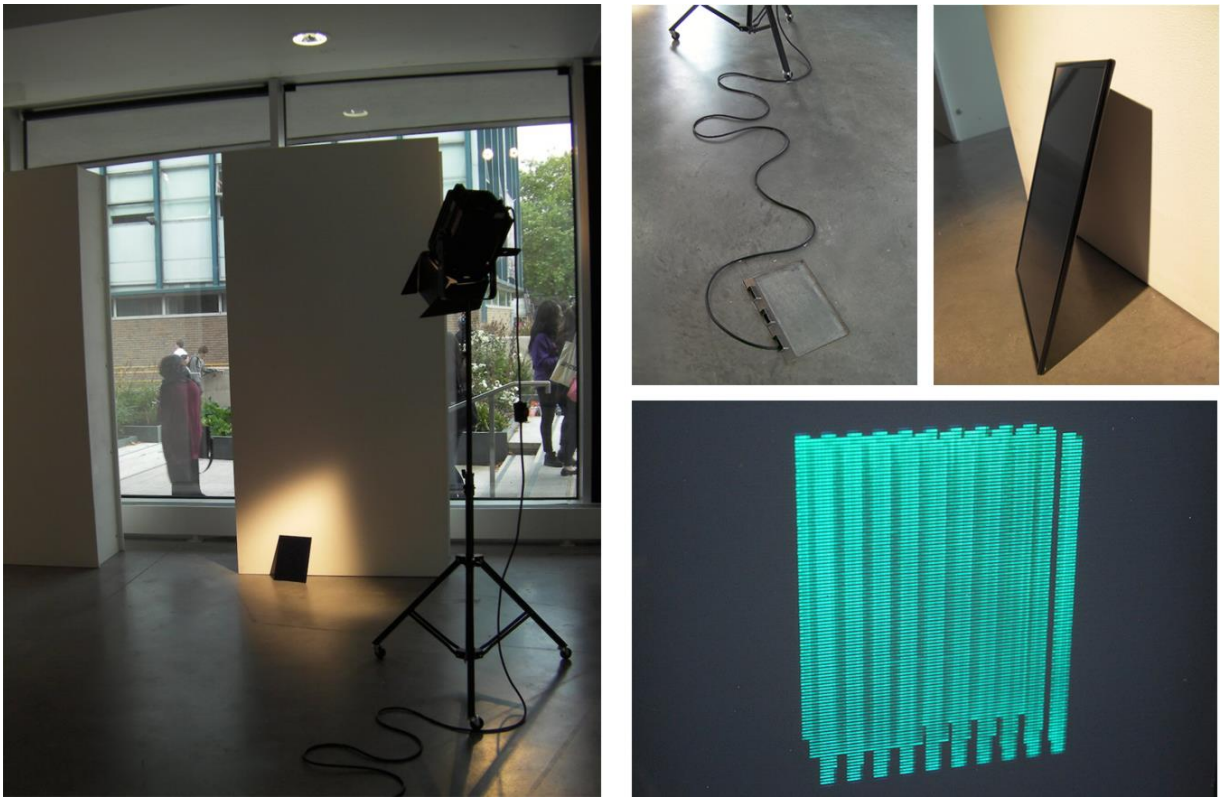

Figure 3. *Lean*, 2014. A framed theatrical spotlight illuminates the reflection hologram located at the junction between the floor and the gallery wall shown in Drawology, Lanchester Gallery, UK.

Lean Two incorporates a slightly larger digital reflection hologram (29 x 29 cm) (figure 4) which, again, leans against the gallery wall, illuminated by a framed theatrical spotlight. The holographic image, rather than defined lines (as in *Line Addition*), displays three luminous planes, each with a small rectangular hole 'cut' from the surface, allowing viewers to look through one surface to another below. A similarly sized rectangle of black vinyl is placed on the gallery wall in a position where a more traditional work might be located. In an attempt to not only connect with issues of the peripheral view, this installation also aims to challenge the way viewers approach and view works in a defined gallery space.

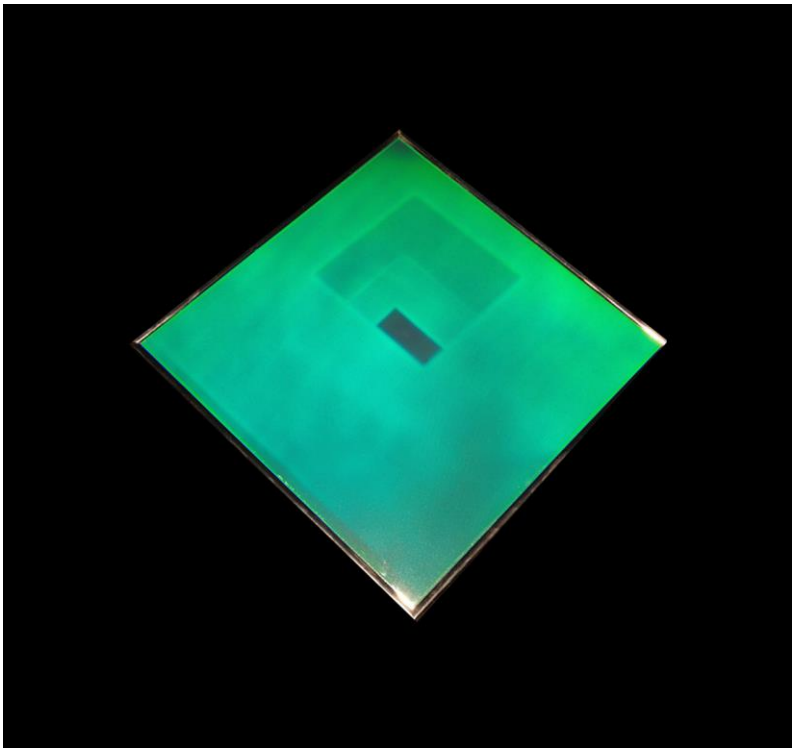

Figure 4. Hologram used as part of *Lean Two*, 2018. *Analogue Ensemble* exhibition, Studio 3 Gallery, Canterbury, UK.

By approaching the installation to view the wall-based work, a viewer will obscure the light used to illuminate the leaning hologram. Active visual exploration prohibits engagement with the hologram. This perversity aims to highlight our viewing actions and question the validity of the holographic element in the installation. Similarly, there are many locations within the gallery where, due to the illumination angle and reconstruction angle of the hologram, its content is not visible. The peripheral view becomes a key element in the function of the work, allowing it to be more 'unseen' than 'seen'.

2. THE UNSUPORTED MARK

In an attempt to further critically explore aspects of the unsupported mark within holography, an exhibition was curated at Gallery 286, London, drawn from the extensive Jonathan Ross Holography Collection. [12] *The Unsupported Mark – Drawing with Holography*, took place in March 2018 [13] and included 20 artists whose work spanned almost 40 years of production. It not only connected directly with my own research towards drawing in space, but also offered an opportunity to examine varied and exceptional examples of work from artists who have attempted to extend the process of holography as a medium for manipulating (sculpting) light, and as a methodology which allows the release of marks from the surface of the picture plane – to 'draw' in space.

This was the first time works from these artists had been exhibited together in London, connected through a considered, curatorial, framework.

Artists included in the exhibition were: Margaret Benyon, Rudie Berkhout, Caroline Palmer, Doris Vila, Andrew Pepper, Susan Cowles, Adrian Lines, Pearl John, Sam Moree, Jon Mitton, Michael Waller-Bridge, Martin Wall, Edwina Orr, Dieter Jung, Pepe Buitrago, John Kaufman, Jo Fairfax, Paul Scattergood, Paula Dawson and Dan Schweitzer, with work ranging in date from 1979 - 2017.

Although it is not possible, within the scope of this paper, to discuss each of the 20 works in detail, and examine their significance within the curatorial stance of the exhibition, [14] some of the key contributions are considered below.

The exhibition was not presented chronologically (as survey shows often are) but, in this case, grouped within thematic methodologies. This was based not only on the selection of works from the collection but also advice from, and discussions with, Jonathan Ross [15], during the installation process. The positioning of the available (fixed) lighting in the gallery and the balance between specific display requirements, from the two main types of hologram (white light transmission and reflection), were also essential considerations.

2.1 Margaret Benyon

One piece, however, was used as an introduction to the exhibition because of its historical impact and as a visual and contextual anchor. Margaret Benyon's *Secret Sacred III*, 1979/2000 [16] (figure 5) has particular significance, both within the framework of the exhibition, as well as for the author's early exposure to creative holography. Although this piece was the only one in the exhibition which does not display unsupported marks, its significance is in its use of physical drawings combined with a three-dimensional image. The work was produced by Benyon during 1979 in Australia, along with four others, in a series using two different Australian Aboriginal totems with surrounding motifs on paper. As Ross states, these drawings "…are still visible when the hologram is not lit, so that the holographic image becomes a secret." [17] This early demonstration of the peripheral view relates directly to the author's similar interest as discussed above.

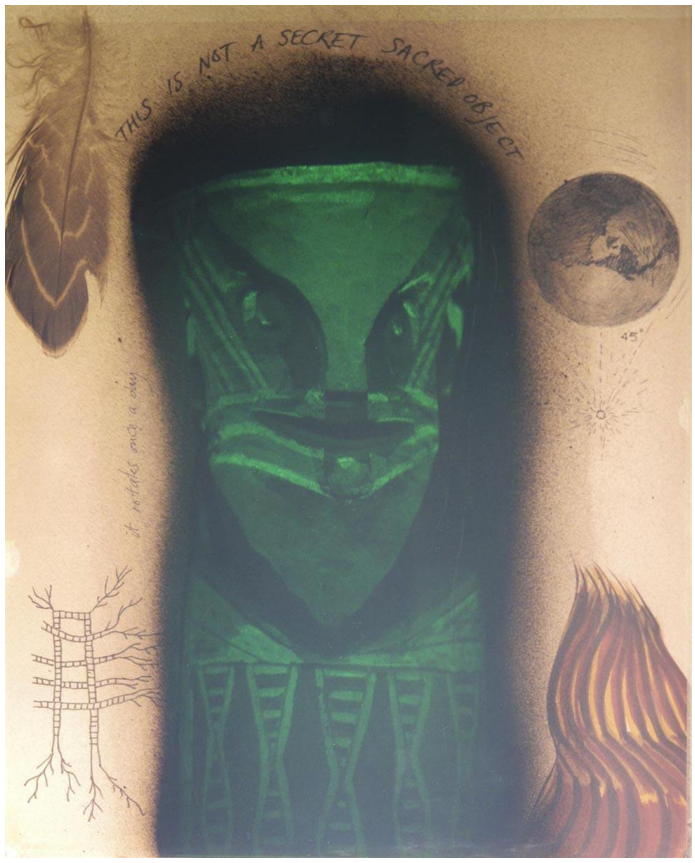

Figure 5. Margaret Benyon, *Secret Sacred III*, 1979/2000. (Image, Jonathan Ross, used with permission).

The holographic plate on which the Aboriginal totem is recorded was only partially painted with black pigment within the central area of the rectangle (after its chemical processing and development), meaning that the rest of the surface is transparent, allowing the drawing, on paper, which is placed behind the holographic plate, to be visible. This combination of 'traditional' drawn marks and holographic images is a technique Benyon used extensively, particularly in her Cosmetic series, which incorporated paintings behind the holographic portraits. What is significant in *Secret Sacred III* is the early use of this technique and offers an example of Benyon's opportunity to present familiar drawn marks alongside holographic images.

The significance of this work also goes beyond its impact as an exhibition anchor. The Secret Sacred I & II works were some of the first holograms by Benyon I encountered. During a residency at the Museum of Holography, New York, as an international scholar, [18] I had the opportunity to help install and maintain Benyon's solo retrospective exhibition *Phases* [19] and was able to have extensive discussions with her about the development of her work and ideas. Her critical engagement with social and political issues, and her pioneering use of holography as a creative process made the inclusion of *Secret Sacred III*, as the first work encountered in the London exhibition, an important introduction to subsequent works on display.

Mounted next to Benyon's work was *Study in Light No. 6* by Rudie Berkhout. His use, in this example, of abstract, 'liquid' marks, which undulate across the surface of the reflection hologram, offered a clear introduction to the vocabulary many

of the selected artists had established. Here marks made by 'folded' light act as a structural framework for the piece and are displayed unconnected from the surface which is producing them. In Berkhout's earlier white light transmission pieces, he often included structural 'objects', spheres and defined planes [20] which were used to chart the volume created by the holographic recording. These later works relied on more abstract marks, which are much easier to consider as marks in space.

2.2 Luminous marks

Many of the other works in the exhibition were selected for their opportunity to combine luminous marks alongside printed or photographic words or graphic information (Adrian Lines, Pearl John, Pepe Buitrago, Paula Dawson). More abstract use of spatial mark making, using structured lines, planes and surfaces, were also included to offer examples of considered use and the manipulation of illusionistic 'drawing' (Caroline Palmer, Doris Vila, Andrew Pepper, Susan Cowles, Sam Moree, Jon Mitton, Michael Waller-Bridge, Martin Wall, Dieter Jung, Dan Schweitzer).

An early work by Edwina Orr, *Sketches*, 1981 [21] was displayed, unframed, in a glass vitrine, with works by Buitrago and Jung. The significance of the piece is in its use of luminous graphic images, which are displayed in space and overlap each other. The movement of the viewer, in front of the work, allows different views of the 'sketched' figures, which become animated, appearing and disappearing, depending on the viewing location. These spatial and temporal drawings offer an insight into the possibilities of using the holographic process as a critical and creative methodology which allows luminous marks to be completely released from the surface which produces them. (figure 6)

Figure 6. Edwina Orr, *Sketches*, 1981. (Image, Jonathan Ross, used with permission).

There is also a link to an implied filmatic or animated narrative. As the marks/drawings are not fixed, or permanently located, on a traditional surface, as we would expect from a drawing on paper (many of the other works in the exhibition function similarly), they offer an opportunity to engage with the marks, lines and transitory sketches as a temporal, intermittent and ephemeral visual process.

2.3 Centre Column and Centre Column – Blue

With direct visual and conceptual connections to surrounding works in the exhibition, *Centre Column – Blue*, 2017 [22] offers a link between *Line Addition*, discussed earlier, and the author's continuing development of spatial mark-making. Produced in association with August Muth and the Light Foundry, Santa Fe, USA, this is the first dichromate gelatine reflection hologram to articulate a recurring set of marks and the largest piece, to date, developed by the author. Based on *Centre Column*,1989, [23] (figure 7) this earlier version used a single-beam Denisyuk reflection hologram to display three columns of drawings made up of simple (hand-drawn) gestural marks.

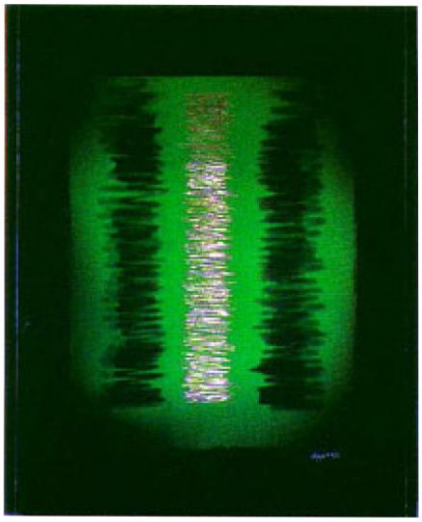

Figure 7. *Column,*1989, 8” x 10”, white light reflection hologram on glass, Lauk Collection, Germany.

In discussion with Muth, during summer 2017, the opportunity arose to produce this iteration of *Column,*1989, but, in this case, allowing a central, blue, column of marks. Until this piece, the colour in the author’s holograms has been entirely based on the holographic method of recording and chemical processing. This was the first time a specific colour was desired, and considered, which was facilitated by Muth’s expertise with dichromate gelatine recording. (figure 8)

Figure 8. *Centre Column – Blue*, 2017

The blue is close to one end of the human visible spectrum and, as such, is 'just' present. This was an important consideration for the piece, with a required emphasis on the unsupported marks being significantly more ephemeral. Walking past the piece causes the central blue line, which protrudes into the observer's space, to shift and overlap the gestural marks which make up the left or right columns, before disappearing. There is a similar kinetic vocabulary here to that used in *Line Addition*, one of shifting lines and collision between marks on the picture plane, as well as those suspended, unsupported, between the viewer and the surface on which the work exists.

A series of other works using this 'conversation' between marks is planned.

3. THE MARK AS OBJECT

Our familiarity with drawn marks on paper offers us a subliminal understanding of where those marks are. They become grounded, fixed and partially limited. By releasing these marks from the surface, they take on a different form, one which is neither drawing nor object, but some state between. For almost 40 years, artists active in the field of creative holography have attempted to extend this ephemeral and liminal vocabulary, a state which goes beyond the high-fidelity reproduction of three-dimensional objects.

Although the 20 works which made up The Unsupported Mark exhibition attempted to highlight and interrogate the developing vocabulary of holographic mark-making, it is not a definitive presentation. Several key artists were not included because they are not represented in the Ross Collection, extensive as it is. There is scope, therefore, for a more expansive exhibition which would extend this initial investigation into the subject.

3.1 Works included in *The Unsupported Mark – Drawing with Holography* exhibition:

Margaret Benyon
SECRET SACRED III
1979/2000
10″ x 8″
Reflection hologram silver halide on glass and art work in ink, gouache and feather on paper.

Rudie Berkhout
STUDY IN LIGHT No. 6
1999
40 x 30cm
Reflection hologram on glass

Caroline Palmer
DIAMONDS AND STRIPES
1989
10″ x 8″
Multi-colour reflection hologram
Silver halide on glass

Doris Vila
FIRE
1997
32 x 43 cm
Reflection holographic stereogram

Andrew Pepper
CENTRE COLUMN – BLUE
2017
25"x19"
Dichromate gelatine on glass

Susan Cowles
THE SEED MAKERS
1991
40 x 30cm
Reflection hologram.
Silver halide on film.

Adrian Lines
EGG
1982
9 x 9cm
Six reflection holograms on film, 9 x 9cm each, gangmounted.

Pearl John
SHAMAN JOURNEY
2005
8" x 10"
Reflection hologram (film) overlaying digital photo

Sam Moree
SIDEWALK DREAM
1979
3" x 3.5"
White light transmission hologram glass plate, laminated to larger glass carrier

Jon Mitton
ORGONE ACCELERATOR
1991
7" diameter
Reflection hologram on glass in steel display

Michael Waller-Bridge
PARTIAL SYMMETRIES
1981
20 x 25cm
Reflection hologram on glass

Martin Wall
LARGE CIRCLES
1992
2 x 10″ x 8′
Reflection holograms on glass

Edwina Orr
SKETCHES
1981
4" x 5"
Animated reflection hologram

Dieter Jung
HOLOGRAPHISCHER PRISMENWANDLER
1993
95 X135MM
Embossed hologram

Pepe Buitrago
HARD TIMES
2017
4"x5″
Reflection hologram on folding card.

John Kaufman
TOOLWORKS
1992
30 x 40cm
Multi colour reflection hologram

Jo Fairfax
LIMBIC SYSTEM
11 x 16.5 cm
Reflection hologram on glass

Paul Scattergood
SEQUENCE 4
38 x 51cm
Full colour digital holographic stereogram

Paula Dawson
THE LEGEND OF THE TRUE HOLOGRAM
25 x 25cm
Computer graphic holographic stereogram

Dan Schweitzer
THE SLEEPER
30 x 40cm
White light transmission hologram
Silver halide on glass

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[2] Individuals who have grown up in the digital age rather than becoming familiar, during adulthood, with digital systems. Prensky, M. "Digital Natives, Digital Immigrants Part 1". On the Horizon. 9 (5): 1–6. doi:10.1108/10748120110424816. (2001).
[3] See [1]
[4] Kandinsky, W. [Point and Line to Plane], Dover Publications, ISBN-13: 978-0486238081 (1979) Original published in 1926.
[5] The kinetic projected light installation was selected for the "New Contemporaries" exhibition held at the Institute of Contemporary Art, London, 21st March – 5th April 1980. This annual exhibition offers a showcase of current activity by contemporary art students. The work was subsequently shown in Pepper's "Master of Fine Art degree show" exhibition (MFA) at the University of Reading, 1980.
[6] A familiar graphic representation of three-dimensional volume.
[7] Pepper, A., "Holography without frames: sculptural installations incorporating 'drawn' elements". Journal of Physics: Conference Series, 415 (1). ISSN 1742-6596 (2013)
[8] Examples include: Bill Viola's video/sound projections (specifically The Veiling, 1995) through multiple hanging screens and Pipilotti Rist who incorporates complex video projection within her installations <http://www.tate.org.uk/art/artists/pipilotti-rist-5465> (15th April 2018).
[9] http://www.apepper.com

[10] “Analogue Ensemble”, curated by Cathy Rogers, Studio 3 Gallery, University of Kent, School of Arts, Canterbury, UK. 20th May - 8th June 2018.
[11] Lean, digital reflection hologram, 25.4 x 20.32cm and shuttered theatrical spotlight, “Drawology” exhibition, Lanchester Gallery, Coventry University, Coventry, UK, 26th September - 26th October 2014.
[12] http://www.jrholocollection.com
[13] “The Unsupported Mark – Drawing with Holography”, curated by Andrew Pepper, Gallery 286, London, UK, 13th - 30th March 2018.
[14] A more extensive text, outlining the curatorial considerations for this exhibition, is to be included in a forthcoming publication.
[15] Jonathan Ross, the British art collector, has been acquiring work from artists, scientists and commercial producers since 1978. Works are archived in London, UK.
[16] 10″ x 8″ Reflection hologram, silver halide on glass and art work in ink, gouache and feather on paper.
[17] <http://www.jrholocollection.com/index.php/margaret-benyon/item/66-secret-sacred-iii> (15th April 2018).
[18] Fulbright Scholarship, Museum of Holography, Mercer Street, New York 1980-1982, Awarded to research into the use of holography in the visual arts, education and communication.
[19] “Phases, Retrospective exhibition”, Margaret Benyon, Museum of Holography, New York, USA, 1981.
[20] See, for example, Rudie Berhout, “Event Horizon”, 1980, white light transmission hologram on glass, 10” x 10”, collection MIT Museum, Boston, USA <https://webmuseum.mit.edu> (26 February 2018), or “Delta II”, 1982, white light transmission hologram on glass, 12” x 16”, <http://rudieberkhoutcollection.com> (26 February 2018).
[21] Animated reflection hologram, 4” x 5”. A white light transmission version of this piece also exists.
[22] Dichromate gelatine reflection hologram on glass, 25”x19”
[23] Reflection hologram on glass, 10” x 8”, Lauk Collection, Germany.