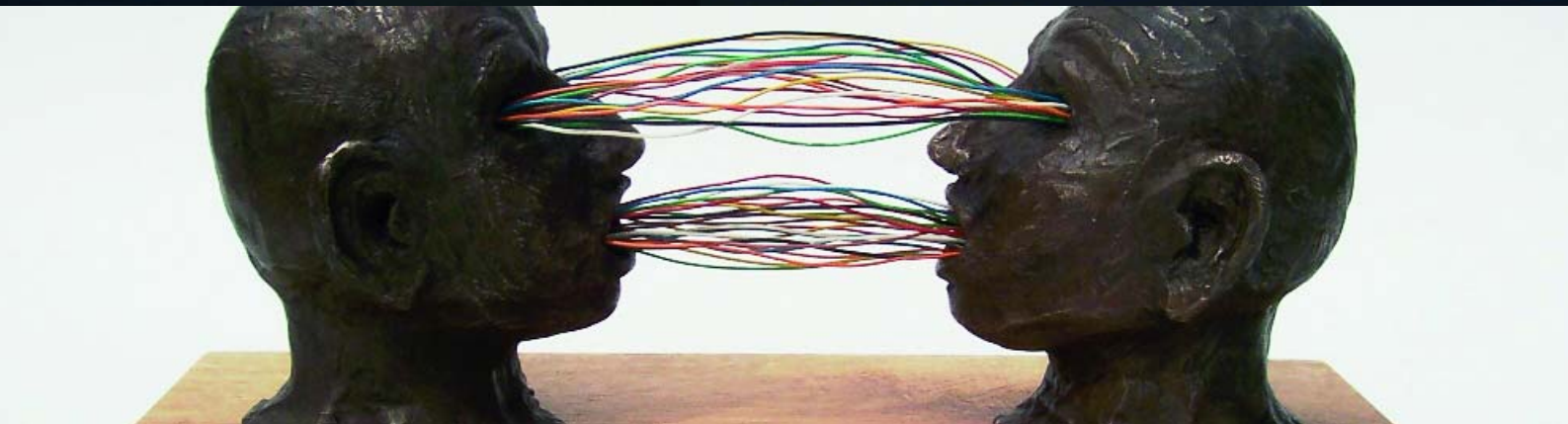




The Whittingham Riddell
Shrewsbury Open Art Exhibition 2007
Batteries Not Included:
Mind as Machine





Plane Sky, Bernadette Feely

The Whittingham Riddell Shrewsbury Open Art Exhibition 2007 Batteries Not Included: Mind as Machine

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Introduction

A brief history 2002–2007

This is the catalogue for the sixth annual *Whittingham Riddell Shrewsbury International Open Art Exhibition*. It marks the end of a trilogy of thematic open exhibitions which have been linked in each of the last three years to the newly established Darwin Summer Symposium. Both events have combined during that time to create an important annual cultural moment for Shrewsbury.

The open exhibition has a slightly longer history, having begun in 2002 as part of a new programme of presenting international contemporary visual arts, initiated by Shrewsbury Museums Service. The open exhibition also grew out of a partnership forged between the museum and the 'Visual Art Network'*, an artist-led organisation with a focus on creating support and opportunities for artists based in and around Shropshire. One of the aims in creating the open exhibition was to create an exhibiting opportunity for those artists but also to make an international call to artists with the potential to forge new relationships for regional and other artists around the world, whose work shared related concerns. Key to this aim was our decision in 2003 to make the open exhibition broadly thematic in nature, maximising the potential connections between artists and creating the possibility of a more coherent group exhibition. It was to become our major Summer exhibition.

Ideas for a Darwin Summer Symposium also grew out of a longer history, expanding from the annual Charles Darwin Memorial lecture established by the Museums Service in 1997. The aim of the lecture was to bring speakers to Shrewsbury who were involved in the latest historical, scholarly and academic

thinking about Darwin, and for them to present their work in a format accessible to a general interested public audience. The symposium embraced the aims of the original lecture in an expanded form, to create a space for dialogues between artists, scientists and other professionals. Its ambition was to create a working forum in which to elicit and enable inter-disciplinary discussions on specific themes, and to explore the legacy and continuing significance of the work of Charles Darwin for those themes.

So, as these two cultural developments for Shrewsbury emerged, it became clear that there was an obvious synergy between the two events. The open exhibition creates the opportunity for both established and emerging artists to show alongside each other and for their work to illuminate the annual theme for exhibition visitors over many weeks. The symposium creates an intensive dialogue between specialist academics on the annual theme which is made accessible to a non-academic audience, both at the event itself and also for a global audience via the internet.

For the last three years the guest specialist invited to choose the speakers and content of the symposium, has also been asked to act as the Chairperson of the judges for the open exhibition, thus formalising the link between the two events.

In 2007, artist and writer Paul Brown was invited to curate a symposium on 'artificial intelligence' and, accordingly, the open exhibition has been themed around the title '*Batteries Not Included: Mind as Machine*'.

Thematic titles for the open exhibitions have always attempted to be broad enough to invite a wide range of potential responses from artists. This year, it could be argued, has presented our most specific thematic challenge for artists (in previous years the number of artists' submissions have numbered around 250; this year we received around half that number) yet the title of this year's exhibition introduced, for the first time, the additional challenge of a theme that had two facets.



Batteries Not Included was chosen to suggest the challenges that new technologies will face in terms of sustainability, referencing the previous 2003 theme of 'climate-change'. *Mind as Machine* was chosen to provoke artists' responses to the many questions about the workings of the mind and of new technologies' (in)abilities in approaching the mind in mechanistic ways.

As ever, we are grateful to all the artists who have taken the time and trouble to enter their work this year; without them we would not have an exhibition!

Our heartfelt thanks to Paul Brown for organising the symposium, and for his role in selecting the open exhibition. Thanks also to his fellow judges this year for their time and interest in supporting Shrewsbury's cultural ambitions.

Many thanks to Daniel Brown for curating the 'Invited Artists' component of this year's exhibition, and to those artists for agreeing to show their work here.

Finally, of course, thanks to our sponsors – to Whittingham Riddell for their continuing vision; to the Reynolds Gallery for once again supporting the regional prize and to Bang & Olufsen, our new sponsor, for their additional prize and their technological support of this year's exhibition.

Adrian Plant
Exhibitions Officer
Shrewsbury Museum and Art Gallery

* www.vanetwork.co.uk

top left: 33.3, Paul Grimmer

below left: *Autonomous Sleep*, Orla Keeshan

above: *A-Life*, Nigel Johnson

Art – artificial intelligence – artificial life

This year the Whittingham Riddell Shrewsbury Open Art Exhibition and the linked Shrewsbury Darwin Summer Symposium examine Darwin's influence on the computational domain. First let me define that word computational. It doesn't just mean 'to do with computers'. Many computer systems and software applications are intended to increase the productivity of their users. They can enable their users to do things very quickly and to much higher degrees of precision but the methods are based on traditional, pre-computer tasks. This is the computer-aided paradigm – as in computer-aided design. By contrast the computational paradigm explores methods that are uniquely enabled by the computer's hardware and software. Disciplines often adopt computer-aided solutions early to benefit from cost savings but then later discover that the same system can deliver new ways of working and novel and challenging outcomes.

When researchers first began to explore the power of computer systems to exhibit artificial intelligence (AI) the computer-aided approach soon came to dominate the field. Examine human intelligence, reduce it to a set of symbolic rules, code this up into a program and run it on the computer. It was soon obvious that this approach had many limitations – not least that we don't really understand how human intelligence works! A major problem in speech recognition for example is context – imagine I speak the sentence 'she was a tanker'. Most listeners who are members

of the English speaking community would appreciate that I was talking about things nautical. But did I actually say 'she was at anchor'? The hearer doesn't have enough contextual information to resolve the correct interpretation. I'm grateful to Donald Michie, one of the pioneers of British AI for providing that excellent example. It eloquently demonstrates how human-to-human communication is auspiced on a lifetime's wealth of shared conventions and is made meaningful by our ability to apply contextual cross-referencing in a way that contemporary computers cannot.

In recent decades AI researchers have tried alternative ways of overcoming problems like this. Humans learn this stuff by interacting with their parents, peers, mentors and their environment. So why don't we make a computer system that doesn't get told what to do but that has the ability of learning for itself? Researchers are now making learning systems – putting them into problem rich environments – and seeing how they perform. This, so-called bottom-up approach is the computational equivalent of the more traditional top-down, computer-aided AI and is one aspect of what has been dubbed artificial life or A-life. And it's here that Darwin's ideas play an important role.

In the field of Evolutionary and Adaptive Systems (jokingly abbreviated to EASy) a population of computational agents compete for success in a problem rich eco-system. Darwin's concepts of evolution and natural selection apply and, after many hundreds or thousands of generations an individual emerges who

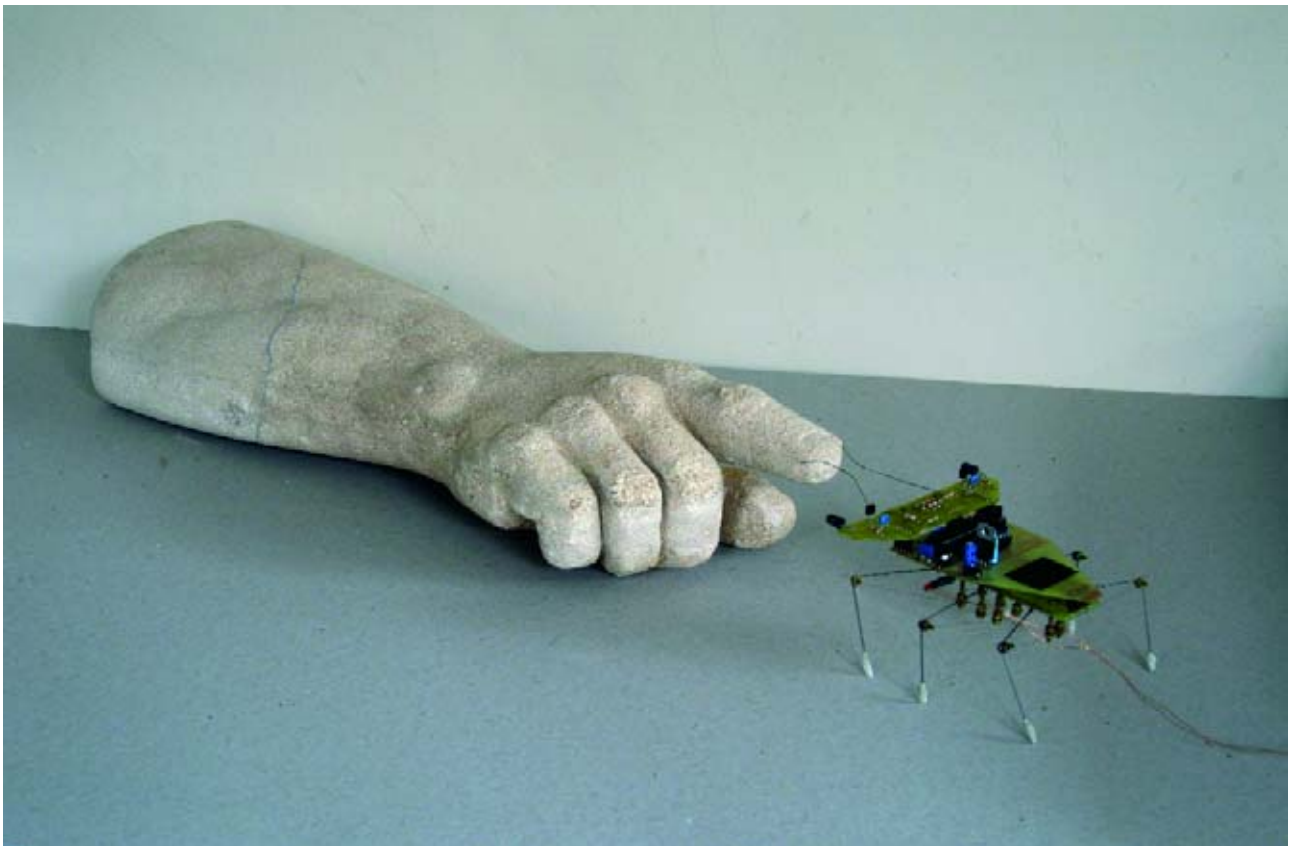
has very high fitness to solve the problem in hand. These evolved agents are much more robust than their trained equivalents and, importantly, they are able to handle unforeseen ambiguities and disturbances in their environment – just as real life-forms can. This area of research has a long history and, of particular interest here, has strong historical links with the visual arts.

In 1974 University College's Slade School of Art set up a computer system in their postgraduate Experimental Department. It was the size of a very large fridge, had 16KB of memory and no operating system. By today's standards it was an extremely primitive machine and very difficult to operate. However it acted like a magnet to a pioneering group of artists from Europe and worldwide who were interested in the potential of what would later become known as the computational paradigm. The main theoretical foci in the department came from the then current Systems and Conceptual Art movements and most of these artists were also interested in contemporary topics in science like cellular automata (an early form of a-life) and non-linear deterministic systems (where simple fixed rules lead to complex often unpredictable outcomes). The work of these pioneering artists associated with the Slade in the 1970's (that early computer was retired in 1982) is now being recognised as a major taproot of the emergence of a-life as a scientific discipline in the following decade.

The 1980's also witnessed the emergence of the personal computer and this allowed a new generation of artists



Wired, Amy Sterly



Tyger Tyger, Keith Ashford

to access the technology. By the 1990's the computer arts had matured and terms like Code Art and Computational & Generative Art were beginning to appear in the contemporary arts literature. The field now represents a major strand of current practice and acknowledgement of this by the annual Whittingham Riddell Shrewsbury Open Art Exhibition and the Shrewsbury Darwin Summer Symposium is timely.

In the call for participation artists were asked to respond to the challenge of our title *Batteries Not Included: Mind as Machine*. We have seen a wonderful response in both traditional media as well as some significant works from the computational domain. It's common now to use terms like 'art & technology' or 'Sci-art' to refer to many of these artworks. One of their (many) functions is their ability to transform technological achievements that may in themselves be fairly obscure or difficult to comprehend. By transmuting them into artworks the artist is often able to reveal the significance of these advances in an approachable format and, in particular, bring them to the attention of non-

academic audiences. I should qualify that statement by stating my belief that works in the field should not always be – although they may sometimes be – primarily concerned with the public awareness of science (though this can often provide the artist with a lucrative source for funding!)

And so it's my great pleasure to be associated with the Whittingham Riddell Shrewsbury Open Art Exhibition as Chair of the Jury and also as Curator of the complementary Shrewsbury Darwin Summer Symposium where some of the leading figures in the field illuminated and discussed many of the issues I have introduced briefly above. As the chair of the Computer Arts Society – CAS – I am also especially pleased that it is possible for us to be able to participate in this year's exhibition. CAS has invited the London-based artist Daniel Brown to curate a small invited section of the Open that will include the works of several leading contemporary artists working in the computational and generative domain. CAS is a specialist group of the British Computer Society – BCS – who have contributed funding to

enable our participation. This year they celebrate their first half-century and so I am also pleased that this event forms a part of the BCS 50th Anniversary Programme.

Fifty years ago computing was in its infancy and here, in the dawn of the 21st century and just a few short decades later, we stand in the foothills of the computational age. If we survive the threats to our existence created by our past and current inconsiderate exploitation of the Earth's natural resources we can look forward to a future where computational agents, AIs and A-life forms will work alongside us as we work, rest and play. And perhaps they will help us create a safer and more sustainable world for generations to come.

Paul Brown

Chair of Judges, Shrewsbury Art Open.

Curator, Shrewsbury Darwin Summer Symposium.

Artist and writer and Visiting Professor of Art and Technology, Sussex University.

Chair, the Computer Arts Society.



Selected works

The Improbability of Flight (2007)

Keith Ashford

Limestone and electronics

Keith Ashford was born in Birmingham and is now based in Shrewsbury, England, having completed an MA in Fine Art at Newcastle University in 1989. He mainly works with a combination of sculptural and electronic media.

Keith's autonomous insect-like vehicles compare ideas of our perceptions of animals and artefacts. More and more, machines with an insect-like intelligence are being inserted into the real world.

The Improbability of Flight features a curled up hand on which an electronic winged 'creature' rests, flapping its wings slowly and ineffectually, seemingly with an air of resignation.

Tyger Tyger (2006) (see page 7)

Keith Ashford

Limestone and electronics

Tyger Tyger sees a hand pointing towards an electronic insect, as if to coax it nearer... the creature tries to move forward but never quite reaches the outstretched finger. William Blake's *The Tyger*, the inspiration for this work's title, highlights the contrasting beauty and horror of the natural world. *Tyger Tyger* takes this idea to the next evolutionary stage – the world of technology.

The Future (2007)

Galina Bleikh

3D computer graphics, print on canvas

Galina Bleikh was born in St. Petersburg, Russia and completed an MA in Industrial Design at the Academy of Arts and Design, St. Petersburg in 1981. She is now based in Ma'ale Adumim, Israel.

The Future is a contemporary reworking of the painting *Judith Victorious* by Lucas Cranach the Elder, made in 1530. In this very modern re-interpretation of a classical artwork, Judith and the head of Holofernes are depicted as three-dimensional models reminiscent of



The Improbability of Flight, Keith Ashford



The Future, Galina Bleikh

characters in contemporary computer game imagery, and the scene through the window behind them is now that of the Holy Land in modern times.

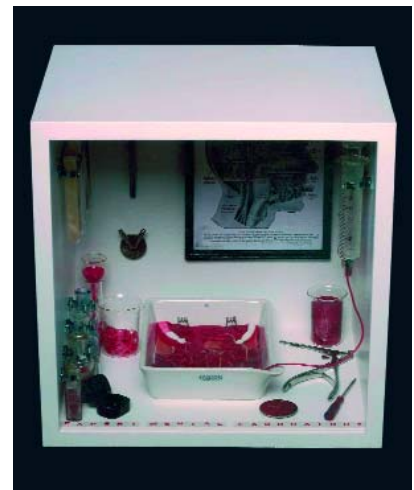
Rising Luminosity (2007)

Suzanne Briggs

Wire and acrylic

Suzanne Briggs was born in Canterbury, completed a BA in Metalwork at Buckinghamshire College of Brunel University in 1993 and is currently based near Penzance, England. Her primary medium is sculpture, often inspired by organic sea forms.

Rising Luminosity captures a moment in time, emulating the natural relationship between life and water. The spiral structure, although static, represents



Considered Conceptual Development, Jenny Brown

both growth and movement – the wire tendrils twist and coil as if being moved by currents in water.

This work invites us to consider how new technologies continue to learn from, imitate and be inspired by the natural world.

Considered Conceptual Development (2007)

Jenny Brown

Vitrine

Originally from Scotland, Jenny Brown attended Duncan of Jordanston College of Art and is now based in Oswestry, England.

Jenny's work mainly consists of creating assemblages of found objects to retrieve and re-present the ordinary, the

Does Not Compute, Sally Childs



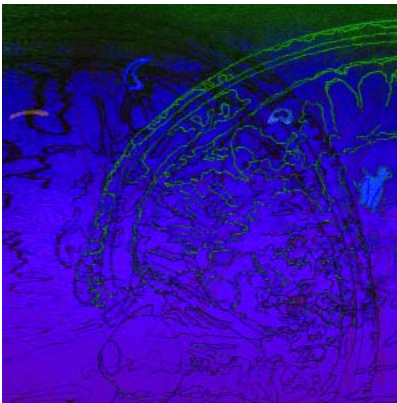
Does Not Compute was created in response to the devastating effects of Alzheimer's disease, which cause the sufferer to eventually degenerate into dementia, leaving the individual disorientated and confused. Does the 'soul' survive this breakdown? Or does the essence of individuality transcend physical and mental processes?

Memory Traces (2007)

Sally Childs

Digital print

Memory Traces, Sally Childs



Memory Traces is a richly coloured visual interpretation of memory, with multiple curving lines indicative of a map, and strange symbols of unknown meaning floating in between. The artist's aesthetic subverts the more traditional computer hard edged 'graphic' approach by attempting to capture the man made gestures and markings seen within traditional art forms.

Acoustic Cells (2007)

Martin Coulthurst

New Media/flash animation

Martin Coulthurst was born in Liverpool and is now based near Shrewsbury, England, having studied civil engineering at the University of Leeds in 1989.

The *Acoustic Cells* contain 10 simple cells that float within their own virtual space. The cells have simple instructions for their existence. Inspired by Edward Ihnatowicz's *The Sensor* – one of the first computer controlled interactive robotic works of art, created in 1970 – the cells respond to the ambient sounds: shrinking, grouping together and changing colour as the noise level rises.

This work raises questions about the nature of intelligence – the cells' programming gives them the appearance of living organisms, but is the mind just a higher level of 'programming'?

Mind Program v1.01 (2007)

Martin Coulthurst

New Media/flash animation

Mind Program v1.01 starts with the premise of 'mind as machine' and that most machines require software programming. The piece presents a series of ideas, questions and

instructions to help programme the mind to find creative solutions.

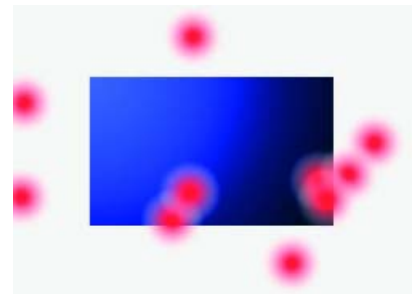
The instructions are taken from Brian Eno and Peter Schmidt's work, *The Oblique Strategies*. These are around 100 short, sometimes philosophical or oblique phrases. They can be used to suggest different ways of thinking about a problem; they were originally used to help with creative musical ideas and they can be applied to a wide range of situations. With thanks to Brian Eno and Peter Schmidt.

Waterfall Road (2006)

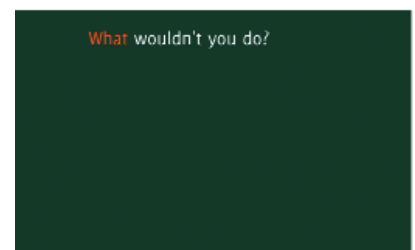
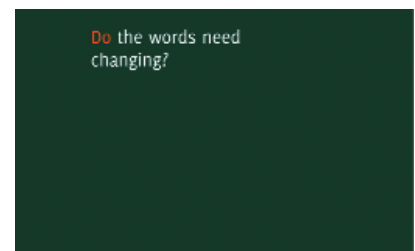
Alex Dewart

Oil on canvas

Alex was born in Ballymena, Northern Ireland and is now based in High



Acoustic Cells, Martin Coulthurst



Mind Program v1.01, Martin Coulthurst

neglected and the overlooked, in order to make visual sense of the world.

Considered Conceptual Development is constructed as a museum vitrine containing an 'experimental laboratory' – mysterious fluids and substances sit in bottles and beakers surrounded by medical instruments. On the wall we see a diagram of 'The Workshop of the Head', which likens the workings of the human brain to that of a telephone exchange.

Does Not Compute (2006)

Sally Childs

Digital print

Born in Islesworth, Sally Childs now resides in Newbury, England, having completed a BA in Visual Arts at the Winchester School of Art, 1996. Sally works mainly with both traditional drawing and painting media, and digital art.

Sally has a specific interest in the workings of the brain, specifically consciousness. Is consciousness merely a series of electronic impulses – similar in principle to mechanical and computer processes – or an irreducible entity which cannot be understood as the sum of simpler parts?



Waterfall Road, Alex Dewart

Wycombe, England, having completed an MA in Fine Art at Central St Martins School of Art and Design, London in 2006.

Alex's paintings hover between abstraction and representation. The images created are underpinned by ideas of landscape; where borders and boundaries exist, not just as physical, but also political entities.

Waterfall Road creates a tension between the machine and the hand made. The work was derived from a drawing executed on a very small mouse pad of a notebook-sized PC. Although it has the appearance of a computer-generated image, this is belied by the 'scribbled' nature of the markings and the use of the traditional medium of oil on canvas.

Plane Sky (2007) *(see page 2)*

Bernadette Feely

Digital print

Bernadette Feely was born in London and is now based in Harrow, England having completed a BA in Fine Art at the University of Northumbria, 1986. She works mainly in photography and digital art.

Bernadette's photographic work looks at the coexistence and growing trend towards the fusion of the human body and the machine. *Plane Sky* focuses on how the outward appearance of a plane's cockpit resembles that of a human face, alluding to the artificial intelligence used by aviation technology.

The work invites us to consider the shifting boundaries between the natural and man-made worlds, with the plane's shiny exterior appearing camouflaged against its natural environment, the blue sky.

2 22 222 (2007)

Sharon Forsythe

Wood, linen and embroidery thread.

Sharon Forsythe was born in Belfast and is now based in Holmes Chapel, England. She completed a BA in Fine Art at the Konningelijke Academie van Beelden Kunst, Den Haag, Holland in 2004.

Sharon has spent her creative life journeying to express the nostalgic warmth that first inspired her. Her work seeks to evoke that moment of recognition when we are transported back to familiar times that we had believed lost, and to reawaken our relationship with the past through sculptural objects.

2 22 222 refers in particular to Victorian embroidery samplers and the way

children learnt their alphabet. The work is set out in a more identifiable way for the children of today, using familiar symbols of modern communication processes; the 'Qwerty' keyboard, mobile phone buttons, and emoticons.

I, The Fruit Machine (1990–2006)

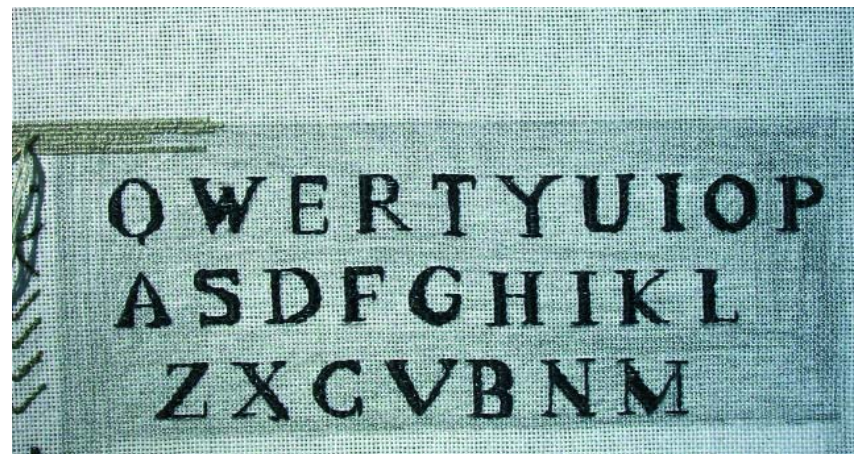
Ada Garton

Drawings and photographs

Ada Garton was born in Dublin, Ireland and is now based in Llanelli, Wales. She completed an MA in Fine Art at the University of Wales, Swansea in 2003.

Ada's work focuses on how people work, live, play and the effects we have on our environment. She uses found, natural, environmentally friendly materials and also often uses bags, packaging and receipts.

I, the Fruit Machine suggests the idea that the nature of existence and daily life can be seen as a game of chance. Parts of the fruit machine's surface are scratched away to reveal drawn images



2 22 222, Sharon Forsythe



I, The Fruit Machine, Ada Garton



From North to South [Empty], Craig Griffin

reflecting on the artist's life, inviting us to consider the gambles that we all take at points in our lives.

From North to South [Empty] (2006)

Craig Griffin
Acrylic and mixed media

Craig Griffin was born in Burton-upon-Trent and is now based in Maidstone, England. He completed an MA in Fine Art at the University for Creative Arts in Canterbury, 2005.

The interdisciplinary nature of Craig's work combines interests in architecture, graphic design and fine art within the

framework of 'the sublime'; a quasi-religious experience of the limitless immensity in nature and abstraction. Complicated abstract forms visualize themes such as 'ruin' and the fragmentation of memory.

From North to South [Empty] captures a sense of the obscure feeling of melancholy, isolation and human powerlessness against the ominous forces of nature and the fleeting environment of the present.

33.3 (2005–2006) *(see page 4)*

Paul Grimmer
Multi-screen video installation

Paul Grimmer was born in Newcastle-Upon-Tyne, England where he is now based. He completed a BA in Fine Art at University of Northumbria in 2005.

Paul Grimmer's practice approaches issues surrounding our psychological construction and its impact on the social and political body. The body/image is represented and mediated using performance, video, documentation and installation to address self-consciousness and the uncertainties of being. The work aims to subtly subvert and shift assumption and belief in 'normality'.

33.3 is an installation composed of three television screens arranged in a triangle, displaying a looping video of three hands playing an endless game of 'scissors, paper, stone', accompanied by an intense, static-like soundtrack. The title refers to the game's element of probability, perhaps a metaphor for the idea that every human action has a finite number of outcomes.

Smalls (2007)

Charlotte Gurr
Mixed media

Charlotte Gurr was born in Milton Keynes and is now based in Eversholt, England. She completed a BTEC National Diploma in Fine Art at Bedford College, 2005 and in September 2007 will be starting a BA in Fine Art at Leeds College of Art & Design.

Smalls expresses the artist's view of individuality. Patterns are mechanically manufactured, and are made with rules



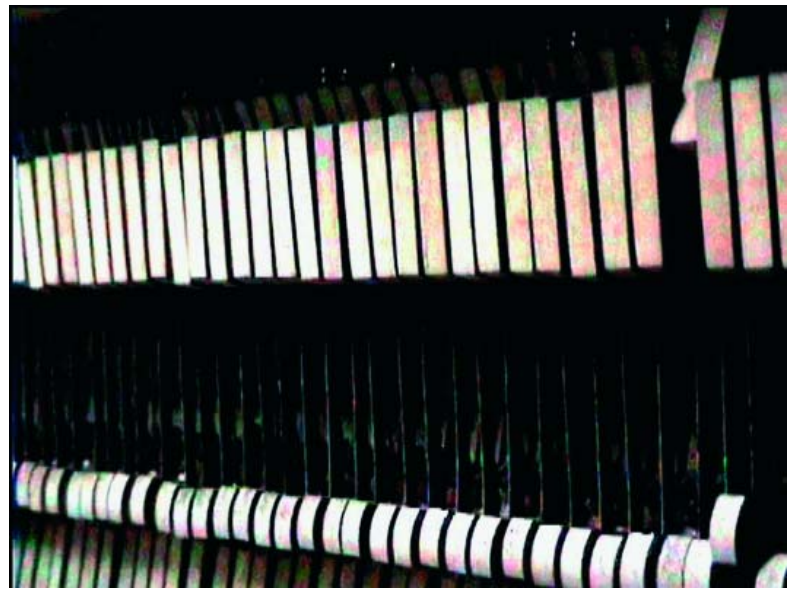
Smalls (2007), Charlotte Gurr



Space as Measured by Two Separate Systems, Gabrielle Hoad



The Mystery of Mysteries (2007), Jason Hodges



Inner Battery, Lois Jackson-Baker

which should only be altered slightly in correspondence to an individual. We think it is individuality that determines choices, and that garments are a reflection of someone's personality. But our minds as machines, are constantly being influenced from birth and therefore our choices are not permanent. As are patterns, they are constantly being altered and the rules rewritten.

Space as Measured by Two Separate Systems: 13 Seconds of Night, 13 Seconds of Day (2006)

Gabrielle Hoad

Digital print

Gabrielle Hoad was born in Gravesend and is now based in Exeter, England. She completed a BA in Fine Art at the University of Plymouth in Exeter, 2006.

Her work focuses on the ephemeral nature of bird flight. *Space as Measured by Two Separate Systems* juxtaposes mechanical and human recording methods and questions the difference between mindless and mindful representation. A long-exposure photograph at dusk was followed by an equivalent amount of time spent drawing in daylight from the same window. The drawing is a hand-made tracing of the flight paths of passing birds.

By considering photographic methods versus sight and memory, this process highlights differences between the embodied mind and the mindless machine.

The Mystery of Mysteries (2007)

Jason Hodges

Pigment print, etched paper

Jason Hodges was born in, and remains based in Hereford, England, having completed a BA in Fine Art at Sunderland University in 1992.

Jason's work makes use of the interplay between the scale and shape of the interior and exterior space; this constant theme comes from a fascination with Gothic architecture and the English rural landscape.

The Mystery of Mysteries is a triptych made up of two smaller photographs and a photographic montage as the larger central image. The work investigates Darwinian ideas of the evolution of an organism/species and the power to adapt to its environment. The three images are to be read as scenes from a fictional narrative that take place as a sequence of events as if from a film or graphic novel.

Inner Battery (2007)

Lois Jackson-Baker

Film

Lois Jackson-Baker is based in Bristol and is currently in her second year of a BA Fine Art degree at Falmouth College of Arts.

Inner Battery is a video piece featuring footage of the inside workings of a piano. The artist put this footage to the dialogue

of a conversation she had with a friend about the chosen theme; *'Batteries Not Included: Mind as Machine'*

Though language is useful, it is incredibly limited in the grand scheme of things. We may have a beautifully composed speech in our mind but are there enough words in the English language to tell it. Voice has its stops, starts and stutters, much like a piece of music or a piece of machinery.

In the Presence of Absence (2006)

Nigel Jackson

Lamda prints on aluminium

Nigel Jackson was born in Hertfordshire and completed a BA in Photography at Herefordshire College of Art and Design



In the Presence of Absence, Nigel Jackson

in 2006. He is now based in Ludlow, England.

Nigel's work explores ideas drawn from C.S. Peirce's semiotics, in particular his understanding that if all our perceptions are in the form of signs, then our knowledge of others and ourselves can only be as an interpretation of signs.

The piece explores the contemporary anxiety of the perceived withdrawal from society behind the veil or hood in relation to the questions contemporary science and philosophies pose for the nature of the self (the ghost in the machine?). The artist sees our response to artificial intelligence as the next stage in the playing out of these anxieties.

Beyond Liminality (2007)

Sheilagh Jevons

Oil on canvas

Sheilagh Jevons was born in Newtonhill, Scotland and is now based in Much Wenlock, England, having studied art with the Open University and at Wolverhampton Polytechnic.

Sheilagh's work is influenced by themes of ancient cultures, myths and identity. Her paintings are often made up of many layers of oil paint, so that scratching into the surface reveals the previously used colours and textures.

Beyond Liminality is an image of Brown Cleve Hill, Shropshire, viewed as 'beyond' the boundary of Sheilagh's home village

of Easthope. The work explores the emotional pull that signifies the 'sense of place' often experienced when returning home. The hedge is symbolic of the word 'liminality' – the point at which the boundary exists, the moment of transition between the elemental feeling of 'place' and the 'beyond'.

...or force mind forward like a burning wire into the core of question... Ruth Fainlight – Poet (2006)

Sheilagh Jevons

Oil on canvas



The inspiration for this portrait of contemporary poet Ruth Fainlight was taken from a photograph in a newspaper reviewing her latest collection of poems, *Burning Wire*. The title poem is about the power and process of thought, and how the mind uses this extraordinary energy to create – is creativity an inevitable dynamic of the human experience?

A-Life (2006) (see page 5)

Nigel Johnson

Purpose built electronics, computers

Nigel Johnson was born in Halifax and is now based in Dundee, Scotland having studied Experimental Media at the Slade

School of Fine Art, University College London, 1979–1981. Nigel works for the Visual Research Centre in Dundee, a unique facility for practice-led research.

A-Life is, on one level, a simple metaphor encompassing the complexities of life, distilled down into the basic components of life, birth and death, governed by the rules that control these events. At another level it is full of the subtleties and complexities of life itself. This new work makes 'retrospective homage' both conceptually and stylistically to the early work of John Horton Conway's 'Game of Life' and incorporates elements of Artificial Intelligence, Cellular Automata, Artificial Life and Gaming.

The world is divided into squares which can be vacant or occupied by cells. With each passing generation, some cells will survive while others die. Cells can be born in empty spaces. Life is played on a grid of squares where each cell is either alive (occupied) or dead (empty). You start with an initial configuration of live cells, and the game progresses through generations as the life and death rules are applied. *A-Life* developed from re-visiting some of Nigel's earlier research interests in artificial life systems, inspired in part by the John Conway article and the notion of simple rule-sets that could lead to the development of complex systems not just within the virtual domain of the computer software but made manifest in the physical world.



Beyond Liminality, Sheilagh Jevons

Movement of Dishes in Time and Space, Vidaga Karpenko



Movement of Dishes in Time and Space (2007)

Vidaga Karpenko

Mixed media – projected video installation

Vidaga Karpenko was born, and is now based in, Riga, Latvia, having studied Graphic Design at the Latvian Academy of Art, 2006. Vidaga works mainly with video and mixed media.

Movement of Dishes in Time and Space sees an animation of moving cups and dishes projected onto a coffee table. The tableware moves autonomously, even the table itself appearing to be a living organism as its surface texture changes... the scene breathes life into inanimate objects. Do these everyday objects have self-awareness? Do they know their purpose?

Autonomous Sleep (2007) (see page 4)

Orla Keeshan

Digital print

Orla Keeshan was born in Dublin, Ireland where she is now based. She completed a BA in Visual Arts Practices at The Dun Laoghaire Institute of Arts, Design and Technology in 2007.

While Orla's practice is primarily photographic, in front of the camera her

handling of environment and subject has elements of sculptural and performance traditions. Her work references traditions within painting and has a close connection with narratives – many of the images she creates are derived from her own writings.

Autonomous Sleep sees a woman asleep in bed, surrounded by piles of books. The image invites us to consider how the mind works beyond our conscious control during sleep in processing the vast and varied amounts of data we consume.

Mind the Mucus (2006)

Vera Klute

Digital video

Born in Germany, Vera Klute now lives and works in Dublin, Ireland after completing a BA (Honours) in Fine Art with First Class Honours at Dun Laoghaire Institute of Art, Design and Technology. She specializes in video art and painting, but also uses photography and animation.

Mind The Mucus explores the human body, taking the viewer on an animated journey of sorts through our internal organs – the video takes us from beating hearts to intestines via mechanical cogs, tubes and maggots. Tender, organic

textures and solid, industrial materials create a chain reaction through the body and mind – it shows a mechanism with no purpose but its own existence. The video is a juxtaposition of the tender, human nature and the emotionless, efficient laws of the physical world.

Brains (2007)

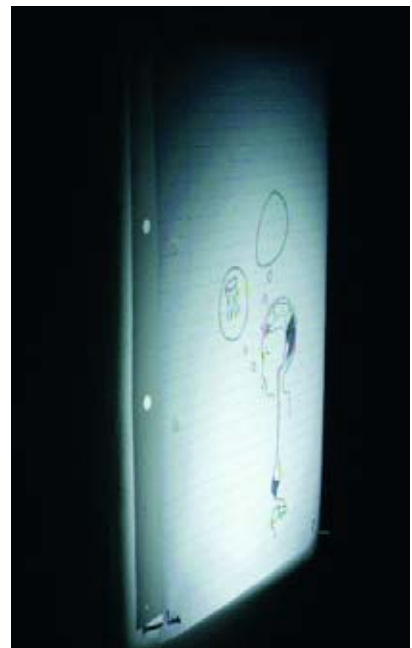
Vera Klute

Digital video

In *Brains*, different parts of the personality, or mind, interact with each other. Using classical animation, thought-bubbles appear from different sections of the subject and engage in conflict, involving denial, debate and anger. Associative images, as opposed to language, are used to hint at the content and emotion. In this way the video is interpreting how the mind breaks down more complex matters and tries to make sense of the multitude of emotions and thoughts that are implicated.

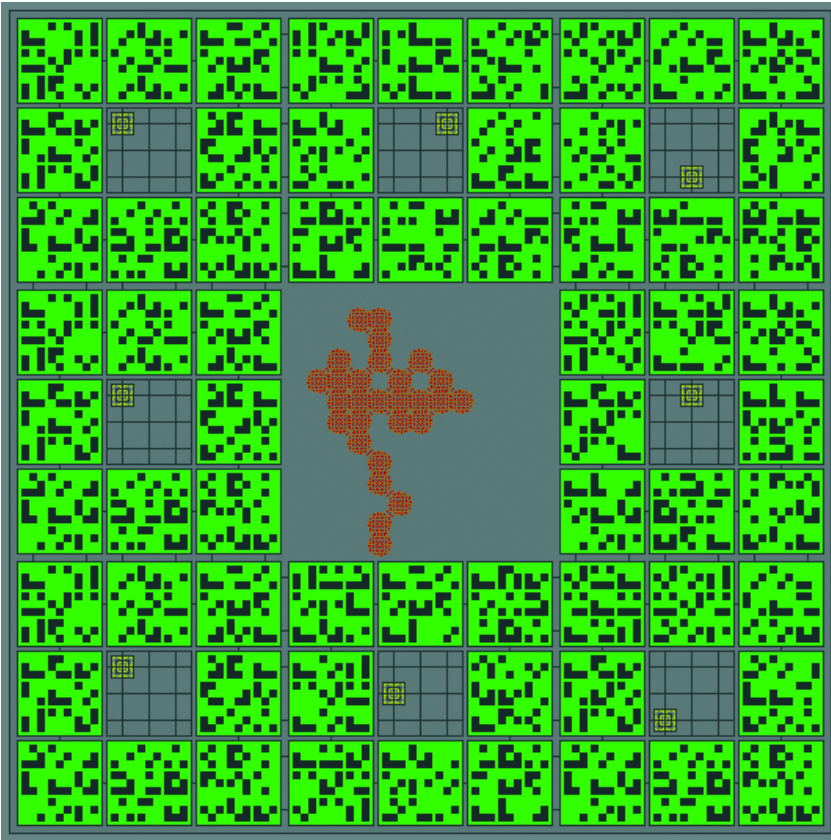


Mind the Mucus, Vera Klute



Brains, Vera Klute

Ghost in the Machine... (i. Precursors of Complexity), Michael Takeo Magruder and David Steele



Inside Out, Kate McMinnies



**Ghost in the Machine...
(i. Precursors of Complexity) (2007)**

**Michael Takeo Magruder
and David Steele**

Real-time media installation

Michael Takeo Magruder is an American artist based in the UK deploying New and Technological Media within Contemporary Art contexts. His artworks have been showcased in over 160 exhibitions and 30 countries. David Steele is a senior technical consultant based in Arlington, Virginia, USA working with advanced web technology and database architecture. His work has enabled a variety of cutting-edge applications from global text messaging frameworks to re-entry systems for the space shuttle. Their current collaborative practice explores the fusion of visual aesthetics and advanced programming to create works that explore concepts ranging from artificial life to the evolution of genetic code.

Ghost in the Machine is composed solely of eight interrelated segments of program code that have been translated into a visual form (while remaining

machine-readable) and arranged into a simple logical structure. The resulting framework mimics a biological system by recombining a small number of building blocks to express nearly infinite outcomes. The artwork considers the aesthetic manifestations that arise as a result of these permutations.

Inside Out (2007)

Kate McMinnies
Ceramic porcelain

Kate McMinnies was born in Belgium and is now based in London, England. She completed a BA in Ceramics at the University of Westminster in 2006.

Kate's work investigates notions of what psychological processes may 'look like', and whether these processes are structured, controlled and predictable, or random and ever changing.

Inside Out is one such visual interpretation of a thought process. The ceramic shapes depict the moment we lose control, be this through anger, happiness, lust or excitement. The artist is interested in the spontaneity, power and energy these moments can have,

and how they demonstrate various aspects of the mind, comparing its workings to that of a machine.

**Through the Eye of the Robot:
Synthetic Phenomenology (2007)**

Joel Parthemore and Ron Chrisley
Robotic interactive installation/digital video

Joel Parthemore and Ron Chrisley were born in the USA, Harrisonburg and Topeka respectively. Joel completed a BSc in Journalism (Northwestern, 1986) and an MSc in Knowledge-based systems (Sussex, 1990). Ron completed a BS in Symbolic Systems (Stanford, 1987) and a DPhil in Philosophy (Oxford, 1997) – they are now both based at the Centre for Research in Cognitive Science and Department of Informatics, Sussex, England.

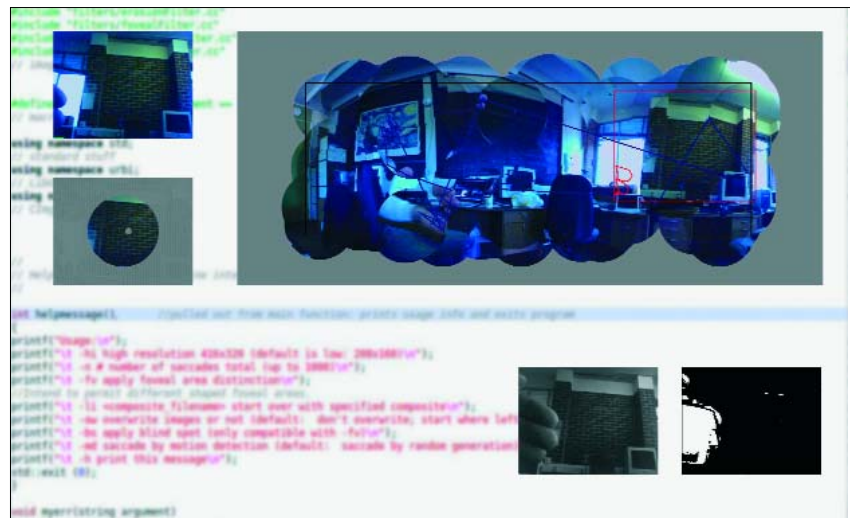
Neuroscience and psychology tell us that human visual experience is much more than the input of data that the eyes send to the brain at any given time. Joel and Ron's robotic model of visual experience, SEER-3, aims to capture this fact.

Through the Eye of the Robot is an

installation consisting of the SEER-3 robot controlling the computer and display. As the robot scans its environment, the expectations it acquires, and thus the experience it models are depicted on the display.

Also on the display are representations of the current output of the camera, as a contrast to the much richer, uncanny, depiction of experience.

Observers/participants, insofar as they are seen by the robot, become transient parts of the display/installation, and their movement may attract the robot's gaze. Since the display is itself a part of SEER-3's visual environment, the installation enables a kind of extrospection: introspection of ones own experience via use of external media.



Through the Eye of the Robot, Joel Parthemore and Ron Chrisley

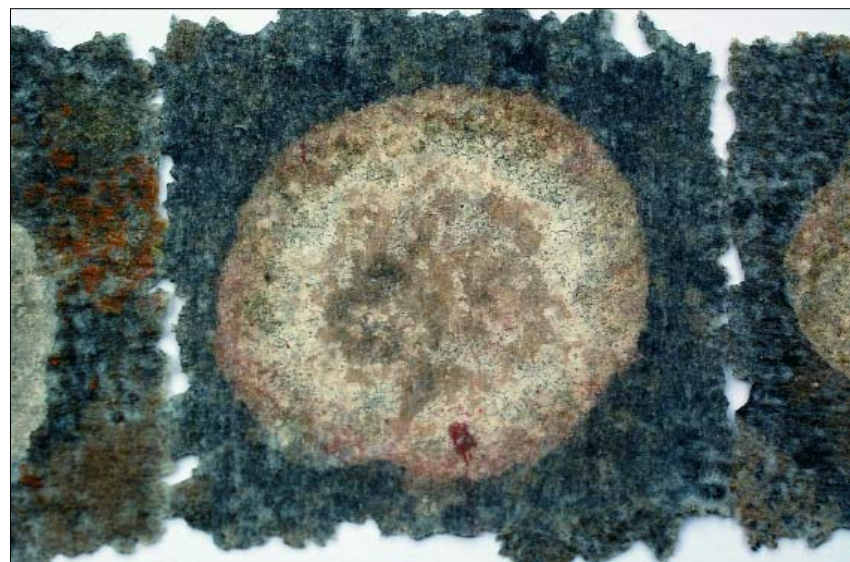
Axis Of Eight (2006–2007)

Maya Ramsay

Preserved lichens and gel

Maya Ramsay was born in London, England, where she is now based. She completed a BA in Fine Art at Chelsea School of Art in London in 1998.

Maya's works are derived from ephemera taken from the fabric of our surroundings, using a technique developed to lift and preserve pigment and texture. She manipulates everyday materials to cause a conceptual change to their appearance, creating understated yet political work.



Axis Of Eight, Maya Ramsay

Axis of Eight refers to the eight countries that currently have proven nuclear weapon capacity and conduct nuclear tests in the name of security. The piece is comprised from eight preserved lichens, one of the few living organisms that are resistant to nuclear radiation. Here they represent an example of 'natural' as apposed to 'artificial' intelligence.

Attack Of The Killer Mutants (2007)

Carrie Reichardt

Mixed media

Carrie Reichardt was born in London, England, where she is now based. She completed a BA in Fine Art at Leeds Metropolitan University in 1991.

For several years Carrie has been making various mutant creatures made from moulds or found anthropomorphic objects.



Attack Of The Killer Mutants, Carrie Reichardt

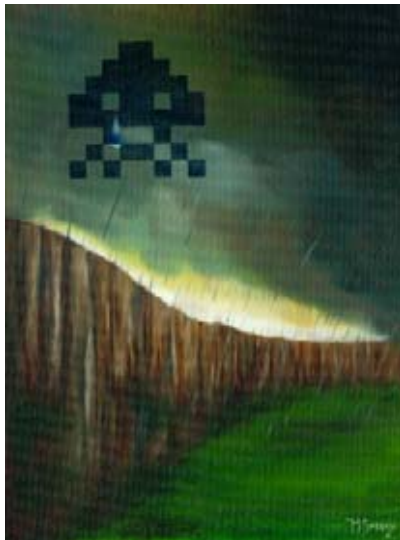
Attack of the Killer Mutants features a range of ceramic pieces made in both porcelain and slip clay. We can see mutated Barbie dolls, model robots and stripped down mechanical animals in this diorama that conveys an imagined future conflict between tribes of biotech creations. The artist envisages a time when discarded cyber toys, dumped robot pets and other unwanted cybernetic organisms amalgamate and pursue their programmed survival mechanisms independent of human control.

**Crying Invader
(This Doesn't Happen) (2006)**

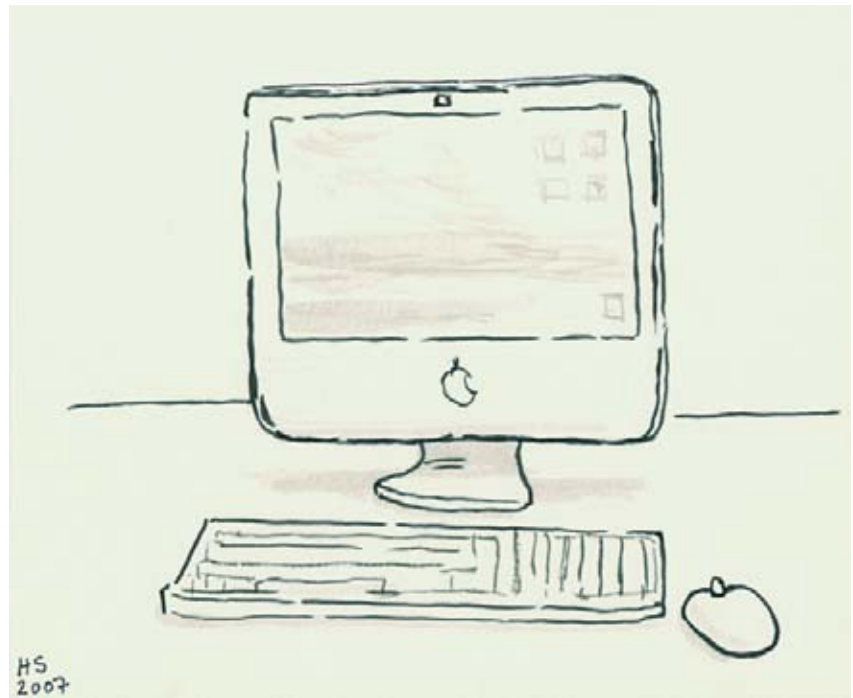
Mark Sheeky
Oil on canvas

Mark Sheeky was born in Crewe, England, where he is now based – he is a self-taught artist, working mainly with oil painting. He is also an active and enthusiastic music composer. Many of Mark's paintings have an associated poem, inviting the conscious and subconscious mind to interpret feelings and ideas without over intellectualising the work. *Crying Invader* considers how high intelligence, and particularly artificial intelligence, is almost always portrayed as emotionless.

| | |
|--------------------------|--------------------------|
| <i>Crying Invader</i> | <i>Mountains blur</i> |
| <i>Rain in needles.</i> | <i>in curving stone.</i> |
| <i>Feeling skies.</i> | <i>One last servant;</i> |
| <i>One invader,</i> | <i>lost, alone.</i> |
| <i>tamed, now cries.</i> | |



Crying Invader (This Doesn't Happen), Mark Sheeky



Self-Portrait - Landscape In My Apple Mac, Helen Sykes

Wired (2007) (see page 6)

Amy Sterly
Bronze, wood and wire

Amy Sterly was born in Elgin, Illinois, USA and is now based in Powys, Wales. She completed a BA in Fine Arts at Rockford College, Illinois and works mainly with sculpture and printmaking.

Wired features two bronze heads which appear to be interacting via the wires which link them at the eyes and mouth. This piece uses a very traditional medium (bronze bust sculpture) to illustrate our most modern methods of communication; telephone and computer-based interaction. Will there come a time when all communication will only take place through a network of wires? Could evolutionary demand even lead to a merging of computer technology and human biology?

Brightness Guaranteed (2007)

Euryl Stevens
Paint, paper on board

Euryl Stevens was born in Rhondda Valley, Wales and is now based in Shrewsbury, England. Euryl studied painting at the Birmingham College of Arts and Crafts and at the Royal Academy Schools, and works mainly with paint and mixed media.

Brightness Guaranteed is an advertisement for a potential future product – given the cohabitation and even merging of technology and biology within modern existence, perhaps plants could one day evolve to produce parts for machinery, such as batteries.

Self-Portrait – Landscape In My Apple Mac (2007)

Helen Sykes
Ink on watercolour paper

Helen Sykes was born in London and completed a BA in Fine Art at St. Martins College, London in 1998, and also studied Scriptwriting at the University of East Anglia. She lives and works in London and Norwich, England.

In many of Helen's works the project dictates the media; the simplification of complex information that cartoon imagery affords is of particular interest and there is a clarity of image and intention within her drawings that relates to her interest in, and exploration of, visual and physical spaces and forms.

Landscape in my Apple Mac depicts an icon of the modern technical age, the Apple Mac, in the traditional medium of ink on paper. Is this the stuff of the modern 'landscape' painting?

98% (2006)

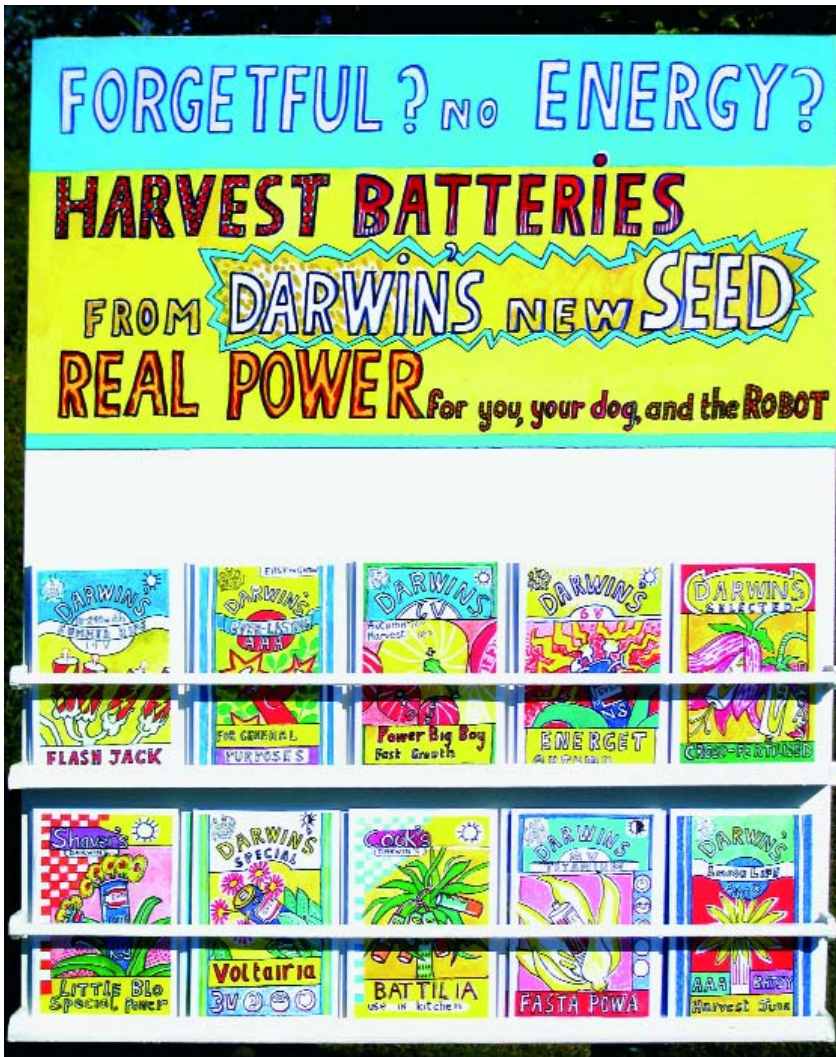
Mark Wydler

Oil and acrylic on canvas

Mark Wydler was born in Preston and is now based in London, England, having completed a BA in Fine Art at Sheffield Hallam University in 1982.

98% explores the question of how we define consciousness, and in what terms. The chimpanzee, according to some recent studies, shares as much as 99.6 percent of its D.N.A with humans. Although chimpanzees can clearly be seen not to have the same quality of rational intelligence as humans, does this necessarily signify that their level of consciousness is different in degree from ours and if so, how can this be determined by us from the standpoint of our rational intelligence? Is the concept of consciousness a measure of rational intelligence, or a deeper awareness of ones existence beyond rational intelligence?

The Mandala is symbolic of just such a deeper degree of awareness, or of a far higher level of consciousness than is normally achieved by a human being. Will the products of artificial intelligence be afforded the qualities of consciousness we already deny to other beings?



Brightness Guaranteed, Euryl Stevens



98%, Mark Wydler



On Growth and Form, Daniel Brown

Invited Artists

Golan Levin

Golan Levin's work explores the intersection of abstract communication and interactivity. Through performances, digital artifacts, and virtual environments, Levin applies creative twists to digital technologies that highlight our relationship with machines and make visible our ways of interacting with each other.

His project *Meshy* (1998, revised 2006) is an interactive drawing environment in which the user's strokes scaffold a gauzy mesh of animated elements. The mesh continually bridges the user's two most recent movements; by making new marks, users can tease and torque the mesh in real-time.

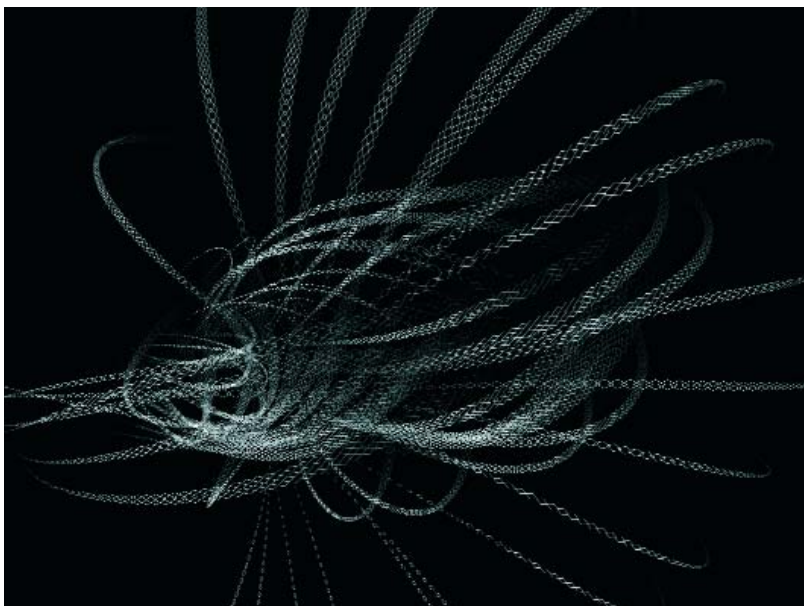
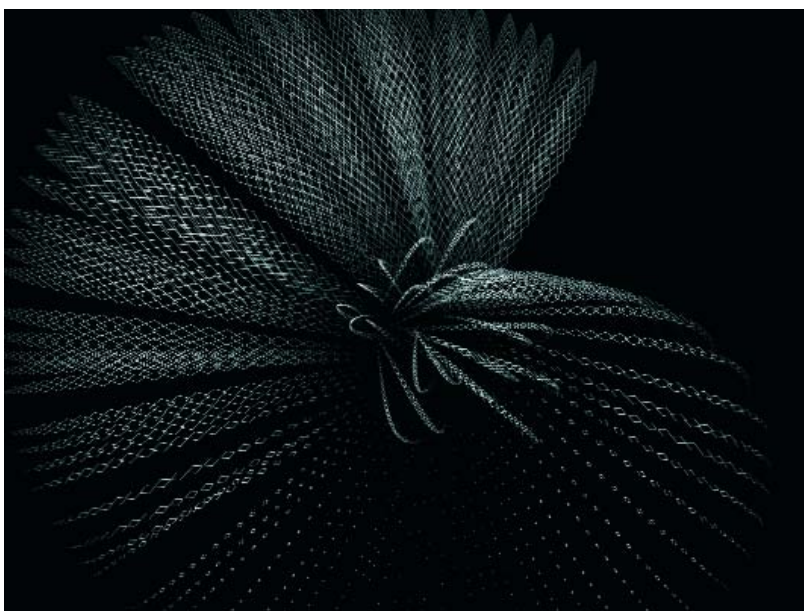
Daniel Brown

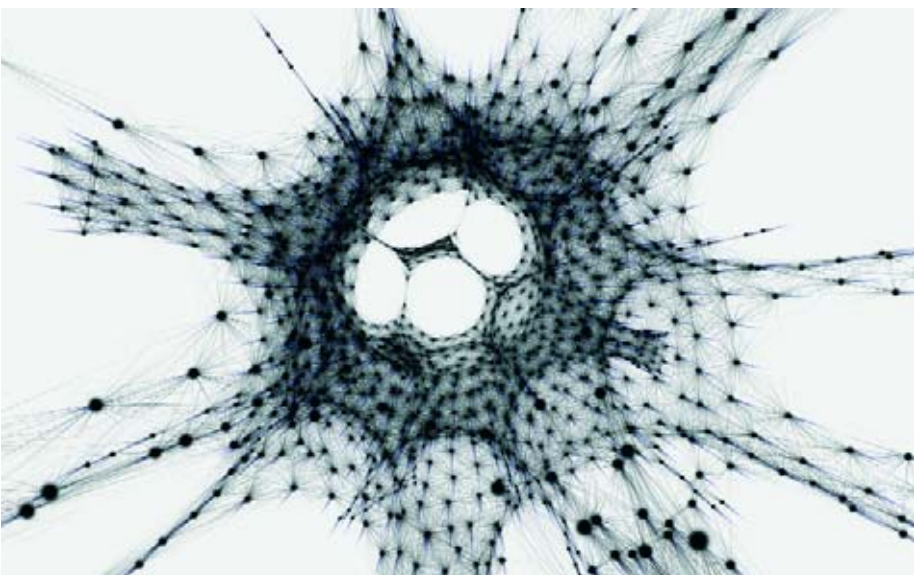
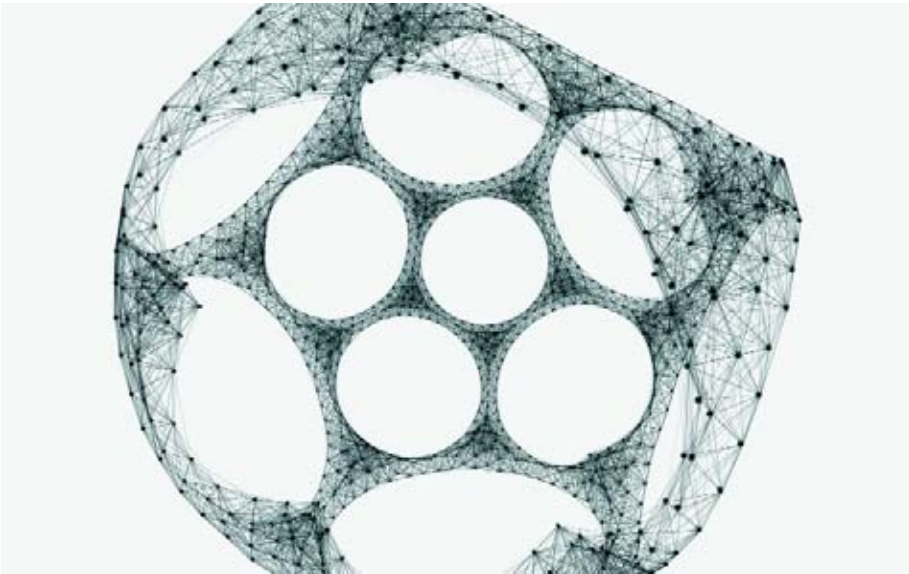
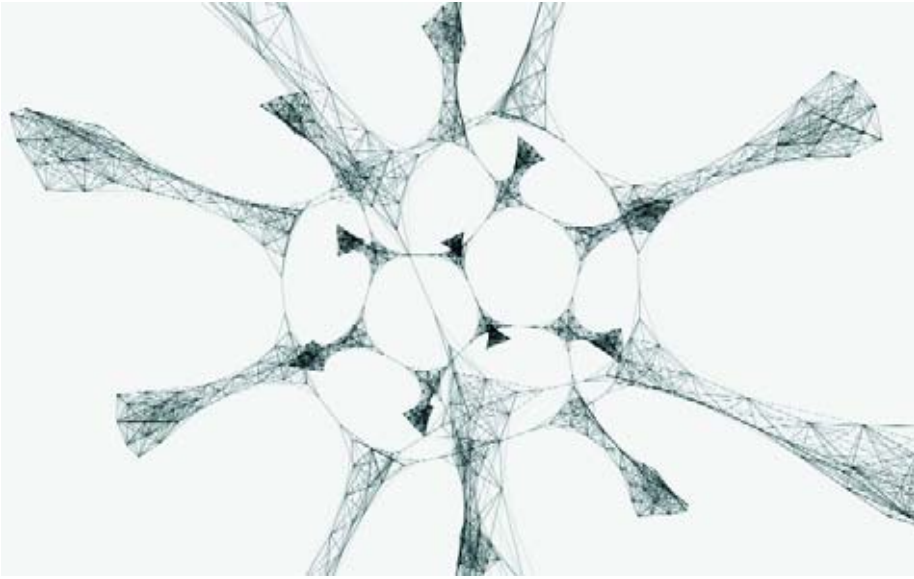
Daniel Brown is a designer, programmer and artist, specializing in the fields of Creative Digital Technology and Interactive Design and Applied Arts. Since 1999, Daniel has been chosen by Internet Business Magazine as one of the top 10 internet designers; was one of Creative Review's 'Stars of the New Millennium'.

The *Flowers Series*, formally titled '*On Growth and Form*' (in homage to D'Arcy Thompson's book that analyses the geometrical relationships between different evolutionary species) uses complex mathematics to create never-ending hyper-real animations of blooming flowers. Akin to the 'time-lapse' photography of plantforms often seen on natural world documentaries, the pieces hint at an organic behaviour and aesthetic while in reality being only the result of a fleeting and mechanical computer process.

Robert Hodgkin

Robert Hodgkin is a founding partner of the Barbarian Group. He lives in San Francisco, USA, where he heads up the Barbarian's west coast office. His personal site, flight404.com, is a showcase for the experiments he creates with Processing. His work is strongly influenced by his interest in physics. Over





The Behavioural Mutation of Monad, Robert Hodgkin

the last two years, he has focused much of his attention on finding ways to explore the properties of magnetism and gravity through code.

The Behavioural Mutation of Monad explores the aesthetic properties of magnetic attraction. Occasionally and unpredictably, a charged particle will mutate and redefine its own characteristics. These monad mutations eventually influence the entire particle set.

Paul Brown

Paul Brown is an artist and writer who has specialised in art, science & technology since the late 1960s and in computational & generative art since the mid 1970s. His international exhibition record spans four decades and includes the creation of both permanent and temporary public artworks. He has participated in shows at major venues at the Tate Gallery, the Victoria & Albert Museum and ICA in the UK; the Adelaide Festival; ARCO in Spain and the Venice Biennale.

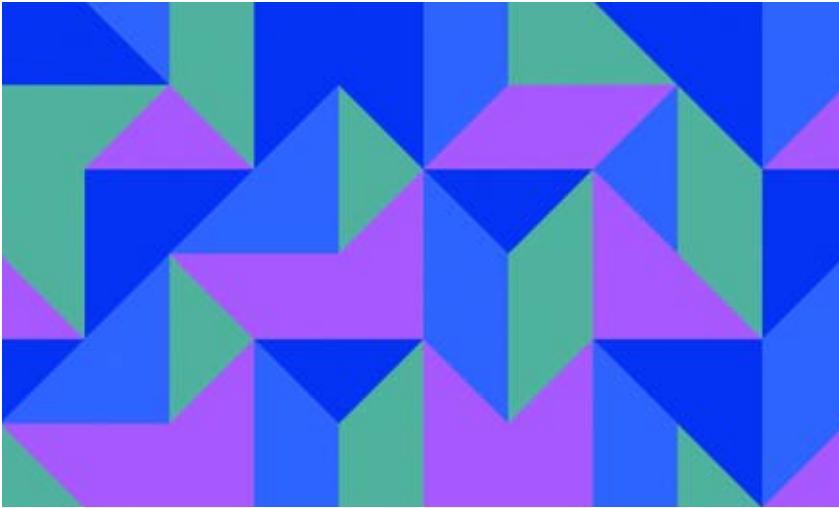
4¹⁵ and *4¹⁶* are recent works in a series that uses artificial life agents to 'drive' the action. A cellular automaton that uses principles of favourite neighbours is constantly seeking an optimum solution that does not exist. The emphasis of the work is on human cognition. It explores the ability of the visual cortex and brain to find serendipitous and 'meaningful' associations in what is merely 'well dressed noise'.

Driessens & Verstappen

The Amsterdam based artist couple Erwin Driessens (1963) and Maria Verstappen (1964) have worked together since 1990. After their study at the Maastricht Academy of Fine Arts and the Rijksacademy Amsterdam, they jointly developed a multifaceted oeuvre of software, machines and objects. Their research focuses on the expressive possibilities that physical, chemical and computer algorithms can offer for the development of image generating processes.

E-volved Cultures presents the results of the image-breeding-machine '*E-volver*'.

4'15, Paul Brown

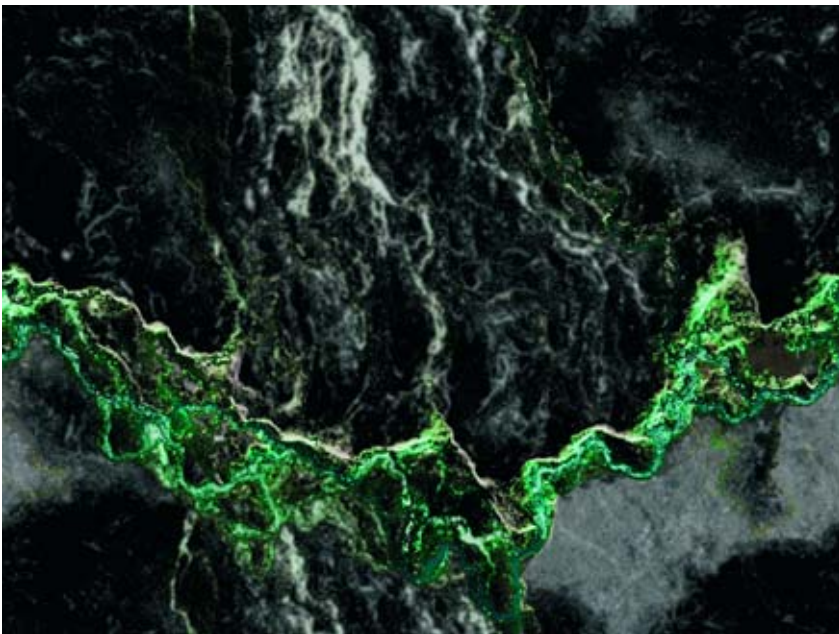


This software evolves image-processing organisms by applying artificial genetics and evolutionary techniques. Each Culture consists of eight different organisms one pixel in size. The creatures react to their local environment and each of them leaves its individual traces on the screen.

Casey Reas

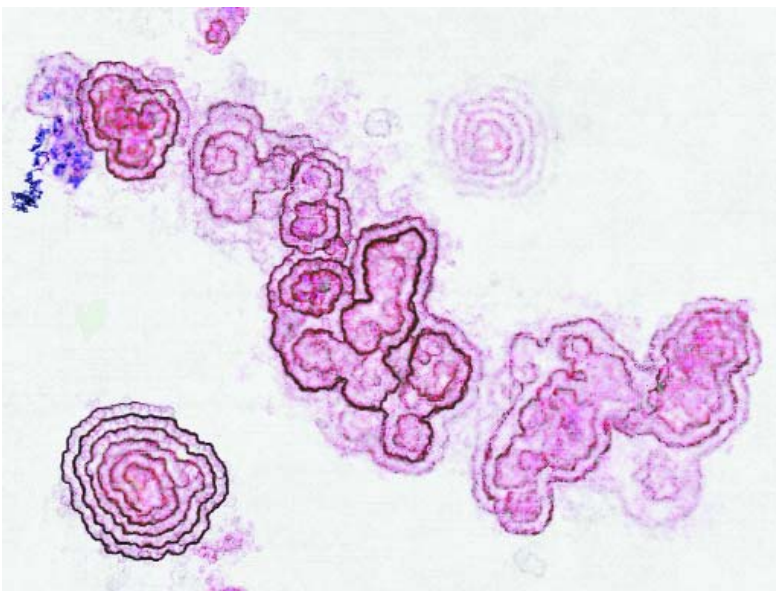
Casey Reas is an artist and educator living and working in Los Angeles, USA. His work focuses on defining processes and then translating them into images. He is an associate professor in the department of Design & Media Arts at UCLA.

E-evolved Cultures, Driessens & Verstappen



The work in the exhibition is a selection from the *Process* series. Processing is an open source programming language and environment for people who want to programme images, animation and interactions. It is used by students, artists, designers, researchers, and hobbyists for learning, prototyping, and production. It is created to teach fundamentals of computer programming within a visual context and to serve as a software sketchbook and professional production tool. Processing is developed by artists and designers as an alternative to proprietary software tools in the same domain.

E-evolved Cultures, Driessens & Verstappen



A selection from the *Process* series, Casey Reas

