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BULLETIN OF THE COMPUTER ARTS SOCIETY

Summer 2004

Special CACHe Issue

Contents

Editorial

Welcome to issue 57 of PAGE. The last time I edited a copy was over 20 years ago. Back then the text came on phototypeset galleys of bromide paper and had to be cut out (with a real scalpel) and pasted down (with real cow gum) onto layout card. Much care needed to be taken to ensure everything aligned to the horizontal, Line artwork was drawn using a technical pen and the positions of photographs were indicated with grey rectangles to be stripped in later by the neg compositor. Colour was forbidden - much too expensive!

A few years later the Apple Mac arrived on the scene and the world changed forever. Today I'm sitting in front of my inexpensive iMac and Adobe's InDesign software enables me to lay out this copy of PAGE in a fraction of the time and with much greater flexibility than was ever possible back then.

My nostalgia conveniently brings me to the subject of this special issue of PAGE. It's a product of the CACHe project at Birkbeck College. This AHRB-funded research program is preserving and contextualising the early days of the computer arts and one of its outcomes was the recent re-formation of the Computer Arts Society and the re-establishment of PAGE.

I'm grateful to my colleagues on the CACHe project for their support and assistance in preparing this copy of PAGE and especially for their provision of much of the content. Also a big thanks to Robin Shirley for permission to reproduce his presentation given in 1973 at the CAS event Interact at that years Edinburgh Festival. And to Alan Sutcliffe - PAGE Editor - for inviting us to put this special issue together.

There's also a things "To Do (Samsara)" section though, given the three month frequency of PAGE, we will try and keep a more up-to-date listing of events and opportunities of interest on the new CAS website. This should be online soon!

Paul Brown
Visiting Research Fellow
Birkbeck College

May 2004

CACHe is: http://www.bbk.ac.uk/hafvm/cache/

THE CACHE PROJECT: ITS AIMS AND OUTCOMES

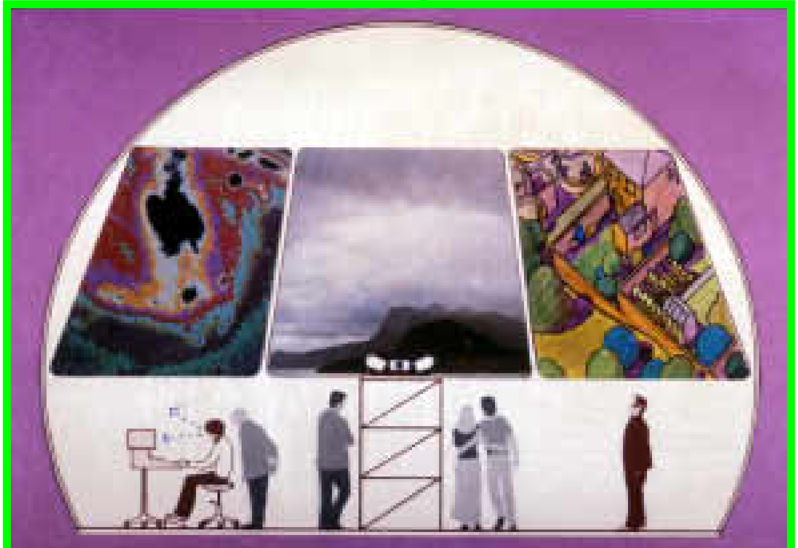
Dr. Nick Lambert

The CACHe project was begun to discover the extent of the pioneering effort, collate the most important works (centred on the CAS collection at SSL) and create a history based on its findings.

CACHe is an acronym for "Computer Arts, Concepts, Histories, etc." Apart from the obvious computer memory links, a cache can also be a hoard or collection of precious objects, usually concealed from view. All these ideas inform what the CACHe Project is and what we do, because in a sense we are providing a memory for Computer Arts based on the concealed objects we have discovered in the course of our research. But I'm jumping ahead of myself here, so let me first explain why we came to be.

CACHe was first mooted because one of Britain's leading pioneers in computer art and graphics, John Lansdown the former dean of Middlesex University's Faculty of Art and Design, sadly passed away in 1999. Lansdown had been such a driving force behind the use of computers in the arts that he spanned many fields, notably architecture, graphics and dance.

In this field, as in many other areas which are seen as fringe art activities, people have an annoying tendency to throw out key artifacts just because they are cluttering up the house or because their makers are now defunct. Fortunately, Lansdown left a significant archive to Middlesex University at his death. However, much of his work and his art-related collections were not included in this archive but remained with George Mallen at Systems Simulation. Here they formed part of the holdings of the Computer Arts Society, founded jointly by Lansdown, Mallen and of course Alan Sutcliffe in 1969, which provided a meeting place and focus for the growing field of computer art in its formative years. This archive contained the work of many artists, writers and contributors to CAS besides Lansdown, and was thus a unique record of the interlinked personalities, ideas and technologies that gave rise to British computer art.



By early 2000, Paul Brown, himself a noted computer artist and educator based in Australia, was searching for a permanent home for this joint archive. Paul hoped to save Lansdown's archive and the CAS records in some institutional setting where they could be properly investigated and written up. He held meetings with the Arts Council, Science Museum, Museum of Photography and George Mallen. In late 2001, it was proposed that the project should be based at Birkbeck College under the aegis of Dr Charlie Gere, who runs a flourishing Digital Art History course there. Coincidentally, Gere had done his PhD under Lansdown at Middlesex and was keen to see the pioneer's work preserved. Paul began to frame an application to the AHRB – the Arts and Humanities Research Board, which was moderated by Charlie and George. The AHRB awarded us a record grant of £250,000, the largest so far awarded to a single project. And it was granted on the first application, something neither Paul nor Charlie expected!

CACHe is investigating the early days of the computer arts in the UK from their origins in the 1960s to the 1980s, when the first personal computers began to be used. The project intends to archive, document and contextualise the computer arts. Its principal goals are to recover this history and confirm its cultural and aesthetic legitimacy.

CACHe aims to:

- Recover the work of leading pioneers in the field of digital-based art in Britain
- Identify artists, works, events and publications
- Document the contributions of artists, researchers, authors, academics, institutions and publications
- Collect material to create a permanent national collection based on a number of archives, including that of the late John Lansdown, co-founder of the Computer Arts Society and a pivotal figure in this field during the 1960s-1980s
- Construct a critical and historical context for the computer arts

Enable access to this research through an online database, books, videos/DVDs and other materials

CACHe's work includes tracing and contacting people associated with the field during this period, or their families. In all cases, we are trying to build up a comprehensive picture of the digital arts in the 1960s and 1970s in the UK and cross-reference them to international developments. Our main outcomes are a scholarly book with many contributors, all either in the field at the time or later critics; a popular book being written by Paul Brown; a national archive to be established from the collections we've accumulated; and the possibility of an exhibition beyond 2007/8.

It should be noted that at the beginning, we though we had a nicely delimited area to explore. We knew roughly the extent of the CAS archive at SSL and the Lansdown collection at Middx; we also knew there was a further collection of Lansdown's papers and works in his old basement and we assumed there would be a scattering of personal papers with computer artists. But as our research progressed, we started to uncover – and receive! – vast amounts of material that found its way out of people's lofts and cellars into our overflowing shelves. As each new collection came to light, so a much more complex picture of early British computer art emerged.

Some of it appeared in the earlier editions of the Computer Arts Society magazine PAGE, which we have digitised, and other parts emerged quite unexpectedly to complicate the nice neat picture we had initially assumed. A range of artists, designers and computer graphics pioneers presented themselves. Most poignantly of all, the relatives of deceased artists who had lovingly preserved their collections in the hope that someone might find them useful began to come forward. Thus far we have discovered over a dozen major archives and numerous small personal collections, all tied together by an expanding web of personalities and shared interests.

PART TWO: COLLECTIONS AND STRATEGIES

In terms of its collections, CACHe has several levels of access. Firstly, there are archives like that of the Computer Arts Society which reside partially or wholly with us. Secondly, there are those like the Lansdown Archive which are with other institutions. Thirdly, there are several significant personal collections which have been promised to us or at least opened for our usage. In practical terms, it means that many of the archives we deal with will eventually come under the aegis of CACHe and be passed on to an institution when the project ends in 2005.

This reflects CACHe's mission to provide a home for these previously disparate archives, in order to place them in an historical context and make them accessible for future researchers. The upshot for our own project is that we must also place the material on a website, which will be served by a database backend. Here I must acknowledge the support of George Mallen who, by remarkable coincidence, has developed the industry-standard MUSIMs database for museums and has kindly allowed CACHe to make use of it in our work. Our aim is to catalogue the extent of all archives that we will be responsible for and then scan the most significant material, i.e. that which is of greatest historical moment.

Of course, defining what this material might be presents some ticklish problems. In general, we are looking for work that was influential: major artworks, writings, arguments and exhibitions. Part of the reason the Computer Arts Society was so important is because their magazine PAGE, which ran from 1969 to 1985 almost uninterrupted, hosted many of the leading computer arts practitioners and theorists. The CAS also exhibited widely and at several seminal exhibitions, notably their first show "Event One" in 1969 and "Interact" in Edinburgh, 1973, they made a considerable impact. Because these events showcased so much contemporary computer art, the records of their exhibitors and the links these provide to the artistic and technological milieu are invaluable. Not only did CAS have a role in supporting art, its members also created it and one project, George Mallen's Ecogame of 1970, was a genuine step forward in both art and technology, involving as it did a vast multimedia presentation featuring screens, computer terminals, sounds and outcomes worked out through an artificial intelligence program. Thus by using the CAS archive as the core of our project, we are able to bind other sources to it, even certain computer artists and designers who remained outside the Computer Arts Society.

But the nature of this computer artwork in itself presents problems, many connected to the technological basis of the art. Many readers will appreciate the issues of trying to run software designed for old and obsolete systems, either by resurrecting the hardware or emulating it on something more modern. Now consider how to approach a piece of art whose physical form may seem straightforward enough – a plotter output, say, or a sheaf of sprocket paper with lines of computer poetry. These physical remnants we scan and present as graphics. But what about the program that generated and delivered these images or words? It is an absolutely essential part of the art, indeed its fundamental basis and raison d'etre, in a sense, but without the computer that ran it (and often without the code itself), all we can do is exhibit the paper trail it left behind. And certainly, many computer artists of the time were happy to present these printouts as the "art". Yet huge interactive projects like the Ecogame left very few material traces – a few grainy photographs and a slide are all that remains, unless George has something in the attic! How do we convey their scale and scope, and the fact that whilst being a game, albeit one of serious nature, the Ecogame was also intended as a work of art in a performative and operational sense?

These questions are not simply thorny issues for our project, nor are they mere artifacts of an eccentric way of producing art which – after all, as some would say – has yet to make it in the mainstream. Rather, the issue of what constitutes computer art, whether the material form, the interaction or the overarching project, instructions and all, was the subject of fierce debate in the early years of the Computer Arts Society.

In one debate, the German computer art theorist Frieder Nake, wrote in PAGE 18 that computer art "is nothing but one of [the latest] fashions, emerging from some accident, blossoming for a while, subject-matter for shallow […] reasoning based on euphoric over-estimation, vanishing into nowhere giving room to the next fashion." He thought that the concept of art itself should be given up as a purely self-serving notion.

John Lansdown responded in the next issue, saying that Nake confuses mere "graphics" with the wider notion of "computer arts" which, as he points out, manifests itself in numerous other forms such as computer poetry and (Lansdown's particular interest) computer dance, and goes beyond a traditionalist concept of visual art.

Later, in PAGE 22, Gary William Smith, an American artist and theorist, countered Nake by asking who is able to say what the outcome of this young artform is, and why should it fall to Nake to try and constrict it? Smith also questioned the validity of the term "Computer Art" in PAGE during 1972. Did this term protect certain of its manifestations from proper criticism? The weight of expectation arising from such an over-used category deflected attention from the intrinsic qualities of existing computer artwork, which he felt were lacking. Indeed, Smith considered that putting the word "computer" in front of "art" gave the artwork a special significance it did not deserve – he called it a "crutch". It also implied that works of "Computer Art" were only relevant in relation to each other, and if so they did not succeed as "art". [Smith 1972: PAGE 22]

In fact, this constant debate about the nature and aims of computer art, this chimeric creature to which the Computer Arts Society hitched its wagon, is the underlying theme of PAGE over the course of nearly twenty years.

One of the researcher's privileges is to be able to see such things developing over time, arguments taking shape and people refining their art or striking out in wholly new territory. What CACHe must try to do is present this vitality to a wider audience, simply because the issues discussed in PAGE through the 70s and 80s are still hugely relevant to computer art design in all its forms today. This is far from a matter of purely antiquarian interest! Rather, it should inform the approach of all researchers and practitioners in this field, as should the story – and I think it does have a narrative drive to it – of British technological art in the 60s-70s, its meteoric rise, drift into obscurity and eventual resurrection. I think that's a story which the CCS is not unfamiliar with, as it would seem to mirror the fortunes of British technology, especially computing, in the wider sense.

PART THREE: IHNATOWICZ

By way of illustration, I would like to consider the career of one particular artist whom, I feel, has come to symbolize the varied aspirations, successes and failures of this vital period, Edward Ihnatowicz. We put a picture of him on our second CACHe postcard, not just because he looked the part of the mad inventor creating some bizarre contraption, but rather because he signified a particular combination of mechanical genius, artistic vision and practical application that would make him a towering figure in any other field. But the peculiar curse of computer art, up until now, has been to condemn such people to obscurity! Let me first explain how we came to discover his archive, then his art. He can also serve as a model for CACHe's approach to finding things almost serendipitously. The two people who deserve greatest thanks for rescuing and perpetuating the Ihnatowicz archive are his widow Olga, who preserved so much of his work in excellent conditions at their home, and the Dr Alex Zivanovic, a robotics lecturer from Imperial college whose indefatigable curiosity and energy regarding Ihnatowicz's robots finally paid off when he found the archive.

Ihnatowicz emerged from our research because he was so widely mentioned by other artists as an influential figure. A Polish émigré from the Second World War, he settled in Britain and studied sculpture at the Ruskin School of Drawing in Oxford. After a period working for Henry Moore, he settled in London and worked as a furniture designer throughout the 1950s. However, Ihnatowicz completely changed his life around in the mid-1960s when, having discovered hydraulic and robotic systems, he went to live and work alone in a garage in North London to perfect his ideas for kinetic art. In a short space of time he acquired expert knowledge in these areas. After exhibiting a sound-activitated mobile, or SAM, at Jasica Reichardt's "Cybernetic Serendipity" show in 1968, itself hugely influential, he began developing and building a new robotic sculpture in conjunction with UCL's Robotics Lab.

Ihnatowicz's Senster was developed from his work with hydraulics and sound feedback systems incorporated in his sculpture Sound Activated Mobile, displayed at Cybernetic Serendipity. Unlike most of CAS's work it was not a print or animation, but a giant robotic sculpture directed by sound and controlled by a computer, from a remarkably simple program. It attracted great attention when displayed at the Philips Evoluon from 1971-1974. Though the Senster predated his involvement with CAS, it seems to encapsulate everything that CAS tried to achieve.

It is also worth noting that much of the historic development of Computer Art had to take place outside the usual venues and locations for "art" because of the size and nature of the technology involved. This also applied to the patrons who backed it and the venues where it was displayed. Ihnatowicz's Senster, which was hugely expensive by 1960s standards (costing £6000 when a semi-detached house could be bought for £4000!) was bankrolled by the Philips company for the Eindhoven showcase Evoluon. [Letters from the Ihnatowicz Archive]

Now that the sculpture has been put out to grass in a forlorn Dutch field, the computers are long-since dismantled and Ihnatiwicz himself is sadly deceased, what remains of the Senster's remarkable concept? Only the rusting frame, which in its inanimate state hardly represents the work which Ihnatowicz had in mind. In this sense, the photographs and films are more than snapshots or footage: they incorporate something of the original work in their very existence because quite apart from their status as visual records, they also show the Senster's operation and the audience's reaction. In this, they convey Ihnatowicz's concept in more than merely visual ways.

I think a "work" of Computer art – I use the term in a musical sense – is distributed over each of its manifestations, none containing a canonically identifiable "pure" artwork, but all being instances of it. This might mean that sequences captured on film or paper from an interactive artwork convey something of its essence - in a sense, transferring a reflection of what made it "art" - and if they go on to survive the years whilst the original is switched off and dismantled, then they have proved their "fitness". They go on presenting a fragmentary echo of the original artistic idea, and whilst they have no status in the gallery they perform an important task in furthering the artist's vision and concept. Moreover, they can even lead the researcher back to some physical instance of the original artwork, as with the chain of discoveries that led me back to Edward Ihnatowicz's archive and the physical remains of the Senster. It is theoretically possible (given funding and expertise) to take Ihnatowicz's plans, structures and copies of his original computer program and make the vast hydraulic robot live again.

In the person of Edward Ihnatowicz, then, it would seem the contradictory strands of Art & Technology, of CAS's aspirations and EAT's potentials, were resolved in one artist who was simultaneously an engineer. In this, he fulfilled Knowlton's prediction that the most meaningful technological artworks would come from artists fully acquainted with technology, not from art-engineer partnerships. Although the Senster was constructed by the robotics team at UCL, it was indubitably the outcome of Ihnatowicz's vision.

CONCLUSION

CACHe is important not merely because it is an archival exercise to retrieve a significant yet overlooked area of British art. It is also a repository of potential ideas that may yet be reclaimed by artists with the vision to use them. As Robin Shirley has said regarding the Computer Arts Society, there was much unfinished business in terms of the ideas it generated: so many projects undeveloped because the technology and the artistic community of the 1970s had not caught up with them. My fervent hope is that by providing an historical record, CACHe will spur a new generation of digital artists to build on these early foundations instead of attempting to reinvent the wheel, resulting in the often banal and aseptic "Net Art" of the present day.

And from a broader perspective, the art here comes from a time when the disciplines of science, computing and the arts were less divided than they appear at present.

Dr. Nick Lambert is a Research Fellow at Birkbeck College, School of History of Art, Film and Visual Media where he is working on their CACHe Project.

This is the text of his presentation at the CAS event **UK Computer Arts to 1980** held in collaboration with the **Computer Conservation Society** at the London Science Museum, Thursday March 25th 2004.

ROUTES TOWARD BRITISH COMPUTER ARTS: EDUCATIONAL INSTITUTIONS

Catherine Mason

The concept of using computers in art started in a sympathetic social and political climate in the UK. Although in the initial post-World War II period there were no computers available to artists, there was a great wealth of conceptual thinking, informed by cybernetics, which influenced the next generation. With advances in technology and the formation of the polytechnics in the late 1960s, computers became available. In certain institutions, a limited number of artists took up this as a tool, working method or metaphor for practice. Due to these unique issues of access, we find that both artists and persons from a technical or scientific background created work during this pioneering period.

The complexity and rarity of computers at the time meant that any artform based around them was bound to be a specialised branch of art, highly dependent upon support and funding to exist, not least because of the expensive, large-scale nature of much early equipment and the resulting technical expertise required to operate it.

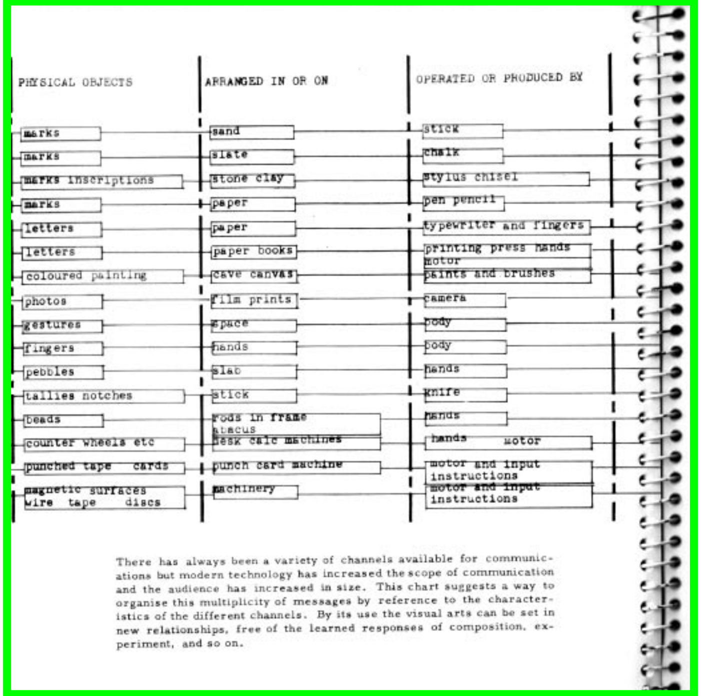
Therefore it is not surprising that much of this work did not take place in traditional art spaces. In the face of much official disinterest, the pioneers of computer arts found ways to exist largely outside what may be considered the mainstream artworld of dealer-gallery networks.

This article is an introduction to the role played by British art schools in fostering computer arts activity during the period 1960-1980, and represents only a fraction of the research uncovered so far. It is a portion of a presentation given at the joint CAS/Computer Conservation Society meeting at the Science Museum on 25 March 2004.

Modern public art education in Britain can be traced back to the founding of the Government School of Design created in 1837 - the ancestor of the Royal College of Art and the Victoria and Albert Museum. As opposed to the previous private academies or drawing clubs, the School of Design was the first state supported art school in England. Subsequently, branch schools were established, so that by 1851, seventeen provincial institutions were in existence. They were created to teach design skills using the latest tools in order to stop the decline of industrial art and to compete with Europe. Their special reference to manufacturing is evident in that they were originally run under the auspices of the Board of Trade.

In the early days, there was much wrangling over the exact nature of the curriculum. The painter B R Haydon, who had been instrumental in lobbying Parliament about the idea initially, believed the schools should be modelled on the traditional Renaissance academy prototype. In other words, studies should be based on the human figure and antique drawing. The idea was that some students would then become fine artists, other artisans, with fewer of the former. The Board of Trade, however, decided against this and study of the human figure did not feature in the curriculum. But by 1845, Haydon had won, and the prevailing view amongst the establishment was that the figure should be taught. This had the profound effect of turning the schools into establishments teaching both art (based on the 'high' art of figure drawing) and design (ie., latest technology) in one place.

In the 19th-century, mutual understanding between scientists and the arts was assumed to be not only possible, but desirable. The Victorian willingness to embrace new technologies can be seen in the world's first international exposition, The Great Exhibition of 1851 and ultimately the concept of Albertopolis, (the greatest concentration of arts and science institutions in the world) as a vision for the arts and sciences integrated with society. This engagement with the disciplines of humanities and science - namely a long-term belief that together these disciplines were capable of social reform through the reform of design, notions of education through display within an international context and the belief in technology to positively influence these outcomes, has parallels with early computers arts activity in educational institutions.



PHYSICAL OBJECTS	ARRANGED IN OR ON	OPERATED OR PRODUCED BY
marks	sand	stick
marks	slate	chalk
marks inscriptions	stone clay	stylus chisel
marks	paper	pen pencil
letters	paper	typewriter and fingers
letters	paper books	printing press hands motor
coloured painting	cave canvas	paints and brushes
photos	film prints	camera
gestures	space	body
fingers	hands	body
pebbles	slab	hands
tallies notches	stick	knife
beads	rods in frame abacus	hands
counter wheels etc	desk calc machines	hands motor
punched tape cards	punch card machine	motor and input instructions
magnetic surfaces wire tape discs	machinery	motor and input instructions

There has always been a variety of channels available for communications but modern technology has increased the scope of communication and the audience has increased in size. This chart suggests a way to organise this multiplicity of messages by reference to the characteristics of the different channels. By its use the visual arts can be set in new relationships, free of the learned responses of composition, experiment, and so on.

In the early 1960s artists were not actively using the computer here. Throughout the 1950s and early 1960s, computers were at an early stage in their development, commonly thought of as 'number crunchers' or referred to as 'electric brains'. Not only was it difficult to access this equipment, at this stage it was difficult to perceive of the computer as being an art method or material, let alone one with capacity for interactivity. The new scientific development of cybernetics was to inform the gestation of computer arts. The term cybernetics was first used by Plato in his dialogs on The Laws and The Republic; in the early 19th-century it was used by the French physicist Ampere; in the 20th-century it was reinvented by the MIT mathematician Norbert Wiener, culminating with his book Cybernetics, or Control and Communication in the Animal and the Machine (1948). According to Weiner, at a basic level, cybernetics refers to "the set of problems centred about communication, control and statistical mechanics, whether in the machine or in living tissue". Cybernetics, the study of how machine, social, and biological systems behave, offered a means of constructing a framework for art production in which artists could consider new technologies and their impact on life.

In London, this is what happened with the younger members of the Institute of Contemporary Arts (ICA) - the so-called Independent Group. The Group met officially between 1952 and 1955 and included Richard Hamilton, Eduardo Paolozzi, Nigel Henderson, William Turnbull, Lawrence Alloway, Rayner Banham, John McHale and others - a cross-section of the visual arts, theory and criticism. They were interested in the implications of science, new technology and the mass media for art and society. They informed the next generation's interest, not least through their influence on advanced art educational developments in the 1960s, inspired by the Bauhaus example. They were inspired by Scientific American, Wiener's writings, Claude Shannon's Information Theory, von Neumann's game theory and D'Arcy Wentworth Thompson's book On Growth and Form (1917).

Hamilton, Banham and others of the Independent Group were involved with the exhibition This is Tomorrow at the Whitechapel Art Gallery in 1956. In the catalogue they wrote of, "communications research [offering] a means of talking about human activities (including art and architecture) without dividing them into compartments."

They cited potential tools and methods of practice. As well as the more traditional such as, "fingers, arranged in or on hands, operated or produced by body", the authors also list "punched tape/cards arranged in or on punch card machine operated or produced by motor and input instructions". They also acknowledge Edmund C Berkeley and Giant Brains. Berkeley was president of E.C. Berkeley and Associates, actuarial consultants in Boston. His book Giant Brains, or Machines That Think, first published in 1949, was both a primer and manifesto, describing concepts such as binary and input/output. So we can see these young artists' belief in the power of modern technologies, even emergent ones (like punch cards) for which the exact artistic employment cannot have been fully clear. This must rank as one of the first published allusions to 'the computer' in relation to artistic practice in Britain

In 1953, Hamilton went to teach under Lawrence Gowing, Professor of Fine Art at King's College, Durham University (at Newcastle upon Tyne). Together with Victor Pasmore, Hamilton set up and ran the 'Basic Design Course', building on the Bauhaus concept of an integrated method of teaching by bridging the gap between the disciplines of the life room and the rigours of basic design. (A similar Basic Course set up at Leeds College of Art by others.) This was a unique concept at this time - no more copying from plaster casts, which had dominated art education since the Royal Academy.

Roy Ascott, a student of Hamilton's and Pasmore's, was encouraged by the process-driven way of working taught on the Basic Design Course. At the time Ascott was working on relief sculpture, where the viewer is complicit with the artist in making the artwork, as seen at his 1963 exhibition at the South Molton Gallery in London. These 'change paintings', as he termed them, were inspired by Pasmore's constructivism, but incorporated an interactive element that reflected Ascott's interest in communications and interactivity. This, together with his previous experiences of working with radar in the RAF, formed his interest in cybernetics. In 1961, Ascott went to Ealing Art School as Head of Foundation Studies to create a two-year course informed by the principles of cybernetics.

Described by Gustav Metzger as "the leading art school of the day", Ascott met Harold and Bernard Cohen, who were teaching in Ealing's fine art department and Ron Kitaj, among others. Ascott called his course the "Ground Course" - to emphasis learning from the ground up. He brought in a number of important artists and theorists, including Metzger and Gordon Pask to give lectures and demonstrations. This was a revolutionary course - there was no official 'timetable', Ascott developed a way of teaching art that was not based in the traditional 'master and apprentice' system. Instead, he made behaviour and process the model for the course, stressing interdependence, co-operation and adaptability, setting student projects using analogue devises such as calibrators for selecting human characteristics and behavioural alterations in a random but systematic manner.

Ascott's course was among the first Foundation Courses set up. Foundation courses had come about as a result of the radical reform of education in the art and design sector put forward in the First Report (1960) of the National Advisory Council on Art Education, under Sir William Coldstream, Slade Professor at University College London. The effect of the Coldstream Report was the replacement of the outdated National Diploma in Design with the New Diploma in Art & Design (DipAD), which in turn paved the way for the introduction of degree-level (BA) fine art courses.

Ascott later moved to Ipswich Civic College (from 1964 to 1967) as Head of Fine Art. His important contribution to art education can be traced through the following generation. The then sculptor Stroud Cornock met Ascott at Ipswich in 1965 and later took his influential ideas to the City of Leicester Polytechnic, where he founded 'Media Handling' in 1968. One of the main principles of this course was the belief that any medium had validity for artistic activity. This had obvious relevance for people who wanted to work with computers, and indeed, Stephen Scrivener - working on kinetic and light pieces, passed through this course as an undergraduate, before going on to the Slade School of Fine Arts in 1972, where he was the first to do computational work in the new 'Department of Experiment'.

Gustav Metzger himself was one of the first artists to actually detail the specific use of a 'computer' in relation to his practice. His 1961 manifesto declared his interest in computer controlled cybernetic systems, "The immediate objective is the creation, with the aid of computers, of works of art whose movements are programmed and include 'self-regulation'." Later, he gave a lecture at the Architectural Association (1965) with specific details about how computers can be used in sculptures to be auto-destructive. Metzger's position countered those who advocated the utopian possibilities of the coming computer age, with sobering details of its origins in military research. Metzger's "biggest project ever proposed", Five Screens with Computer, was too late to be included in Cybernetic Serendipity, but did appear in the catalogue with an illustration. Several models for this work were subsequently exhibited at Event One (1969). Due to the massive scale and prohibitive cost, this project is as yet unrealised. However, Metzger's ideas had a great impact on those of his peers and the younger generation (he later became the first editor of PAGE).

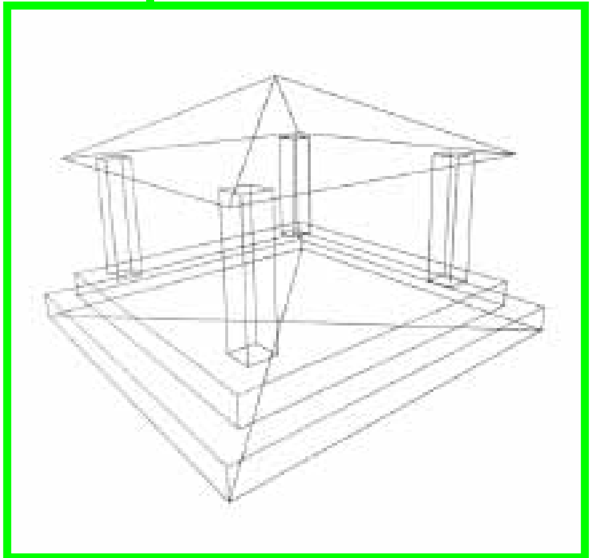
It is worth remembering that this early activity took place amongst Harold Wilson's 'White Heat' government. At the 1963 Labour Party Conference, Wilson promised a Britain "forged in the white heat of this revolution" with "no place for restrictive practices or for outdated methods". Post-war expansion of science funding was massive - government expenditure in 1962/3 was ten times that of 1945/6 and at least half of this outlay was on technology that had not existed before the War. Science and technology was seen as the engine of progress, a driving force for industrial innovation and economic prosperity. Wilson set up a Ministry of Technology to promote industrial efficiency and the use of new technology in industry.

The great interest in cybernetics and art in Britain during the 1960s culminated in the exhibition Cybernetic Serendipity at the ICA, curated by Jasia Reichardt in 1968 and opened by Tony Benn, as Minister of Technology. It is still considered to be the benchmark 'computer art' exhibition for its influence on many pioneers as well as introducing the subject to a wider audience. It is remembered for its innovation and inspiration not just by pioneers, but has become legendary amongst a younger generation as well.

The next generation of pioneers growing up in the climate of optimism around from the mid-1960s, culminating in Cybernetic Serendipity, started coming through the art school system in the early to mid-1970s. One of the main characteristics of British computer arts of the 1970s, was that it involved artists who either learned to programme and write code themselves or built up a working relationship with scientists, engineers or technicians, at a time when the computer itself was at a formative stage. This was made possible largely by the creation of Polytechnics, which concentrated expensive resources into fewer, but larger multi-disciplinary centres. The first ones were designated in 1967 and many art schools were amalgamated into them. In a few institutions, at least, the result was that artists had the opportunity to access expensive and specialist computer equipment and technical expertise (generally belonging to science or maths departments) for the first time. These provided not only education and training but, in some cases, career incubation, employment, research facilities and networking opportunities. This was a unique feature of British education - as an art student, one could learn to programme. Thus, at the Polytechnic, it was theoretically possible to study art and craft (technology) together, as in the first public art schools opened in the 19th-century.

Important centres for computer arts developed in a limited number of centres. These included Leicester, Coventry and Middlesex.

At Coventry School of Art (in the process of becoming Lanchester Polytechnic), Clive Richards (then a technical illustrator) was able to work with Ron Johnson, Head of Computer Science, on an Elliott 803. Writing in Algol, he produced first a picture of an obelisk in 1969 and, in 1970, Spinning Gazebo, the first computer animation done in a British art school, later creating the CACTI (Computer-Aided Construction of Technical Illustrations) package. At the same time, the conceptual art group Art & Language started at Coventry involving Terry Atkinson, Michael Baldwin, Dave Bainbridge and Graham Howard – concepts based on computational methods were approached from a fine art tradition. In this way people from the two backgrounds of design and fine art were able to meet/cross in computers.



Middlesex Polytechnic incorporated Hornsey School of Art and Enfield and Hendon Colleges of Technology. In 1968, John Vince, then a programmer, was put in charge of the Honeywell computer (24-kilobit memory) and a "very rare" plotter - the Calcomp model 565. Vince developed one of the first packages for artists, PICASO (Picture Computer Algorithms Sub-routine Orientated), written in Fortran. Artists who worked with John Vince at Hornsey include Darrell Viner and Jullian Sullivan (who later went to the Slade). Later, Vince and his colleagues ran training courses for the television industry (especially the IBA and BBC), teaching designers who had never seen a computer before how to do animation in a short period of time. In 1985, with a grant from the Thatcher government, Middlesex became The National Centre for Computer Aided Art and Design under Paul Brown, a graduate of the Slade. In 1988, this was headed by John Lansdown (later to become the Lansdown Centre).

Art Schools that were not amalgamated into Polytechnics, but developed a strong presence in computer arts include the Royal College of Art (Computer Aided Design began 1967) and The Slade School. At the Slade, the Department of Experiment (later known as the Department of Experimental and Electronic Art), was set up by Malcolm Hughes, a systems artist in 1972. Hughes was instrumental, along with Chris Briscoe, (who later become Head of the Department), in acquiring computer hardware for artists to use at this early date and persuading management to fund computing for artists. Artists who passed through this department include Dominic Boreham, producing plotter drawings written in Fortran and Stephen Bell, who used the teletype machine, previewing his generated images on an oscilloscope, before plotting on to a flatbed plotter using mapping pens and brushes. Later, in the late 1970s, a Tectronics vector graphic display with built in keyboard was acquired.

The Slade department ran until 1981.

In addition, activity took place in a small number of other academic institutions. At the Institute of Computer Science (then in Gordon Square),Tony Pritchett created the Flexipede, in 1967 - the first computer animation in Britain, later exhibited at Cybernetic Serendipity. At University College London, Edward Ihnatowicz worked in the Department of Mechanical Engineering, as a researcher into robotics, building his major work the Senster (1971). At Imperial College, with its ties to the Royal College of Art, Kit (Colin) Emmett and Alan Kitching developed Antics animation software starting in 1971-2, using punch cards on the IBM mainframe with the results plotted on the SC4020.

In this way, the efforts in educational institutions impacted technological developments in the wider world. As the Polytechnics had the equipment and the practitioners within had the expertise, they took on commercial work for advertising agencies and clients like the BBC. As the decade continued and into the 1980s, the field started to grow commercially. Computer animation techniques in particular were in high demand with the entertainment and advertising industries. Pioneers, being trained in computer techniques, also found they had transferable skills. Some migrated from educational institutions to found commercial production houses. Digital Pictures was formed by Paul Brown and Chris Briscoe initially in partnership with the Slade, as a way of running and maintaining the computer there. System Simulation was founded in 1977 by Mallen and Lansdown, with others from the Computer Arts Society and worked on animation projects such as graphic elements within Ridley Scott's Alien. Although part of the service industry, such ventures were also important places of research and development while their participants continued to make art and in some cases, teach. Other pioneers were involved with artist-led initiatives and/or held down day jobs in the computing industry. In this way crucial links between the upcoming generation and the latest technological developments were created.

With thanks to all the pioneers who have so very kindly donated their time, expertise and enthusiasm to this project.

***CALL**: I am mapping educational provision during this period and if you were working with computers or in a programmatic way, I would be very pleased to hear of your educational experiences - please contact me. cs.mason@hart.bbk.ac.uk*

Catherine Mason is researching the cultural institutions that educated, supported, managed and funded early British computer arts, with the CACHe Project.

This is the text of her presentation at the CAS event **UK Computer Arts to 1980** held in collaboration with the **Computer Conservation Society** at the London Science Museum, Thursday March 25th 2004.

COMPUTERS, POETRY AND THE NATURE OF ART

Robin Shirley

The ideas which follow have their roots in discussions in the Poetry Seminar/Workshop at University College London during 1965-67, and reflect several years' experience writing and using computer poetry-generating programs, mainly BARD 0 and BARD 1D, at the University of Surrey.

Some biographical notes: My age is 32 years; I have been writing poetry for 16 years; using computers for 8 years; and programming them to produce poems for 5 years. My principal profession is the study of the structure of crystals and its application to some medical problems.

This has helped me as a poet in three ways: it has brought me in daily touch with beauty and symmetry; it has kept me out of Departments of English; and it has given me access to powerful computers, which I and my friends have used some of the time for producing poetry.

Let's call the kind of work that is produced "computer-assisted poetry" (CAP). Of course it is really the algorithm or recipe by which the text is manipulated, rather than the computer, which characterises works of CAP, but as it is now natural to express this in the form of a computer program so that it may be run on a general-purpose digital computer, the title is not seriously misleading. It does at least avoid two common misunderstandings fostered by the name "computer poetry", namely that it might be poetry about computers, or produced by computers in some more or less spontaneous fashion.

A brief outline of some aspects of the operation and use of the BARD programs will now be given. A more detailed account has been published elsewhere [1] and can be referred to for further information.

Firstly, the vocabulary of words and phrases ("elements") is quite distinct from the program that carries out the manipulations. They form separate card decks, and only come together at run time. The element deck determines the particular poem that will be produced, and so, by changing the element deck, a variety of different poems can be produced by using the same program.

Very little skill or labour is involved in converting a written list of elements into the form required by the computer, but a considerable amount of poetic skill and effort may be needed to compose the list in the first place, so that the use of these particular programs does not save labour, nor attempt to replace human poets. Instead, they modify the poets' attitude to their material, and make available alternative modes of working.

The principal change is that they must think of the elements not as parts of a fixed sequence, but as implying a web of possible connections, or as pieces in a mosaic. Thus, the poets retain only indirect control over form, but must be far more aware of alternative possibilities than is usual.

The BARD programs are written in the ICL 1900 dialect of the Algol language. They use open forms in which the poem is composed by assembling the elements into chains of partly indeterminate length, rather than the more limited closed forms in which they are slotted into holes in a fixed framework. Additional information is provided by reading in a group of numerical tags with each element.

This information is employed by the selector subroutine, which contains a quasi-random number generator, to guide its choices as the stanzas of the poem are built. The rules and form, to which the development of the poem is subject, depend on the particular version of the program that is being used.

Poems produced using the programs have been published [2, 3], broadcast [4], and displayed and performed on a number of occasions at festivals and elsewhere. Sometimes the audience has been told that a computer was used, sometimes not. A number of them will be performed in the live events associated with this conference, and copies will be available.

An objection on grounds of principle that I repeatedly encounter is "but is it poetry?" or, more often, "it can't be poetry!". These criticisms, which crop up time and time again and usually paralyse any further useful discussion, spring from the use of what I argue is an imperfect and absolutist definition of poetry and art. A discussion of this aspect now follows and will lead to conclusions which I believe to be of interest to art in general and computer art in particular.

Poetry, like beauty, lies in the eye (or ear) of the beholder. Any attempted general definition of the category "poem" that is based on criteria relating to the nature or intentions of the author, or to any properties of the work itself, must inevitably lead to logical contradictions. This can be seen by considering how to classify works whose authorship is unknown, or whose reputation is particularly controversial or subject to the vagaries of fashion, concrete poems, sound poems, poèmes trouvés, or some of the ultra-short poems of, for example, Classical Greece or China.

If we cannot necessarily identify a "poem" by means of any intrinsic property, this need not imply that the label "poem" is a meaningless one, because there exists a widespread and longstanding tradition of artistic creation called poetry, and a large body of compositions which by custom belong to that tradition. To describe a work as a poem provides the information that we wish it to be appreciated in the context of this tradition.

Thus, any work whatsoever becomes a poem as soon as someone (not necessarily the author) considers it as a poem. It would cease to be a poem if no-one who knew of its existence thought of it as a possible poem. The wedding songs of Sappho remain poems although most of them were burned by the early Christians, whereas if I state that the London telephone directory is a poem, it temporarily becomes so, but probably only for the length of time that it takes you to read (or hear) this sentence.

It can thus be seen why it is always arid and wasteful to argue over whether or not some work is genuinely a poem, for the mere fact of doing so ensures that it is being assessed as one. If we wish to have a fruitful debate rather than empty polemic, then we must instead discuss how effective is the work in question as a poem, and why.

Although for definiteness I have restricted the above discussion to poetry, it is obvious that it can be extended to art in general. Thus the only useful test of whether something is a work of art is whether or not someone looks on it as being one. To label something as "art" is to make a statement not about the work itself but about how it is being perceived. It follows that no judgements that we may make concerning works of art can ever be absolute or final.

When a poem or other work of art is being considered, there are two important ways in which the manner of this assessment differs from one within the same medium but outside the context of art. Firstly, more deviation from the conventional rules and much higher levels of obscurity and ambiguity are tolerated. Secondly, the work is liable to detailed scrutiny, and a strenuous attempt made to attempt to extract (or invent) from the work some form of meaning and order. The fruitfulness or otherwise of this attempt, and the richness and depth of the meaning and order produced, determine to what extent the work is judged as successful art.

In other words, art is primarily a way of stimulating and stretching one of the most striking of human abilities - that of recognising and imposing order and meaning on perceived material. It is not of course the only way of doing this, but it is one of the most important.

This appears to contradict some of the more usual explanations of art in terms of self-expression or of communication.

The former I do not regard as important to anyone other than the artists themselves. Once a work of art has been produced it takes on a life of its own, distinct from that of its maker, and, unless it is destroyed first, will sooner or later pass outside his or her control. The overwhelming weight of artistic tradition is that its end products are public rather than private to the artist. It is also notorious that highly successful acts of self-expression seldom produce very satisfactory art.

Although art looks like a form of communication between the creators and recipients of art works (and many artists profess to aim at clarifying and perfecting that communication), art which is acclaimed as great has almost always been subject to a multitude of rival interpretations, whereas art whose message is unusually clear has not on the whole been highly regarded.

Artists themselves often have no clear idea of the meaning of their work at the time they create it, and may never do so. Their intentions may be of a primarily technical or mystical character and very different from the meanings eventually extracted by their audiences, which may themselves be very diverse and contradictory. Art works frequently outlive or out-travel the context of the culture within which they were created, in the process exchanging their original meanings and associations for quite different sets that arise from the societies through which they have passed.

Thus, if art is a form of communication, it is only so in the most broad and general sense of the word, for it is in practice a package of potentialities, possibilities and ambiguities that are being conveyed, rather than the artists' particular intentions.

In the above discussion, the words "art" and "artist" are intended as general terms, rather than in their more restricted sense of graphic arts. Thus, by artists, I include composers, poets, film-makers, jazz musicians, etc., and among works of art are included books, performances, films, videotapes, sound recordings and all kinds of constructions.

These results are of particular importance for computer art, because they imply that the field is not as intrinsically difficult as has been thought.

Computers in their present state of development are best at well-defined and logical problems of symbol manipulation. Human beings, on the other hand, are best at poorly defined and subjective judgements.

Because art is relatively vague and ill-defined, involving insight and subjectivity, and having an immense solution field, it would seem to be hopelessly unsuited for computers. To use human talents indirectly via computer programs rather than directly would thus appear to be working almost perversely contrary to the natural grain of this situation.

However, leaving aside the observation that art has often thrived on formal difficulties and constraints, we can see that this naïve analysis ignores our finding that art need not, and indeed should not, succeed completely in crossing the semantic gap between creator and audience.

A limited and logical machine process, working in a creative situation that is ill-defined, will naturally tend to produce an ill-defined art work as a result. But, as we have seen, this need not be a disadvantage, because the people who will perceive this work will necessarily be employing their immense pattern-recognition and meaning-projecting abilities, and the main purpose of their presence as an actively participating audience would be frustrated if they were prevented from doing so.

The conclusion for a practising computer artist, composer or poet is this: the logic of one's art need not necessarily require one to attempt the herculean task which faces someone working in the field of artificial intelligence: that of trying to bridge the semantic gap within the confines of one's own programs - in other words, to embody within them a sufficiently comprehensive model of the world and its meaning to simulate convincingly some of the higher mental processes of a human being. This is just as well, for we may never have available computing resources of this magnitude.

As I see it, the task of computer artists will lie in steadily increasing the richness and power of the latent meanings and order that may be found in their works. This is a very difficult task, but it is the same one that faces all creative artists.

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[1] "Poet and Program", PAGE 25, Computer Arts Society, October 1972, p.1.

[2] Dunetune, ibid.

[3] Computer Poems, ed. Richard W. Bailey, Potagannissing Press, Ann Arbor, Michigan, 1973, pp. 9, 48-52.

[4] Pavan for the Children of Deep Space (excerpts), Radiodiffusion Télévision Française, May 1969.

This paper was presented at the Computer Arts Society's INTERACT conference, Appleton Tower, Edinburgh, Scotland, Aug/Sept 1973 as part of the Edinburgh Festival. (Supported by the Scottish Arts Council)

Robin Shirley is no longer 32. He writes:

"I'm now based in a Psychology Dept as a Research Fellow in Information Systems, where I teach statistics

and scientific method and do research into matters like implicit cognition (the thinking we do without being consciously aware of it), artificial intelligence (mainly continuous-field heuristics) and forensic probability (including why this too often leads to completely innocent people getting imprisoned).

"I still spend much time in computational physics, applying such AI techniques to crystallographic problems, that are relevant to e.g. the pharmaceutical industry.

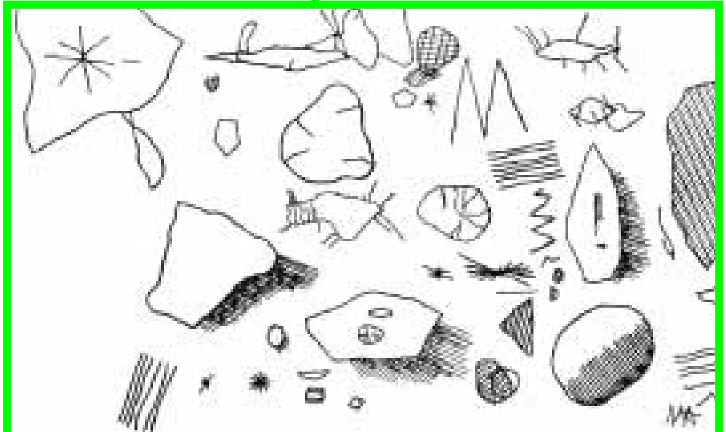
"And write, perform and publish poetry, usually now without the involvement of computers, although that might change."

THE COMPUTER ARTS: ORIGINS AND CONTEXTS

Paul Brown

Although artists were using analogue mechanical and electronic systems earlier in the 20th century it was during the 1960's that they first began to get involved in the world of digital computing. By 1968 it was possible for Jasia Reichardt to curate a survey of work in the area in the influential Cybernetic Serendipity exhibition held at London's Institute of Contemporary Art - the ICA.

Many young artists were inspired to get involved with computers after seeing this show which went on to tour the United States and Japan. In the United Kingdom this was enabled by the amalgamation of the Colleges of Art with Colleges of Engineering; Furniture; Printing, etc… to form the Polytechnics in the late '60's. For the first time it was possible for students to learn computer programming as a part of their courses in the fine and applied arts. By the early 1970's many such interdisciplinary programs had emerged at the Polytechnics at Coventry; Middlesex; Leicester; Liverpool and elsewhere. The Royal College of Art's postgraduate Design Research Dept. had begun working in the area. Then in 1972 the Slade School of Fine Art at University College London used a bequest from alumni Eileen Gray to purchase a Data General Nova 2 minicomputer system for their new Experimental and Computing Dept.



The concept of user-friendly applications was still way in the future and using a computer meant for most artists learning how to program. It wasn't easy and only appealed to certain minds. The resulting work owed much to the traditions of Constructivism and the then popular Systems Art that was the dominant aesthetic in many European postgraduate programs like the one at the Slade. This, of course directly informed their decision to spend what was a considerable amount of money on an in-house dedicated computer system in preference to experimenting with the central time-share and multi-user systems provided by University College and the University of London Computer Centre.

Similar initiatives were happening in elsewhere in the developed world and a new generation of artists emerged who took the computational and generative systems as their primary working methodology. However times were changing. Late modernism was replaced by what has become known as post-modernism which relatively quickly became the dominant critical and curatorial aesthetic. The computer-based work was problematic - it challenged the understanding of the humanities-trained theorists (who wouldn't at that point in time have had any exposure whatsoever to computer systems). In consequence the computational work was identified with technological absolutism and the modernistic emphasis on intrinsic media qualities. If it had occurred later it might have been more correctly identified with more postmodern concerns like non-linearity and emergence. But, at the time, these concepts were almost unknown outside a small scientific community.

Another problematic aspect for the mainstream was the participation of many scientists, programmers and technologists who had little if any knowledge of the arts and their history. This aspect had been acknowledged and encouraged by Jasia Reichardt in Cybernetic Serendipity who included the work of scientists and engineers alongside that by artists (who were in fact in the minority). This egalitarian nature of the art/science/technology interaction is one of its attractions for many participants. However it remains a major problem for the artworld.

The historian and archivist Patric Prince curated the 1986 SIGGRAPH Art Show (which included a retrospective section) and she discussed this problem in her catalogue essay [Prince 1986]. These practitioners are in fact "naives" in the art sense of the word. However, the artworld expects work by naives - like Arthur Wallis or Grandma Moses - to be crudely constructed and unsophisticated. In contrast the computer-based works by people from a technical background are often exquisitely crafted and finished. This was another quandary for the mainstream and they responded once again by simplistically rejecting the work and condemning the field.

The theorist Rosalind Krauss expressed another important critical position when she dismissed the conceptual artist Sol Lewitt's work as obsessive - the "babble" of serial expansion which fails to summarise by using "the single example that would imply the whole". For me this glib dismissal illustrates both Krauss' unwillingness or inability to engage with the work on its own level and also her failure to consider the context from which it emerged. She simply projects her own limited opinion of what constitutes art and then, when she fails to comprehend Lewitt's intellectual pursuit, decides to exclude him from her pantheon.

Nevertheless Krauss was influential and in her words we see if not the origin then the essence of the mainstream viewpoint that has led to so much neglect of this period of art history.

In consequence the many young artists emerging from the new interdisciplinary programs were not able to participate in the mainstream artworld. Their work wasn't exhibited in the prestigious and influential state and private galleries and wasn't featured or discussed in the art media.

Their prospect wasn't completely bleak. In 1968, after meetings at IFIP in Edinburgh, the Computer Arts Society - CAS - was formed at Event One at the Royal College of Art. In addition to publishing over 50 issues of their bulletin - PAGE - CAS also curated several exhibitions - often held in the unsold shell spaces at major computer trade shows and conferences like the annual Computer Graphics UK series held in London's Wembley Exhibition Centre.

This tradition was "formalised" over a decade later when in 1981 the ACM's Special Interest Group in Graphics - SIGGRAPH - augmented their annual conference with an art show co-curated by Darcy Gerbarg and Ray Lauzzana. It was accompanied by an artist's Birds-of-a-Feather meeting where over 50 of us gathered and exchanged addresses. I can remember my own surprise and delight to discover so many like-minded colleagues! The annual SIGGRAPH Art Show became a major international venue throughout the 1980's and continues to this day.

Lauzzana went on to found fineArt forum - fAf - in 1987 as an online bulletin board dedicated to the electronic arts [9]. It's currently out of operation after losing its funding from the Australia Council for the Arts but there are plans to resurrect it soon. A complete 15-year archive is available on CD, check the link on the fAf site if you want a copy.

Another essential resource was founded back in 1968 by the American artist/engineer Frank Malina. For over 30 years the journal Leonardo has been the principal scholarly publication addressing the convergence of arts, science and technology. With a move to MIT Press in the early 1990's it was able to launch it's own book imprint and online publication - Leonardo Electronic Almanac or LEA [11].

In 1979 in Austria the Linz-based Ars Electronica annual festival began [12] and then in 1988 the Inter-Society for the Electronic Arts - ISEA was formed in the Netherlands [10].

These and other resources and opportunities enabled the digital arts and their makers to survive and flourish albeit in a marginalised and often maligned form. We became an international "salon des refuses"!

Now a new millennium has dawned, postmodernism itself is on the wane and many of the pioneering artists who were involved in the digital and electronic arts and other aspects of what has been tagged "Late Modernism" have sadly died. There's a growing awareness that if this period isn't documented and archived soon it runs the risk of being permanently forgotten. A huge chunk of art history will have been lost forever. A number of international initiatives have sprung up to ensure that this doesn't happen.

I am associated with CACHe - Computer Arts, Contexts, Histories, etc... [1]. Generously funded with almost US$700,000 from the British Arts and Humanities Board (AHRB) the CACHe project is based in the Dept. of History of Art, Film and Visual Media at Birkbeck College, University of London. It's a three-year program that aims to archive, document and create both historical and critical contexts for the computer arts in the UK from their origins to around 1980 when the "user-friendly" systems began to appear. The word arts is used in its plural sense and we intend to include the visual and performing arts, literature, etc…

Stephen Jones project is called: "Synthetics: Towards a History of Computer Art in Australia" [2]. It covers the development and use of the electronically generated image in Australia from its first appearance in computing to its subsequent use in video, film and media art. Jones intention is to uncover the interactions and streams of influence between people working in hardware and software technological developments and artists working in the many areas of image production that were enabled by these technologies.

"Although Australian media arts and artists have an extensive involvement in international movements in contemporary art and video/media production," says Jones "the history of this work has never been laid out for the Australian situation and thus is almost unknown within the world-wide context. Given the very high level current involvement of the Australian computer graphics industry in film and television production, there is almost no knowledge of how we got to this position or who was involved. Likewise in the arts, there is very little knowledge base for teaching the background to our current strong position in media arts production and our reputation for producing a number of important artists working in the field. This project seeks to address these lacks."

The Paris-based Leonardo/Olats : Pionniers & Précurseurs (Pioneers & Pathbreakers) project is managed by Annick Bureaud [3]. It aims to establish reliable, selected, on line documentation about the artists of the 20th Century whose works and thoughts have been seminal for techno-science related art. The project is being carried out through a collaborative working group of art historians, scholars and researchers.

Pioneers & Pathbreakers includes artists dealing with art, science and technology directly (the pioneers) and also artists who, sometimes even before the technology was available, opened new conceptual directions (the pathbreakers). It is organized around two axes: "Monographies" : in-depth sites about an artist or a group of artists and; "Notices" : encyclopedia-like information (introductory texts, biography, bibliography, list of works, etc.) about an artist or a group of artists.

So far, the project has been mainly done in French although translations into English are under consideration.

Sue Gollifer of the University of Brighton is undertaking a project to create a Digital Archive of ISEA [4]. It's another project being supported by the UK's Arts and Humanities Research Board. The aim of the project it to catalogue and preserve an educational electronic archive of the International Symposium of Electronic Art - Conference and Exhibition 1988 - 2002. These will include the conference proceedings, catalogues and CD-ROM's and work from the accompanying exhibitions and performances. The preservation of the archives on a secure website is key to the project. This will be done through the Visual Arts Data Service, (VADS) and The JISC Distributed National Electronic Resource (DNER), UK.

In Germany the computer arts pioneer Frieder Nake is creating "compArt - a structured space for computer art" [5]. He describes it as a … "a hypermedium on the history of computer art." They are currently focussing on the early history from 1965 to 1980 but plan to include later periods. The hypermedium uses a space metaphor and composes four subspaces. The space of pure data is a relational database. The space of works are virtual galleries that are reconstructions of historical sites. The space of art is a fantastic navigable space of many objects in a field of forces of attraction and repulsion. Finally there's the space of learning - virtual laboratories inviting experiments between aesthetics and algorithmics. At present it's in German but translations are planned.

Also in Germany the historian and theorist Oliver Grau, author of "VIRTUAL ART - From Illusion to Immersion" has put a critical database online on his website [6].

The Daniel Langlois Foundation for Art, Science and Technology operates a Centre for Research and Documentation (CR+D). It aims to document history, artworks and practices associated with electronic, digital media arts and make this information available to researchers in an innovative manner [7].

The Digital Art Museum - DAM - is another project that has received funding from the UK's Arts and Humanities Research Board [8]. As the name implies it's a virtual museum of pioneers and practitioners. It's also an interesting collaboration between an academic institution, Metropolitan University and the gallerist Wolfgang Lieser. Lieser who has two galleries in Germany and plans another in London comments that all this academic and philanthropic research will establish a new legitimacy for the computer-based arts. In response the work will become collectable, there will be an increase in demand and improved sales. Now that's something most practitioners will be pleased to hear about!

In 2004 the Computer Arts Society (CAS) reformed [13] (see above). CAS was originally founded by Alan Sutcliffe, George Mallen and the late John Lansdown and ran from 1968 to 1985 producing 55 issues of its bulletin PAGE. The new society intends to become a venue for current practice as well as an archive for preserving historical work. Here again the word "arts" is plural emphasising the society's interest in the broader cultural applications of computing.

And finally… SIGGRAPH are themselves compiling a history of computer graphics and art [14]. The organisation has played a major role in sustaining practice in the field over the past two and a half decades and so it is excellent news that they are now also playing an active role in preserving this important and long-overlooked history. The aim is to… "assemble a database that documents the evolution of computer graphics, art and thought about art in relation to the progress of technology".

FURTHER SOURCES OF INFORMATION

Readers who have information they wish to share about the history of the computer-based and electronic arts are encouraged to contact the relevant projects directly:

[1] CACHe - Computer Arts, Contexts, Histories, etc…
http://www.bbk.ac.uk/hafvm/cache/
Contact: Nick Lambert info@cache.bbk.ac.uk

[2] Synthetics: Towards a History of Computer Art in Australia
Jones, Stephen, "Synthetics: The Electronically Generated Image in Australia" Leonardo, vol.36, no.2 (April 2003).
Jones, Stephen, "The Evolution of Computer Art in Australia" Computer Art Journal, vol.1, 2003, Europia Editions, France.
Contact: Stephen Jones sjones@culture.com.au

[3] The Leonardo/Olats: Pionniers & Précurseurs (Pioneers & Pathbreakers)
http://www.olats.org/setF4.html
Contact: Annick Bureaud annickb@altern.org

[4] ISEA Digital Archive Project
http://www.isea-web.org/eng/projects.html
Contact: Sue Gollifer s.c.gollifer@bton.ac.uk
See also: http://www.vads.ac.uk

[5] compArt - a structured space for computer art
http://www.agis.informatik.uni-bremen.de
Contact: Frieder Nake
nake@informatik.uni-bremen.de

[6] VIRTUAL ART - From Illusion to Immersion
Oliver Grau, The M.I.T. Press, January 2003, ISBN 0-262-07241-6, 7 x 9,
http://www.arthist.hu-berlin.de/arthistd/mitarbli/og/og.htm
- go to DATABASE - English version
Contact; Oliver Grau
Oliver.Grau@culture.hu-berlin.de

[7] The Daniel Langlois Foundation for Art, Science and Technology Centre for Research and Documentation (CR+D)
http://www.fondation-langlois.org/e/CRD/index.html
Contact: info@fondation-langlois.org

[8] The Digital Art Museum - DAM
http://www.dam.org/
Contact: Wolfgang Lieser
Digitalartmuseum@aol.com

[9] fineArt forum - the art and technology netnews
http://www.fineartforum.org
Contact: editor@finartforum.org

[10] ISEA - the Inter-Society for the Electronic Arts
http://www.isea-web.org
Contact: info@isea-web.org

[11] Leonardo Electronic Almanac
http://mitpress2.mit.edu/e-journals/LEA/
Contact: Nisar Keshvani lea@mitpress.mit.edu

[12] Ars Electronica
http://www.aec.at/
Contact: info@aec.at

[13] Computer Arts Society
http://computer-arts-society.org
Contact: info@computer-arts-society.org

[14] SIGGRAPH History of Computer Graphics and Art
http://www.siggraph.org/education/cgHistory/history.html
Contact: Anna Ursyn ursyn@arts.unco.edu

REFERENCE

PRINCE, P. 1986: SIGGRAPH '86 Art Show Catalog, ACM SIGGRAPH 86, Dallas, Texas, 1986

Reviews

HAROLD COHEN AT TATE MODERN

Catherine Mason

On 27 April 2004, CAS participated in a session at Tate Modern, organised by Dr Charlie Gere of Birkbeck, at which Prof. Harold Cohen gave a lecture.

CAS Chairman George Mallen introduced Prof. Cohen, recalling that they first came across one another in the mid-1970s when Mallen, at the Royal College of Art in conjunction with Imperial, downloaded an AARON drawing over the ARPANET - the first usage of the Internet predecessor in Britain. Harold Cohen established his reputation in the 1960s as a Slade educated painter. He went on to become a major pioneer of the use of computer code in art making, with his autonomous art making program AARON, admired by both members of the AI and art communities.

Prof. Cohen began by quoting Moore's 'Law', which states that the rate of development in technology has been accelerating with processing power doubling approximately every eighteen months. Since he encountered his first computer (an IBM) thirty-six years ago, twenty-four doublings computes to a factor of more than sixteen million, which means that the lap-top he was using at the lecture costs about one-thousandth of what that first batch-processing machine must have cost and was about sixteen thousand times as powerful in terms of speed and capacity.

However, Prof. Cohen explained that the seeds were already planted and growing before he met his first computer. He was attracted by the idea that one could use a set of rules to do the inventing. In 1968, he was invited to the University of California San Diego, where he was encouraged to learn programming by a graduate student in the music department. He became interested in the concept of writing a program to do some of things humans do when they make representations and thus possibly learning more about the nature of representation. Prof. Cohen spent two years working with Edward Feigenbaum at Stanford University's Artificial Intelligence lab and following experiments, AARON began around 1972.

Prof. Cohen spoke of the symbiosis between himself and AARON, describing AARON as similar to an apprentice, a talented and able assistant, which enabled the creation of imagery he couldn't have made himself or by any other means. The program was originally written in C, but he changed to LISP, which he found to be more precisely specifiable and with which he was better able to solve the challenge of creating colour in the mid-1980s. He believes the computer should be more than a tool and he referred to the problems of using pre-made software packages and 'black boxes' where the user couldn't play with the internals.

The event was well received by a large audience, which included CAS members and other pioneers of the computer and electronic arts, artists, students and other interested persons. The event was webcast by the Tate and will appear in its archives in due course: http://www.tate.org.uk/onlineevents/archive/

ROBIN OPPENHEIMER ON LIGHT-SHOWS

Nick Lambert

Computer Art generally looks back to the period from the mid-1960s to the early 1970s when pioneers not only produced a great diversity of artwork but also experimented freely with a variety of nascent computer technologies. Of course, Computer Art could be seen as but one aspect of an even larger field of artistic and technological crossover, exemplified by groups such as EAT (Experiments in Art and Technology) and Archigram. What is remarkable is that, shortly after World War II, a selection of very different artists and engineers all seized upon the notion of utilising electronic and mechanical systems in art and music.

Another area, which has often been overlooked by researchers focusing solely on fine art, is the fruitful convergence of pop music and theatrical technology that produced the spectacular Lightshows. These took place - yet again - from the mid-1960s onwards. I admit that I too underrated the Lightshows' importance as type of technological "performance art" until I attended Robin Oppenheimer's fascinating talk at Birkbeck on 8 March. Oppenheimer, having researched EAT and brought back many of its members for a 1998 reunion, is now working on the light shows developed for the Californian and Seattle-based music scene from around 1963.

Using a series of rare and fascinating film clips, Oppenheimer explained how the first lightshow artists had discovered ways to combine light effects with projected images and the music of early psychedelic groups, thus producing an extraordinary multimedia experience years before that term was coined. The scene flourished until at least the mid-1970s, by which time much of the imagery had entered the mainstream of popular culture and influenced other artforms. Interestingly, Oppenheimer emphasised that many of the lightshow technicians did not see themselves as "artists" per se, but rather as parts of a much greater performance that included the musicians and audience.

This well-attended talk was held at Birkbeck College on 8th March 2004 and included many of London's pioneering computer artists, not to mention Gustav Metzger, in the audience. It was organised jointly by CAS and the Digital Art History course in the School of History of Art, Film and Visual Media at Birkbeck College, University of London, taught by CACHe leader Charlie Gere.

BRITISH NEW MEDIA ART AT TATE MODERN

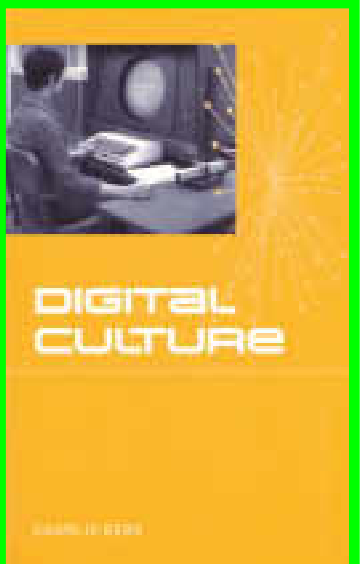
Charlie Gere

At the beginning of April I participated in a day-long conference at Tate Britain on British New Media Art. It had been scheduled to accompany the publication of New Media Art, edited by Lucy Kimbell and published by the Arts Council of England and the Roundhouse, the Arts Council's book about their ten-year programme of new media commissions. Among those speaking were practitioners, curators, theorists and historians. The event itself was completely sold out and created a great deal of interest and some controversy in the new media art community and beyond. Though there are obvious differences between then and now, this interest in what is now called new media art is highly reminiscent of the period in the late 60s that saw, among other things, the ICA exhibition Cybernetic Serendipity and the foundation of the Computer Arts Society. The Tate event demonstrated what many already knew; that a new generation of practitioners has grown up, who are as passionately interested in the possibilities of new technologies and media for art as were the pioneers of the late '60s. This is therefore an apt moment for the revival of CAS and of PAGE, as well as for projects such as CACHe. They are a reminder that the use of new technologies in art has a long and important history, as well as, one hopes, a promising future

IT'S COOL TO BE REAL!

A review of **Digital Culture** by *Charlie Gere*
Reaktion Books, London 2002
ISBN 1 86189 1431

Paul Brown



One of the basic messages of Charlie Gere's book "Digital Culture" is that it's the technology that's a product of the culture and not the other way round. In itself this is nothing new, indeed Gere quotes Deleuze in order to make his point. However, unlike many of the theoreticians who have commented on the field in the past, Gere is an insider. He is a product of Middlesex University's "Computing in Design" - one of the first graduate programs to give its students an in-depth knowledge of computing and digital electronics. A program that has now regrettably, been discontinued.

His insider status enables him to map and analyse the subtle and rapidly evolving interdependence between culture and technology that characterised the latter half of the 20th century.

On the way to his conclusions Gere weaves together many disparate threads: Turing's early work on "computability"; Engelbart's "Augmentation Research Centre"; John Cage's 4'33"; the Whole Earth Catalog; the British punk magazine "Sniffin' Glue"; Ridley Scott's "Bladerunner"; von Hayek and Friedman's neo-liberal economics; Bey's "Temporary Autonomous Zones" and much, much more. Happily his scholarship combines with a prose that's simultaneously informative, stimulating and readable. On a couple of occasions, reading in bed late at night, I even had to force myself to stay awake in order to consume just a few more paragraphs before sleep consumed me.

There are some odd absences. John von Neumann is briefly mentioned for his work on EDVAC and the nomination of the "Von Neumann Architecture" (the fundamental internal structure of most modern computer systems). Surprisingly there's no mention of his authoritative work on the genesis of artificial intelligence and what's now known as artificial life. An even more remarkable absence is his theory of games and economic behaviour that played such an influential role in a multitude of disciplines in the late 20th century. Especially in the evolution of the now ubiquitous free market economic polices of globalism and the related military and political strategies of the world's now dominant "gamers" - the USA.

However I can't help feeling a little guilty of "nit picking" in finding fault with such a valuable, well-argued and informative text. Its thematic density means that it isn't always an easy read. Like eating rich chocolate you have to take breaks to digest the material and ruminate on it's implications. Gere suggests that Tudor's performance of Cage's 4'33" (Silence) in 1952 was one of the first artworks where the spectator/consumer interacted to create the work (from the ambient sounds and their own interpretations). Gere's book is itself like this and, to his credit, he only rarely invokes postmodernism. More than once I found myself lost in a reverie of my own invention after reading a richly multi-threaded and evocative passage.

However Gere does have a thesis. One that he illustrates and defends with erudite prose. He concludes:

"To acknowledge the heterogeneous nature of digital culture is increasingly necessary, as the technology through which it is perpetuated becomes both more ubiquitous and more invisible. The less aware we are of the social and cultural forces out of which our current situation has been constructed the less able we are to resist and question the relations of power and force it embodies".

Digital Culture isn't just another book about some interesting but marginal aspect of what is popularly called the post-human condition. Instead it describes a process of consensual enslavement. Humanity as the frog in the pan of water, happily insensitive to the gradual rise in temperature until it's cooked.

Have a nice day!

This review first appeared in fineArt forum.

Contributions

DANCE NOTATION FOR ANIMATION

From Stan Hayward

Hi Alan,

Nice to meet you again after all these years, and to see all those familiar faces - none of which I recognised, but when you have spent your life in the cartoon world, the real work tends to become a bit 2D.

There is a project I am currently working on that might interest CAS or someone in it. I have had several awards for running animation workshops for children. The outcome of these awards is my website at http://www.MakeMovies.co.uk which divides into two main parts of animation and story writing.

The animation part has a number of sequences that children can copy to do their own work. The story part uses flow chart type of diagrams to explain story analysis.

One of the ideas I discussed with John Lansdown was the possibility of using dance notation for animation. I went into this quite deeply, but found it too complicated for what I needed at the time, but John's method of using a series of numbered poses for figures was one idea I looked at closely as it was similar to Muybridge's book on Human movement. John's method used single diagrams of one figure, while Muybridge used a sequence, but of different figures. These different approaches could be combined.

The approach I had intended using was to have numbered sequences that could be linked together. For example, a walk cycle linked to a run cycle. Sitting down, turning round, etc. The key part being that each sequence would be registered so that when combined they matched up.

The purpose of this would be to have hundreds of such small cycles that could be linked to enable long sequences to be created. It would replace the storyboard with a basic line-test. The method could also be extended to machines so that there would be spinning wheels, springs extending, ratchets clicking, etc. that could be put together.

If John's work is available then I would like to put this idea up for funding, and show what John had done, plus other developments as a basis for further work.

For story writing, I am interested in computers creating characters and basic plots. The character part would be easy as it would bring together a list of attributes (most listed on my site), but making sure that there is no conflicting attributes. It would also offer ideas for characters with cliche figures. This might be just a database, but something I am not able to create.

The plotting of stories would be a lot more complex, and involve simulation of a story rather like a PERT diagram. It could also use a database of standard situations (there are websites of these).

If you think these might be of interest to anyone in CAS perhaps it could be put in the next issue of PAGE.

Best wishes, Stan Hayward

THE NATIONAL FINE ART EDUCATION DIGITAL COLLECTION

http://www.fineart.ac.uk

Originally trained as a sculptor at the Royal College of Art, Stroud Cornock is currently Curator to the Council for National Academic Awards (CNAA) Art Collection Trust. In 1995, the Trust adopted as a policy the development of the CNAA Collection as the nucleus of a National Collection to celebrate the history and achievements in higher education of fine art practice in the UK.

<fineart.ac.uk> - a virtual National Collection, funded by JISC (Joint Information Systems Committee), developed by the Visual Arts Data Service (now AHDS Visual Arts), went online in June 2003. Currently, it contains a sample of around 200 digital images and associated curatorial information, drawn from the collections of ten Higher Education Institutes and the CNAA Collection. There are 200 works in the collection, from 150+ artists - staff and students of Britain's art schools, who have made a significant contribution to UK fine art education through practice. Work ranges from the mid-19th century through to the present day.

The plan is to develop the collection as a national resource to which all higher education institutions are able to contribute. A challenge for the future is to broaden the collection (both physical and virtual) so as to reflect important conceptual, technical and pedagogic developments that have shaped and are shaping art education in Britain. A part of the challenge is to find effective ways in which to archive and reproduce artworks that incorporate software and hardware. The Trust is also working to develop a regular conference and exhibition series.

To Do (Samsara)

INCUBATION

the trAce International Symposium on Writing and the Internet

12-14 July 2004 at Nottingham Trent University

http://trace.ntu.ac.uk/incubation/

Incubation is the premier international event for writers working on the web. It provides ideas, information and debate for the new media writing community with opportunities to experience recent works and lively discussions about the ways new media texts are made, discussed, and reviewed. We will also explore methods of teaching and digital archiving in a creative context. Incubation aims to encourage interdisciplinary creativity and cross-fertilisation, and we are especially interested in introducing the form to writers and artists for whom it is a new idea as well as helping practitioners to share and expand their work. The themes for 2004 are:

A Developing a new form: contemporary textual works in new media and performance

B The practice of making: creative and professional practice; online teaching and learning.

C Critique and criteria: criticism, reviewing, defining, and archiving of new media writing.

There will also be a History of Computers Show and Tell. Do you have any early computer hardware or software you could bring along to show at Incubation? On Wednesday lunchtime there will be a room set aside for an informal session where delegates can plug in and run their own historical machines.

Confirmed speakers include Special Guest: Ted Nelson; Keynote Speaker: Mark Amerika; plus Paul Brown, Kate Pullinger, Alan Sondheim, and Tim Wright.

A range of day delegate, non-resident and full-board registration options are available, prices start from just £64.63. Concessionary rates also available. Register and pay online.

INTERNATIONAL ART AND TECHNOLOGY HISTORY CONFERENCE

Sept 28-Oct 2, 2005 at the Banff Centre, Canada.

This is a preliminary announcement for the first international art history conference covering art and new media, art and technology, art-science interaction, and the history of media as pertinent to contemporary art.

There will be a three day conference followed by a two day follow-up speakers' and organizers retreat in order to plan follow-up.

The event is co-sponsored by Leonardo/ISAST, Leonardo/OLATS, UNESCO DIGIARTS, Database for Virtual Art and the Banff New Media Institute. An International Advisory Board chaired by Oliver Grau of Humboldt University is currently designing the program.

Scholars and researchers interested in participating in the conference may send an email of intent to:

banffleoarthistconfinfo-subscribe@yahoogroups.com

MAILING LIST ON EVOLUTIONARY MUSIC AND ART

Following on from the EvoMUSART workshop held recently as part of EuroGP in Portugal, we've set up a mailing list for anyone interested in evolutionary music and art. To subscribe go to the url:

http://www.csse.monash.edu.au/~mailman/cgi-bin/listinfo.cgi/evomusart

Please feel free to pass this on to anyone who you think might be interested. Evoweb has some details on evolutionary music and art applications:

http://evonet.inria.fr/evoweb/working_groups/index.php?id=evomusart

http://evonet.inria.fr/evoweb/resources/evoart/

SIGGRAPH – HISTORY OF COMPUTER GRAPHICS AND ART

Call for Participation

The aim that guides this call is an intention to assemble a data bank of computer graphics and art which viewers can use to compare mutual influences on computer related disciplines. The goal is to document the evolvement of computer graphics, art, and the thought about art in relation to the progress of technology, thus creating a collection of images and essays created by artists, scientists, art historians, people shaping the museum and gallery display and those who influenced these disciplines, which reflects the unfolding of computer art due to technical achievements (hardware, software, languages, etc). With this approach, computer art and graphics are related to the history of inventions in concurrent periods of time. This treasury will be augmented by the artists' web sites along with the existing materials cumulated in various collections and will become a part of the ACM SIGGRAPH resources.

http://www.siggraph.org/education/cgHistory/history.html
http://www.siggraph.org

TECHNOETIC ARTS: A JOURNAL OF SPECULATIVE RESEARCH

Call for papers

There are no fixed deadlines: articles are received on a rolling basis. There are three issues a year. Volume One has now been published. We are now considering material for the three issues of Volume Two.

Technoetic Arts is a peer-reviewed journal that presents the cutting edge of ideas, projects and practices arising from the confluence of art, science, technology and consciousness research. It has a special interest in matters of mind and the extension of the senses through technologies of cognition and perception. It documents accounts of transdisciplinary research, collaboration and innovation in the design, theory and production of new systems and structures for life in the 21st century, while inviting a re-evaluation of older worldviews, esoteric knowledge and arcane cultural practices. Biophysics, the promise of nanotechnology, the ecology of mixed reality environments, the reach of telematic media, and the effect generally of a post-biological culture on human values and identity, are issues central to the journal's focus.

Details and Abstracts of the journal can be seen at

http://www.intellectbooks.com/journals/technoetic/index.htm

Professor Roy Ascott, Editor

roy@planetary-collegium.net

LEONARDO ELECTRONIC ALMANAC

Call for Participation

RE:SEARCHING OUR ORIGINS: Critical and Archival Histories of the Electronic Arts

The mid to late 20th Century has become a popular topic for humanities research in recent years. Many projects are attempting to re-discover and re-contextualise the somewhat neglected field of history of art and technology. International histories of electronic and digital arts are now beginning to be written and voice given to the pioneers of these artforms. Additionally, with contemporary 'new media' artforms such as video and net art enjoying high prominence at present, much discussion is taking place about the foundations of current practice and about reception of electronic arts in cultural institutions, including curatorial practice as well as archiving and conservation issues.

This special issue of LEA seeks to report on international projects and initiatives working to recover, document or construct critical and historical contexts for the electronic arts.

The deadline for full papers has now passed but the editors will accept short essays, including works in progress, artists' statements, museum and gallery initiatives, etc…

Proposals should include:

- 200 - 300 word abstract / synopsis
- A brief author biography
- Any related URLs
- Contact details

Deadline 30 Sept 2004

Copies to:

Paul Brown <Paul@paul-brown.com>

Catherine Mason <cs.mason@hart.bbk.ac.uk>

Nisar Keshvani <lea@mitpress.mit.edu>

http://lea.mit.edu

ARS ELECTRONICA 2004

Timeshift - The World in 25 Years

Linz, September 2 - 7

The 25th Anniversary Celebration of the Festival of Art, Technology and Society "TIMESHIFT - The World in 25 Years" is the title of the 2004 festival; transformation, upheaval and the future are its programmatic concepts. The point of departure is reflection upon the past 25 years; the aim is to identify the developments that promise to be the driving forces in art, technology and society over the next quarter century. The younger generation of media artists and theoreticians will meet Ars Electronica's founding generation and, together with an audience of wide-ranging backgrounds and diverse interests, confront the past and the future of phenomena at the interface of art, technology and society.

http://www.aec.at/timeshift

Ars Electronica Center
Hauptstrasse 2
4040 Linz, Austria
festival@aec.at

EUROGRAPHICS 2004

Grenoble (France)
30 August - 3 September 2004

John Lansdown Award

Unfortunately the deadline for this award has passed. The winner will be announced at EUROGRAPHICS 04.

John Lansdown, who died in February 1999, was an inspirational leader who encouraged innovation in others by his own creative works. At Eurographics 2000, a Multimedia prize competition was set up in his honour. John was known for the way he saw things from a different angle to most of us, often bringing new insights by an off-beat approach, and for his long term role as secretary to the Computer Art Society (CAS). The CAS was formed in 1968 as branch of the British Computer Society by John Lansdown (architect) and Alan Sutcliffe (pioneer of computer music) (UK).

http://eg04.inrialpes.fr/

ISEA2004

12th International Symposium on Electronic Arts
14-22 August 2004
Helsinki and Tallinn

http://www.isea2004.net/programme.html

CACHe team members Nick Lambert and Catherine Mason will both present papers on their research and also convene a panel on electronic arts histories which will include contributions from Annick Bureaud (France), Alain Depocas (Canada) and Frieder Nake (Germany).

HELLO WORLD, TRAVELS IN VIRTUALITY

a new book by Sue Thomas

Raw Nerve Books
ISBN 0-9536585-6-2
http://www.travelsinvirtuality.com

"Speaking with ease and authority, earned through years of immersive investigations, Sue Thomas critiques virtuality in a manner which makes this book accessable to those who are new to the networked world, as well as a must-read for those who are already there." Melinda Rackham.

To be reviewed ...

SIGGRAPH 2004

Los Angeles
8-12 August 2004
http://www.siggraph.org

Computer Arts Histories
Call for Participation

The Educators Program will include a Forum on Computer Arts Histories convened by Paul Brown. His essay on page 11 of this issue of PAGE forms the framework for this session.

Anyone who would like to participate and/or contribute should contact Paul at

paul@paul-brown.com

FROM THE DESK OF THE CHAIR

Not just users.....

Relaunching the Computer Arts Society after a pause of some 20 years has provided those of us who were involved in the beginning with an extremely pleasurable opportunity to reconnect with former colleagues and friends and wonder whether the ideals of those distant times still flicker and are relevant and whether history bears any trace. Even more pleasurable has been the opportunity to discuss with younger colleagues and friends where they might want to take the Society in the much changed worlds of 21st century art and computing. The CACHe project at Birkbeck's School of History of Art has been the major catalyst for the relaunch and will provide the definitive history of works by artists using computers in the years up to 1980 and role of the Computer Arts Society in promoting use by artists. Watch this space as there will be regular updates in PAGE and on the website as the CACHe project develops.

The relaunch has come at an important time for the British Computer Society. The functioning of much of modern society depends on computing professionals and yet only a tiny proportion of that professional community belongs to the BCS, which has the mission of upholding and improving professional standards and safeguarding the interests of the profession. So the BCS has radically revised its membership structures and admissions procedures to broaden its appeal. For me, however, the heart of the BCS is the Specialist Groups, these are the communities of interest which bring like minded people together to progress the ideas and techniques of the computing and there uses. There are around 50 active Specialist Groups so CAS takes its place in a thriving community from which it can benefit and to which it has much to contribute. We have already had a joint meeting with the Computer Conservation Society which was well attended and lively. We look forward to more and working with other SGs.

But what is the role of the Computer Arts Society in the 21st century? One aim of the original Society was to get access to scarce computing resources for people in the arts and to help them use these resources creatively. Now, with ubiquitous computing, that aim is no longer pressing, though we must always be aware of the digital divide. Indeed the pendulum has swung in the opposite direction. The opportunity for CAS is to work with artists and computing professionals to broaden access to the arts in all their diversity, to everyone who is interested, and to do this by continuing to encourage artists to use the medium but also to encourage the development and spreading of knowledge about the arts, their social and economic roles, their aesthetics, their scholarship and, perhaps most importantly, communicating the challenge, excitement and fulfillment of making things - to encourage a society of makers not just users.

Dr George Mallen

Chair, Computer Arts Society

24 May 2004

ABOUT THE COMPUTER ARTS SOCIETY

AIMS

The Computer Arts Society (CAS) promotes the creative uses of computers in the arts and culture generally

It is a community of interest for all involved in doing, managing, interpreting and understanding information technology's cultural potential

MEMBERSHIP & FEES

Membership is open to all who are interested in the aims and activities of the group

For members in the UK there is an optional annual membership fee of £10, for which a printed copy of each issue of PAGE is sent

BRITISH COMPUTER SOCIETY (BCS)

The CAS is a Specialist Group of the BCS

Each member of the CAS who is not already a member of the BCS automatically becomes an SG Affiliate member of the BCS

PAGE

PAGE appears quarterly and can be downloaded from the CAS website

ACTIVITIES

Monthly meetings are held in London & a larger event is planned for 2005

ARCHIVING COMPUTER ARTS

The original CAS was active from 1968 until the mid 1980s

There are significant archives of material from this era, mainly stored in homes and offices of people then active in the group. The CAS is working closely with CACHe, a project in the Art History Department of Birkbeck, University of London, which is documenting UK computer arts in the years to 1980. The collection, identification, collation and handing over of material to the CACHe team will continue in 2004 & beyond

This leads to a wider interest in the archiving, study and presentation of computer arts from earlier years

PRESENT & FUTURE COMPUTER ARTS

With so many novel and exciting developments in the creative uses of computers in the arts the society will continue its original aims of bringing together those active in this area

COLLABORATION

The society plans to hold joint events with other BCS Specialist Groups and other professional groups and associations

EDUCATION

The CAS plans to have an educational role in making students more aware of early work in computer arts and in helping artists to use computers creatively

WEBSITE

http://www.computer-arts-society.org

THE COMPUTER ARTS SOCIETY
Computers and the Arts in Society

Helping to get work known
Exploring new forms
Formulating needs for support
Bringing together artists and technologists
Exchanging techniques and ideas

MEETINGS SUMMER 2004

Tuesday 1 June 2004
6:30 for 7:00

Paul Brown

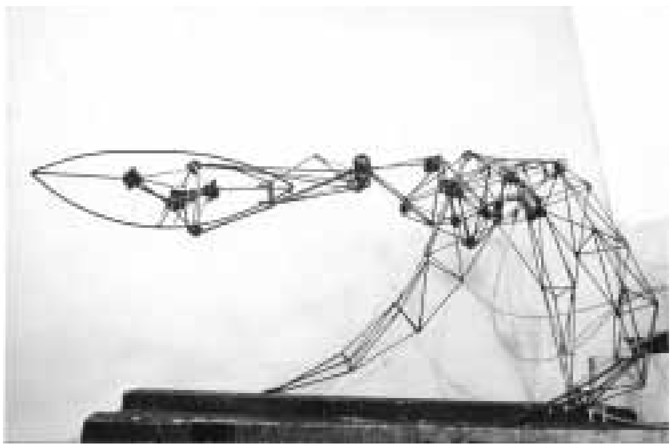
Stepping Stones in the Mist

Tuesday 29 June 2004
6:30 for 7:00

Recent Computer Animation

Both meeting at:

System Simulation Limited, Bedford Chambers
The Piazza, Covent Garden,
LONDON WC2E 8HA   020 7836 7406
Directions: http://www.ssl.co.uk/content/map.html



PICTURE CREDITS

1 Anonymous Graffitti (probably Banksy), **Anarchist Rat**, Covent Garden   Photo Paul Brown, 2004

2 John Lansdown, **Impression of The Eco Game**, 1973

3 Alan France, **Cover of an early Computer Arts Society flyer**, 1969

4 Edward Ihnatowicz, **Installation shot of The Senster**, (1972?)

5 John Lansdown, **Interact Logo**, 1973

6 Catalogue page, **This is Tomorrow**, courtesy of The Whitechapel Gallery, 1956

7 Stephen Bell, **Plotter Drawing**, © 1978-79 http://ncca.bournemouth.ac.uk/Staff/steveb/stevef.html

8 Clive Richards, **Spinning Gazebo**, still from animation, 1969. Reproduced from Computer Picture Book (Coventry: Lanchester Polytechnic, 1979)

11 Harold Cohen, **Drawing for Machine and Four Hands**, Detail of a temporary mural done for the University Art Gallery at UCSD (1970's?)

14 Harold Cohen, **recent AARON Painting**, 2004

15 Cover, **Digital Culture**, 2003

20 Edward Ihnatowicz, **Quarter Scale Senster**, (1968?)