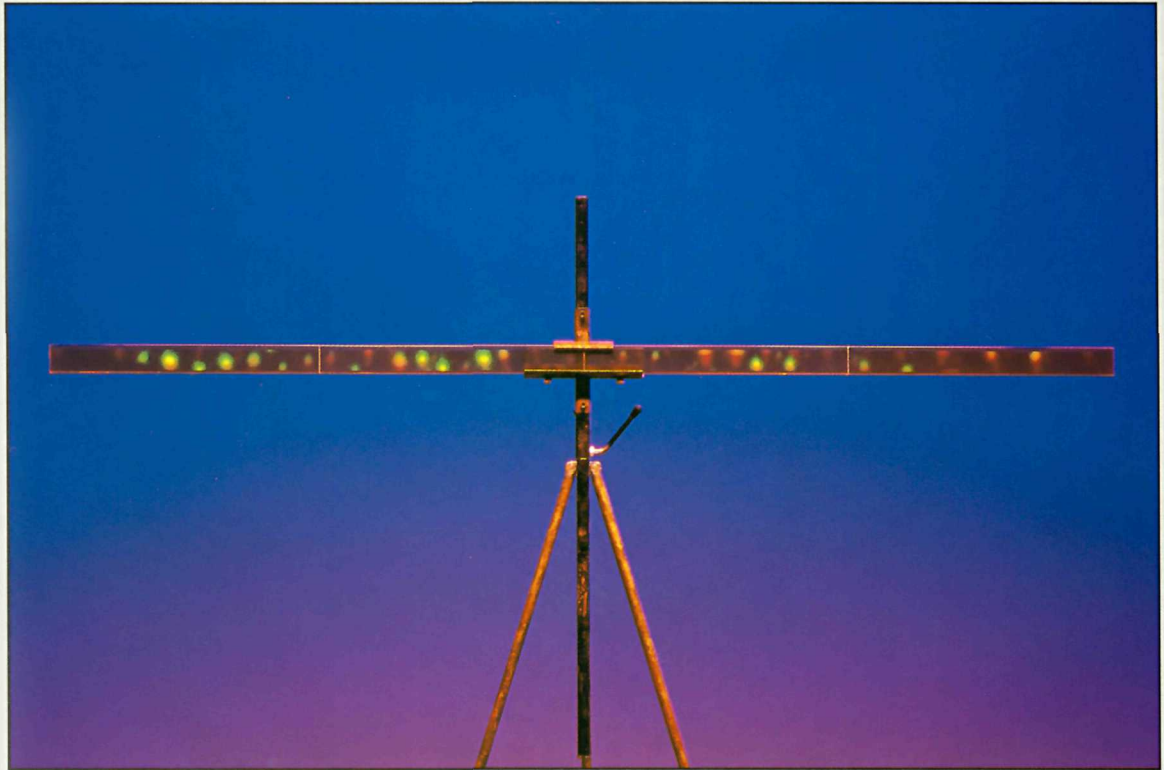


IN THE  
OPTICAL REALM



WENYON & GAMBLE  
WORKS 1988-91

IN THE  
OPTICAL  
REALM

WENYON & GAMBLE  
HOLOGRAPHIC INSTALLATIONS  
1988–91

WOLVERHAMPTON ART GALLERY

# Introduction

The art of holography has now been developed far beyond the realms of illusionistic fairground novelty and is gaining acceptance as a new art medium of astonishing potential.

Mike Wenyon and Susan Gamble are amongst the small handful of artists who have had the vision and enthusiasum to master this new technology and to harness it in the service of the imagination. They have successfully bridged the gulf between Art and Science in an age which seems to have forced these disciplines apart.

Holography is an art form in its infancy, free from much of the inherited cul-

ture baggage of the more traditional media. It thus offers unique opportunities for artistic experimentation and the chance to develop a new and singular visual language.

Wenyon and Gamble's holograms have a cool alien beauty like objects from another world. They stand on their delicate tripods; windows into zones of shifting spectrum colour. In some, an everyday object hangs in a boiling furnace of colour, in others we glimpse the endless voids of deep space; or the spreading ripples of a glowing pool.

Their works have delighted and intrigued visitors to this Gallery once before.

We now welcome them back with a new body of work for their first major U.K. show since their move to Japan's 'Science City' complex at the University of Tsukuba.

I would like to thank the artists for allowing us to stage this exhibition, and the gallery technicians John Davies, Angela Spain and Lesley Smith for all their work towards the design and installation of the show.

*Brendan Flynn*

catalogue to the exhibition held October 5–November 9, 1991, at

Wolverhampton Art Gallery  
Lichfield Street  
Wolverhampton WV1 1DU  
tel: (0902) 312032

exhibition organised by Brendan Flynn, Keeper of Fine Art

portrait of Wenyon & Gamble © Pete Addis 1988  
photograph of *The Heavens* at Apollohuis © Peter Cox 1990  
all other photographs © Wenyon & Gamble 1984–91  
reproductions from Newton's *Opticks* courtesy Royal Greenwich Observatory archives  
text copyright: the authors

music for *The Heavens* by Felix Jay 1991

Wenyon & Gamble's residency at Royal Greenwich Observatory funded by South East Arts and the RGO

material support from Celco Ltd and Marlin Lighting Ltd

further support for this project in the form of an artists' grant from the Shearwater Foundation, New York

ISBN 0 947642-18-8



**Library of Royal Greenwich Observatory, Herstmonceux Castle, 1987**  
black and white photographic transparency

## Observations

Holograms can deceive, straining the ordinary distinction between object and image, real and recorded. Defining what one sees in a hologram has intrigued us since we began using this medium over ten years ago. The tensions between what is an illusion and what can be seen as real, can even exist within the hologram itself. Such sensitivities were in our minds in 1987 when we took up the post as artists in residence with the Royal Greenwich Observatory.

For most of its history, astronomy has been a matter of interpreting optical images, as seen through telescopes. In the realm of optics, the physical basis of holography – light

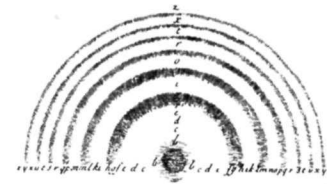
– overlaps with that of astronomy. We decided to make the science of light the subject of our investigations. Rather than commenting directly on the aesthetics of nature as revealed by science – the beauty of the cosmos – we set out to refer to the conceptual process of science and its visual manifestations.

The Royal Greenwich Observatory was founded in 1675, making it the oldest scientific institution in Britain. We were fascinated by a beautiful library of astronomical books, charts, and photographs housed in the Observatory, as well as a separate archive of the most rare historical books on optics and astronomy.



The scientific study of optical instruments started in the 17th century, motivated largely by the desire to improve the telescope. Sir Isaac Newton's *Opticks* was published in 1704, and the Observatory's archives contain a first-edition copy presented by the author. Like an artist making studies, much of it is speculative experimentation,

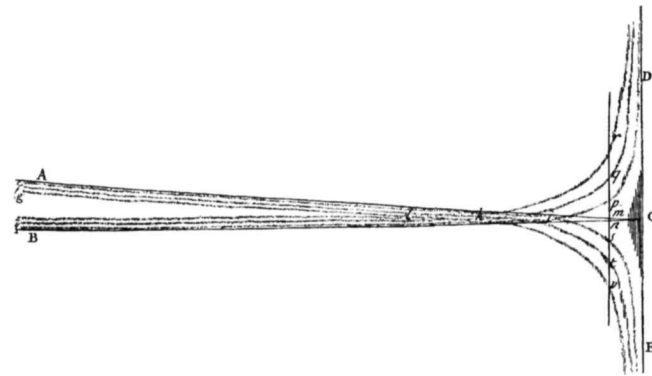
often inconclusive. He describes, for example, how he focused a beam of sunlight through holes, lenses or prisms, throwing patterns and colours on a paper screen. Newton made his own drawings from these observations. This activity reminded us of our use of mirrors, lenses and pin-holes, and resembled the making of holograms in



Newton's Rings  
from *Opticks*, 1704

many practical details. It occurred to us that there are conceptual strategies in contemporary art practice, often drawing on scientific attitudes and thinking, which did not exist in the art of Isaac Newton's day.

We decided to use Newton's technical observations as a starting point for an aesthetic investigation in holography. The phenomena of light interference and diffraction, which were behind many of Newton's experiments, are the basic properties which enable the hologram to work.



**Observation 10:** "When the Fringes of the Shadows of the Knives fell perpendicularly upon a Paper at a great distance from the Knives, they were in the form of Hyperbola's..."—Isaac Newton, *Opticks*, 1704

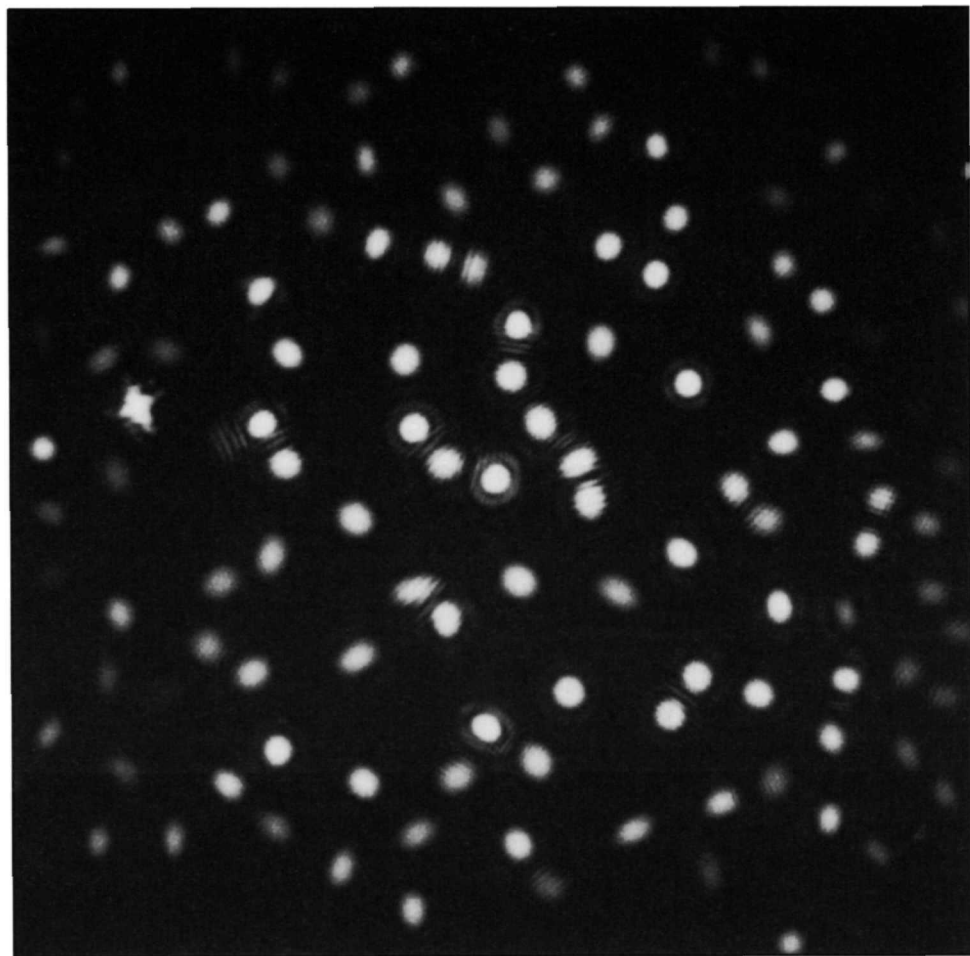
Sir George Airy (1801–1892) gave his name to an optical form called Airy's Discs, a disc with rings around it, that appears as the optical image of a star in a telescope. It is an effect of diffraction. Exactly the same form is produced when a laser beam diffracts through an aperture. By generating our own Airy's Disc we had

direct access to the same optical form as appears in a telescope star image. Using these forms in holograms, we aim to invest these images with a peculiar power of allusion.

Susan Gamble  
Michael Wenyon  
Tsukuba, Japan  
August 1991



Studio at Herstmonceux Castle



**Airy's Discs, Cluster, 1988**  
black and white photographic transparency

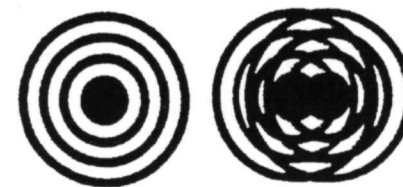


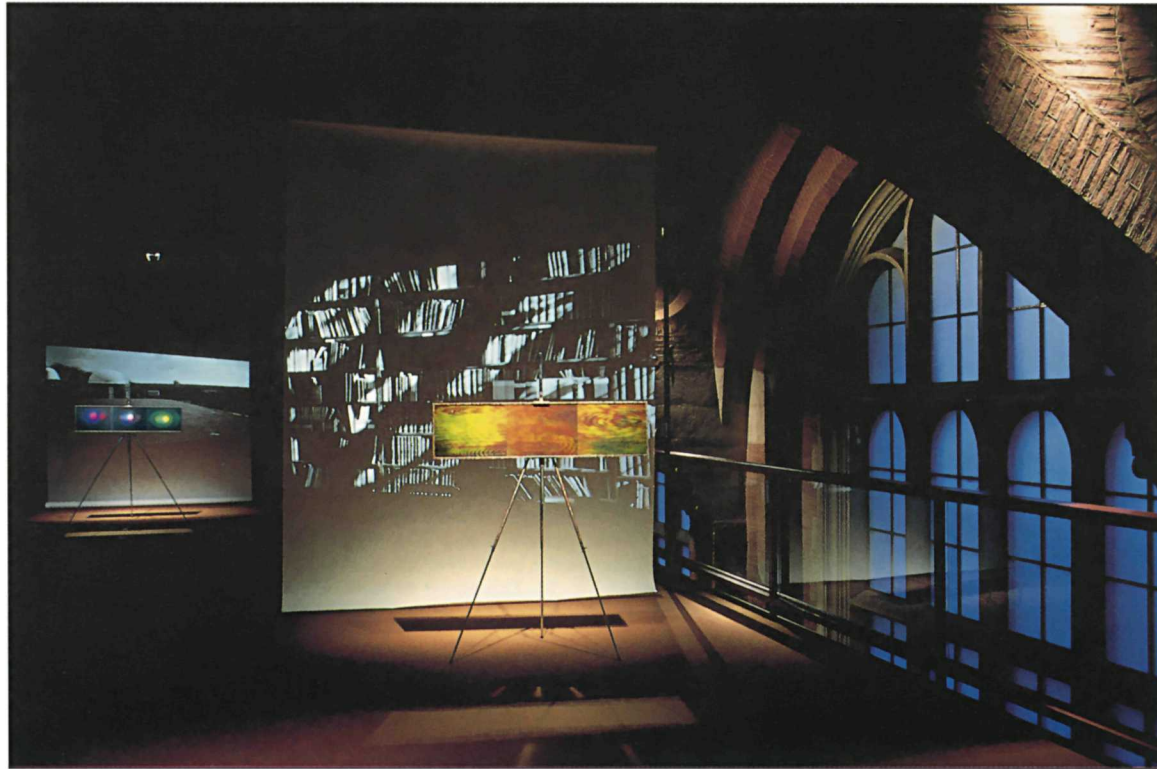
Fig. 92.

Fig. 93.

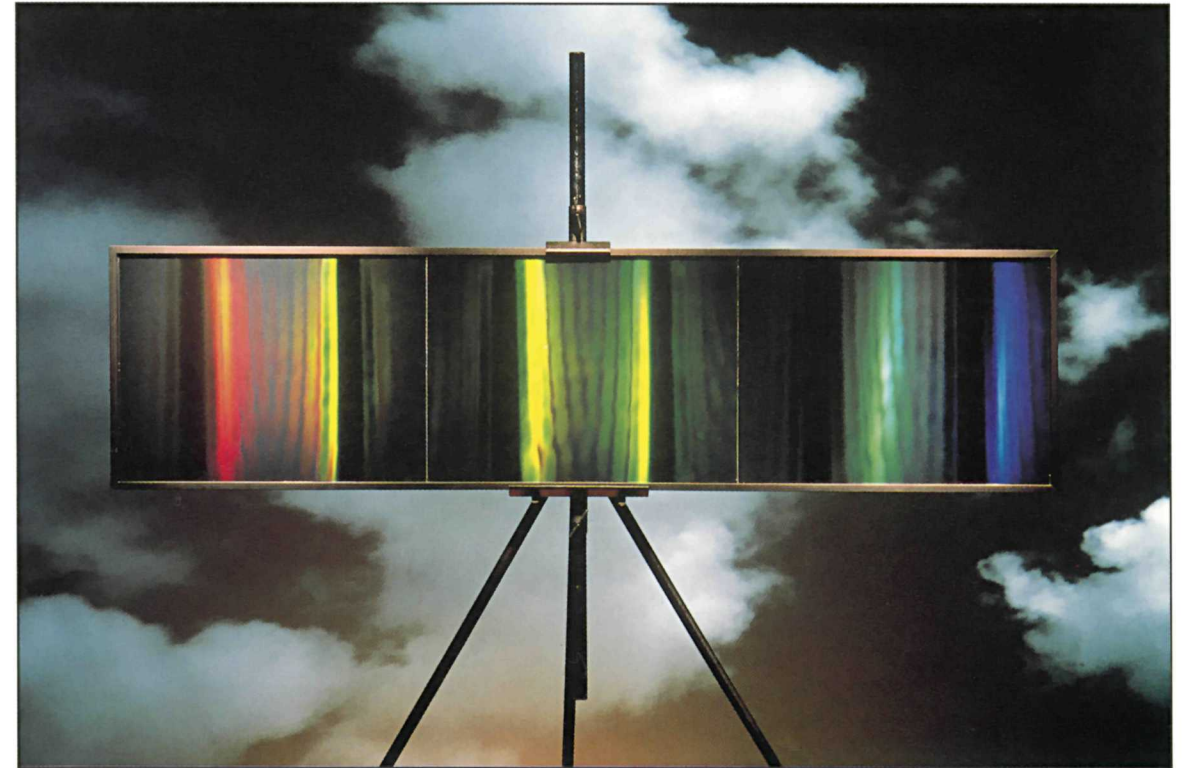
71. Resolving Power of Telescopes. It has long been known to all astronomers working with high powers, that the image of a star in a telescope has the appearance roughly represented in Fig. 92, and it is a matter of experience that a close double star may be recognized as such when the relative position of the stars is not closer than that represented by Fig. 93. This allows us to calculate the angular distance between the closest double star which the telescope can recognize as such.

from *The Theory of Optical Instruments*,  
explanation of the affect of Airy's Discs





*Airy's Discs, 1988, (left) and Newton's Rings, 1987 (right),*  
two 300 x 1200 mm holograms on easels, photographic projections on paper backdrops,  
installation at the Musée des Augustins, Toulouse for FAUST festival, October 1988



*The Fringes of the Shadows of the Knives, 1987*  
300 x 1200mm hologram on easel, photo-projection background

# Installations

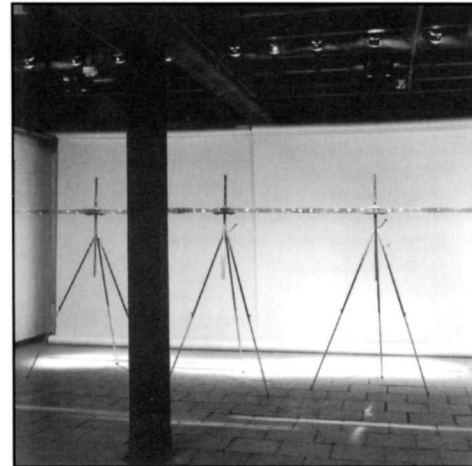
We think of this medium as 'working with light', so we began to use other devices that also employ light to produce more expanded and theatrical installations designed around the hologram.

We found these other devices in the language of film or theatre—for example, in the series on optics we project black and white photographic images from the Observatory behind the hologram, using the key-stone effect to give a false sense of perspective and the photograph to provide a context in the manner of scenery.

In this way we build sets or stages. In *The Heavens*, blue floodlight provides a back-

drop like a theatrical cyclorama. The hologram is an illusionary image, and we wish here to reveal its inherent artificiality. We present the four holograms as four simple strips of clear glass on easels. The image in the holograms are fields of star-like points of light in an optical form found in the star images of a telescope. The image space 'contained' in the holograms is much bigger than the holograms themselves and coexists with the space of the room it is in. The holographic space is accessible, or visible, only through the narrow

aperture of the hologram slit. The infinity that the small holograms allude to is echoed by the infinity of the large blue cycloramic sky—*W & G.*



*The Heavens*, at Apollohuis, 1990



*The Heavens*, 1989

four holograms, 42 x 1600mm, on painted easels, blue floodlighting,  
installation for MultiMediale Festival, Zentrum für Kunst und Medientechnologie, Karlsruhe, Germany



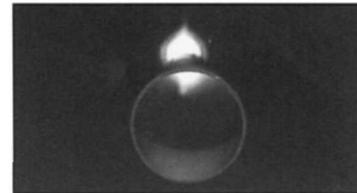
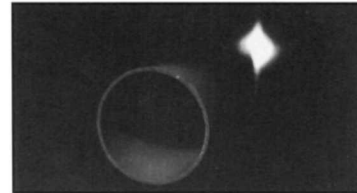
# Stella Maris & Radii

The image in *Stella Maris* consists of optical caustics, a complex pattern and phenomena inherent in light which can be seen underwater (as light passes through water) and in certain astronomical observations of stars. Caustics are recently of interest in optical physics because they behave according to the mathematics of catastrophe. They are random and chaotic. The optical caustics seen here are real, not simulated by drawing or computer; they remain an optical form in holography.

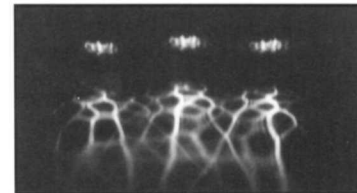
In *Radii*, large Airy's Discs appear through tubes, as if a star through a telescope. The differing sizes and

angles of the image are due to the effect of colour on the human eye, they only appear to be different.

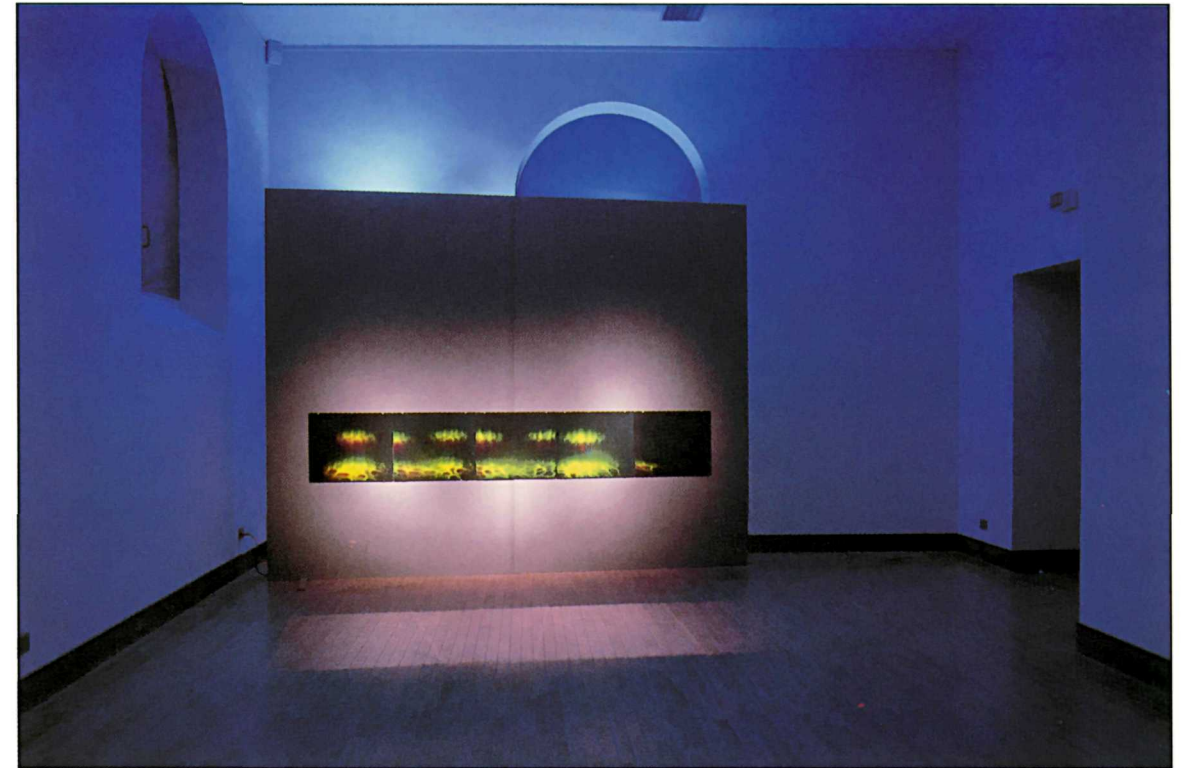
We present these works together, in an installation modelled on the telescope dome. We see them standing conceptually as a pair, representing two contrasting paradigms of science: *Stella Maris* is a complex and broad landscape, *Radii* is elemental, atomistic and narrow. The contrast parallels a wider difference between the more subjective and relativist picture of reality embraced by modern science and the isolated, absolute world view pursued by the Victorians – *W & G*.



Radii (detail)



Stella Maris (detail)



Stella Maris, 1989/91

five 500 x 600 mm holograms on constructed wall 2.8 m high and 3.6 m wide, blue floodlighting, installation for Les Artistes et La Lumiere, Centre National Art et Technologie, Reims, France, 1991

Susan Gamble

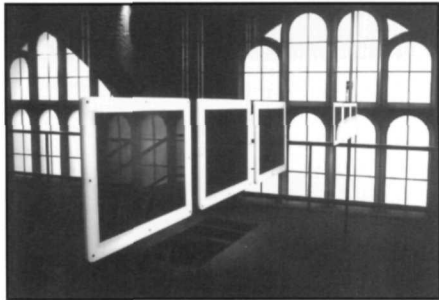
b 1957 London  
Studied art at Winchester School of Art (1975) and Goldsmiths' College, London (1976–79)

Michael Wenyon

b 1955 Dayton, Ohio, USA  
Studied physics and optics, Bristol University (1974–77) and Imperial College, London (1978)

Wenyon & Gamble

- 1980-84 met and worked at Goldsmiths' Holography Workshop, Goldsmiths' College, London
- 1983 partnership formed
- 1987 Artists in Residence, Royal Greenwich Observatory
- 1990–92 visiting professors Institute of Art & Design University of Tsukuba, Japan



Musée des Augustins, Toulouse, 1988

Individual Exhibitions

selected

- 1983 • Butler Gallery, Kilkenny Castle, Ireland
- 1984 • *Wenyon & Gamble: New Holograms*, Glynn Vivian Art Gallery & Museum, Swansea; The Cooper Gallery, Barnsley, • Gallery Peter Ludwig, Köln
- 1985 • *Speckle Holograms*, Goldsmiths' College Gallery, London
- 1986 • Williamson Art Gallery & Museum, Birkenhead • Salisbury Library Gallery
- 1987 • Ramsgate Library Gallery & Museum
- 1988 • Musée des Augustins, Toulouse (for FAUST festival)
- 1989 • *The Heavens*, installation for MultiMediale Festival, Zentrum für Kunst und Medientechnologie, Karlsruhe
- 1990 • Het Apollohuis, Eindhoven

Group Exhibitions

selected

- 1981 • *Spotlights and Glass Plates*, Goldsmiths' Holography Workshop Goldsmiths' College, London
- 1982 • *The Holography Show* (tour, organised by W & G): Orchard Gallery, Derry; Ulster Museum, Belfast; Chapter Arts Centre, Cardiff; Wolverhampton Art Gallery; Spectro Gallery, Newcastle; Stoke-on-Trent City Museum and Art Gallery; Aberystwyth Arts Centre; Williamson Art Gallery & Museum, Birkenhead
- 1983 • Interference Gallery, Toronto • *Light Vistas, Light Visions* Moreau Gallery, St Mary's College, Indiana
- 1984 • *Licht-Blicke*, Deutsches Filmuseum, Frankfurt
- 1985 • *A Imagem Holográfica*, Calouste Gulbenkian Museum, Lisbon (exhibition curated by W & G) • *Artware*, InterMedia Congress, Hamburg • *Holography*, School of the Art Institute, Chicago

- 1987 • *Towards A Bigger Picture (part 1)* , Victoria & Albert Museum, London • *Künstlichkeit und Wirklichkeit*, Volkshochschule, Wuppertal
- 1989 • *Towards a Bigger Picture (part 2)*, Tate Gallery, Liverpool • *Critic's Choice*, Air Gallery, London • *Artec*, International Biennale, Nagoya • *3-Dimensionele Fotografie*, Perspektief Gallery, Rotterdam
- 1991 • *Les Artistes et La Lumiere*, Centre Nationale Art et Technologie, Reims • *High Tech Art*, Matsuya Ginza department store, Tokyo

Work in Public Collection

- Victoria & Albert Museum, London



Glynn Vivian Art Gallery & Museum, Swansea, 1984

Catalogues and Books

1978   Wenyon, Michael, *Understanding Holography*, David & Charles Ltd., Newton Abbot and Arco Publishing Inc., New York

1984   Briers, David, “Duped by Their Art”, in catalogue *Wenyon & Gamble, New Holograms*, Glynn Vivian Art Gallery & Museum, Swansea

1985   Wenyon & Gamble, in catalogue *A Imagem Holográfica*, curators’ introduction and artists’ statement, Calouste Gulbenkian Museum, Lisbon

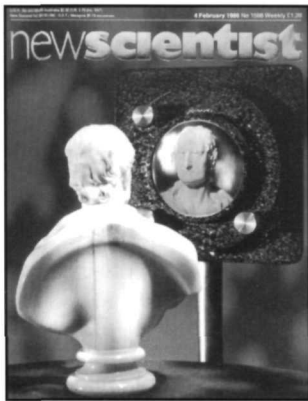
1986   Blekenhorst, Tom and van Berkum, Ans, *Science\*Art*, Fentener van Vlissingen Fund (foundation), Utrecht: 58–59

1987   Galloway, David, ed, *artware*, ECON Verlag, Düsseldorf, in editor’s introduction; also statement by Wenyon & Gamble: 203–206

1987   Zec, Peter, *Holographie*, Dumont Buchverlag, Köln: 165–167

          Friese, Peter, “Die Täuschung führt sich hinter’s Licht”, in catalogue *Künstlichkeit und Wirklichkeit*, Volkshochschule Wuppertal: 54–57

1988   various authors, “British Photography: Towards a Bigger Picture”, *Aperture* (New York) 113: 59



New Scientist cover with hologram, February 4, 1989

Selected Articles

1979   Wenyon, Michael, "Holography is an Art Form, Not a Gimmick", *Design* (London), November

1981   Ellman, Lucy, "Spotlights and Glass Plates", review, *Time Out* (London), November 5

1982   Kelly, Liam, "Holograms at the Orchard Gallery, Derry", *The Irish Times*, October 20

1983   McManus, Irene, "The Holography Show", review at Wolverhampton Art Gallery, *The Guardian* (London), June 1

          Fallon, Brian, "Modern Art in Kilkenny", *The Irish Times*, September 2

1984   Saxby, Graham, "Wenyon & Gamble, New Holograms", review, *British Journal of Photography*, September 7

          Hughes, Mike, "Resuscitating a young art", review of *New Holograms*, at The Cooper Gallery, Barnsley, *Arts Yorkshire*, December/January

          van Stein, Emmanuel, "Hintergründiger Witz", review, *Köln Stadt-Anzeiger*, December 21

1985   Pollitt, Nigel, "Beam of Love", *City Limits*, London, front section, October 4; plus review of *Speckle Holograms*

          Tait, Anna, "Exposure", *British Journal of Photography* 132 No 6532 (Oct 11):1148-1149

1986   Leston, Kimberley, "Laser Days", *The Face*, London, September

1987   Capucci, Pier Luigi, *Linea Grafica*, Milan, March

          Basham, Anna, "Holograms by Wenyon & Gamble", *Arts Review* (London) 39 no. 7

1988   Titterington, Chris, "Where Art Meets Science", *New Scientist* (London) 117 no. 1598, February 4: 71 (issue features hologram on cover designed by Wenyon & Gamble)

          Titterington, Chris, "Light into Art", *New Scientist*, London, February 4 (ibid): 66–68

1989   Delfgaauw, Leo, "Towards Instruction and Pleasure", *Perspektief* (Rotterdam) 37: 13

1990   van Peer, Door René, "Grote verschillen in expositie Apollohuis", *Eindhoven Dagblad*, February 27

          Bianchi, Paolo, "Wenyon & Gamble, Kunstlerpaare", *Kunstforum International* 106: 200–202

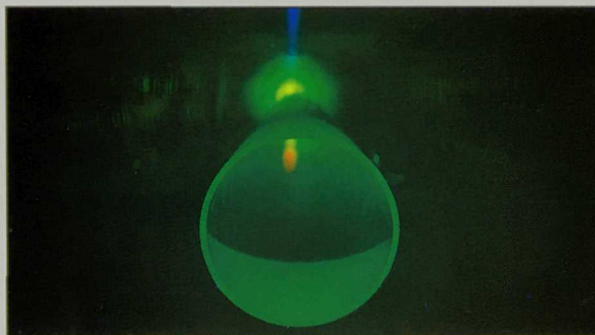
          Wenyon & Gamble, "17th Century Optics in 20th Century Art", *IS magazine* (Tokyo) 49: 75 (Japanese text)



Wenyon & Gamble Space  
Studio at Berry Street,  
London, 1990







Radii (detail), 1989/91

*front cover:* Zone One, from The Heavens, 1989

IBSN 0 947642-18-8



*W*olverhampton  
Art Gallery & Museum

