

# ART & COMPUTERS





## Foreword

This exhibition arose from an idea that there should be a display of computer-generated imagery in Cleveland. Coincidentally, it had occurred to each of us separately, in a nebulous form, but it took the collaboration of our two organisations – Cleveland County Museum Service and Cleveland Arts – to enable it to happen.

At the outset, neither side realised how little support was available for artists who use computers to make art. We were aware of the lack of large-scale exhibitions on the subject, but it was only as we were talking to artists that it became clear that this was symptomatic of a general ignorance, not to say indifference on the part of the wider art-world. It seemed increasingly important that we should provide a platform which would show the diversity of work produced in Britain. This basic concept snowballed, arousing astonishingly high levels of interest and proving how necessary the exhibition was.

'Art and Computers' is no more definitive

than any show can hope to be which is based on open submission. However, the 39 artists, chosen by an independent panel, demonstrate by their quality and diversity the richness and potential of the field, and contradict the dismissive attitude which regards all computer-generated images as a minor branch of graphic design. We hope that this exhibition will encourage greater support for this area of activity in which many British artists have been involved with distinction for many years. (The uniquely successful interaction between artists and industry in this field may be cited as evidence of this). We hope also that other curators and other galleries will be encouraged to cast wider, and dig deeper, in future explorations of the relationships between artists and computers.

We would especially like to thank Chris Briscoe, Graham Howard, Alan Sekers and Darrell Viner for their work in selecting the exhibition; the selectors were offered inclusion in the exhibition on the basis of a

'selectors section' and we hope that this will give a context to the final exhibits and exhibitors. We are also grateful to Robin Baker, Len Breen, Dru Harvey and Claire Nelomes for their invaluable advice and assistance in the early stages of getting the exhibition off the ground, and to John Lansdowne, Martin Reiser and Graham Howard for providing the introductory essays. Special thanks is also due to Janet Simmonds for all her work with the organisation of the exhibition.

Finally, and by no means least, we gratefully acknowledge the financial help of Northern Arts, which is in keeping with its forward looking policy and practice of support for new challenging projects.

STEVE CHETTLE

Visual Arts Officer  
Cleveland Arts

MIKE HILL

Museum Officer  
Cleveland County Museum Service

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## John Lansdown Computer art: A personal reminiscence

Twenty years ago and with admirable prescience, Jasia Reichardt and her colleagues at the Institute of Contemporary Arts in London recognised the potential impact of computers on the way we perceive things and began putting together a set of works which could loosely be termed, 'computer art'. This collection formed the basis of the seminal exhibition, *Cybernetic Serendipity*, held at the ICA from August to October 1968 and is remembered with affection by all who saw it. As comprehensive a coverage of work as could be expected in such a new and burgeoning area, it introduced many artists and designers to computers for the first time. However, it still omitted some activities which we would now regard as central to the interests of computer artists. In particular – and for all sorts of understandable reasons – the use of live computing was minimal.

August 1968, too, saw another significant event in the history of the subject. This occurred at a large computer conference – the IFIP conference – held in Edinburgh where the prizes for an international competition of computer music were being presented. At the presentation ceremony, a pioneer of computing (and, incidentally, the inventor of the program subroutine), Stanley Gill, suggested that the world-wide interest of artists, sculptors, poets, composers and so on was such that the British Computer Society should form a Specialist Group devoted to computing and the arts. Taking up his suggestion, Alan Sutcliffe, himself a pioneer of computer music and one of the prizewinners, called for a meeting of those interested. In a room at, of all strange places, the London School of Hygiene and Tropical Medicine during October a few of us met to form the Computer Arts Society.

At the outset, those active in the formation and running of the Society believed that it was needed simply to perform a pump-priming role. We thought that the reasons for its existence would only be temporary and that, in a few years, it would wither away as the use of computing in the arts grew so commonplace as not to require a body devoted to its nurturing. We argued about what the group should be called and about what arts should be included (and excluded). We argued about applying aesthetic judgement to the works of members – suggesting among other things that those who saw computer art in terms of the then prevalent 'Snoopy' teletype pictures should not be allowed to join. Bizarrely, we even argued about drawing a distinction between digital computer arts

and analogue computer arts.

In the end, we formulated a constitution which simply said that we were there 'to encourage the use of computing in the arts and to act as a forum for the exchange of ideas in the subject.' Anyone was allowed to join and all could have their own views of what constituted or did not constitute 'computer art'. This open door policy encouraged a large membership both in the UK and overseas but tended to alienate some artists – especially those who took a more partisan view of their talents. It still does.

To illustrate the scope and potential of computer art as we saw it, we organised a show, *Event One*. This was a three-day event held at the Royal College of Art, London in the Spring of 1969. Its impact was far-reaching and should be seen as complementary to that of *Cybernetic Serendipity*. Although an extensive and hitherto unseen collection of wall-hung graphics was included, one of our primary aims was to illustrate the possibilities of live computing and performance arts and many of the exhibits were designed to do this. Because of the professional interests of some of the organisers, too, architectural applications received considerable emphasis. Animated film, poetry, dance, music, drama and what now would be called 'installations' all featured in this show and, probably for the first time ever, people were able to see computers in action producing artworks or, more often, creating instructions for people to assemble or act out artworks.

Because of the acceptance of computing by musicians and composers as well as the growth of organisations exclusively devoted to the subject, less and less of Computer Arts Society time has recently been given to computer music. This is in contrast to the early days when the subject tended to dominate our discussions. Indeed, the majority of our Honorary Life Members until recent years were composers: Xenakis, Wiggen, Zinovief, for example. With the passing of time, the need for our pump-priming role has grown smaller but it has far from disappeared. We still contribute some of our effort to exhibitions: sometimes of a permanent nature like the computing gallery at the Science Museum in London (where we also hope to do something for the bicentenary of Charles Babbage in 1991) or of a more fleeting kind, such as the recent SIGGRAPH retrospective at Anaheim, California.



Many of our members now exhibit or perform their work on a regular basis and other are represented in public galleries all over the world. Some, we are pleased to see, no longer find it necessary to stress the role that computing plays in their art. Others, such as Manfred Mohr, rarely mention it at all. Some, such as Harold Cohen, use the computer as a 'smart apprentice' extending by algorithm and rule-based techniques their own form of creativity. Others, perhaps the majority, use the computer simply as a tool.

We need perhaps to consider whether using the computer as a tool just to make pictures faster or more accurately or with greater 'realism' is the way to go. However, it would be wrong now to raise

again the question that plagued us twenty years ago and which we could not answer: 'Is there any value at all in using the computer to assist existing arts or should it be used to develop arts we have not yet dreamt of?'. That question no longer has any meaning. But, inevitably the gallery situation gives rise to the need to collect together static pictures and sculpture. The organisers of this exhibition are to be congratulated on bringing together those that they have - it is certainly not much easier to do this now than it was in the 1960s. The artefacts they show need to be seen and discussed at a serious level. The need to be judged in the context of art generally and of computer art in particular. But, as you go round the exhibits, remember that they are not the whole of computer art.

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## Martin Reiser

### Computers and the artist today

Twenty years on from the heady optimism of Cybernetic Serendipity at the ICA, and Computer Art has obstinately refused to come of age, either as an acceptable discipline for the majority of Fine Artists or as a new mass art bringing visual culture out of the gallery and onto the video screen. Claims may vary, but there have been only a handful of exhibitions in Britain dedicated to computer-generated imagery.

Before asking why this sorry state of affairs should continue during a period when computers have turned from expensive institutional machines to fast, cheap and friendly ones with universal ownership (extending their influence into every area of life), it might be useful to draw a parallel with the early days of photography. Like the computer, photography rapidly developed a vast array of commercial applications using its qualities for recording and analysis, as well as a popularity with hobbyists. It led directly, by replacing the recording aspects of art, to a new freedom of expression. From Impressionism to Modernism it proved to be a revolutionary catalyst (ironically, as art moved away from representation it also became less accessible to a mass audience: the avant-garde becoming the province of a few intellectuals and dealers).

It took photography itself a hundred years to mature as a Fine Art medium, moving slowly from apeing the structural conceits of oil painting to a new language derived from the inherent constraints of the process itself and an understanding and subversion of its own clichés. It is scarcely surprising then that Computer art is still in its formative years, still on the verge of adolescence. Today one can trace a wide variety of approaches ranging from the committed mathematician/programmer to the painter using an electronic paintbox as an extension of traditional techniques. While this variety is a sign of health, it can lead to confusion in the audience.

Why use a computer to make images? Originality may have been sufficient answer in the 1960s, but since then a distinctly critical press has accused computer art by turns of blandness, garishness, imitation of other media, intellectual remoteness and lack of humanity. All these criticisms have some substance, since by definition machine art places the artist at one remove from his work, interposing a programme or a glass screen or indirect output. But artists who avoid these dangers fall into the other sin of artificially emulating perfectly good traditional autographic methods. To some degree Computers cannot avoid their big brother associations of an oppressive and invasive ethos, used as they are by a military industrial complex for precisely these ends.

What then are computers good for? We all know that they are fast, accurate and tirelessly repetitious, able to transform images in two and three dimensions at will, to change colour displays in milliseconds, offering infinite choice with second and third chances to modify the final output. Because in the final analysis, a computer can only manipulate numbers as directed by a programme, it could be said that it is only as sophisticated as its programmer. The machine is a neutral agency. A computer artist/programmer is merely codifying his or her visual understanding

and experience, breaking it down into a series of separate steps. Taken to an extreme it can conjure misleadingly eerie visions of independent machine intelligence, as in the work of Harold Cohen (a successful painter before his conversion) whose programme Aaron embodies his visual knowledge to such an extent that it can precisely emulate his drawing style and will continue to do so long after the artist is dead and buried!

Interactive graphics systems mean that computers become an extension tool, a device for speeding up production. The Quantel electronic paintbox created for television designers was recently featured in the BBC 'Painting with Light' series. Hockney and Hodgson, seduced by the luminous colours, floundered into parodies of their normal style, partly through unfamiliarity with the medium, but also because the paintbox precludes the painter from relying on the series of controlled 'accidents', the organic accretion of paint which leads to the intuitive development of an image. Everything is reversible or alterable. You are quite literally spoilt for choice, since there is no definite final physical state beyond which you cannot go.

Computer graphics also grew out of a need for military simulators and control systems. The drive to ever greater realism has continued into television graphics and animation, with often dire results. Yet the same algorithms as those used in a flight simulator enable the artist to enter a world of hyper-realism where mathematically generated objects reflect their surroundings using techniques based on the laws of optics, such as ray-tracing and texture mapping. Again the artist can choose his expressive emphasis; compare, for example, the lazy Californian donuts of David Em, floating through star wars country, with the proto-sculptures of William Latham, whose extraordinary objects twist in a deep and sinister space with a tangible sexuality.

The mathematician Benois Mandelbrot opened the door on the symmetry of fractals, where as in nature, self-similar shapes replicate worlds within worlds. Artists like Ken Norton and Yochiro Kawaguchi were quick to turn such discoveries into their own unique universe.

The fascination of computers can lie in their unpredictability. The collaborative project for 'Feeling to See - sculpture for the blind', where Mark Dunhill and myself used the technique of 'inbetweening' to transform everyday objects into each other through protean stages, was only possible because the computer was too unimaginative to say it couldn't be done. It simply added the numbers and displayed the results.

Computer Art is a misleading term since it spills out into so many discrete areas of experiment, but it is here to stay and we are entering an intensely exciting stage in its development where the technology is catching up with its early promise. This is particularly true in timebased media where traditional barriers between live action and animation are breaking down and the potential for a new mass art like Disney's early animations is a real possibility. The growth of Desk Top Publishing with high resolution printers and



intuitive interfaces at affordable prices is attracting a new generation of artist/printmakers who worry only about the end product and not the means by which it was achieved. The advent of Hypermedia too offers to develop into a new artform combining words, music, video, animation and still pictures on video or hard disk offering the audience a self directed choice of performance.

The taste of fantasy and escapism still clings to the public

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## Graham Howard

### Transformational Images and Memory

Computers have been used for the production of images for many years now but computing has yet to become a normal part of the production of art. This may well be the result of the apparent difference in the context in which many computer images have so far appeared and the contexts that are normal to the art world. This exhibition is another step in the merging of these two cultures and, as such, allows the opening of a window onto this confluence.

The history of computer images is such that the main body of work has been part of a much larger programme that might be loosely characterised as 'the push towards realism'. Now the use of the term 'realism' is worth examining, in order that its special characteristics, here, may be understood. Realism is easily used as a blanket term to cover a multiplicity of approaches, many of which are mutually exclusive. One of the weakest notions suggests that realism is the mimetic reproduction of the world; a mirror held to the natural world. This weak realism has often been called naturalism. It is this weak realism that is the dominant force in the generation of computer images for the scientific and military domains. Embedded within this notion is the assumption that holding a mirror to the world, is a simple one to one process. There is a further underlying assumption that this is unproblematic and that this is the most straightforward understanding of images and their function. Weak realism is the natural bedfellow of simple empiricism and, in consequence, has played a large part in the early developments of science, especially since the seventeenth century, and in the exploitation of that activity in the development of industrial technology. At this level, clearly, weak realism has its strengths. In the twentieth century its problematic nature has become all too clear for real science. Holding a mirror to the world alters the world; the observer is part of the experiment. This realisation has not precluded the use of simple empiricism or weak realism in the progress of, what Kuhn called normal science, and its part in the technologisation of our society. Indeed, at this level, weak realism has been a powerful tool in the armoury of the technologist and has been the driving force behind the development of computer graphics. Its modes of visualisation are presently the naturally dominant ones in the production of computer images. This is important not only for the understanding of the nature of the images generated but also for the comprehension of the paradigms that have structured the technology that allows the images to be produced. The push to realism (weak realism) is still a large growth area for computer graphics and will be for some time yet. There are many new technological developments that must occur for the full potential of weak realism to be made manifest.

The strong healthy development of weak realism associated with the expansion of the technology belies its many and significant flaws as means for the re-presentation of the world, flaws which are only too plain in the face of an understanding of the history of art. Indeed, a quick look at the dominant modes of operation within art since the late nineteenth century, soon indicates the nature of the radical problematisation of this notion that has been elaborated by artists from a wide range of ideological standpoints. Realism is never raw and undifferentiated; it is always complex and ideologically structured.

In art since the 1950's two major strands of development can be detected, and it is these two strands and their intersections that

perception of Computer Graphics from macho arcade games to spinning golden logos. The world of computer imagery remains a synthetic medium in another wordly dimension. But the potential for serious and committed work is enormous. Perhaps humour and humanity will appear as the medium matures and the technology ceases to dominate the artist, but becomes as fluent as Michelangelo's chisel, tracing the inevitability of a form emerging from the solid marble block.

form the background for the placement of computer images, within art. This placement and its critical ratification will only be made clear historically but, for now, we have to grapple with its possibilities.

The first tendency is the reductive form of modernism most usually associated with Greenberg, which celebrates the creative aspect of art practice and views intuition as the determining factor in the production of images. The images themselves are seen as autonomous and their generation prior to any theoretical or critical discourse. The second views this attempt at the separation of theory and practice as strategic in a covert campaign to disable the critical purchase of art. Whilst the first promotes the image qua image, the second combines creativity with criticism to enable the transformational potential of images. The former may well show signs of epistemological doubt, without threatening its privileging qualities; the latter uses irony to elucidate both ontological and epistemological doubt.

There has been little attempt at the location of technological/electronic art within this spectrum of debate, despite a certain amount of excitement in the late 1960's. Certainly most technological/electronic art practice has celebrated either the technology itself or the status quo. If we are to progress the possibility of a genuinely transformational practice then some historical examination of the epistemological and ontological parameters of electronic art and its forebears is timely.

The work that can be produced using computers is potentially so wide ranging as to defeat delimitation, but some broad provisional outlines could be drawn that would suggest the historical resonances which it might be fruitful to consider. Computers can produce images, generate images, be used to manipulate images and in this aspect the results can be located within the history of images as such. The same may be said of computers with respect to text and the resultant location within the history of text, and similarly for sound and history of sound. Further, computers can function dynamically and combinatorially to produce a confluence of all these areas in a form without previous parallel. However, such confluences have appeared, at various moments, in other forms. Indeed it could be argued that most cultural practice involves the integration of these various practices in radically varying amounts. Whilst we read, images and sounds are fleetingly present; whilst we listen to music, images and texts are flooding our consciousness; whilst we watch television yet another proportionate conjunction occurs. But the computer empowers a new management of these bondings and codings: just as the advent of printing procured new devices and models that brought forth new forms of discourse and cultural practice, from the scientific paper to the novel. There is little possibility that at this juncture any clear view of the new electronic formations is going to emerge: it is just too early in the process. However, there are areas of previous cultural practice that can enliven and enrich the new by the range and depth of their example.

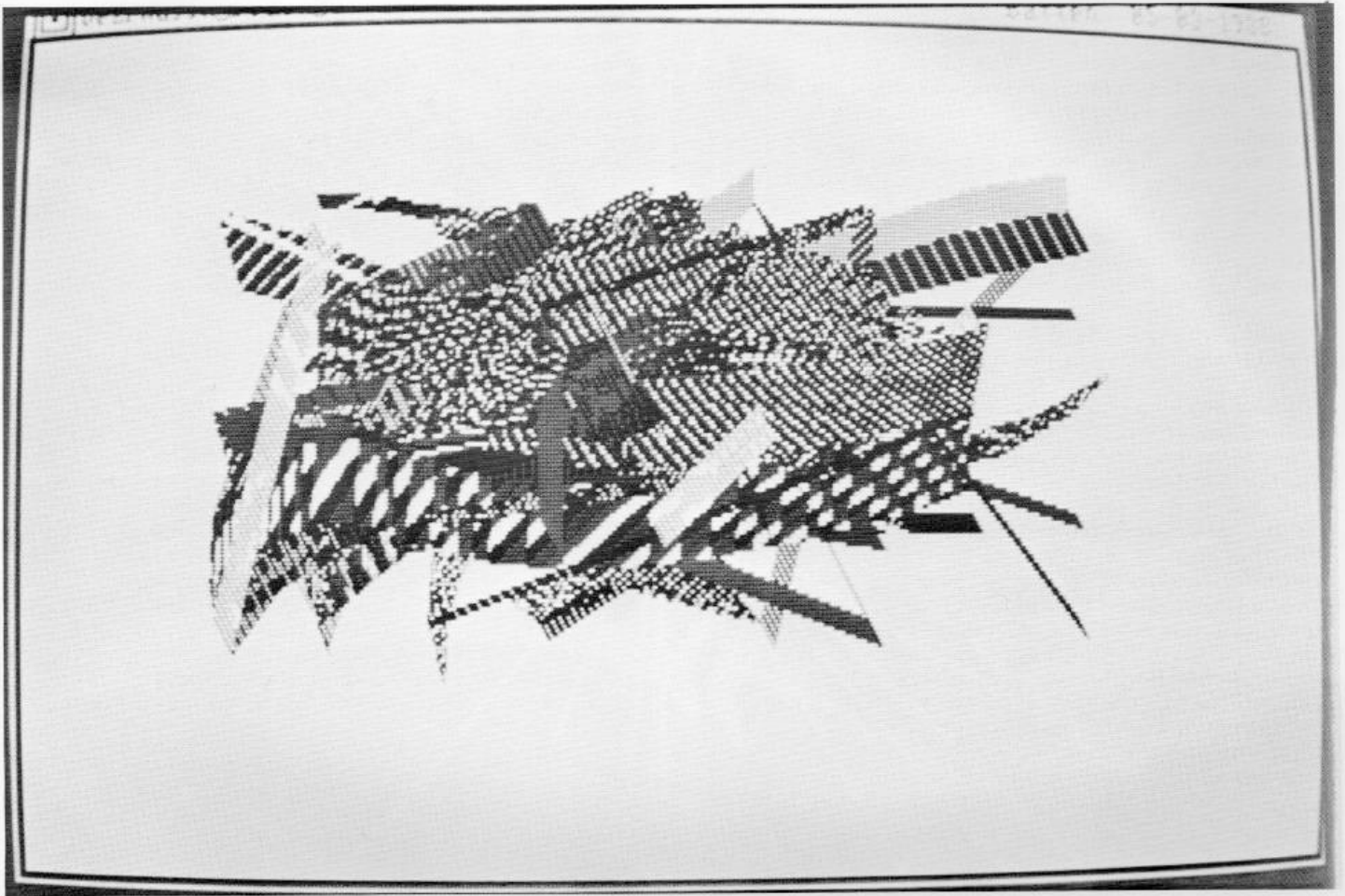
One of the significant features of the computer is its use and exploitation of memory. In our literate society in the west we have become heavily reliant upon the printed text, and much of our culture is remembered only in the printed text. Gradually, in the age of mechanical reproduction, the photographic image has

frozen our visual memory. In pre-literate medieval Europe memory played a different and important role in the cultural practices of the time. It was especially important for the church in its promotion of belief and didactic narrative. If people could not read, they were dependant upon the visual and oral world for their instruction. For those that could read, books were in extremely short supply and, therefore, very expensive. Some artificial method was required for the remembrance of texts and ideas, that would allow the literate to instruct the illiterate without the requirement of costly books. It was for this reason that the art of memory, which had been devised by Greek and Roman rhetoricians, flourished. Cicero had described in his *De Oratore* how Simonides had invented the art of memory. Present, as guest at a banquet, when the roof of the banqueting hall collapsed, Simonides, who had been fortuitously called outside by Caster and Pollux, was able to identify the mangled bodies of the other guests because he could remember the order they were sitting in. He realised that order and the formation of strong mental images were vital to the articulation of the memory. This cue was taken up by Quintilian who suggested that the most effective method was to locate each idea or thing to be remembered in a particular or striking place. Recall simply required the journey, either physical or mental, from one locus to the next in the correct order. The next step was the devising of buildings, memory houses, especially suited to the enhancement of these mnemotechnics. Some of these were actual buildings, like Camillo's theatre, others were mental constructions and yet others were images of agglomerated loci. The art of memory became an important part of culture and a significant feature in the production and use of images with texts. This led to specific elucidatory conjunctions; the priest using his memory to recall biblical texts, indexing them to the mural painting, depicting striking corporeal scenes, which, in turn, formed mnemonic loci for the audience. In the oral/aural culture, the preacher, using the powerful rhetoric of speech, articulated the image and the artificial remembrance of texts to produce a new

dominance. As printing appeared, the nature of the artificial art of memory changed to take account of the new means of representation that the technology allowed. New forms of memory system involved the elaborate use of diagrams, liberally emblazoned with texts: eventually, the printed text became the prime mnemonic device. However, for the centuries that it endured, the art of memory, with its confluence of parallel forms depicting intersecting worlds, was a potent means of representation. Its maplike qualities have immediate resonance in the contemporary use of computers for conceptual modelling and representation. Printing tended to replace this mapping ability with a linear form, the trace. The trace and its structuring aspect became the dominant mode of modern science and, until recently, of Western culture as a whole.

Presently, confronted with the possibility of weak realism driving electronic art into an ideological backwater of picturing frozen traces, we may do well to consider the lessons that might be learnt from the medieval art of memory for the dynamic mapping that computer technology can foster. Modernism has been characterised as embodying epistemological doubt ("Is this the correct trace?") and postmodernism as embodying both epistemological and ontological doubt ("What is this map and what is it of?"). If the critical and transformational drive is to be sustained in an electronic art, then its dynamic mapping potential needs to be cultured in the heat of the postmodern condition. This must not be a case of the Emperor's new clothes but a radical rethinking of the dynamic intersection of criticism and creativity, and its purchase on the intensional aspect of art mediated by the means of representation elaborated within the technology. Otherwise the art practice associated with computers will become marginalised and trivialised as another art historian's 'movement', 'Computer Art'.

## Trevor Batten



*Bezrdlingridrng*

**Born:** 16 May 1945, Hillingdon

**Professional Training (England):**

- 1962 Tunbridge Wells School of Art
- 1963 Loughborough College of Art (preparatory course)
- 1964/67 Exeter College of Art (Dip.A.D. Sculpture & Printmaking).
- 1968 Brighton College of Art (Post-graduate Printmaking).

**Exhibitions and Projects:**

- 1972 Bradford Print Biennale, Bradford, England.
- 1973 - 84 "Cross-Media Mapping Project" in collaboration with the Instituut voor Sonologie, Utrecht.
- 1981 Group Exhibition "Kunst en Computer" Haagse Kunstkring The Hague.

- 1984 Group Manifestation "Computerfestival" De Meervaart, Amsterdam.
- 1985 Group Manifestation "Computer/Computerkunst" Hogeschool v.d. Kunst, Utrecht.
- 1986 Group Exhibition "Digitale Beelden" Bonnefantenmuseum, Maastricht.  
Group Exhibition "Electronic Eye" Watershed Gallery, Bristol, England.  
Group Exhibition "CAD/CAM International" De Hallen, Kortrijk, Belgium.
- 1987 Group Exhibition: Galerie/Atelier E Zurich, Switzerland.
- 1987 - 88 Group Exhibition "Ars Ordinata" De Krabbedans Eindhoven,
- 1987 Participant "Synthesis: Visual Arts in the Electronic Culture" International UNESCO seminar, Offenbach/Main FDR.

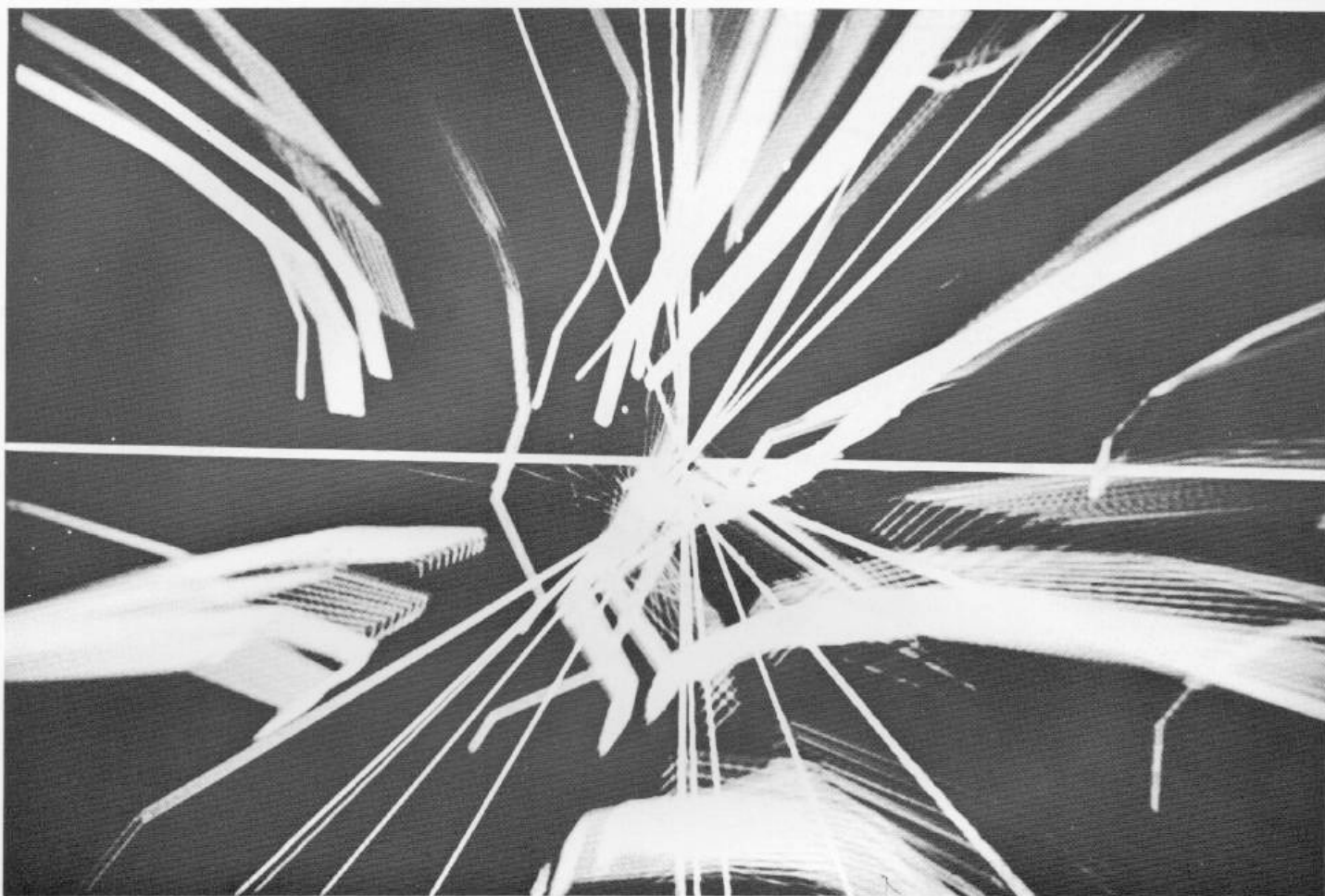
**Statement:**

The meglomaniac artist from misunderstanding creates universa of defining rules to pattern the bits and keep the electrons dancing to his exploratory imaginations

Meanwhile the digital self portrait semi-autonomous inter-universal mapping machine bootstraps itself to further complexity and maybe understanding



## Stephen Bell



*Still From Computer Animation – 'Smallworld'*

**Born:** 1955, Rugby

**Current Activity:**

Research Technician in the Loughborough University of Technology Computer Human Interface Research Centre (LUTCHI), studying towards a Ph.D., subject of study being interactive computer art.

Sessional Lecturer at the Fine Art Department of Reading University.

**Exhibitions:**

1979

EXP at PCL, Concourse Gallery, Polytechnic of Central London.

1981

International Festival of Electronic Music, Video and Computer Art, Brussels.

1984

The Art of Communication, Exeter University, Exeter.

1984

'Notional Grids', University of Kent Library.

1985

'Computer Generated Images', Gulbenkian Theatre, Canterbury.

1985

'Computer Generated Images', Draughting, Design & Graphics Exhibition, London.

1985 - 86

'Computer Generated Images', Ikon Gallery, Birmingham.

1986

Selection from 'Computer Generated Images' plus videotape, in 'Art Science and Industry', at Consort Gallery, Imperial College, London.

1987

'Smallworld', in 'Fearful Symmetries' art show at 1987 World Science Fiction Convention, Brighton.

1987

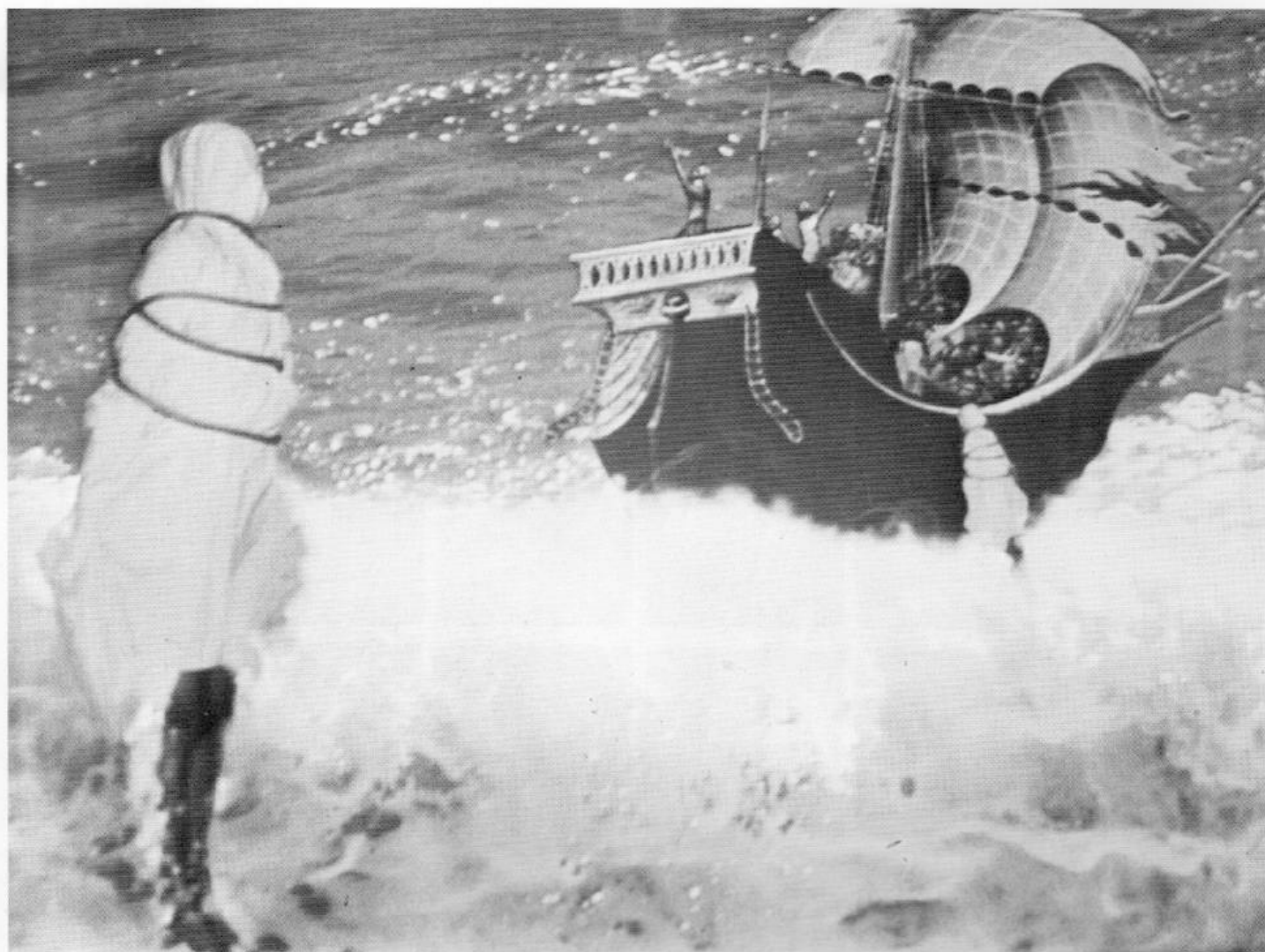
Photographs from 'Smallworld' and video recordings in, 'Seven Artists', University Art Gallery, Reading.

**Statement:**

Smallworld is the title I use to refer to a collection of programs that I have been working on for the past four years or so. Rather like the brush that has had several new handles and more than a few heads the Smallworld of today has a lot in common with the programs of a few years ago. In fact some of them are effectively the same programs. New programs have been added, however, and old ones refined so that different aspects of the work can be realised.

In their current state the Smallworld programs enable movement and pressing of buttons on a computer 'mouse' to cause changes in the apparent movement of shapes in a 3D space, drawn in a perspective projection on a colour screen of a computer monitor.

The way the movements of the shapes on the screen change depends on the kind of input from the 'mouse'. Some of the rules that are written in the programs become evident through comparison of the effects of different inputs from the mouse on the apparent movement of the shapes in the space depicted on the screen.



*Virginal Shipwreck*

**Born:** 1953, Shipston on Stour

**Education:**

Foundation Course at Mid-Warwickshire College, Leamington Spa; Fine Art BA Hons at Coventry Polytechnic.

**Art Work and Exhibitions:**

1979

Mask Photographs.

1979 - 80

'Seven Deadly Sins' Video, photographs and drawings; exhibited at the Lanchester Gallery as work in progress.

1981

'The Stripper' photographs and video.

1982 - 86

Transformed English Proverbs in various media. Photographs, electronic montages, embroideries, drawings and short video pieces.

1986

Fragmented Viewpoints; a photographic work with texts documenting a year long view of my childrens' worlds.

1987 - 88

Proverbial Cartography — electronic montages and large scale embroideries dealing with the ambiguities in a womans' political position.

**Statement:**

**PROVERBIAL CARTOGRAPHY**

The work is concerned with a personal viewpoint of women's positions with reference to oral traditions, historical reading and contemporary concerns, both politically and in the internal/formal structuring of art-works.

Taking English proverbs as a starting point and exploiting their inherent idiosyncratic and bizarre qualities the combination of possibilities of journeys, patronesses, naivety, maps, allegories and martyrdom is an extremely fertile ground for the elaboration of political ideas. Electronic montaging enables the re-articulation of the oral and proverbial tradition in the context of contemporary issues.

'WINTER AND WEDLOCK TAMES

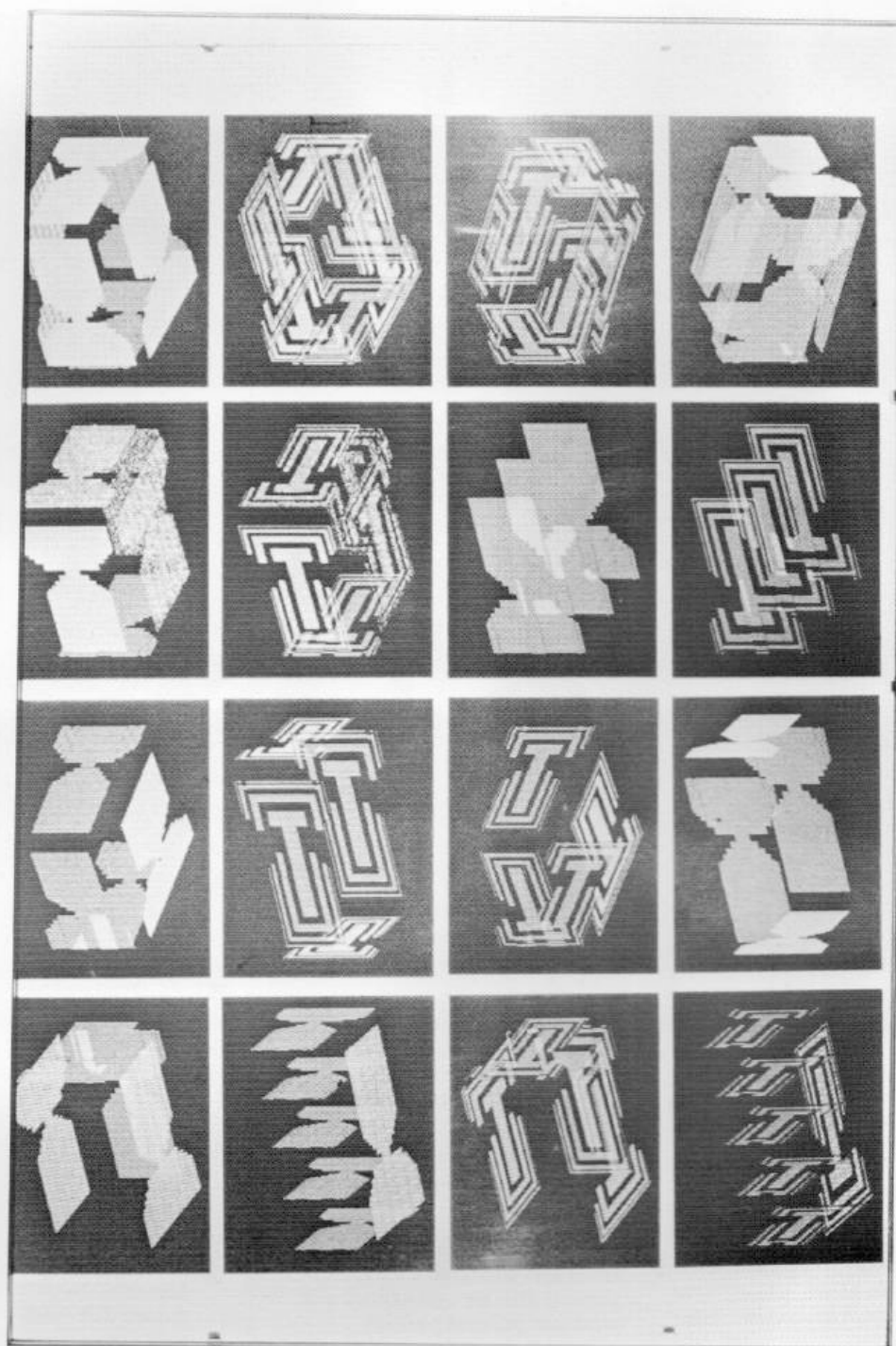
ALL' (1986)

This piece of work was initiated by the reading of E.P. Thompson's 'Whigs and Hunters'. In the early C18th laws were passed that vastly increased the number of crimes punishable by hanging. It became the fashion for people to wear wedding clothes to go to their deaths. Their crimes were often petty but all were infringements of the newly acquired 'landowners' rights' and indicate the rising importance and awareness of property and materialism. The second important theme is the strong analogy between marriage and death so often found in the popular oral tradition.

'VIRGINAL SHIPWRECK' (1987)

The religious tale of St Ursula and the shipwreck of 11,000 virgins seemed too preposterous a myth to ignore. The work challenges traditional Christian views of the virtue of virginal passivity and contains humorous dire warnings against introversion (both social and political). Elements from the C16th ideology of the Ship of Fools have also been included.

## David Bennetts



Box 26T

**Born:** Rochdale, Lancashire.

**Education:**

1954 - 56

St. Martins School of Art.

1973 - 75

MA Industrial Design, Leicester Polytechnic.

1973 - 75

Visiting Professor and Research Fellow at University of Loughborough.

1978 - 81

Staff Product Designer.

1982 - 83

Taught Computer Graphics at Plymouth.

Present

Teaching Computer Graphics at Shrewsbury College of Art and Technology.

**Statement:**

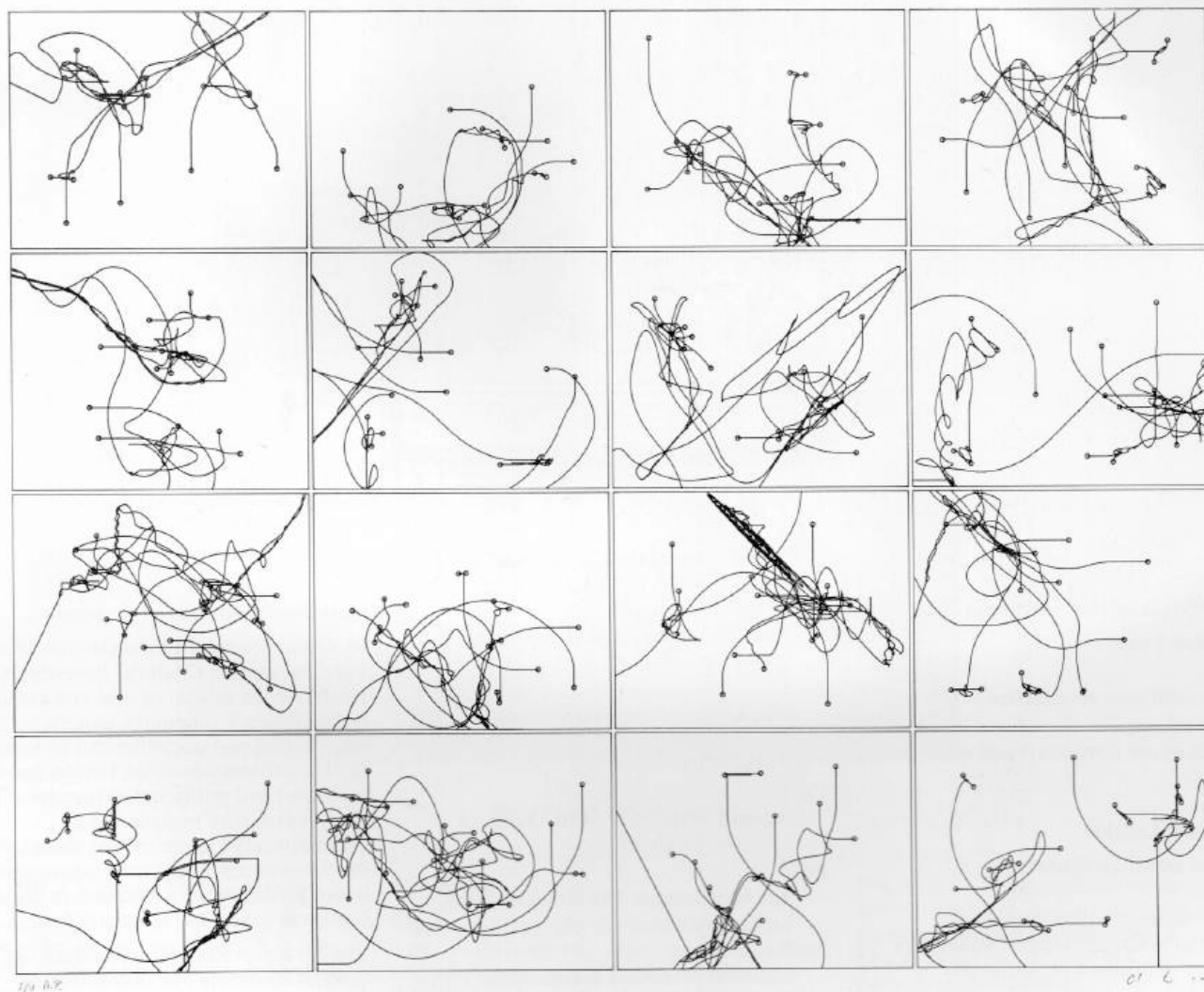
I have been fascinated with computer generated image making since 1968 since I used an IBM 360 at the University of Alberta, Canada, where I was lecturing in product design.

Returning to England in 1976, I had to wait five years to continue computer image making activity when the University of Loughborough and Loughborough Technical College bought computer graphics suites.

I bought a BBC B in 1981 and have worked with that machine to develop graphics programmes and teach the subject to foundation and BTEC art and design students.

I would like to work on more sophisticated equipment offering 3D rendering and animation opportunities.





I/V

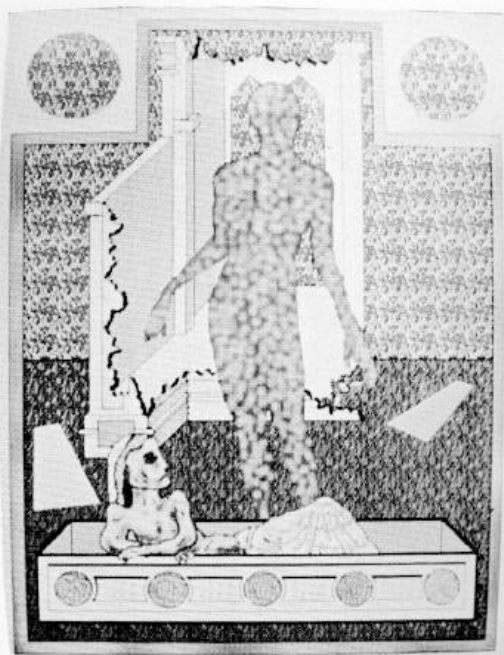
In 1974 Chris Briscoe was invited to set up the computing and experimental department of the Postgraduate School of the Slade School of Fine Art, University College, London. It became one of the leading academic centres for computer graphics in Europe, the only one of its kind to be based in an art and design faculty. During this time he also acted as a consultant to UCL Engineering Department, UCL

Computer Science Department, University College Hospital Medical Physics Department, and to private industry.

His work for medical physics involved the 3D graphics simulation of facial reconstruction surgery. It was during this research that he realised that the techniques he was developing could be used in motion picture production. He presented a paper on his work in Medical Physics at the 1982

Hospital Physicists Association Annual Conference, and he has appeared in editions of the BBC computer education programme.

In January 1982 Chris founded Digital Pictures, which is now Europe's leading computer animation studio providing animation for film and television.



*The Golum – 'Author'*

**Born:** 1957, Adelaide, Australia

**Curriculum Vitae:**

1975

Began full time art practice

1978

Began to use computers and other new media.

1986 - 88

Resident London.

**Education and Experience:**

1981 - 83

Music Studies – Electronic and Computer Music Composition, Elder Conservatorium, University of Adelaide, Australia.

1984

Artist's Fellowship, Australia Council/ Commonwealth Scientific and Industrial Research Organisation, National Measurement Laboratories, Sydney, Australia.

1987-88

Artist in Residence, Centre for Advanced Studies in Computer Aided Art and Design, London, England.

**Solo Exhibitions:**

1979

Adelaide Fine Arts and Graphics, Adelaide, Australia.

1982

Roundspace Gallery, Adelaide, Australia.

1985

Roslyn Oxley 9 Gallery, Sydney, Australia.

**Selected Group Exhibitions and Events:**

1984

Interface: A Survey of Art and Technology, Adelaide Festival of Arts, Australia.

1984

Ars Electronica, The Brucknerhaus, Linz, Austria.

1985

Open File: Artists and Computers, Baskerville and Watson Gallery, New York, USA.

1987

Against Invisibility, AIR Gallery, London, England.

1987

Ars Electronica, The Brucknerhaus, Linz, Austria.

1987

National Festival of Independent Video, South Hill Park, Bracknell, England.

**Statement:**

**GOLUM - SECULAR ILLUMINATIONS FOR THE LATE 20th C.**

Rendered in the manner of an Illuminated Medieval Book of Hours, but created through digital means, "Golum-Secular Illuminations for the Late Twentieth Century" refers to the ancient Jewish myth of the Golem; a human figure of clay brought to life by its sorcerer creator.

The Golem story served as inspiration for Shelley's "Frankenstein" and Goethe's "Sorcerer's Apprentice". It is a story that evokes the tragedy of human attempts to improve themselves or their world, functioning as a critique of utopian and interventionist views of existence and morality. In some ways it echoes the story of the Fall. The Golem also served in Jewish culture to extrapolate the Cabbalistic ruling against graven images – where to realistically represent was equivalent to remaking 'God's Creation', and thus a corruption of that which was already perfect. As such, an allegory of human

limitation in the face of perfection.

In "Golum-Secular Illuminations for the Late Twentieth Century" these themes are related to the advent of new and exotic technologies. Computers, genetic engineering and television can be seen as further expressions of the human need to represent and reproduce themselves. The computer can be regarded as a contemporary Golem, whilst the television functions as a sophisticated mirror upon which surface we can manipulate images of ourselves to suit our fears and desires.

The Medieval Illuminated manuscript, as a form of recording and disseminating information, was linked to an Hermetic philosophy and ideology which saw the centralisation of knowledge and power. Ironically, this cultural formula can be seen re-emerging today. As if the shift from Medieval Hermeticism to Renaissance Humanism was occurring in reverse.

The advent of such technologies and 'means of knowing' have seen the centralisation of information and the destruction of the vernacular (cultural specificity) and realism (contextualisation). Initial hopes that technology could democratise information have vanished, with the requirement of esoteric and specialised languages (literacy) for its address. Television compliments this process (best exemplified in the computer) through its homogenisation of the particular. It functions somewhat similarly to the Illuminations in old Bibles – where the images were often placed upside down so that the 'illiterate flock' could view the narrative whilst the Priest read it. The process of reading as an 'active' relationship with the 'text' is in direct contrast to the passivity of viewing. The video phosphor illuminates our contemporary mythologies – the interpretation of absent texts.



*Still From Cubicle Living*

**Born:** 1961, Cologne, West Germany

1979

Award for Colour and Black & White Photography of the Syracuse University, New York, USA.

1983

Exhibition in Cologne Teuteborger Strasse.

1984

Exhibition in Bergisch Gladbach Klatschmoon.  
"die vermessene mauer" = b.maus & p.j. bösel

1985

Exhibition "muren som billede" ("die vermessene mauer") in Aarhus Denmark Kunstmuseum.  
"die vermessene mauer" acquired by the Bibliothèque Nationale de Photographie in Paris.  
Studio Photography in Frankfurt.

1986 - 87

Middlesex Polytechnic Studies in Film & Video with computer graphics.

1987 - 88

Middlesex Polytechnic MA in Computer Art & Design Studies about Mixed Media Production.

**Statement:**

I had a photography background before I came to England two years ago. After I had explored photography in the traditional way, I became more and more interested in the idea of photo-stories. In a way that the whole presentation of photographs represent one work. In that way I could express, time or changes or give the onlooker the feeling of three dimension. The biggest work in this direction I have done with a friend Burkhard Maus, 1984. We took photographs of the entire Berlin-Wall between East- and West-Berlin. 1985-1986 we presented this work in the Aarhus Kunstmuseum Denmark. The contact sheets are acquired by the Bibliothèque Nationale de Photographie in Paris.

I have worked for five years as a freelance photographer. Through an international conference of TV-design, in Cologne by the WDR TV&Radio-Station 1986, I became more and more interested in the new media of computer graphics and computer animation. When I went to that conference I was amazed about the possibilities in producing computer graphics. My most interest in terms of computer graphics was always the combination of live action and computer graphics.

At that conference I met Dr. John Vince who told me about the facilities in Middlesex

Polytechnic. Because at that time (1986-1987) there were no full time courses in computer graphics I applied for a course in film & video production. During that year I became more and more curious in doing an animation with computers. I produced in that year the mixed video animation "CUBICAL LIVING". That was not only the first time I used computers, since I didn't have a programming background, it was also the first time I used video and editing equipment. In that work I modelled the objects with the computer using the software PICASO & PRISM (by Dr. John Vince). After six months of writing the animation software of "Cubical Living" I thought to myself, do we use computers to produce a piece of art or are we used by computers to declare art. When I wrote the storyboard of "Cubical Living" I wasn't sure if we go ahead to the future or are we back in the past. "Cubical Living" represents the circle we are working in. But in the end we are the motor and not the street and it is moving us from A to B.

Now I am doing the MA in Computer Art&Design and I think we should use computers just in the area where the computer could do something new or better than any other media. For the *output* it doesn't matter what we put in the *input*. We should start to use computers but not to be used.



## Susan Collins



*Taking the Plunge*

**Born:** 15 January 1964

**Education:**

1982 - 3

Chelsea School of Art,  
Foundation Course.

1983 - 7

Slade School of Art, B.A. Fine Art.

**Exhibitions:**

1985

"Directions in Drawing",  
Bloomsbury Theatre.  
"Slade for Famine Relief",  
Riverside Studios.  
"Riverside Open", Riverside Studios.

1986

"Desire", D.I.Y. Gallery.

1987

"Taking the Plunge" (one-woman),  
The Falcon Gallery.  
"True Colours" (Red Wedge), The  
Citizens Gallery.

1988

"Small Works", The Square Gallery.

**Video**

"Would you like to be mother?" shown  
at:

Nov. 1987

"Whitworth Young Contemporaries",  
Whitworth Art Gallery.

Nov. 1987

"Ave '87 International Art Festival",  
Arnhem, Holland.

**Statement:**

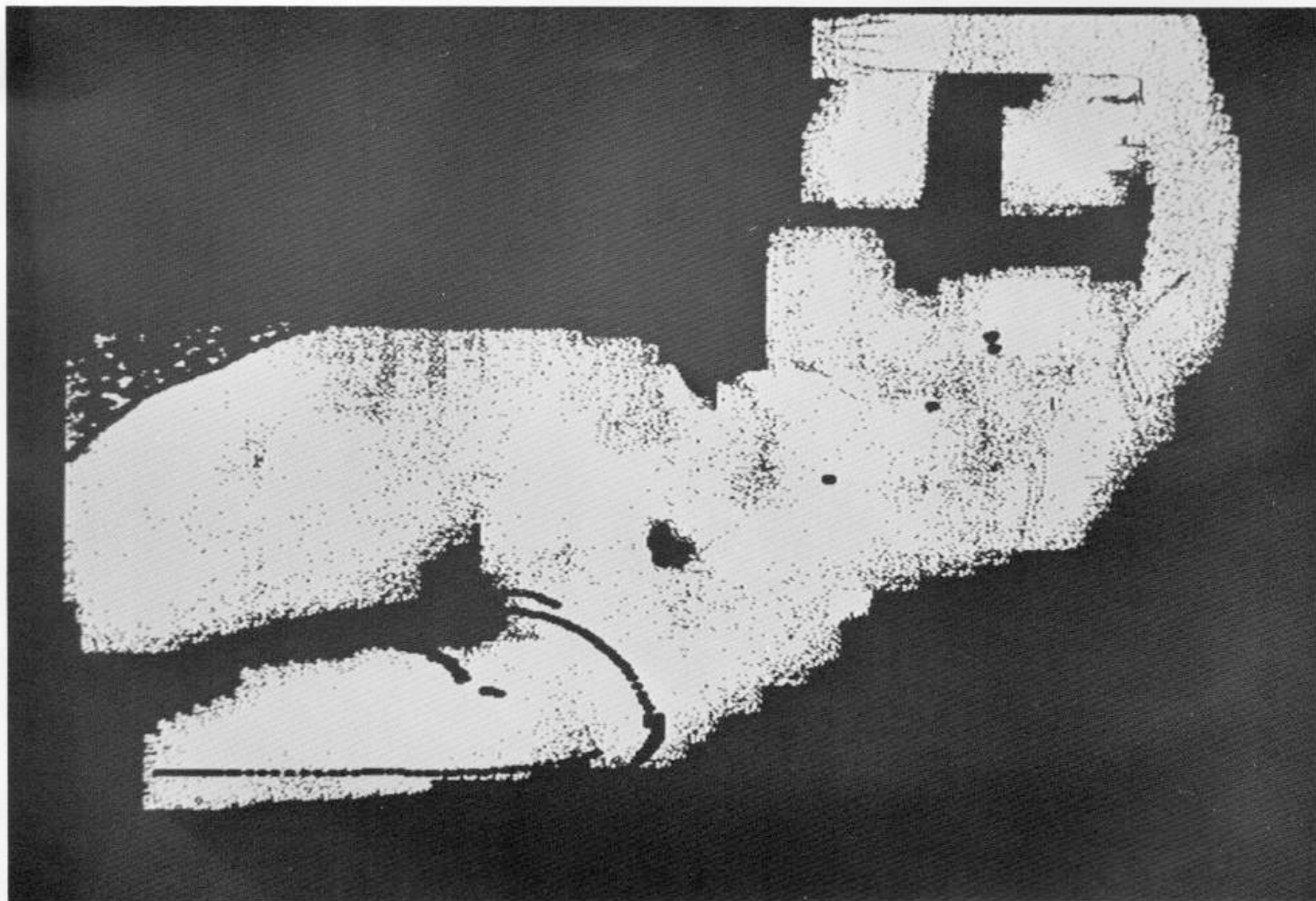
My basic interest in using a computer is as a tool, a new drawing instrument, an addition to the traditional techniques. Rather than being involved with the technology of the computer itself, I have used a 'Draw' programme, devised by research assistants at University College London on the Sun Workstations.

What excites me most about this 'Tool' is its challenge to previous concepts of the 'Original' and the 'Limited Edition' within Fine Art. One drawing can be enlarged, rotated, shaded, multiplied, united with other drawings, explored to the perimeters

of its possibilities, and yet still exist to be printed out in its initial format. The potential of even a simple ink and brush drawing can be exploited using the computer as a fast, efficient method of exploring ideas that can then feed back into other media, a valuable interchange which can serve to extend boundaries both visually and mentally beyond the computer work itself.

There is a certain enjoyable irony in using such 'inhuman' equipment and, at present, a prevailingly male dominated field, to produce Art about absurdities within human and sexual relationships, pregnancy, and other lighter female statements. The pieces I have included in this exhibition are examples of this. Five are A4 printouts of drawings explored and expanded using the Sun Workstations, and the other three collage computer drawings printed on acetate with other media.

## Richard Colson



*Reclining Nude (Yellow)*

**Born:** 1955, Edinburgh

**Studied:**

1973 - 77

Goldsmith College, University of London

1984 - 86

Garnett College.

**Exhibitions & Projects:**

1977

Royal Academy of Arts, Stowells Trophy.

1981

Waterloo Gallery, Goldsmiths' MA Show.

1982

Sandford Gallery, Covent Garden.

1981

Received Thomas Blunden Travel Award and used this to make a study of the work of Lovis Corinth in Switzerland.

1984

Illustrations for journal "Computer Answers" produced on Logica's Flair system.

1987 - 88

"Computing in Art and Design". An ILEA commissioned video which I

devised, scripted and have brought through to the editing stage.

1988

"Computers in Fashion/Textiles". London College of Fashion and Central School of Art and Design. Two day conference.

Presently working as Advisory Lecturer for Computing in Art & Design for the Art and Design Inspectorate Office, London.

**Statement:**

The work exhibited deals with similar themes as those which I tackle in my work in other media such as ink, charcoal and oil paint. I worked a great deal from life having models to sit for me in my studio, a practice I have continued since I left art school.

Having said this, working on a screen is very different to other media, and although similarities in working methods may exist, I have always wanted to exploit with computers what was totally impossible with any other means. I spend a great deal of time constructing my own user defined work tools to draw textures such as skin and also to simulate light effects. These effects are not possible at all with other media. The

colour available on screen has also been one of my major interests and I have tried to exploit both the intense colours offered by the medium and the very subtle nuances and changes in colour that can be effected.

First and foremost I consider myself to be a draughtsman and the work shown here reveals attempts to draw figures with a computer using the features that it offers to create images which are convincing not only in the way that they deal with light and shade, but also in their portrayal of movement in a static image. I am also concerned to reveal the method of creation so that the images can be recreated by the viewer thus allowing for a measure of open access to the work. I therefore have made no attempt to hide individual marks but rather have sought to underline that each image is both image and the sum of a collection of pixels on the screen. This I think is in marked contrast to the kinds of concerns which occupy the commercial world of advertising's use of computer imagery which has been largely concerned with hiding the methods by which images have been achieved thus rendering them rather closed and without sufficient depth.

## Bob Cotton



*O.R. Frisch*

### Education:

Portsmouth College of Art (Fine Art)  
Hornsey College of Art (Light/Sound Workshop)

### Exhibitions:

- 1967 AIA Gallery
- 1968 Curwen Gallery
- 1969 Museum of Modern Art, Oxford.
- 1969 Young Contemporaries
- 1973 Hebden Bridge Workshop
- 1977 Chenil Gallery (and regular one-man shows to 1983)
- 1984 'The Event Horizon' a suite of serigraphs based around developments in astrophysics 1920 - 1984.

### Current:

'The Natural History of Alamogordo' a series of prints, drawings, paintings, collage, computer graphics, storyboards, artists book etc., based around developments in twentieth century physics, from relativity and Quantum Theory to GUTs and TOEs.

### Statement:

The works in the exhibition are representative of a series of collage drawings (10" x 7", and 10" x 14") produced through the last year. Each image deals with an aspect of the discoveries in atomic physics that have taken place since 1900. The 'Natural History' deals with the events that culminated in the testing of the first fission device in New Mexico in 1945, and it has been a theme echoed in many prints, paintings, collages, digital images and drawings, produced over the last five years.

The developments in physics that have led to Grand Unified Theories (GUTs) and Theories of Everything (TOEs) – of which the Alamogordo test was a significantly visual landmark – are among the most impressive examples of man's ability to observe nature and to extrapolate generalised, testable theories from these observations. Alongside developments in other aspects of 'natural history', this work represents a major step in mankind's acquisition of knowledge. In the Arts, this scientific endeavour has to some extent been echoed in Modernism, especially in the parallel emergence of Relativity and Cubism.

Art is an ongoing examination of the relationship between 'what we know', and 'what we see', – an examination made more fascinating by knowledge that is acquired *outside* the visible spectrum. The artist is

faced with the problem of the re-presentation of abstractions, the definition of a usable iconography and the development of suitable media.

There is a special relationship between the development of the computer and the development of the atomic bomb. Vannevar Bush and John von Neuman were both involved in computer applications at Los Alamos, and the two technologies developed synchronously – so the digital 'paintbox' seemed an appropriate tool for developing images for the Alamogordo series.

The paintbox (in this case a Spaceword Nova) provides a set of image origination and image manipulation tools – including soft versions of the photo-darkroom, graphics studio, painters studio and video-edit suite – such that work traditionally involving several technical processes can be produced with a minimum of delay – and with a minimum of interruption in the creative process.

The current series of artworks includes photo-pieces derived from the paintbox and produced at several levels of screen resolution, utilising image manipulation software to scale, distort, digitally collage and recolour, as well as to produce collages integrating conventional media. Some of these pieces are subsequently worked up into paintings.



## Stephen Boyd Davis



*Reverie*

**Born:** 16 May 1953

**Occupation:**

Lecturer, Project Leader National Centre for Computer Aided Art and Design in Non-Advanced Further Education.

**Education:**

1971 - 75

Camberwell School of Art & Crafts  
BA Hons First Class.

1975 - 76

University of Leeds PG Dip Textile Design.

**Employment:**

Own Art and Design work, concurrent with:  
1976

Peter Klinger Ltd., Weaver.

1980

West Sussex College of Design, Visiting Lecturer.

1982 - 86

Barnet College Herts, Lecturer Textiles, Drawing, etc.

1986 - 87

Barnet College Herts, Lecturer  
Computer Aided Art and Design.

1988 to date

Middlesex Polytechnic, Senior Lecturer, CAAD.

**Statement:**

These pieces of work are as much an enquiry into the medium itself as they are a use of a medium to explore external ideas.

I must confess to some disappointment at much that comes from computer paint systems. In many cases, surface qualities seem to become emphasized at the expense of structure, and the medium seems to impose its own dead hand on the character of the work. In many ways, with my background in textile and surface design, I felt particularly endangered by this tendency. I also sensed that it would become all too easy for me to begin 'embroidering' the work with distracting elements, or with equally distracting fine adjustments to such a point that the work would die in front of me. This did in fact happen in less successful pieces.

As a further attempt to discipline the work, I strove to avoid the Englishness of English art by adopting a sparser and a bolder structure based on what I can only call a 'European' strength. In fact one of the external themes of the work became that of the myth of Europe, or Italy in particular, as it seemed obvious to me that I could only partake in that strength as an outsider and never as a true participant. This of course was reinforced by the nature of the medium, in that I was engaged in a minimally physical activity in a room without windows or other contact with the real world. I began to feel

like those travellers who have only journeyed by conjuring up the mental states which they believe or hope particular countries inspire, rather than by visiting them in reality.

The way I have used the medium involves several layers of deceit, with fragments of photographic imagery mixed with grossly obvious passages of printing and repainting together with some far subtler alterations and transpositions, in the hope that the observer will be for some time left unsure what has at some time existed in reality and what has not. The other principal use I wanted to make of the characteristics of the medium was in the facility to place in different colour, scale and orientation the same or similar components in several related pieces of work. Musical ideas were a strong influence here — not just the obvious analogy of musical variations, but also an attempt to evoke a similar suggestive quality to that of music through the use of shapes and objects that set off echoes at a variety of levels, whether overt or concealed. The facility that paint systems provide, to choose the exact degree of disguise which some object shall wear, seems to me one of their more interesting characteristics.

Of course the subject matter is chosen with a similar aim in view, to suggest vestigial fragments of a greater civilisation which we can admire but not recreate. This incorporates the very nostalgia which I originally set out to avoid.

## Mark Dunhill



*From Kettle to Teddy Bear to Telephone*

**Born:** 1952, Shalford, Surrey

**Education:**

1968 - 70

Dartington Hall.

1970 - 71

Central School of Art & Design,  
London.

1971 - 74

Bristol Polytechnic B.A. Hons (1st)  
Fine Art.

1974 - 77

Royal College of Art M.A. Sculpture.

**One Person Exhibition:**

1980

Felicity Samuel at Knoedler Gallery,  
London.

**Selected Group Exhibitions:**

1977

Felicity Samuel Gallery London, 'New  
Art - New Artists'.

1979

Tolly Cobbold Touring Exhibition.

1982

South East Gallery - South Bank  
Exhibition, London; Midland Group,  
Nottingham, 'Working Drawings'.

1983

Portland Quarry Exhibition, Dorset and  
Camden Arts Centre, London.

1983

Hille International, London, Museum  
of Modern Art, Oxford, Midland Group  
Nottingham (Masterpieces Exhibition).

1984

Eric Fabre Gallery, Paris, 'Pluxvalue'  
"Sculptors and Modellers" Tate Gallery,  
London; Hannah Peschar Gallery,  
Surrey.

1985

Bath International Sculpture  
Competition, Bath (Sculpture Site Bath  
University); Pallant House Gallery,  
Chichester; Canterbury Festival  
Exhibition 'Sculptors at work' working  
on site.

1986

National Garden Festival, Stoke-on-  
Trent; Sculpture in the City, Bath,  
Working on site; Workbench Gallery,  
New York.

1988

T.S.W.A. 3.D. 'Feeling to See',  
Arnolfini Gallery, Bristol. 'Stoneworks'  
- Powys Castle, Welshpool.

**Statement:**

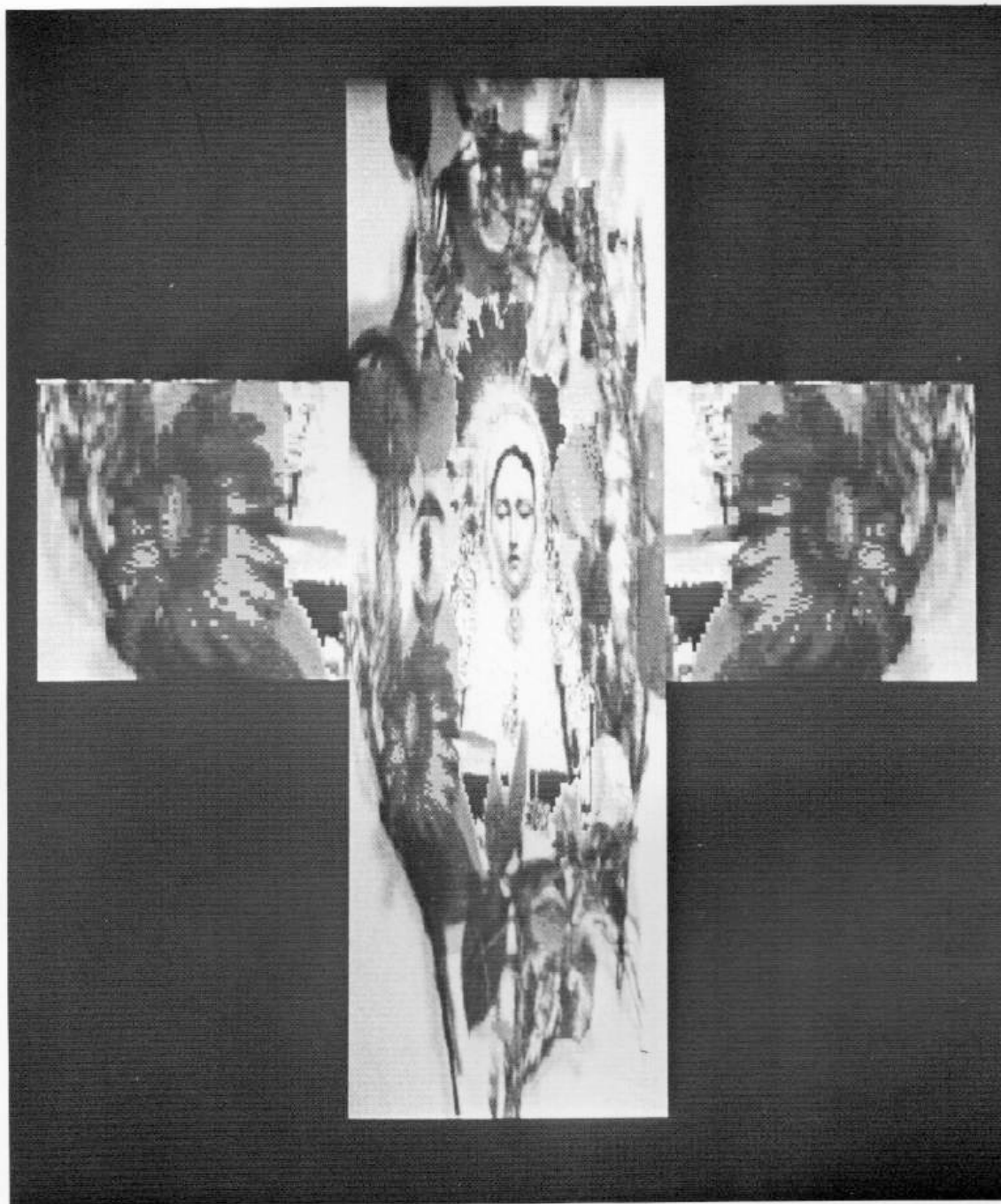
'FROM TELEPHONE TO TEDDY  
BEAR TO KETTLE' - this work grew out  
of the desire to make a series of objects that  
could be experienced primarily through  
touch and which would concentrate  
attention on form.

A recognizable, tangible form changes step  
by step into another form. It is a journey  
that can be felt through the hand and needs  
memory to connect the beginning, middle  
and end.

The computer was used as a tool to turn an  
illogical, unlikely idea into a logical  
metamorphosis of disparate forms,  
performing a task the human brain would  
think twice about taking on.

This work formed part of an exhibition  
called 'Feeling to See' held at the Arnolfini  
Gallery Bristol in 1987 as part of the  
T.S.W.A. 3.D. project.

Mark Dunhill and John Joeekes worked in  
collaboration with Martin Rieser to produce  
this piece with the assistance of Chris Hales  
and Rosalind Whittard and a number of  
students from the Art & Design Department  
at Bristol Polytechnic.



*Cross*

**Education:**

1979 - 82

Central School of Art & Design, B.A.  
Graphic Design

1982 - 85

Royal College of Art, M.A. Illustration

**Exhibitions:**

1982

2 Man show, Houston, Texas.

1983

Work in progress, R.C.A.  
Artist as reporter, R.C.A.

1983 - 84

Equal Rights Poster, exhibition national  
tour.

1985

A.O.I. Animation A/V London.  
Printed Works, Aspen, Colorado.

1986

Cock AV/Film, School of Visual Art,  
New York.  
New British Design Show, London.  
Krokodile Angel Show, London.

1987

New Scientist Cover Art, London.

**Statement:**

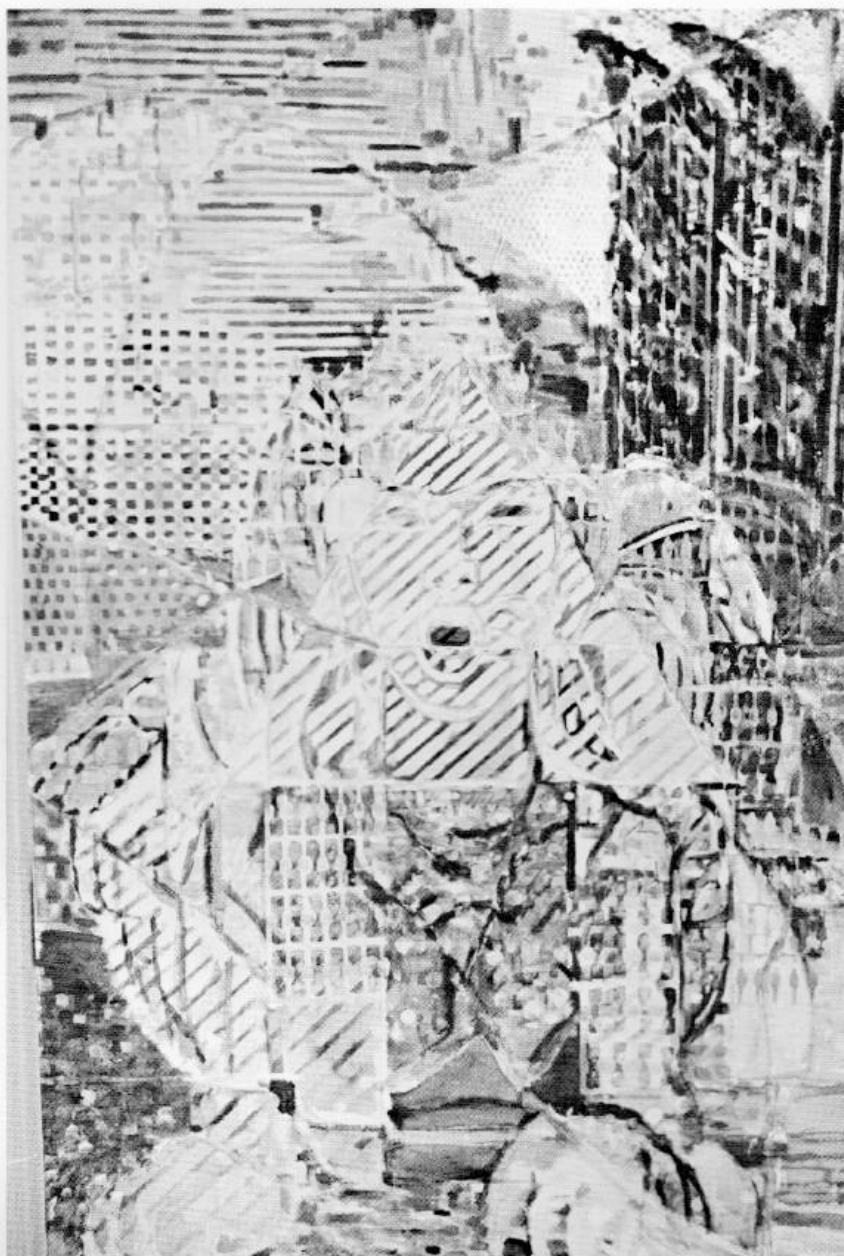
This project began after a tour of Mexico in  
1987, where I began collecting religious  
imagery (postcard and photographic  
mainly).

In Mexico the intensity of belief and the  
marketing of religion (Catholicism) occurs  
on a level unseen in Europe since the early  
days of the church. My aim with these  
images as my source, is to re-charge them to  
such an intensity that they become again  
new to us.

The computer is the perfect tool — its speed  
and the intensity of colour (light) it can  
provide are unmatched by any other means.  
My thanks go to Imagine, & 4i  
Collaboration for their patience, generosity  
and help with this project.



## Phillippa Egerton



*Angry Sphinx*

Spent childhood in East Africa. Took History Honours degree at Oxford University. 1963-66. Was married; have two children.

1982 - 83

Foundation year at Chelsea School of Art; then took a Mural Design Course (Higher BTec) at Chelsea School of Art at Limegrove.

1984 - 86

I was introduced to computer studies.

Present

I am self-employed; freelance design work, printmaking, clay and painting. Had a stained glass exhibition in Battersea and panel shown at National Film Theatre; prints exhibited in 'Art Now' and Bankside print exhibition. I retain the use of computer facilities at Limegrove.

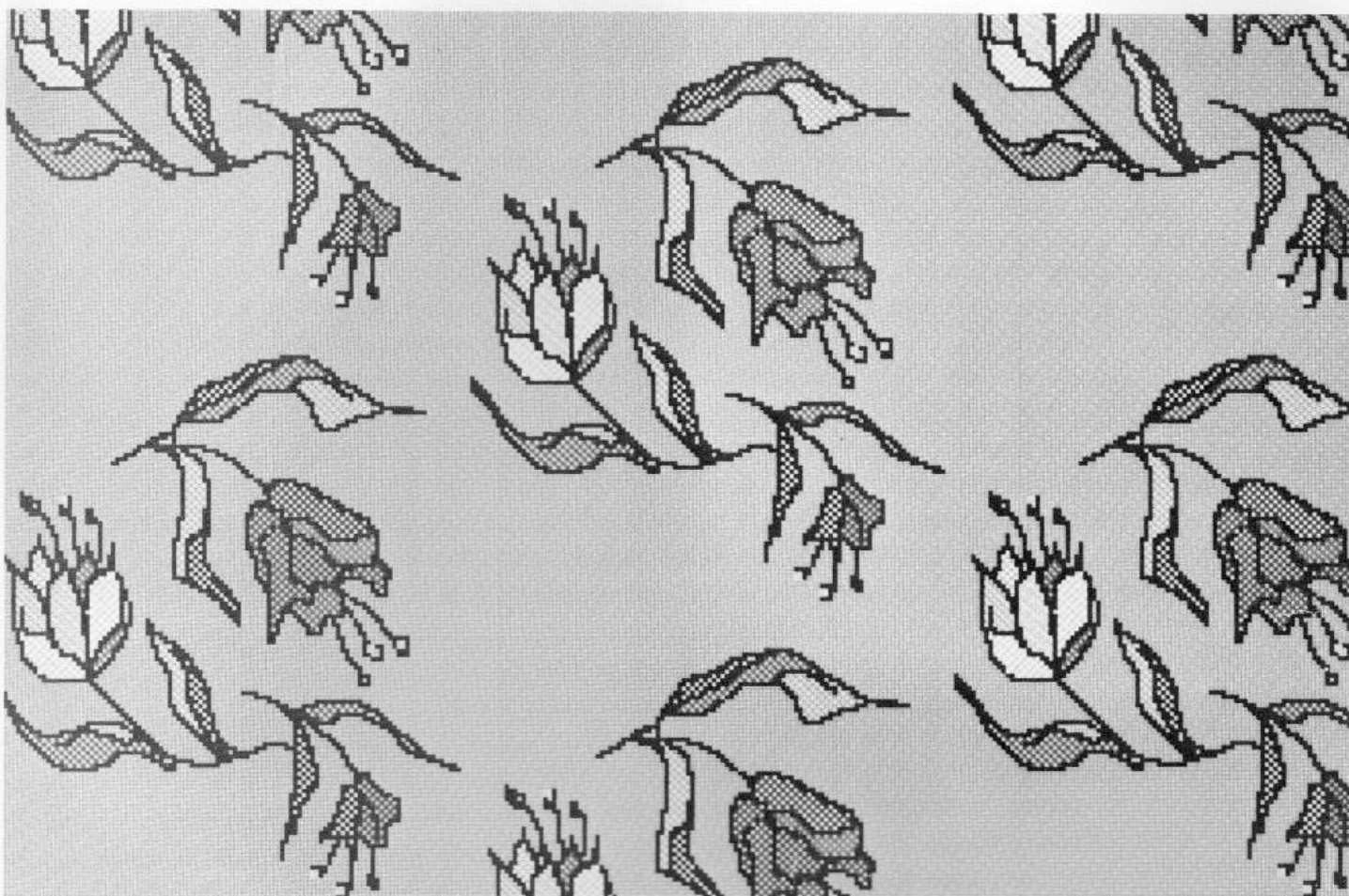
### Statement:

These works deal essentially with the problems of transferring and transforming images drawn on the computer to other mediums. I work in a variety of mediums – paint, printmaking (photo-etching and linocut), stained glass and clay, the last providing me with an opportunity to work out in a three dimensional form images based on my computer drawings. I like to draw freehand on the computer combining those images with the formal structures that most software programs have. Using the computer with its built in constraints results in the creation of an artificial space which is different in feel to paintings based on direct observation where the space surrounding the object provides a continuous structure for the whole image. And it is this manufactured space that for me distinguishes computer based art. In the *Angry Sphinx* I experimented with the combination of a free hand image overlaid

with a formal structure which was based on a totally different abstract design drawn on the computer.

The manner in which some colour printers express colours in terms of patterns rather than regular sized dots affects the density of tone either providing solid blocks or open chainmail patterns into which the drawn images can slide, stand out or disperse. In *Walking Figures* I was interested in how colour patterns could effect the solidity of the figures and I further used only two of the four colour separations obtained from the original drawing to establish form. It is relatively easy to produce an abstraction based on a freehand drawing in this manner and keep both freehand and formal marks in the final product. Stained glass seems to me a natural medium for translation into computerized design with an emphasis on the problems of tonal variation. I find using a computer exhilarating and a stimulus to thought.

## Judy Foulsham



*All Over Floral Textile Design*

**Born:** 19 September 1961

**Studied:**

1981 - 82

Winchester School of Art – Foundation.

1983 - 85

Chelsea School of Art, Higher Btec in Textile Design. I helped to develop, a software package, called “Drawmouse” for use on a Research Machines Nimbus microcomputers. It is a drawing and painting programme with special textile design applications, mainly for print. Also had some experience on Quantel paintbox and I O Research Pluto.

1986

Royal College of Art.

**Exhibitions and Press:**

“Micros in Design”

Design Centre, Haymarket – Nov 86 - Jan 87 – exhibition and demonstrations of designs using “drawmouse” with RML Nimbus, and C.A.D. and watercolour combination.

**“BBC TV”**

“Electric Avenue” to be shown October 1988.

**Statement:**

I became interested in computer-aided textile design, when I was a final year student at Chelsea School of Art in 1985. The programme we were using at that time was rather slow and primitive, so together John Couch, the technician/programmer, and myself developed “Drawmouse” – a textile orientated print design software package.

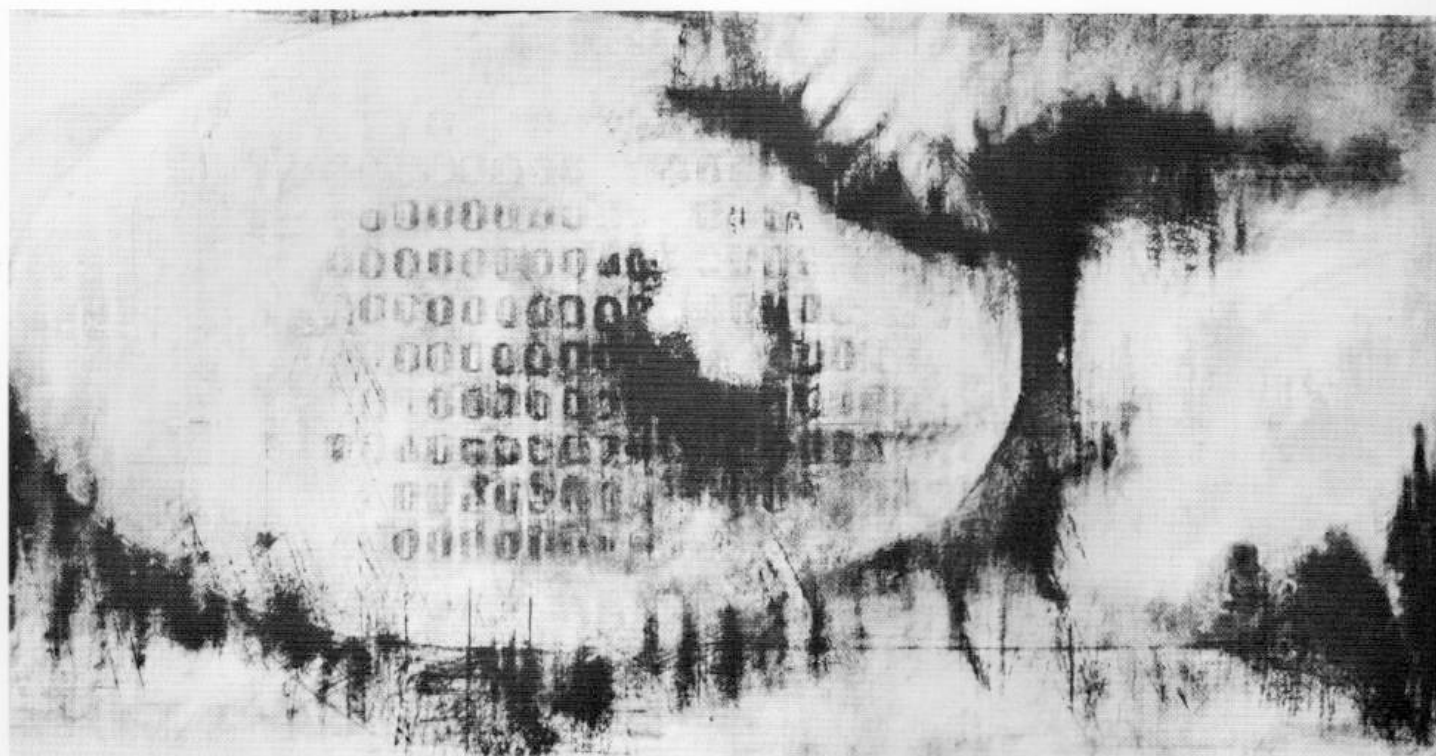
For the last 3 years I have been doing both traditional floral watercolour designs for furnishing, and computer-aided designs as well. These were used for experimenting with colourways, repeats, scales, ideas etc.

I have sold many “Drawmouse” designs to Marks & Spencer, mainly floral prints for toiletry packaging collections.

As well as freelance designs, I have lectured and taken workshops on computer-aided design (mainly textiles) to Art Schools and Colleges all over the country.

I now work for KGB Micros Ltd in London, designing, training, demonstrating on a sophisticated “paintbox” like computer system, using Truevision and Lumena software.

## Michael Garaway



*Digital Ellipse*

**Born:** 12 June 1957

**Further Education & Training:**

1976 - 77

Preston Polytechnic Foundation Course  
in Art & Design.

1977 - 80

Manchester Polytechnic BA (Hons)  
Fine Art (Painting).

1986 - 87

Rochdale College of Art, Continuing &  
Extended Arts Study.

**Selected Solo Exhibitions:**

1981

Manchester Royal Infirmary, Hospital  
Arts Project.

1985

"Urban Structures", Bury Metro Arts  
Association, Bury.

1987

Haworth Art Gallery, Accrington,  
Lanes.  
Alsager Gallery, Crewe & Alsager  
College, Cheshire.

**Selected Group Exhibitions:**

1981

Summer Show, Portico Library Gallery,  
Manchester.

1982

Exhibition aiding Polish children,  
Portico Library Gallery, Manchester.  
"The North West - People & Places",  
Grundy Art Gallery, Blackpool.

1983

Manchester Academy of Fine Arts  
124th Exh., Athenaeum, Manchester.  
Stockport Art Gallery open exhibition.

1984

Stockport Art Gallery open exhibition.

1985

"Art-Works", Cavendish Gallery,  
Manchester.

1986

"The Peoples' Art", Rochdale Art  
Gallery.  
"Context" Group Show, Leo Solomon  
Gallery, Rochdale.

1988

Manchester Academy of Fine Arts  
129th Exh. Athenaeum, Manchester.  
Atkinson Art Gallery, Southport,  
Merseyside.

**Statement:**

The images I produce are rooted in the visual and emotional experience of urban and industrial landscape, and have been refined over several years in order to deal with that experience in a coherent and consistent way. After working through various two-dimensional media and formats, I feel that the most successful treatments of this material take the form of mainly monochromatic drawings, using abstracted forms rendered in charcoal and conte crayon on tinted grounds.

Within the past two years this work has been

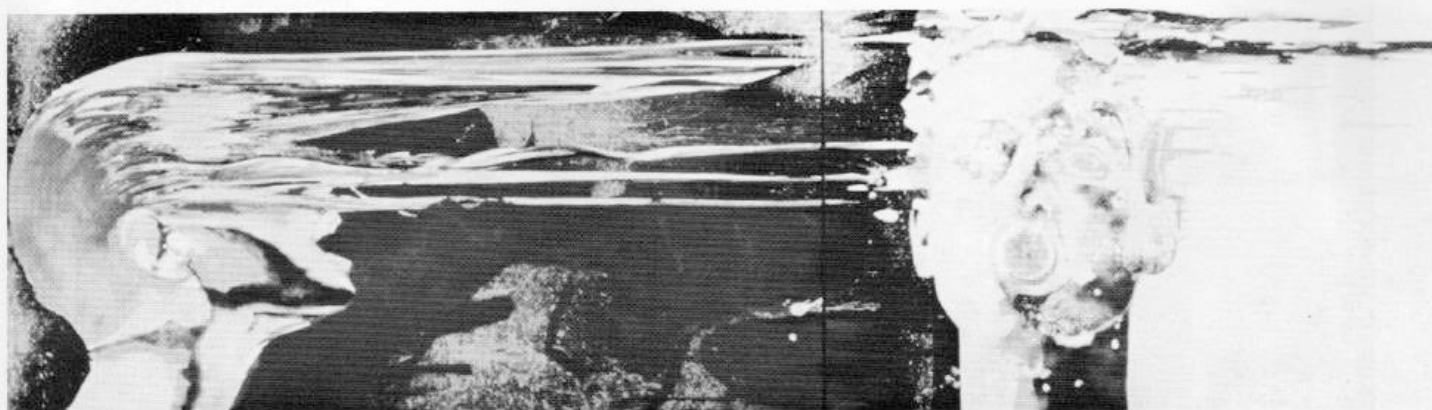
supplemented with the use of micro-computers and paint software to prepare compositions and forms for drawings. Perspective or three-dimensional concerns rarely occur in my work, so that I find paint software well suited to manipulating its basic elements of geometrical form, marks and areas of tone. Changes to an image may be stored at intervals and printed out to give a comprehensive record, forming the basis for drawings in "traditional" media.

Close reference in this manner to dot-matrix print-out has resulted in drawings like "Digital Ellipse", interpreting relatively crude images according to my developed style. Some features, such as rows of repeated letter forms, are imitated by hand printing conte crayon onto the drawing surface, while other features are treated with more freedom as areas of marks or tones. The computer preparations leading to "Digital Ellipse" also informed work such as "Drizzle Base", their relatedness being fairly obvious.

My computer experience, all be it with relatively unsophisticated machines and software, has enhanced my work, enabling existing ideas to be quickly assessed and changed, and providing stimulus for new directions to be taken. Consideration of the relationships between the types of images I work with, whether by electronic or traditional means, is of major importance in this continuing process.



## Jeremy Gardiner



*After Midnite*

### Education:

- 1983  
M.F.A. RCA, Royal College of Art,  
London
- 1979  
B.A. Hons, Newcastle University

### Teaching positions:

- 1985-86  
Massachusetts Institute of Technology  
— Visiting artist
- 1986-87  
Pratt Institute — Visiting Professor,  
Computer Graphics

### One Man Exhibitions:

- 1983  
Hirst Research Center, London  
'Digital Totems'
- 1985  
Boston University Art Gallery  
'Heuristic Journeys'
- 1987  
Compton Gallery, Massachusetts  
Institute of Technology  
'Telegenic Charismas'

### Selected Group Exhibitions:

- 1983  
Museum of Modern Arts, Paris  
'Electra 83'

- 1985  
Twining Gallery, New York  
'State of the art'  
The Photographers Gallery, London  
'Vogue/Sotheby's Cecil Beaton award —  
self portraits'  
Burnaby Art Gallery, Vancouver  
'Digicon'  
University of Amherst 'New England  
Arts Biennial — Major Works'
- 1986  
42nd Venice Biennale, Italy.  
Barbican Arts Centre, London,  
'Tradition and innovation in  
printmaking'.
- 1987  
Bronx Museum of the Arts, New York.  
'Emerging Expressions II'  
Casos Toledo Oosterom, New York  
'Group Show'.

### Statement:

'Each artist possesses a weapon which allows him to intimidate tradition' — Leger 1925

Recent developments with 'digital photography' and 'electronic paint systems' are bridging the gap between painting and photography. While on a Harkness Fellowship in the United States I have been

moulding these two new tools into a powerful medium.

Having spent 84-85 at Massachusetts Institute of Technology pursuing these developments I decided to move to New York. For several years I have taught as a Professor at the School of Visual Arts and Pratt Institute of Art and Design.

However it is on a night shift as a 'Paintbox' artist in a T.V. production house in New York City where my interest in the digital medium and portraiture has evolved. Called upon to make subtle changes and manipulations of broadcast images has helped me discover a fine line. The fine line that is the acceptable truth of photographic realism in the media.

Late at night some of the characters it has been my job to work with; trapped in the medium of video like insects in amber, have evolved into a series of portraits 'Telegenic Charismas'. It is these figures culled from the media; the world of synthesized seamless characters, T.V. evangelists, talk show hosts and news anchormen that became an exhibition organised by the MIT Museum last year. The exhibition took the form of paintings, inkjets and thermal prints.

The work in this show is from that series.

## Penny Gunn



*Statue*

**Born:** 1960, Reading

**Education:**

1980 - 83

Bristol Polytechnic, Fashion & Textiles

1987 - 88

London College of Printing. Post Graduate Diploma in Design Media Technology.

**Present Employment:**

Currently working as free lance computer and video artist.

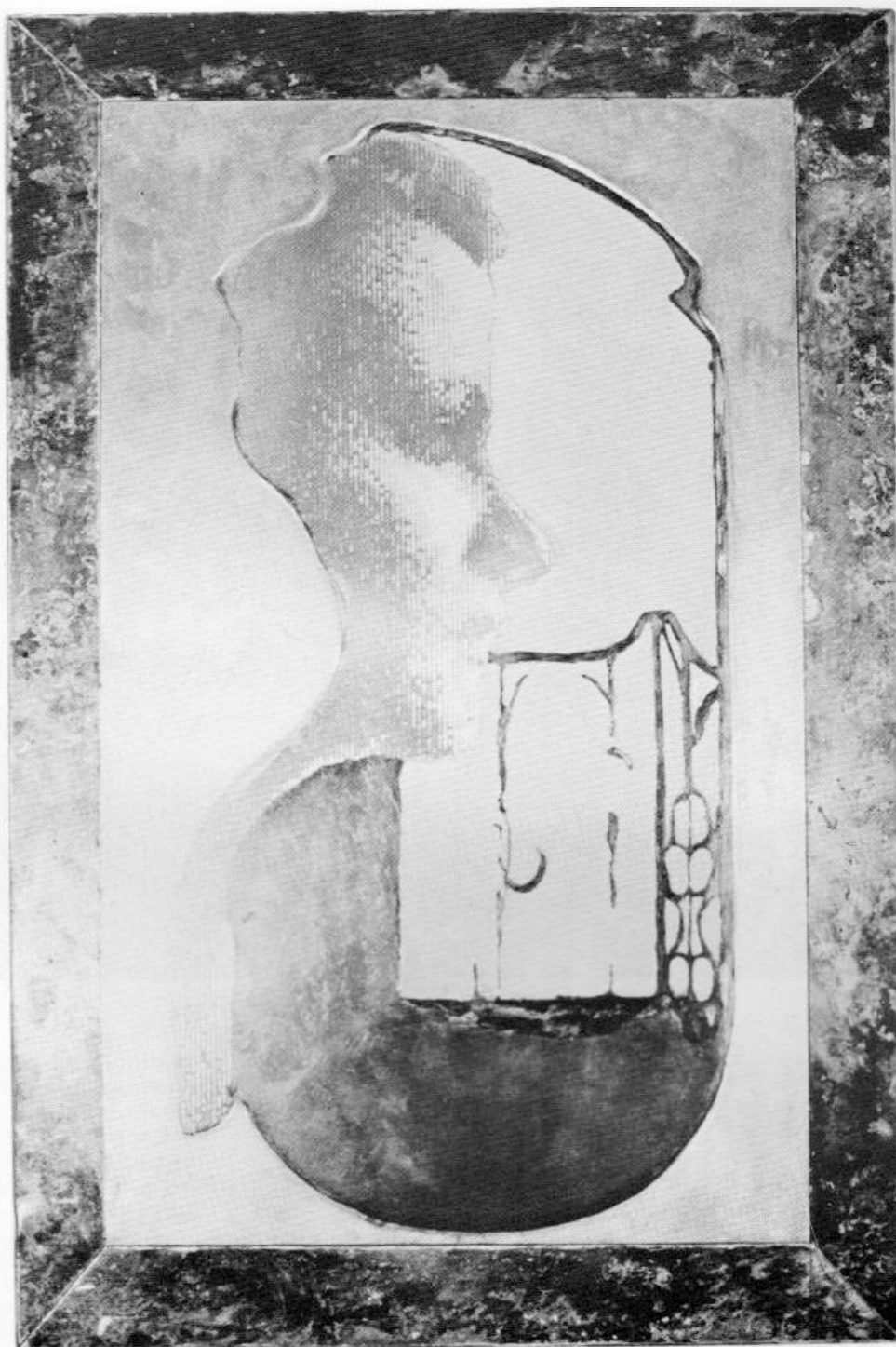
**Statement:**

My design training was initially in Fashion and Textiles and I have recently completed a course at the London College of Printing, receiving a Postgraduate Diploma in Design

and Media Technology.

During this time at college I became more and more involved with creating computer generated artwork and specialised in this and video production. The work culminated in an exhibition of prints and videos created through a combination of image-grabbing and paintbox functions on the Image Artist Computer, special effects on the Fairlight Computer and 'live action' video.

## Brian Hodgson



*Implication III*

**Born:** 9 June 1965

**Education:**

1981 - 3

Newcastle College of Arts and Technology.

1985 - 88

Camberwell School of Art and Crafts, London SE5.

**Exhibitions:**

1984

The Broken Doll Gallery, Newcastle.

1986

"Art Aid".

1988

Exhibited at a Seminar on "The Use of Computers in Fine Art", Camberwell.

1988

Exhibition sponsored by Thames and Hudson and SOGAT '82, Camberwell.

**Statement:**

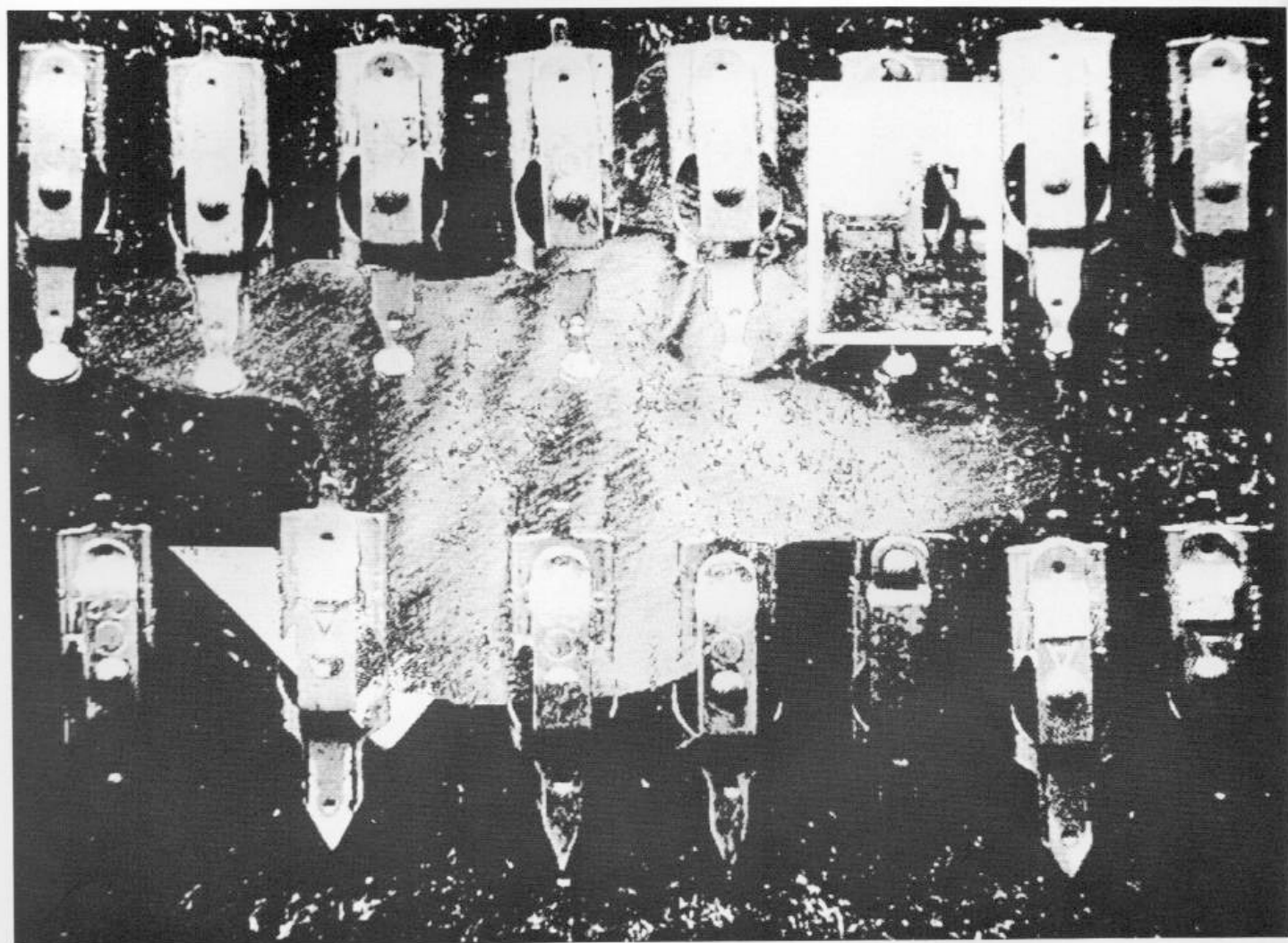
My work has evolved through a strong belief in the inherent symbolism or meaning of

particular images and the imposition of meaning upon images through artistic practise and processes.

I aim to communicate by means of poetic evocation.

I am particularly concerned with setting up a duality where a personal photograph can become a communicative image, and a computer generated, machine or process made image can work with something personal physical and hand created.





*'Index Memoriae' (ex Hetrotpic Index I)*

**Born:** 1948, Winchester, England.

1971-72

Visiting Lecturer Winchester School of Art.

1973 - 74

Part time Lecturer Lanchester Polytechnic.

1974 - 87

Senior Lecturer, Department of Art, Coventry Polytechnic.

1987 -

Lanchester  
Principal Lecturer in Electronic Graphics, Coventry Polytechnic.

#### Selected Exhibitions:

1971

The New Art, Hayward Gallery, London.

1972

Documenta 5, Cologne.

1972

'De Europa', John Weber Gallery, New York.

1972

'Annotations', Galerie Daniel Templon, Paris.

1973

Lisson Gallery, London.

1973

'Contemporanea', Rome.

1973

Paul Maenz, Cologne.

1973

Art & Language at Gallery Bischofsberger, Berlin.

1975

Art & Language at Museum of Modern Art, Oxford.

1983

Masterworks of Conceptual Art, Paul Maenz, Cologne.

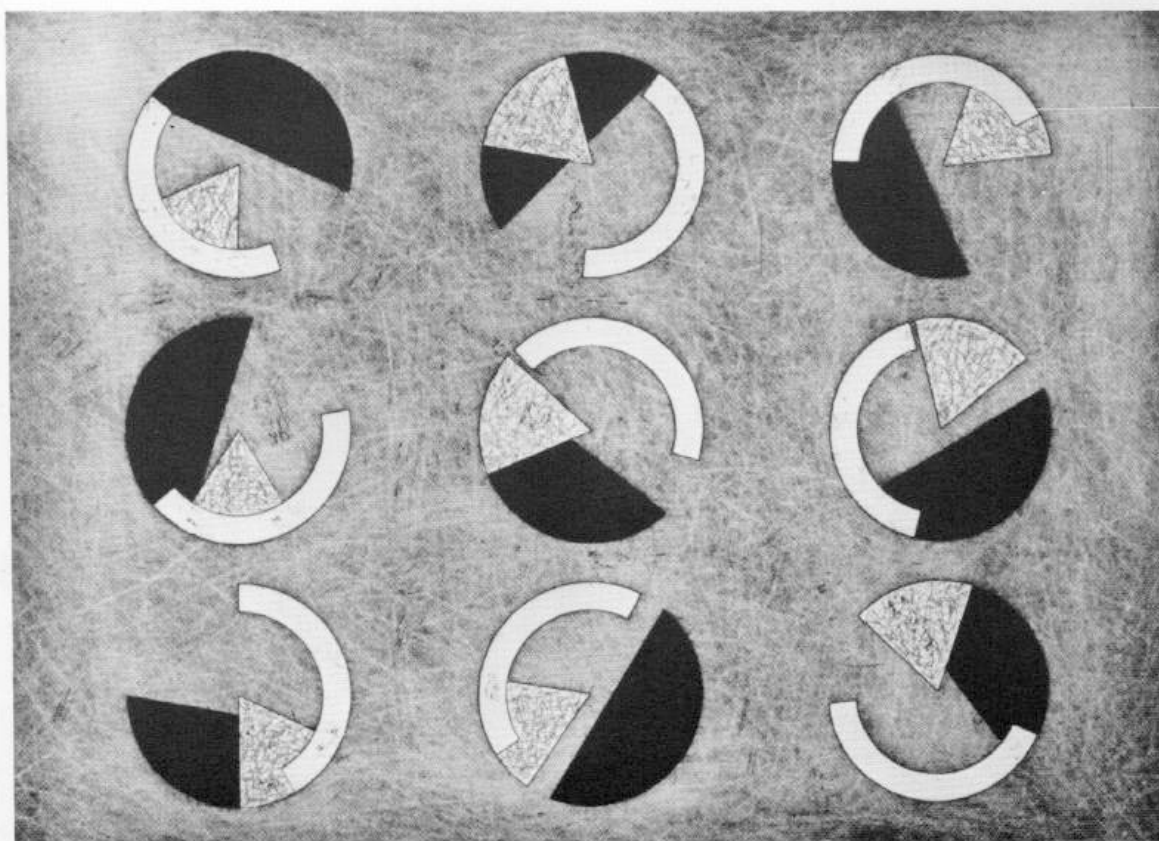
#### Statement

Mapping has been a significant feature of the work since the early *Indexes* of Art & Language, when the indexing of discourses functioned as a device for the conception of a representational practice, in a context layered with misrepresentations, and void of adequate critical theory. The work, produced then, was centred upon the text and its transformations. Now similar issues are being addressed but the focus of attention has shifted to concentrate on the image in its relationships with texts. Maps can be understood as complex devices that allow for the representation of

multiplicities, shot through with fissures, fractures and hybridisations. They are not linear traces through the world, although such traces may be threaded through them, but configurational dynamic figures, whose elements fade and iridesce, migrate and translate. The individual, conceived as structuring a meteoric trace within such maps, is used as a figure throughout the work. The individual's immediate chthonic context is related to the shimmering intersections of immanent worlds to suggest the extreme tendentiousness of such picturing. Indexing from one element to another, and, across different worlds is a feature of how we all live, but any representation of this, is problematic and inadequate. We are left with snapshots of moments, incorporating fictions and facts, ironies and distances, creation and erasure, alienation and desire. Readers will continue the process and elaborate the palimpsests for themselves.

*Family Index: Videogram I* and *Family Index: Videogram II* are two captured moments, elements of which are re-indexed in *Family Index: Electronic Iteration VI*. All of these and much else inhabits the hypermedia form of the work, *Heterotopic Index I*; this is a dynamic multidimensional confluence of maps.

## Chris Jennings



*Spin 1*

**Born:** 1949, Oxford

**Studied:**

1967  
Wimbledon School of Art  
1968/71  
Hornsey College of Art. Dip.A.D.  
(Hons)

**Selected Individual Exhibitions:**

1970  
Museum of Modern Art, Oxford.  
1977  
Richard Demarco Gallery, Edinburgh.  
1978  
"Megalithic Landscapes", University of  
Toronto, Canada.  
1980  
Elise Meyer Gallery, New York.  
1981  
L.Y.C. Museum & Art Gallery,  
Cumbria.  
1984  
"Folding Pieces", Axiom Centre,  
Cheltenham.  
1985/86  
Installations Research Machines,  
Oxford. (computer company)

1986

Completed "Solentris", a large Kinetic  
sculpture for Southampton General  
Hospital. Artist in residence, Icknield  
School, Watlington. (5 Day Project)

**Selected Group Exhibitions:**

1974  
City Art Project, Portsmouth (Southern  
Arts Sculpture Project).  
1977  
"On Site", Arnolfini, Bristol.  
1982  
"Art and the Sea", I.C.A., London.  
1983  
"Impressions and Imprints", Museum of  
Modern Art, Oxford. (prints)  
1984  
"Eaumage", Centre Culturel de  
Villedieu, Nr. Paris. (sculpture festival)  
1985  
"Zustersteden in de Kunst",  
Waaggebouw, Leiden, Holland.  
1986  
16 Studios, Museum of Modern Art,  
Oxford.

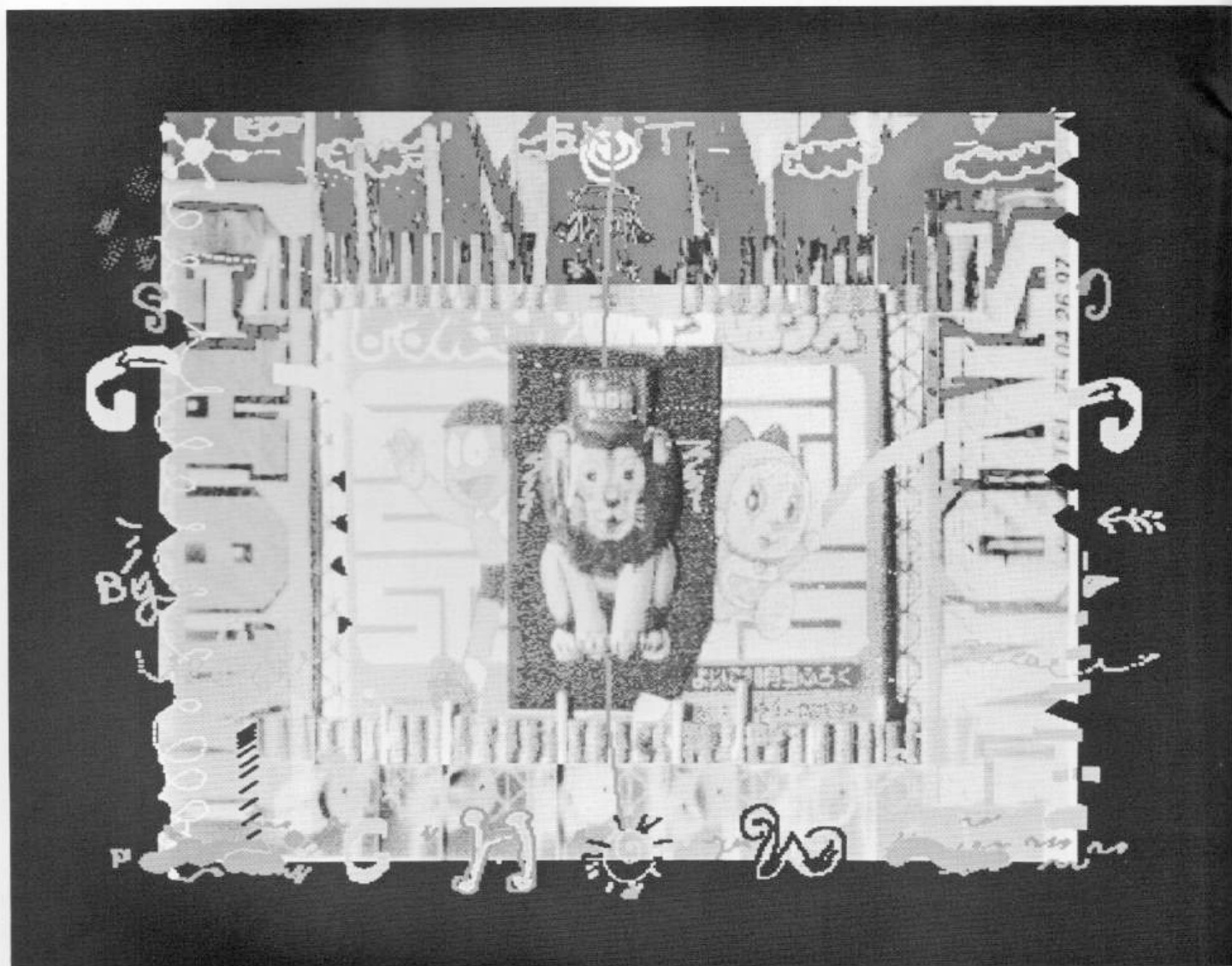
**Statement:**

As a sculptor I have always been interested  
in the idea that my work should have some  
potential for change.

This work can be thought of as kinetic, but  
that does not necessarily mean sculpture in  
motion. Often the work is static but can be  
moved, folded, turned or changed in some  
way. The agent for this change can be the  
viewer and in this case the work requires  
an interactive response. There is an  
involvement in the mechanics of the work  
and part of my intent has been to solve the  
problems of this interaction. Recently I  
have developed sculpture which is finely  
balanced and is shifted and changed by the  
slightest air movement; even when static  
this work shows the potential it has for other  
configurations.

In studying configurations and movement in  
space I have become increasingly involved  
in the use of computers. Structures "built"  
by computer drawing can be programmed to  
go through a process of change, and these  
sequences of transformations can be viewed,  
or made "real". I have written and  
developed a software program that deals  
with space/time/movement. I use the  
computer as a tool in the development of my  
work.

**The Thunder Jockeys**  
**Graham Elliott**  
**John England**



*Chiao*

**Education:**

Royal College of Art, Illustration M.A.

**Performance:**

1986

Time Waltz, RCA London.

1987

Espectaculo Yummy Yummy, Zeebelt Theatre, Holland.

Desire, D&AD, New York.

**Statement:**

The pieces generated on a computer are not only produced as paintings, but also as stems of a new idea, i.e. using the computer to duplicate ideas which may finish up as performances or three dimensional forms. We like to use contemporary images collected from such things as rubbish and fashion magazines, and then mix it with unusual textures created by doing things like blowing bubbles at the capture camera, or grabbing Alka-seltzer as it fizzes under three different filters of the camera, to

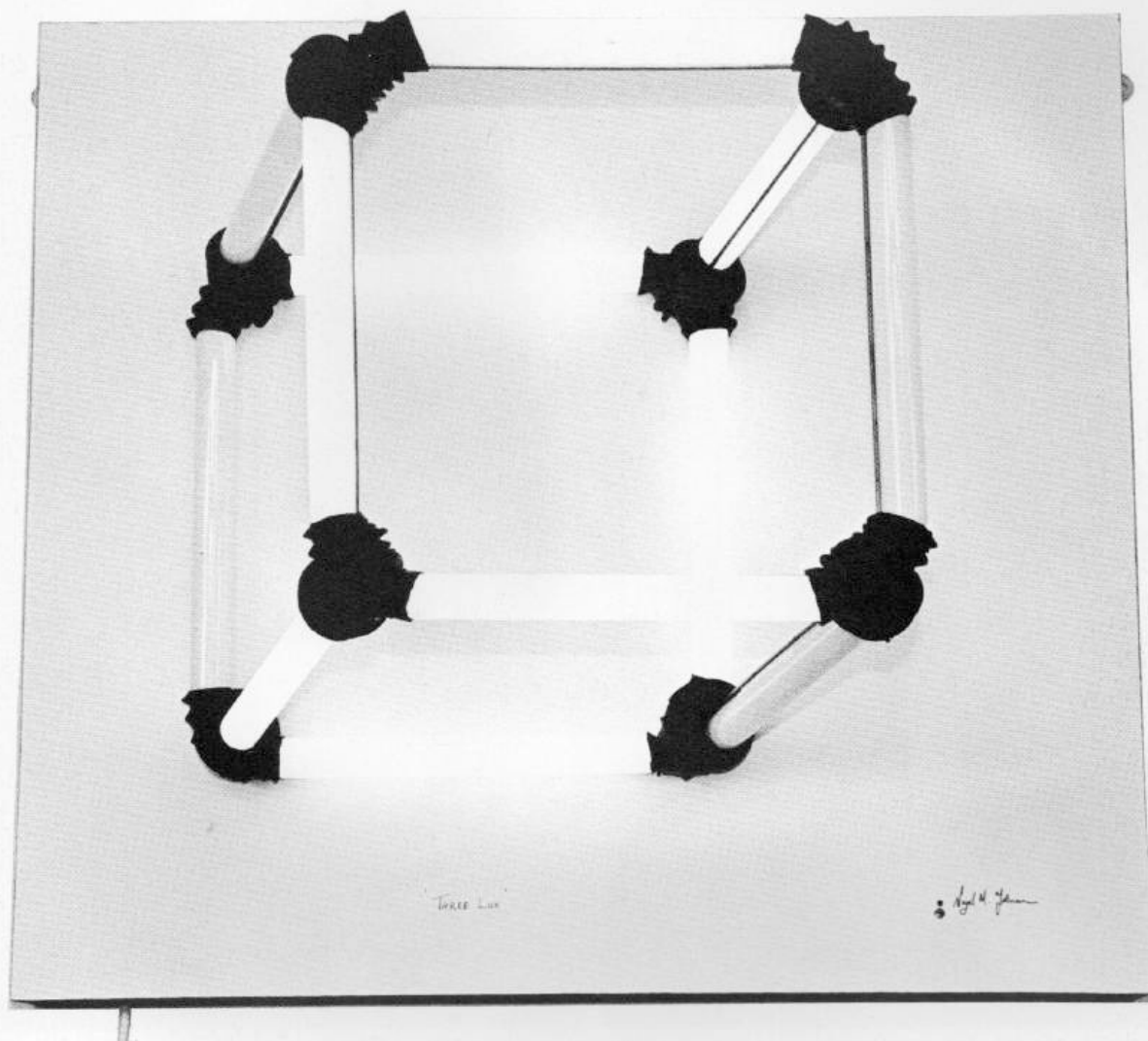
originate unusual background textures on which to build.

We have been involved in several performances, one in America, in which we did an audio visual display projecting computer images up to 40ft high and whilst performing semi-naked a bizarre ritual in front of the projection.

We believe that the universal capability of computers and its ability to create intense colours and images can be used to stimulate more expressive reactions from the viewing audience.



## Nigel Johnson



*Three Lux, one cubic foot*

### Education:

- 1975  
Foundation Course, Pervical Whitley College, Halifax.
- 1976 - 79  
Fine Art, Sculpture, Liverpool.
- 1979 - 81  
Slade School of Fine Art.
- 1981 - 83  
BUPA - Systems and Programming Division.
- 1983 - 87  
Lecturer in Sculpture, Grays School of Art, Aberdeen.
- 1987 -  
Lecturer I/C Computing, Duncan of Jordanstone College of Art, Dundee.

### Exhibitions:

- 1977  
Piece Hall, Halifax.
- 1978  
Liverpool Polytechnic.
- 1979  
Liverpool Academy.
- 1980  
Fort Motte State Museum, U.S.A.

- 1981  
Young Contemporaries, ICA London.
- 1981  
Bartlett Foyer, University College London.
- 1981/82  
International Festival of Electronic Music; Video and Computer Art, Brussels.
- 1983  
Whitechapel Open, Whitechapel Gallery, London.
- 1984  
University of Aberdeen.
- 1985  
Compass Gallery, Glasgow.
- 1985  
R.S.A. Annual
- 1985  
Compass Gallery, Glasgow, Christmas Exhibition.
- 1985  
Artspace Gallery, Aberdeen.
- 1986  
Talbot Rice Art Centre, Edinburgh.
- 1987  
Compass Gallery, Glasgow.

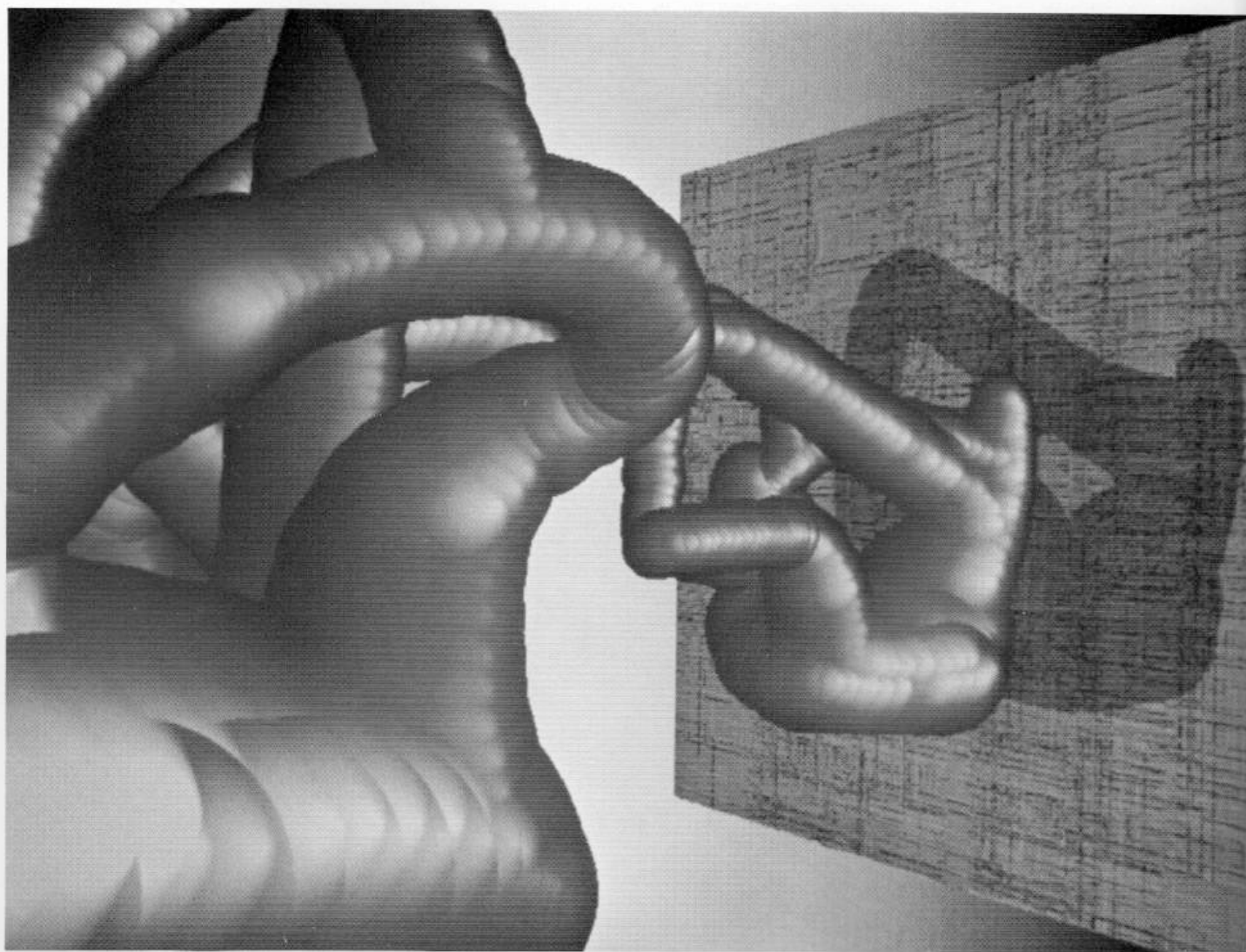
### Statement:

The piece of work "Three Lux, one cubic foot" was originally made for a specific exhibition entitled "One Cubic Foot" in which invited artists were asked to produce work based on or around the use of one cubic foot of material.

The artwork itself is controlled by a single board computer based on HD6303 Micro-processor manufactured by Hitachi, and is programmed to take account of surrounding light levels and then use this information to determine the final light sequence display.

Whilst this piece of work is slightly out of context with my other work it does embody the idea of interaction with its surroundings or spectators. This idea of "intelligent" interaction with the artwork is central to my own work and this is more evident in other pieces such as larger interactive sound installations, as well as interior and exterior interactive sculpture.

## Mike King



*Morph I*

**Born:** 1953, London

**Education:**

1972 - 75

Studied at the Oxford Polytechnic. First Degree: BSc Honours (London External) in Physics and Chemistry.

1983 - 84

Studied at St. Cross College Oxford. Received a Bursary award (£500) for an essay serving as the Master's project proposal (June 1984). Graduated with a Masters Degree in Software Engineering from the Programming Research Group, Keble Road, Oxford University. Title of Master's dissertation: "Formal Methods in Computer Graphics for Film and TV".

1984 - 86

Studied for PhD at the Royal College of Art, London. Subject of research: user interface to computer graphics in the visual arts.

March 1986

Won a computer art prize for an entry in a competition organised by the Computer Arts Society.

October 1986

Took up a research fellowship at the John Cass Faculty of Arts in the City of London Polytechnic. Exhibited in computer art exhibitions at Imperial College London, Bristol (Watershed Gallery), and Exeter University.

December 1986

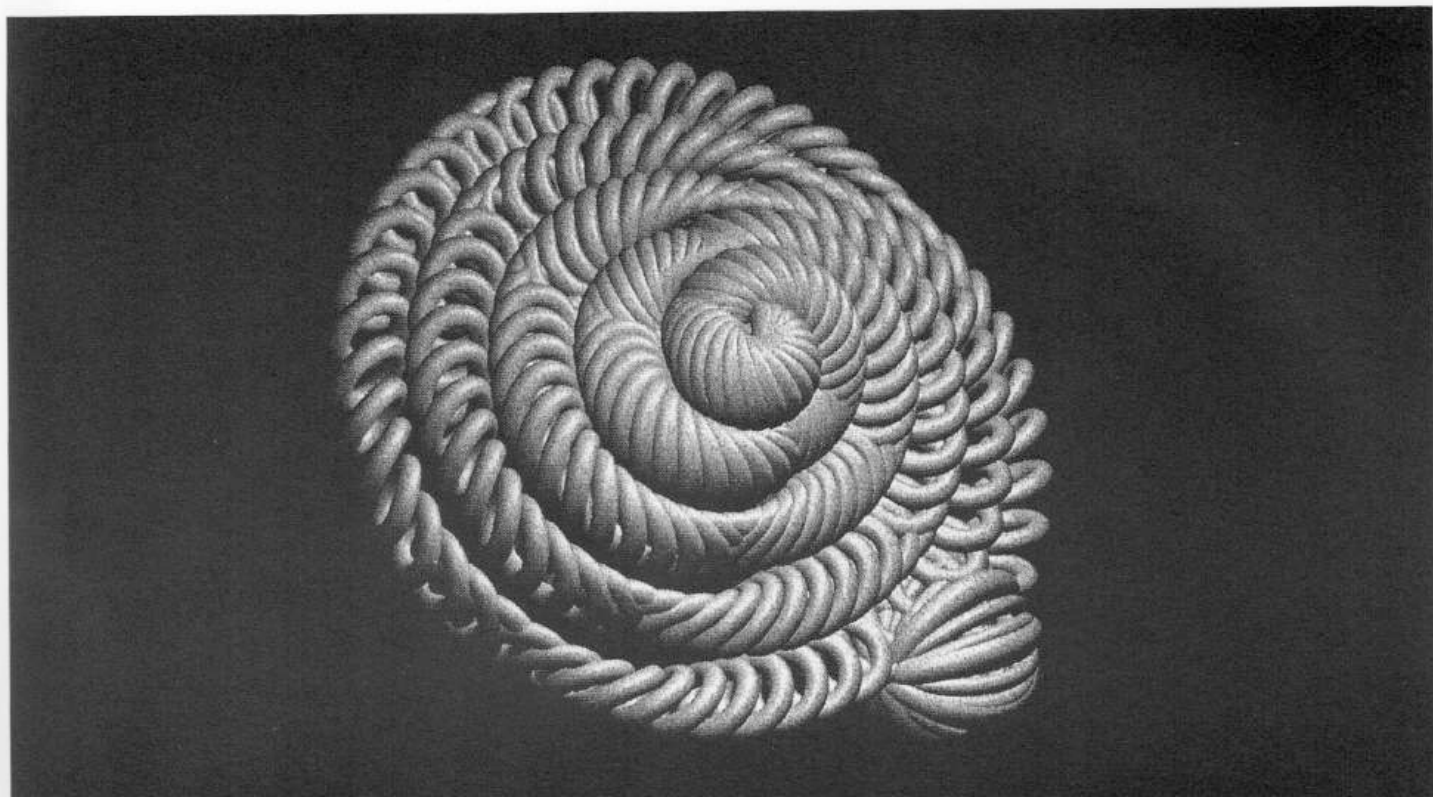
Presented a paper on behalf of the John Cass Faculty of Arts, at the RCA conference 'State of the Art in Computer Art and Animation'. The proceedings of this conference to be published by Springer Verlag.

March 1987

Won second computer art prize for an entry in a competition organised by the Computer Arts Society.

**Statement:**

I am interested in the computer as providing a range of media in the visual arts, and in particular in fine art. As computer scientist I am developing new tools for computer artists which my students at the City of London Polytechnic use on a daily basis in their work. At certain periods I am able to use the tools that I have created in my own work. This involves a shift of mode from the logical and problem-solving requirements of programming to the intuitive and inspirational frame of mind. Visually my pieces are (for myself) something related to music or dance. One of the attractions of computer art for me is the relative lack of history, reference and framework within which to place it, and hence a freedom of expression which is intrinsic rather than having to be asserted.



*Coiled Form No.1*

**Born:** 1961

**Education:**

1979 - 82

Ruskin School of Drawing and Fine Art,  
Christ Church, Oxford University.

1982 - 85

Studied Fine Art at The Royal College  
of Art - MA (RCA)

1984 - 85

Part-time Computer Graphics Course at  
The City of London Polytechnic.

1987

Research Assistant at St. Martins School  
of Art.

1987

July - October. Visiting Fellow at The  
IBM UK Scientific Centre, Winchester.

1987 - 88

Visiting Scientist at IBM UK Scientific  
Centre, Winchester.

**One Man Exhibition:**

1986

The Picture Gallery, Christ Church,  
Oxford, UK.

**Selected Group Exhibitions and  
Competitions:**

1983

"Animation for Lisbon". Gulbenkian  
Foundation Centre for Contemporary  
Arts, Lisbon, Portugal.

1984

"Stuttgart International Trickfilmstage  
Festival, Stuttgart, West Germany.

1984

Animation Now. The Tate Gallery,  
London.

1985

Rank Xerox Limited Contemporary  
Print Collection, UK.

1986

"Les Images Du Futur". Le Musee Du  
Nouvelles Technologies, Montreal,  
Quebec, Canada.

1986

"Pixellated" Exhibition of Computer  
Art. The Watershed Gallery, Bristol.

1986

"Art, Science and Industry" Exhibition.  
Imperial College, London.

1986

Computer Art. Double Vision Gallery,  
Exeter University, Exeter.

1987

150 Years of Printmaking at The RCA.  
Concourse Gallery, The Barbican,  
London.

**Statement:**

William Latham is currently a Research  
Fellow at the IBM UK Centre in  
Winchester, England where he is exploring  
the application of Computer Graphics solid  
modelling to design "Computer  
Sculptures". The purpose of William's work  
is to create sculptural forms which are  
arguably beyond the human imagination.  
Many of these sculptures are highly complex  
and would be extremely difficult, if not  
impossible, to create using conventional  
sculpting techniques. As a result of using  
ESME and Winsom Solid Modelling  
software and writing sculpture "evolving"  
programs the imagination of the sculptor is  
allowed greater freedom to explore and

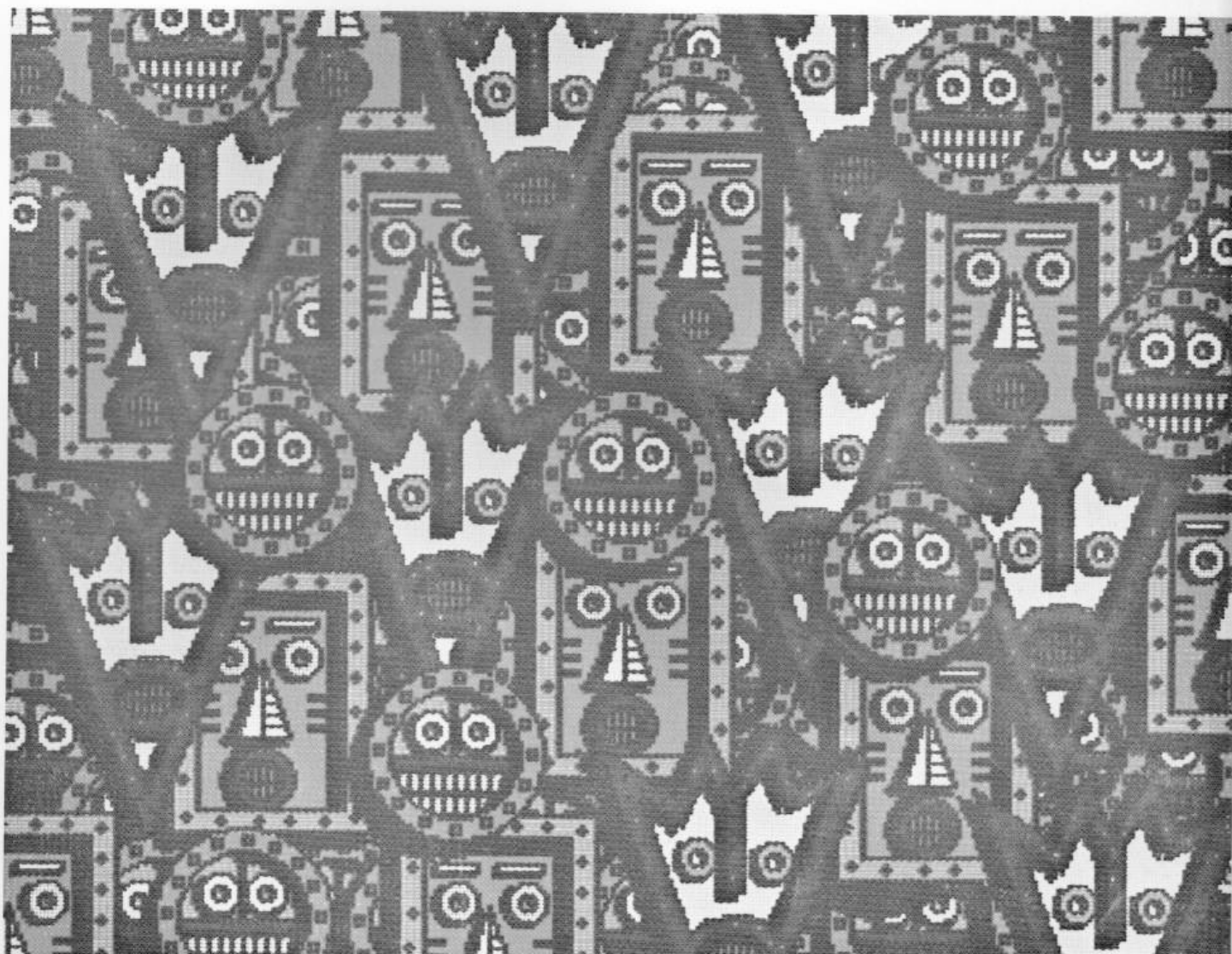
create 3D complex forms which previously  
had not been accessible.

Recent work has involved writing a form  
generation program called the "horn"  
function in the ESME language. To create a  
form the function is seeded with a sequence  
of parameters about the same length as  
telephone number this then creates a  
complex form which may be displayed and  
rotated in real time in vector form. By  
changing the parameters in the sequence,  
the form is modified, by adding more  
parameters the form is "evolved" into a  
more complex state. The task of the artist is  
therefore to supply the sequence of  
parameters and decide whether they like the  
result. If the result is to be found visually  
pleasing the data is sent to the Winsom Solid  
Modeller where a solid form is created. This  
then is made to look photo-realistic using  
techniques such as raytracing, 3D texturing,  
multiple light sources and blending.

The types of forms that may be created  
using this method vary from forms that look  
like ammonites, to antlers, shells and eggs.  
There appears to be no limit to the wealth of  
forms that can be created using this method.

The graphics software has been written by a  
number of people, but primarily Peter  
Quarendon, Stephen Todd and Alan  
Halbert. Additional algorithms and  
theoretic models supplied by John  
Woodward. Other people involved in  
software development include Andy  
Walter, Neil Galton and Brian Collins.





*Chaos*

**Born:** 4 August 1963

**Studied:**

1984 - 1985

Ravensbourne College of Art & Design.  
Design foundation course.

1985 - 88

London College of Printing. Graphic  
Design.

**Statement:**

The two pieces of work I have included in this exhibition represent a body of computer generated imagery produced last year.

I find the ink-jet printout to be visually exciting in terms of flatness and brightness of colour and technically interesting in relation to the ease of reproduction

compared to other means of obtaining hard-copy from a computer screen and particularly when producing the same image in a variety of sizes.

The Imagery is representative of my earlier work and "CHAOS" represents some of my 'faces' I have been designing over the last two years; based on the crude, square and triangle and the colours red, yellow and green. Inspired by London living I hope it conveys the desperation, claustrophobia, repetition and confusion of city life. "OUT OF CONTROL" was inspired by a poem about puppets and the controlled and the controllers in society and ends on the line "without your wretched pullings I would still be beyond belief".

My imagery is synthesised from a diversity of interests and influences and include Mexican and Mayan Art, African mask designs, the art of the North American Indian and robotic and mechanical structures especially circuit boards and imagery of the new age. My interests in all art especially that of so called "primitive" or spiritual societies has one main link which is the face, mainly the human face but with shapes and forms found in most animals, and indeed a general empathy with all "natural" patterns.

My combination of primitive art imagery with state of the Art Computer Technology brings together diverse ideas and this synthesis I hope is conveyed with a certain intensity if not humour.

## Henry Lutman



*Still From Computer Animation – Bunties Nature Guide*

**Born:** 24 February 1948, Hexby, York.

**Studied:**

1965 - 67

York School of Art  
(Foundation Course)

1967 - 70

Newport College of Art (Animation)

1970 - 73

Royal College of Art (Animation)

**Work Experience:**

1973 - 80

Freelance animator and graphic  
designer.

1980 - 83

Full time lecturing in animation at  
Gwent College of Higher Education.

1983 - 87

Director of the Department of Film and  
Television, Gwent College of Higher  
Education.

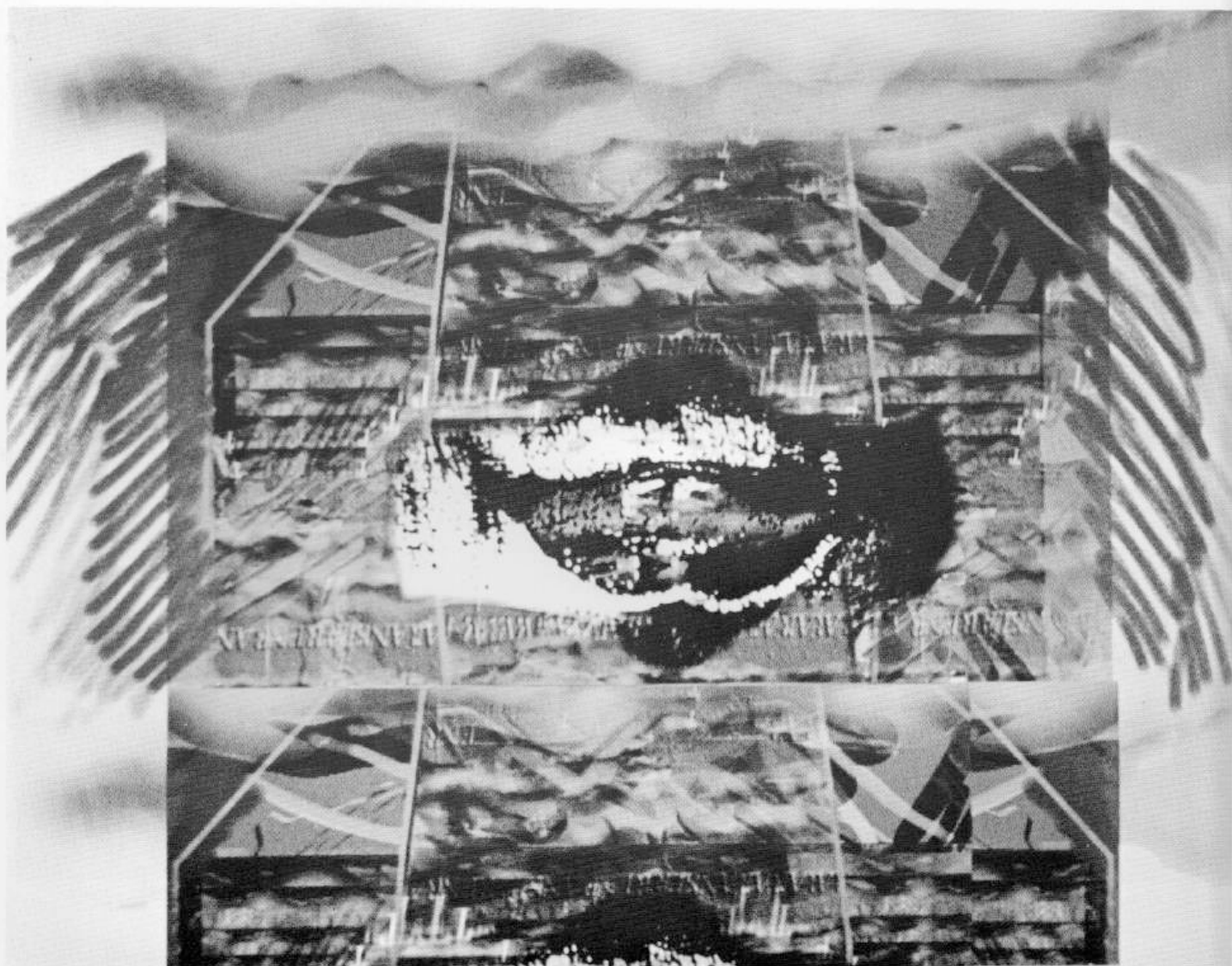
Currently Head of Animation at Moving  
Picture Company, London.

**Statement:**

Bunties Nature Guide was the culmination  
of a year's study at Middlesex Polytechnic.  
The animated film was designed to visibly  
demonstrate a software programme which I  
had written whilst studying for the P.H.D.

The reason for developing the programme  
(written in Fortran on a VAX 785) was to  
introduce traditional methods of animation  
into computing. This included techniques  
such as 'squash', 'stretch' and 'anticipation'.

The bee and the flower were chosen because  
they were organic living things which had  
their own important characteristics suitable  
for use as 'vehicles' for the programming. It  
was also possible to exploit an element of  
humour within the relationship between the  
bee and the flower and to extend into areas  
of movement, time, perspective, space and  
colour.



*Dream State I*

**Born:** 4 October 1936

**Education:**

Kings College, University of Durham.  
Honours Degree, Fine Art 1960.

Extensive experience as an artist and lecturer over 25 years. Exhibited work widely and constantly since 1959, mainly painting but since 1980, photography and computer images.

Currently engaged in a full time industrial secondment to the BBC in Birmingham combined with an M.A. Degree programme in Graphic Design.

Since 1985 teaching in the Department of Visual Communication, Birmingham Polytechnic.

**Statement:**

The work in the Exhibition forms a small part of an extensive range of work generated on a Quantel DPB Paintbox 7000/1 series 3 & 4 at the BBC in Birmingham between January and April 1988.

A research programme funded by Birmingham Polytechnic, the results of which were exhibited in 1986, provided me with a basic introduction to working with electronic systems, although theoretical interest had existed since the late 1960s. The practical experience raised a number of questions and speculations about the use of computers in the creative process.

As a painter, one wished to investigate how, if at all, already established work patterns and cognitive processes might be affected, and what the results might mean within the context of both one's own work and that of others. In the first instance working with a new medium, particularly one of this kind, is always a beginning. It initiates potential with few concepts as to where it might lead. Established habits play their part but may not be appropriate nor conducive to discovery.

A single image generated on another computer was frame grabbed to provide a simple starting point, and one further

constraint was introduced. It was decided not to use any further extraneous material until one felt one had exhausted, or was exhausted by, the possibilities of permutating the elements through a full range of commands. Not all of the images were felt to be mature, but they served the original purpose, which was to demonstrate that from an extremely limited starting point it was possible to use the system not only to generate material, but that there was an effect on the way one thought about the work.

The fact that ideas can be realised close to their inception and the rapidity with which this can happen suggest that some modification to critical evaluations may need to be made.

The exploration continues. The results will be exhibited later in 1988.

Acknowledgements:- The Graphic Design section, Programme Services Department BBC, Birmingham.



## Kate Milner



*Extract from 'Dominic' – An Experiment in Inter-active Fiction*

**Born:** 1959

**Education:**

1977 - 80

Hons Degree, Visual Arts,  
Aberystwyth, University College of  
Wales.

1987 - 88

Postgraduate Diploma in Electronic  
Graphics, Coventry Polytechnic.  
Currently working for an M.A. in  
Electronic Graphics at Coventry  
Polytechnic.

**Exhibitions:**

1981

Joint show, Harringay Library, London.

1982

One man show, Crouch End Library,  
London.

1983

Joint Show, Stantonbury Gallery,  
Milton Keynes.  
One man show, Central Milton Keynes,  
Library.

1985

One man show, Stantonbury Gallery,  
Milton Keynes.

**Statement:**

"Dominic" is an attempt to tell a story in an inter-active medium. It is made up of a number of frames, (referred to as "cards" in Hypercard), which contain images and text. Each frame has a particular meaning and is connected to a number of other frames with related meanings. The way in which the story is revealed depends upon the sequence in which the frames are seen. No one sequence is more correct than any other. "Dominic" is not a puzzle about trying to find the correct route, nor does the sequence chosen affect the ultimate understanding of the story.

I have been interested in using images, particularly images which appear to move to the viewer, as both a way of revealing meaning and a way of navigating through the work. In Dominic the viewer is first

presented with pictures which he or she learns to manipulate by exploring randomly. The explanatory text is only available once the viewer has learned how to navigate around the work. As far as possible I have treated the text visually. The computer screen challenges the convention of reading text as if it were on a page. There is perhaps, in this application, a chance to break down the distinction between text and image.

The introduction of an inter-active element into what might best be described as a fiction raises a lot of questions. The author, to some extent, relinquishes authority to the viewer by allowing him or her to create their own route through the work. How far can this be taken before the work ceases to have any meaning? How far is a work of art defined by its form? and if the structures behind that work are hidden from the viewer can he or she be expected to comprehend its meaning? "Dominic" is not an answer to these questions, it is an attempt to suggest one way of using the exciting new medium of hyper-text.

## Martin Rieser



*Dancers*

**Born:** 23 June 1951

**Present Employment:**

Senior lecturer in Electronic Arts,  
Department of Art and Design, Bristol  
Polytechnic

**Education:**

1969 - 72  
University of Bristol  
1972 - 73  
North Gloucester Colleges of Education  
1973 - 74  
Atelier 17, Paris  
1974 - 75  
Goldsmith's College School of Art

**Exhibitions:**

**Selected One Man Shows:**

1982  
Salt House Gallery, St. Ives.  
1985  
Octagon Gallery, Ipswich.  
The Gallery, London College of  
Furniture.

1987

Bristol Polytechnic.

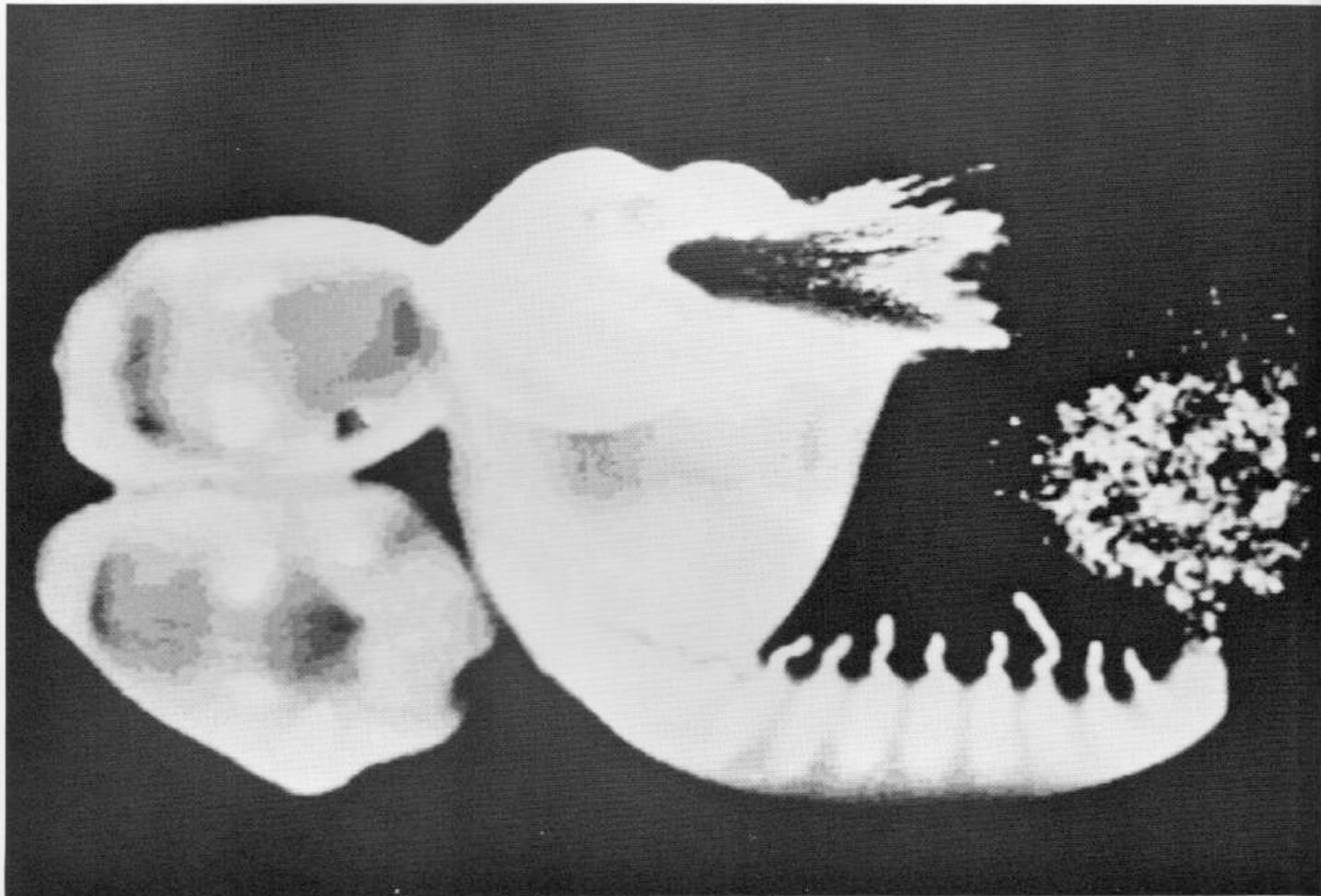
**Selected Group Exhibitions:**

1972  
Cite des Arts, Paris.  
1974, 1975, 1977, 1979, 1980, 1981  
Royal Society of Painters, Etchers and  
Engravers  
1977  
Oldham Arts Centre.  
1979  
L'Affiche, New York.  
1982/84  
Graffiti Gallery.  
1985  
Leighton House.  
PMC Barbican, Double Elephant.  
1986  
PMC Kew Gallery.  
PMC Royal Festival Hall.  
Croft Gallery, Bristol.  
1987  
Prints with a Point.

**Statement:**

I have worked with a wide variety of computer media from 3D animation and design systems to electronic paintboxes. My current work on the Dalmi system was inspired by a series of autographic prints I was making using linocut and woodcut methods. In trying to translate the imagery into an electronic medium I was struck by the change in feeling, although by using B-sphere curves some of the energy of the printed work was maintained. I particularly like the immediacy of imagemaking on an electronic paintbox, but the Dalim system is vector-based and so can support a variety of output devices including laserprinters and is capable of resolutions far above the normal video ones. The luminous quality of colour is also seductive, but the standard tools of the system such as smooth shading and shape deformation can become too slick when overused. The working method is constructivist since, as in collage each segment of the image is a moveable object, with layer priorities. There is a choice of 256 colours from 16.7 million and an on-screen resolution of 1280 x 1040 pixels.

## Paul Sermon



*The Echos of Amiguity within Electronic Space*

**Born:** 1966, Oxford

**Education:**

1984 - 85

Bedford College of Higher Education.

1985 - 88

Gwent College of Higher Education.

**Exhibitions & Projects:**

1986

The Wonderful Walks of Newport.  
Video Installation in the shop window of  
a TV rental shop, Newport, Gwent.  
A Video Compilation.  
Video show in the Arnolfini Gallery,  
Bristol.

**Hello Video**

A video made by six students at Gwent  
College for The Fresh Art Show at the  
Barbican Centre, London.

**A Brighter Side of Darkness**

An installation at Mile End Laundry,  
London.

1987

**Le Palais Ideal**

Art Telecommunications Workstation/  
Installation by seven Fine Art students  
from Gwent College in Toulouse,  
France. For the Biennial Festival of  
European Schools of Art.

Cultura Digitalis/Electronic Mannerisms

A contributing Artist to a computer  
networking project in Vienna, Austria.

1988

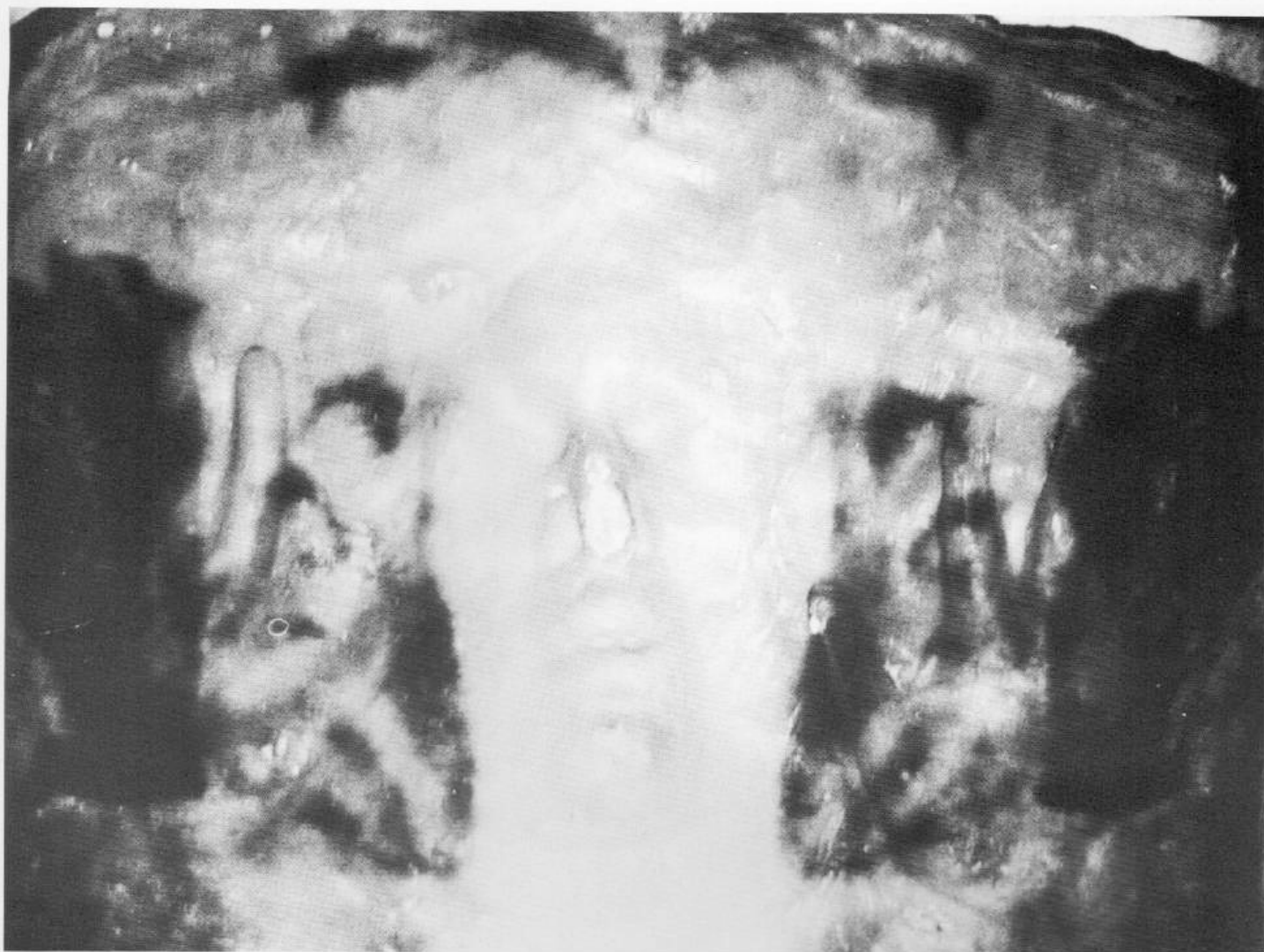
**Artificial Intelligence Symposium**

A contributing Artist to a Computer  
Networking project in Vienna, Austria.  
The Echoes of Ambiguity within  
Electronic Space.

Organiser and co-ordinator of a com-  
puter workstation/installation project at  
Gwent College.



## Alison Sneddon



*Premonition*

**Born:** 1962, Edinburgh

**Education:**

1982- 84  
Edinburgh College of Art

1985 - 87  
Camberwell School of Art, London

**Exhibitions:**

1985  
Somerset House, London.

1986  
Winner of British Institution Fund,  
Royal Academy, London.

1987

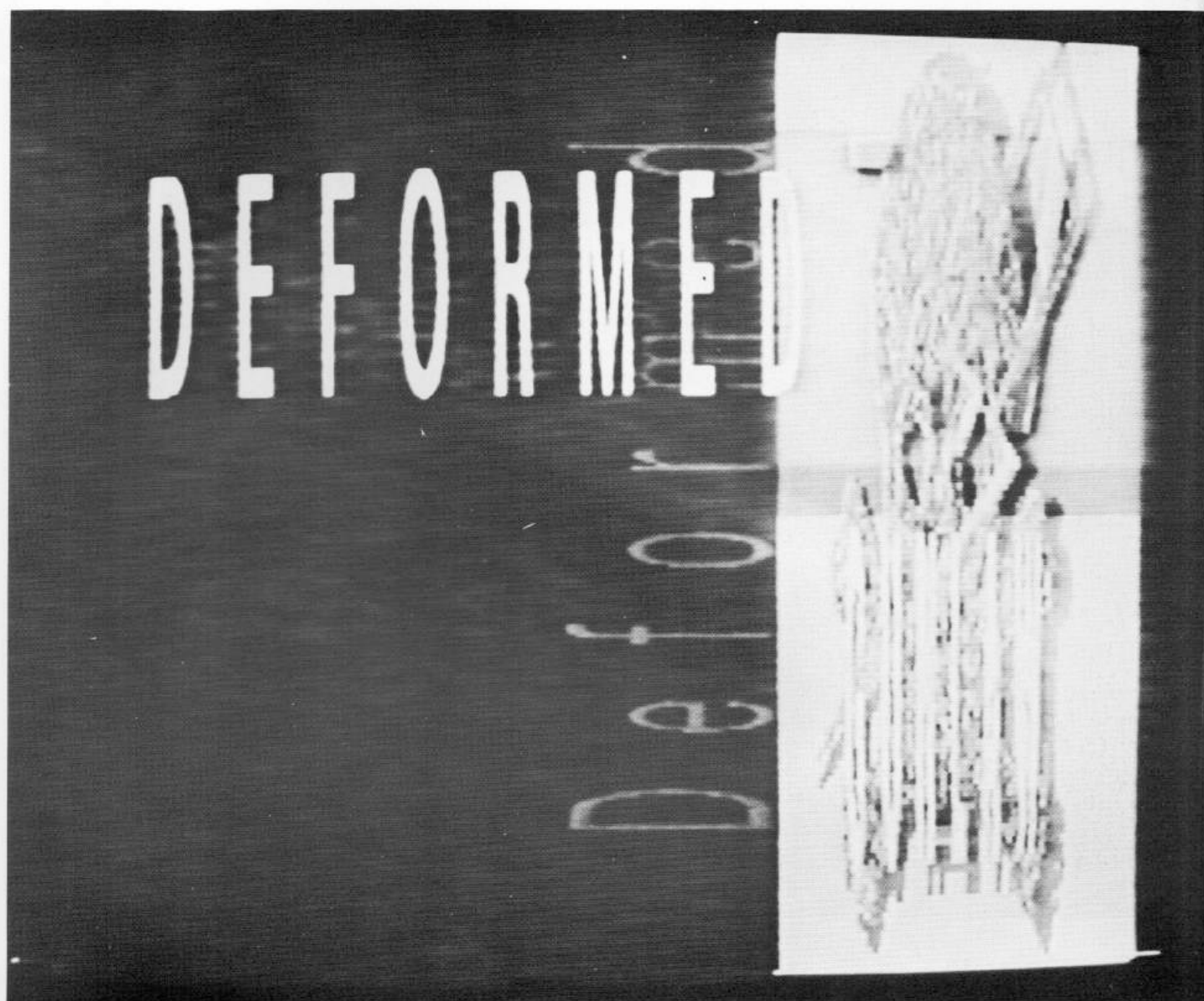
South London Gallery  
Winner of Tom Phillips Prize.  
Riverside Studios, London.  
South London Gallery, Open Show.

**Statement:**

My work involves exploring the nature of existence through photography and related media.

All my photographs involve using myself as a "representative" of death, human existence etc.

I have been using the computer to merge and dissolve photographs either to distort them further or to produce "ghosted" imagery. These new images are then projected onto myself again or projected onto three-dimensional relief moulds of my own self (i.e. death mask) and rephotographed.



*Deformed – Still from Computer Animation 'Gunlaw'*

**Born:** 1961, Cambridge

**Studied:**

1977 - 79

Wakefield College of Arts and Technology. One year General Education, Art and Design. One year Art Foundation.

1979 - 82

Newcastle upon Tyne Polytechnic, Fine Art.

1986 - 87

Coventry (Lanchester) Polytechnic Linked Post-Graduate Diploma and Master of Arts Degree Electronic Graphics.

**Exhibitions and Performances:**

1981

Performed with Charlie Hooker "The performers move in" at the Basement, Newcastle.

Documentation for Charlie Hooker at the Tate Gallery, London.

"Within Hours" Slide installation at the Basement, Newcastle.

1982

"Sand Sound" Tape Slide shown at Coventry Events Week and the Basement, Newcastle. Assemblage in group show "and print-making", The Waterloo Gallery, London. "Asunder & Undertow" Two tape slide pieces shown at the Basement, Newcastle.

1983

"Counterpoint" Installation at Wakefield District College.

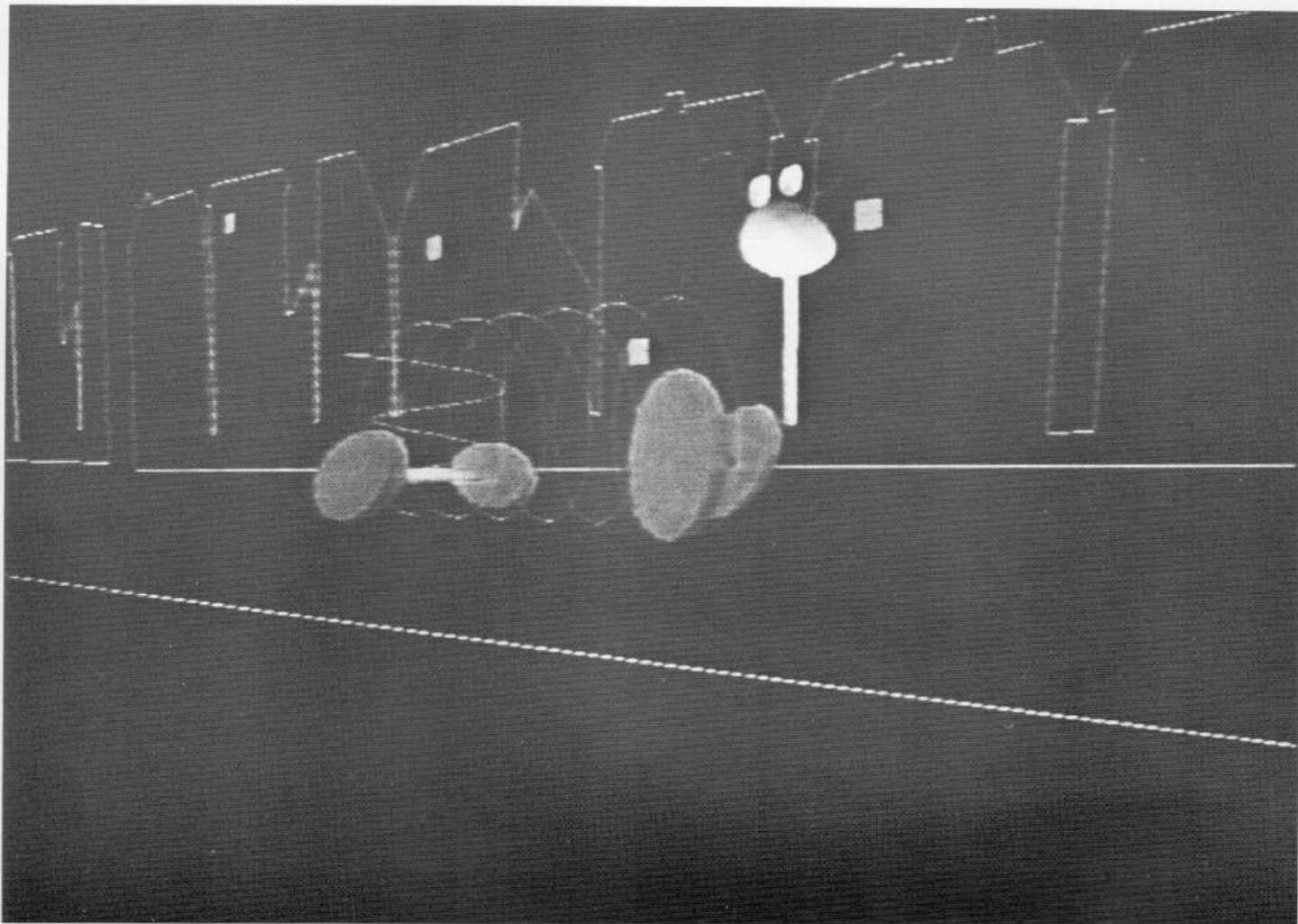
**Statement:**

Having started in art school as a painter, moving through print into multi media, my early work with audio/visual media was based firmly on the interaction of disparate

image sources and delivery systems, having been greatly impressed with the work of Charlie Hooker. Thanks to the presence in Newcastle of the Basement Group, I was able to experience a wide range of installation and performance work; this involvement set the tone for the next six years and the decision to study for the MA in Electronic Graphics at Coventry was taken against this background. The time since beginning the course has been pivotal in two ways, the first being the demystification of computer imagery and the second being the introduction of personal content into my work.

'Gunlaw' and its predecessor 'Heroin' are simple narratives, using text, imagery and sound and are my first self-contained video work. As to the future, computers promise to hold the key for the continued expansion of my work.

## Barbara Tutty



*Still from Computer Animation 'Toyworks'*

**Born:** 1962

**Studied:**

1983 - 86

University of Ulster, Art and Design

1986 - 87

Middlesex Polytechnic  
Postgraduate Diploma in Computer  
Graphics. Work experience at CAL  
Video, London.

1987 - 88

Worked with Moving Picture Company,

London.

Currently working with TSI Video Ltd.,  
London as freelance animator.

**Statement:**

About 'Toyworks'

Barbara worked on the software  
development in association with her tutor at  
Middlesex, Paul Ashdown.

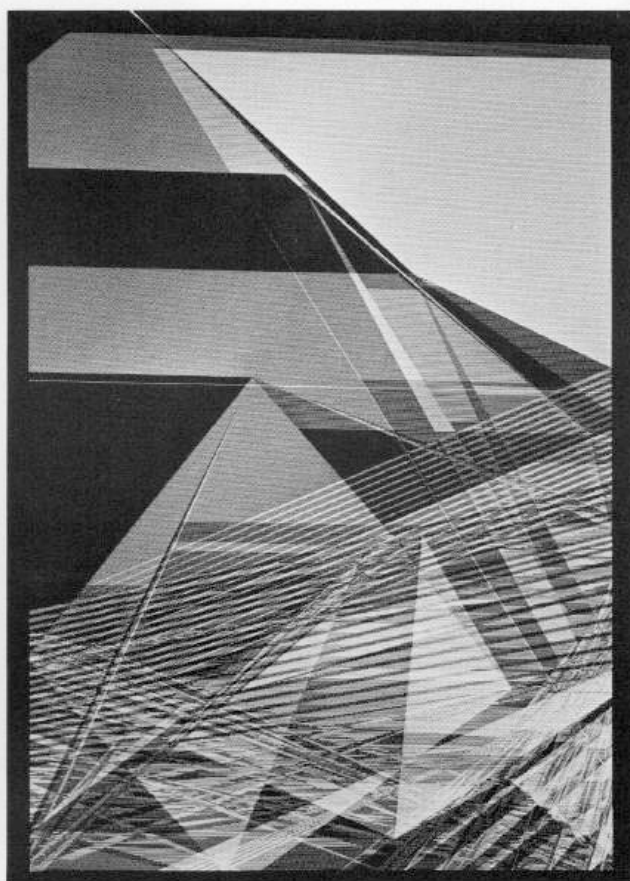
The work incorporates innovatory software

developments with particle systems (used in  
portraying fine grained images and detail  
within computer animation). The kinetic  
modelling is achieved by using hierarchical  
mathematics and programming.

Barbara was very enthusiastic about solving  
the problems of animating a toy – hence  
'Toy Works', and in the mathematical and  
computing processes she has also managed  
to release humour as an element of the final  
animation.



## Darrell Viner



*Computerscape*

**Born:** 1946, Coventry

**Studied:**

1971 - 74

Hornsey College of Art.

1974 - 76

Slade School of Fine Arts.

**Currently Teaching at:**

Portsmouth Polytechnic, Chelsea School of Art.

**One-man Exhibitions:**

1977

Showing of a computer animated film, Coracle Press, London.

1979

Computer aided drawings, Portsmouth Polytechnic.

1981

Who manipulates Who  
Acme Gallery, London.

1986/87

Het Appolohuis, Eindhoven, Holland.

1988

The Wheel  
Cafe Gallery.

1988

Museum of Contemporary Art, Ghent, Belgium.

**Selected Group Exhibitions:**

1973

The Artist and the Computer, North East London Polytechnic.

1976

Computers in Art and Design, Brunel University, Uxbridge, Middlesex.

1978

Royal Academy Summer Exhibition (selected by Brian Kneale for the Sculpture Room), London.

1979

Sculptural Views, Waterloo Gallery, London.

1980

Portsmouth/Duisburg Link Exhibition (first exhibited in May at Portsmouth Museum and in July at the Lehmbruck Museum in Duisburg, Germany).

1980

Venice Biennale (architecture section), and in Milan in May 1981.

1981

Romance, Science and Endeavour, Portsmouth City Museum.

1984/85

Critic Space 2, Air Gallery, London.

1985

Whitechapel Open Christchurch, Spitalfields, London.

1986

Electronic Eye, The Watershed, Bristol.

1986

Chosen with Care, Zuiderpershuis, Antwerp, Belgium.

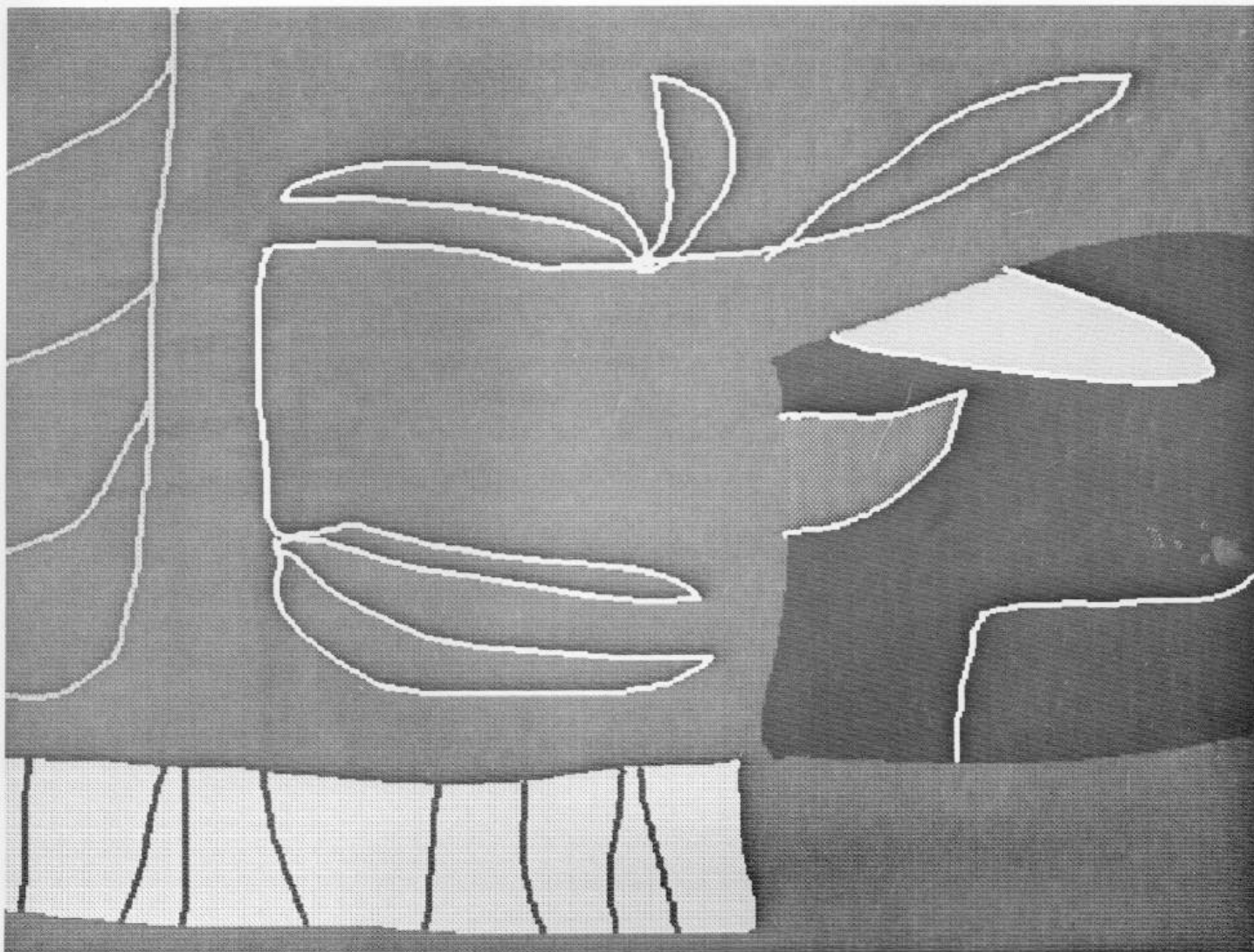
1988

Death Show, Kettle's Yard Gallery, Cambridge.

**Statement:**

The images presented here are single frames taken from a computer animated film which is in the process of being completed. In its making I am seeking images with a feeling of place and scale, like cityscape, landscape and using just 2D initialisations. Though there is apparent perspective this is not true and is brought about by the interaction of 2D frames and the use of colour. This program has developed over a number of years and is now largely self generating within certain parameters which are present at the start of it being run. The direction and development of the program is mainly through my reaction to the output as well as incorporating various ideas from the sciences and the arts. I believe that the recent developments in computing are comparable to that of perspective theory in the renaissance where the ability to model the world more accurately lead to new knowledge and explorations of the world. The work was produced at the University of London's computing centre in a AMDAHL computer and a DICOMED film plotter.

## James Faure Walker



*Banana Dress*

**Born:** 1948, London

**Studied:**

1966 - 70

St. Martin's School of Art.

1970 - 72

Royal College of Art.

1976

Joint founder and editor (1976-1983) of Artscribe magazine.

1982

Visiting Artist at Nova Scotia College of Art and Design, Canada.

1983

Selector, Marseille Art Present, France.

1983

Visiting Fellow in Art, Phillip Institute of Technology, Melbourne, Australia.

1988

Teaching part-time at St Martin's School of Art.

**Solo Exhibitions:**

1985

The Whitworth Art Gallery, Manchester.

1987

Vortex Gallery.

**Group Exhibitions:**

1973, 1976

Artist's Market.

1975

Courtauld Institute.

1979

Hayward Annual (co-selector).  
Style in the Seventies (Artscribe touring exhibition).

1980

Somerville College, Oxford.

1982

John Moores XIII, Liverpool.

1983

Serpentine Summer Show II  
Critic's Space, AIR

1984

The Underwater Show, Plymouth.

1987

Vortex Gallery.

1988

AIR Sale.  
Artists in National Parks, Victoria and  
Albert Museum, touring.

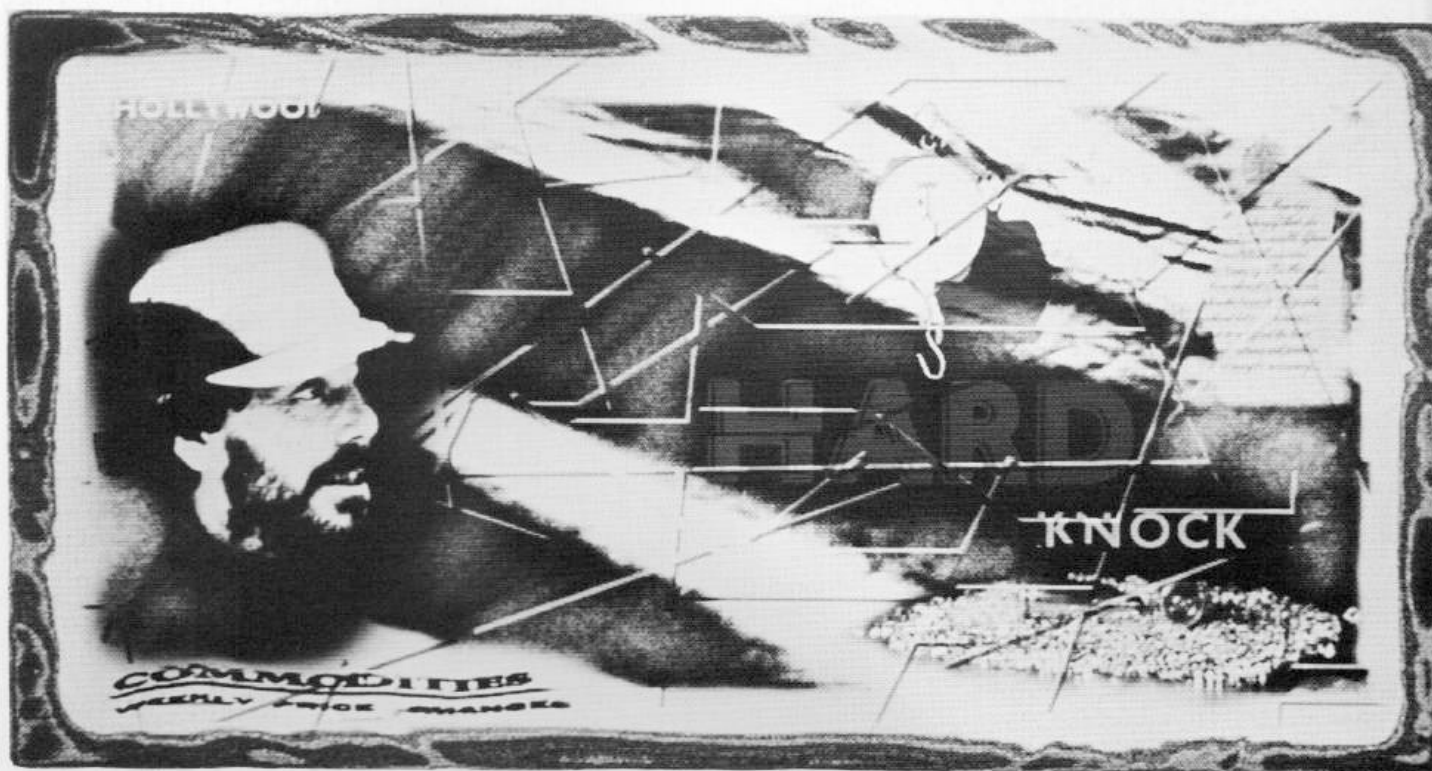
**Statement:**

I stumbled into the world of computer graphics some six months ago. I was doing some type-setting for a student exhibition while teaching at St Martin's and found myself in the computer graphics department. I was soon playing around with

Paint programmes, amazed by their speed and agility. Here at last was a means of drawing in light, colour and shape simultaneously – a beautiful demonstration of Klee's concept of line as a point in motion. The department was very helpful, and when I said what a marvellous doodling box it would be to have in the corner of my studio they lent me an Apple II plus inkjet printer over the vacation.

An idiosyncrasy of this machine was that the colours printed were quite different to those on screen – not just the usual discrepancy – so that reds always came out as green, and so on. Once I had figured this out, I set about composing colour ideas in quite alien keys to get the required printed colours, and of course these doctored colour schemes proved more interesting. I mention this because a computer can nudge your intuitive responses, make you think laterally and maybe more creatively – you can visualize so many more treatments, all with instant finger-tip control.

Since then I have graduated to an Amiga 500 with a Xerox 4020 inkjet printer, a much more refined set-up. The challenge, I now find, is to upgrade my paintings with this new alertness, this freedom, this sense of can-do.



*Hard Knocks*

**Born:** 1964

**Qualifications:**

Diploma in Art & Design  
HND in Design (photography)

**Photon:**

Set up in early 1987 to provide a commercial outlet for my Paintbox photography.

Clients include direct clients, Advertising Agencies, Design Groups, Publishers, Video and Recording Companies.

Work reproduced from brochure to billboard and commissions from Manchester to Manhattan.

Member of the Computer Graphics Forum and the Manchester Creative Circle.

Offered to help start a Northern branch of the Artists using Computers special interest group of A.C.A.D.E.

Speaker at the Art and Computers seminar, Camberwell School of Art, London.

Exhibited at many venues including the Manchester Creative Circle photography exhibition and the Birmingham Visual Communication Exhibition.

Work featured in 'Audio Visual', 'Select', 'City Life', 'Creative Review' and 'Image' magazines.

Contributor to 'Computer Images' magazine.

Listed in the Computer Image Directory,

Creative Handbook and Creative Review Creative index of 1987.

Financial support for Simon Scott at the centre for Computer Aided Design, Middlesex Polytechnic.

I gratefully thank Quantel for continuing support and Fuji Film UK for sponsorship.

**Statement:**

**MOVING MONEY** – produced on Quantel Video Paintbox

This piece of work was commissioned by Creative Review Magazine to illustrate an article on Film Director John MacKenzie. He had directed many television and feature films including 'Long Good Friday', 'The Honorary Consul', and 'The Fourth Protocol', but was having difficulty in Hollywood with his new film 'Hard Knocks'. The film was typical MacKenzie – a thriller with a murky plot about two fathers of murdered sons who wanted to find out why the deaths happened. After 8 months of work on the film Columbia cancelled the contract (oddly coinciding with the departure of David Puttnam from the same company) and MacKenzie was now being forced to look for backers and in the meanwhile make his living working in the more lucrative advertising market.

The image itself is framed by the feature film format which is decaying and weak at

the edges, symbolising the insecurity of film making as the accountants, politicians and big businesses begin to dictate to the industry from the outside. Inside the frame all is turmoil, MacKenzie is overlooking the scene and feels he is just another commodity in the financial media market. Safe in the distance is Hollywood, distanced from reality. On the right hand side of the frame lies MacKenzie's shattered dream. The stark setting and the two bullets on a pile of diamonds are all part of the ultimate 'hard knock' for the director. Puttnam and MacKenzie have now bizarrely become the fathers with the murdered sons in their own twisted plot.

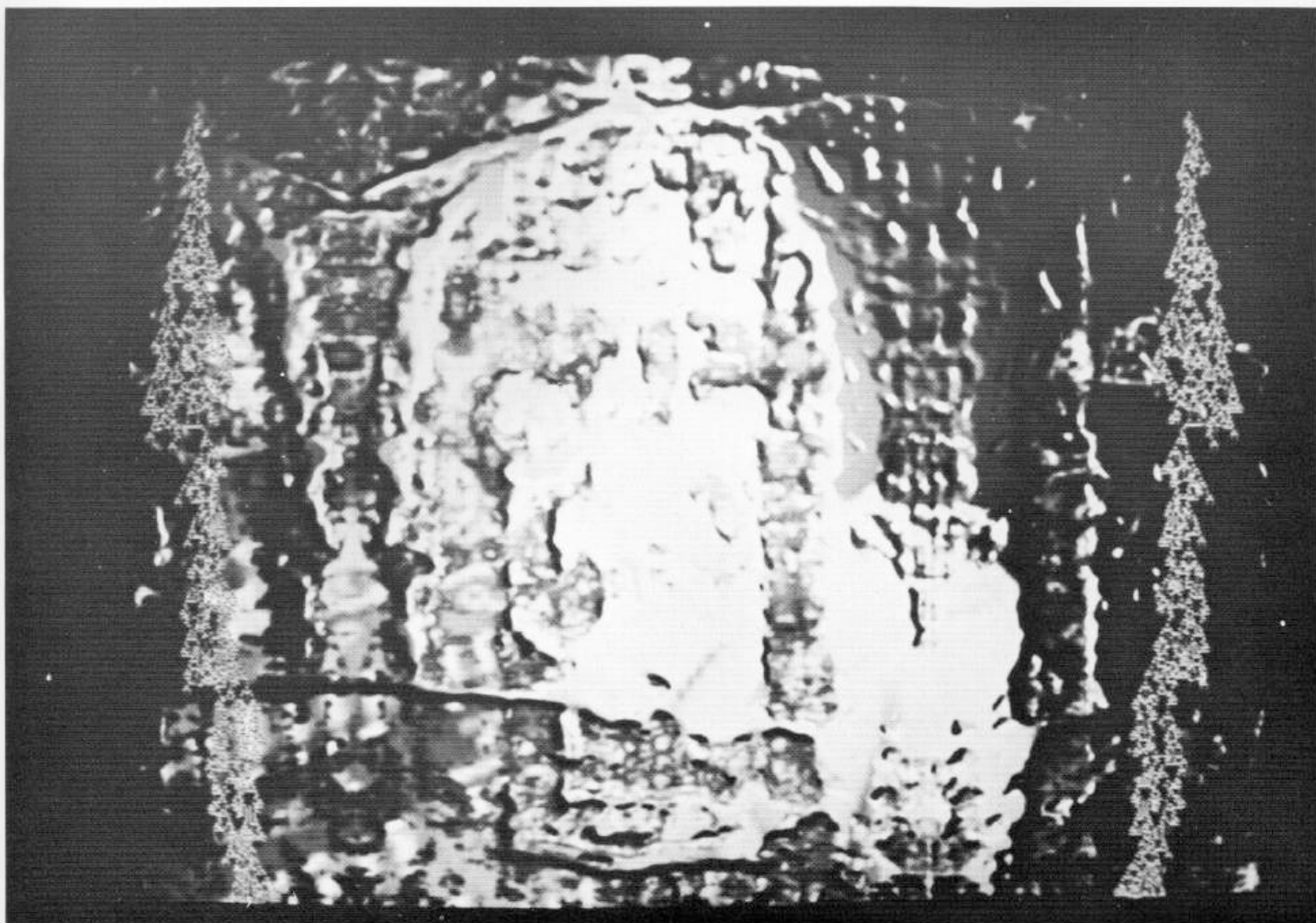
**PRIVATE LIVES**

Quantel Video Paintbox and Sharp CX 5000 Colour Copier

This image was produced as part of my own investigation into the surreal use of contrasting scales and textures within my work. The face is a widely differing yet very uniform image, however, variations which exceed individual mental limits become classed as deformities. This image displays physically impossible features and is somehow acceptable to the viewer because of that very impossibility. Feelings of pity or sympathy for the owner of this face are non-existent, it becomes viewed purely as a piece of art.



## Richard Wright



*Faith & Certainty - (The Shroud)*

**Born:** 6 September 1963, Barnet

**Education:**

1982 - 83

Art Foundation Course,  
St. Martin's School of Art, London,  
England.

1983 - 86

Fine Art B.A. Degree  
Winchester School of Art,  
Winchester, England.

1985

Student Exchange (Two Semesters),  
Denver University, Colorado, U.S.A.

1987 - 88

M.A. Computing in Design,  
CASCAAD, Middlesex Polytechnic,  
Barnet, England.

**Positions:**

1986

Research Fellow,  
IBM Scientific Centre, Winchester,  
England.

1987

Artist in Residence CASCAAD,  
Middlesex Polytechnic, Barnet,  
England.

**Statement**

Richard Wright's early work as a painter was concerned with identifying different approaches to creating visual art and exploring relationships between them in order to escape the notion of an egocentric 'style' and expose a deeper content level. At first Richard dealt with this mainly as an aesthetic issue. As he went on to experiment with conscious and unconsciously controlled creative processes he began to feel dissatisfied with conventional methods of producing art, and started to use mathematically based systems to provide independent sources of imagery and external constraints on artistic decisions. Due to the large number of calculations and the precision required for this kind of work Richard turned to computers as the most appropriate medium to work with. His first opportunity to use computer equipment was at Denver University and he began to exhibit at local galleries the intricate patterns that resulted.

After returning to England for the final year of his degree Richard continued his work at the IBM Scientific Centre in Winchester. At this time Richard believed that mathematics could be used artistically as a means of perception, specifically of natural phenomena, by simulating processes and visualising their outcome, and he felt that computer graphics could provide a way to directly experience and appreciate new

mathematical ideas about the world. In order to more fully explore the world of forms he was creating, Richard expanded his systems to allow for three dimensional interpretations and also for the use of computer animation to show patterns of growth and change. This developed into an interest in representation, and through the composition of soundtracks for videos to ideas of synthesising light and sound.

Much of 1987 was spent as Artist in Residence at Middlesex Polytechnic writing software to study more and more complex lighting effects and surface properties, becoming intrigued by the realistic yet artificial quality of 3-D rendered imagery, and its power to intimidate perception. Richard's work had by now diversified and shifted away from the more formal character of systems art and towards wider issues of their cultural and epistemological status. The aesthetic and perceptual properties of mathematical objects and computer generated graphics are still important, as well as the relationship of visual knowledge with other forms of knowledge. He is now also concerned with ideas arising from the value we assign to mathematics and logic, its role as a description of the world and as an expression of certainty about it, and the conflict between the rational and irrational aspects of the self.



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