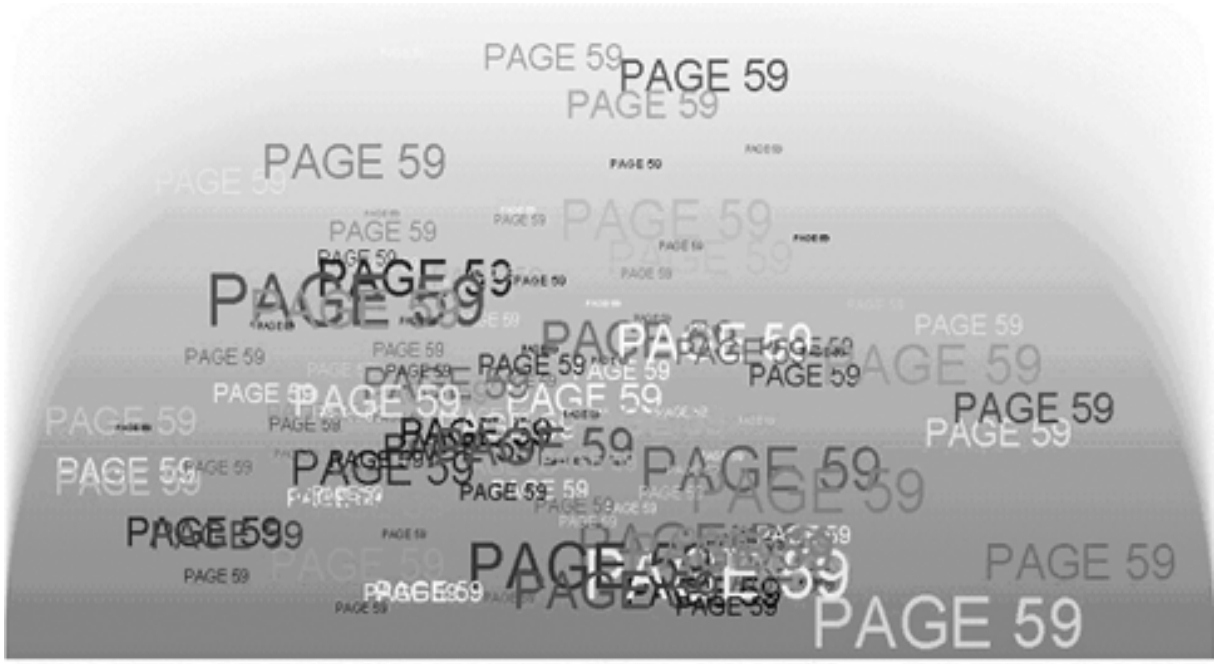


BULLETIN OF THE COMPUTER ARTS SOCIEY WINTER 2004/05

Likely Preface to a Possible Book

Mosaic Portraits: New Methods and Strategies *Ken Knowlton*

If you don't know where you're going, you will surely end up somewhere else. Yogi Berra
To be sure of hitting the target, shoot first, and call whatever you hit the target. Ashleigh Brilliant
Basic research is what I'm doing when I don't know what I am doing. Werner von Braun
One never goes so far as when one doesn't know where one is going. Goethe

Through today's lens - near-future and pragmatic - it was a place of misty legend: that brick and mortar fortress on a hill in the Northeast Kingdom of New Jersey. Quiet and apparently innocuous. But stealthy, to those who read its press releases as warnings of upheaval down the road. To most folks, its announcements - about atoms, plasmas, phonons, and such figments of science - were of little relevance to their composures or bottom lines.

Bell Telephone Laboratories, as my colleagues and I experienced it during the 1960s and 1970s, was a beehive of scientific and technological scurrying. Practitioners within, tethered on long leashes if at all, were earnestly seeking enigmatic solutions to arcane puzzles. What happened there would have baffled millions of telephone subscribers who, knowingly or not, agreeably or not, supported the quiet circus.

For people who believe in science, and who still believe in technology, it was the epitome of free exploration into how the world did, or could, work. For those concerned with tangible results, the verdict, albeit delayed, is indisputable: fiber optics, the transistor, Echo and Telstar, radio astronomy including confirmation of the Big Bang. Advances in metallurgy, computational methods, and all manners of information storage, transmission and processing. Bell Labs truly was a national resource, and for anyone who was there or who cared, its decline is one of the great tragedies of the past half century.

You may be familiar with the names of people I knew there: Claude Shannon, John Pierce, William Baker, and a dozen Nobel laureates, McCarthur Fellowship "geniuses" and other notables. Like Richard Hamming who, soon after I arrived from MIT in 1962, advised me to "slow down - if everyone here made more than one contribution to the Bell System in his lifetime, the System would be in chaos." At first startled, I did and accepted this as an excuse not to obsess over telephones.

My main interest was computers, particularly their use in picture-making. The Labs had a new microfilm printer that exposed letters and vectors on 35 mm film. Some of my friends - Mike Noll, Ed Zajac and Frank Sinden - were soon making simple movies (with terrible vertical jitter because the camera lacked filmgate registration pins). My own shtick became a sort of greyscale picture made by filling the screen with hundreds of lines of hundreds of letters chosen for their brightness. I soon wrote a memo to department head Tom Crowley, suggesting the possibility of a "computer language" for making animated movies; his two-part response launched my career in raster graphics: "It sounds rather ambitious, but why don't you see what you can do?"

Within a year, I had a set of subroutines someone dubbed BEFLIX, acronym for "Bell Flicks," arguably the first computer language specifically for movie making. (I have also been called the "inventor of the pixel," which is a bit of a reach, though I might claim independent discovery.)

I used BEFLIX, of course, to make a movie about the process by which it was made. It had no sound track, was unbearably dreary and highly schematic. But it was a first, of sorts, and Bell Labs arranged a press conference for fellow movie makers and me to crow about our accomplishments. I remember in particular one reporter who badgered me about the possibility of someday resurrecting Rock Hudson and Doris Day, by computer, to star in posthumous movies. I argued that nothing like that would ever happen: it was too complicated, and certainly not worth the effort; computers were for serious scientific movies, for example about atoms, whose cavorting could be scripted by vectors and equations. Unswayed, his newspaper story about computer animation featured Rock Hudson and Doris Day. (As we all now know, the obstreperous reporter's imagination was right on target.)

The BEFLIX language did serve, non-reflexively, a couple of years later for a set of films that I made about my list-processing language L-6 (the Laboratories' Low-Level Linked List Language); it contained an early case of articulated animation in which insect-like base pointers crawled about in the computer, pointing to blocks of memory.

The non-scientific, some say artistic, aspects of computer graphics arose for me via a sophomoric prank. Ed David, two levels up, was away for a while and the mice, one might say, played ever more freely. Leon Harmon stopped by to ask me for help with a brilliant idea: when Ed returns, one entire wall of his office will be covered with a huge picture made of small electronic symbols for transistors, resistors and such. But overall, they will form a somewhat-hard-to-see picture of, guess what, a nude! And so the renowned Harmon-Knowlton nude was conceived, coaxed into being, and duly hung on Ed's wall.

Ed was delighted but troubled. More viewers than we had expected were apparently familiar with the subject matter, and could "see" the 12-foot-wide picture from as many feet away. It was therefore judged an unseemly decoration for the Labs, especially midway up the hierarchy. After just one day of glory there, she was retired to Ed's basement rec-room. Smaller versions of the big picture mysteriously did propagate (we had not the slightest idea how); the PR department scowled and warned that "you may circulate this thing, but be sure that you do NOT associate the name of Bell Labs with it."

But the big version burst forth a while later at a press conference on Art and Technology in Robert Rauschenberg's loft, and on the watershed date of October 11, 1967, it appeared atop the first page of the second section of the New York Times, which made not the slightest effort to conceal its birthplace. Billy Kluver claims that this was the first time ever that the Times printed a nude! The PR department huddled and decided, so it seems, that since she had appeared in the venerable Times, our nude was not frivolous in-your-face pornography after all, but in-your-face Art. Their revised statement was: You may indeed distribute and display it, but be sure that you let people know that it was produced at Bell Telephone Laboratories, Inc.

We did make similar pictures - of a gargoyle, of seagulls, of people sitting at computers - which have appeared here and there. But it was our Nude who would dolphin again and again into public view in dozens of books and magazines. Sometimes it is excused by a more dignified title, like Studies in Perception I; once the two of us were photographed in front of it, providing a scant two-piece cloak of modesty. Just recently I encountered it in Lewis Mumford's The Myth of the Machine (1970) where, as last in a three-panel display, it demonstrates progress (or regress) in mechanization of the portrayal of woman.

That was the beginning for me of a fascination with large pictures made of small things, that has occupied my eyes, hands and mind ever since. It was also my first conscious buffeting by chaos: a mischievous butterfly had flapped, and a huge chunk of my career and persona veered onto a new course.

On the other hand, and again by chance, my debut as artist was postponed for several years. How so? Because Art-and-Technology was the rage, and The Museum of Modern Art had a "Machine Show," and the Brooklyn Museum and other places had similar parties, and in each case Leon and I submitted the Nude to demonstrate a collaboration between artist and techno-geek (or whatever). One of us had to be an artist. So by the whim of a spin-launched coin, Leon became the artist and I remained a technologist (pretense aside, so did he). I did not understand until ten years later that I had lost the toss, since artists, I was learning, were the perceptive predictors, the daring, flamboyant and revered analysts of past, present and future, the grand but sly commentators on human joy and sorrow. (After another ten years, and exposure to a hundred artists, I learned that that notion was 90 percent humbug.)

Other breeds than scientists crept into the Laboratories, especially at night and on weekends. Encouraged especially by Max Mathews and Billy Kluver, they were musicians and artists seeking access to big machines and to people who knew how to use them. I was one of the native knew-hows, and thus became the engineer/scientist/programmer/technologist of a series of art-technology collaborations.

We were all trying, exploring and enjoying things made possible by new hardware and software. Few of us were aware that we were making History - a misfortune for historians because stories and artifacts, who knows how many, slid into oblivion. I think, for example, of my worst seashell portrait, so washed-out in appearance that it served only as my entry in a "Vague Art" show in Phoenix AZ; I later flung it, face-down, two-arm Frisbee style, into a New Hampshire landfill (where it may possibly survive intact longest of all).

I slowly lost my sense of awe at artists. Art, ten or a hundred years after the fact, can be inspiring, admirable and mysterious. But few artists are more stunningly awe-inspiring than, say, gardeners or woodworkers or masons. Or than children. With the perceived barrier lowered, I decided that although I was still a communications scientist, I was also an artist - mostly at home, puttering away, taking pictures apart and putting them back together in idiosyncratic ways, and keeping a low profile. I had already had my fifteen minutes on stage.

Most of my work concerns people's faces - an unendingly rich subject area, as is well demonstrated, for example, by Terry Landau's entertaining book *About Faces*. An in-your-face face is hard to ignore. It is also a good proving ground if the visage is well-known.

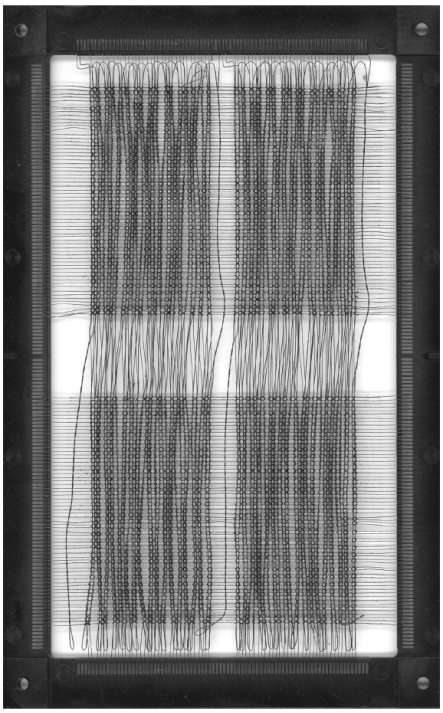
One may, quite justifiably, have serious skepticism about the use of computers for art - how much humanity can be expressed by the use of a machine? Perhaps, quoting Abraham Kaplan, you may say that, because I have a hammer, everywhere I look I see things that need pounding. Well, ah, yes.

I do look here and there and see existing or potential images that do need my kind of pounding. And I think that some of the results might be worth keeping. That's how I see the results - a thrust into new possibilities for picture-making, including serious first tries at artwork of intrigue and substance.

Perhaps these are examples of esoteric art about art. But quietly so - they are non-assaultive; you have to invite, and process, them. The main questions here, old as art itself, are: Can these images help you to experience in a new way the things, people and pursuits alluded to? Why do you see what you think you see, and more than is in fact really there? How is it that crude or oddly structured pictures can be more evocative than scrupulously detailed, explicit ones? □

Two of Ken's mosaic portraits appear on pages 4 and 5: for more see www.KnowltonMosaics.com

Ken is one of the 20 image makers featured in *Masters of Deception: Escher, Dali & the Artists of Optical Illusion* by Al Seckel (Sterling Publishing, New York, 2004)



IBM memory board circa 1960
An image for 2005 from Estarose & Manfred Mohr

For more Mohr visit http://www.emohr.com
For a recent radio interview visit http://wps1.org

On other pages

Pages 4 to 10	Graphics
Page 11	CAS Meetings 2005
Page 12	CAS Aims and Committee

If you have information on the origin of the graphic on page 6 please contact the editor of PAGE

Note for the portrait on page 7

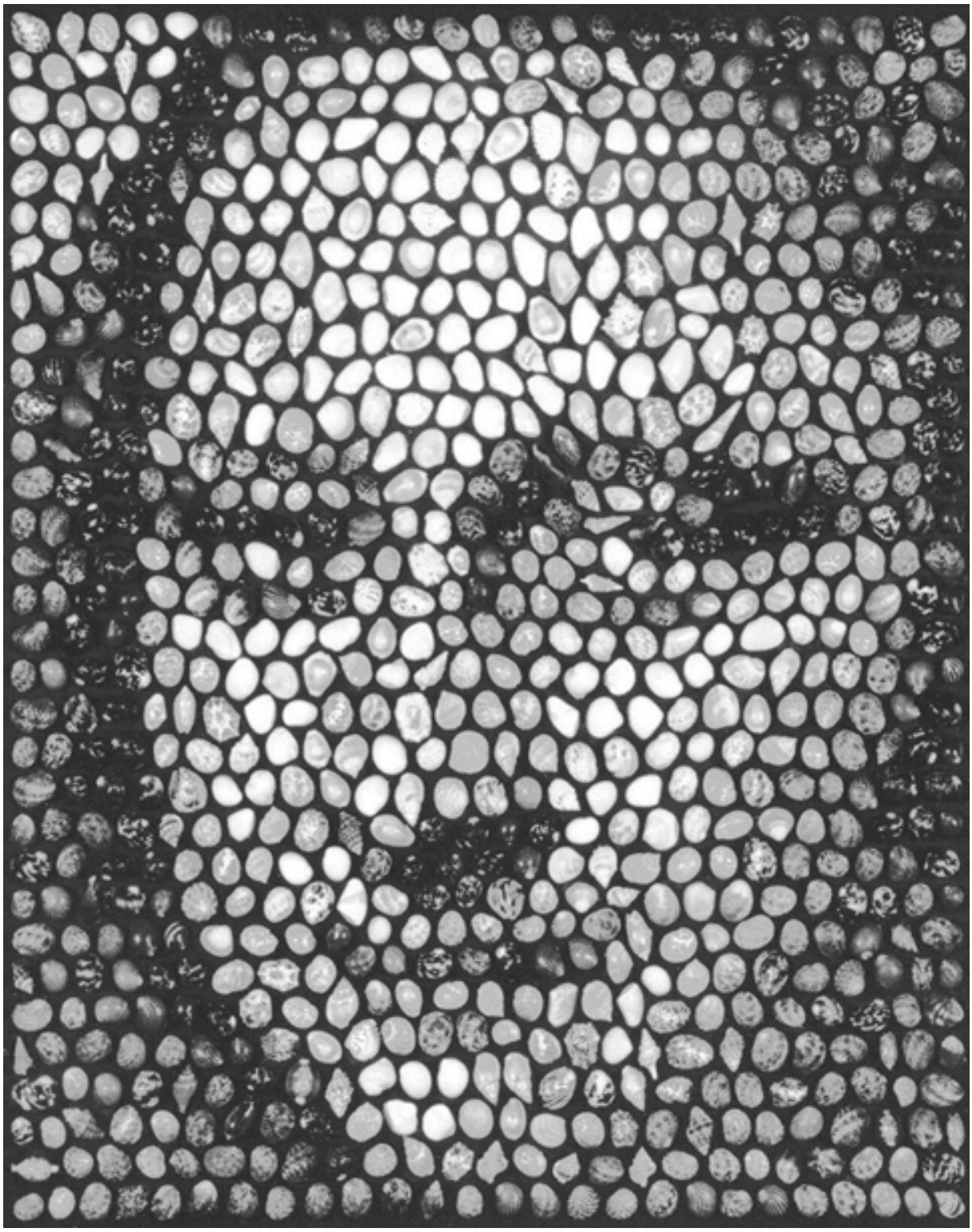
During the past year I have started to develop a computer program to generate portrait sketches inspired by the way I sketch faces. The program generates the sketches from a photograph without human intervention. The sketches are drawn with ink or pencil on paper using a pen plotter.

The plotter can produce output from the size of a postage stamp up to A0. I will soon be able to produce etchings in the same way. In coming months my program should progress using techniques from the fields of computer vision and artificial intelligence.

Patrick Trisset autrechose@btopenworld.com

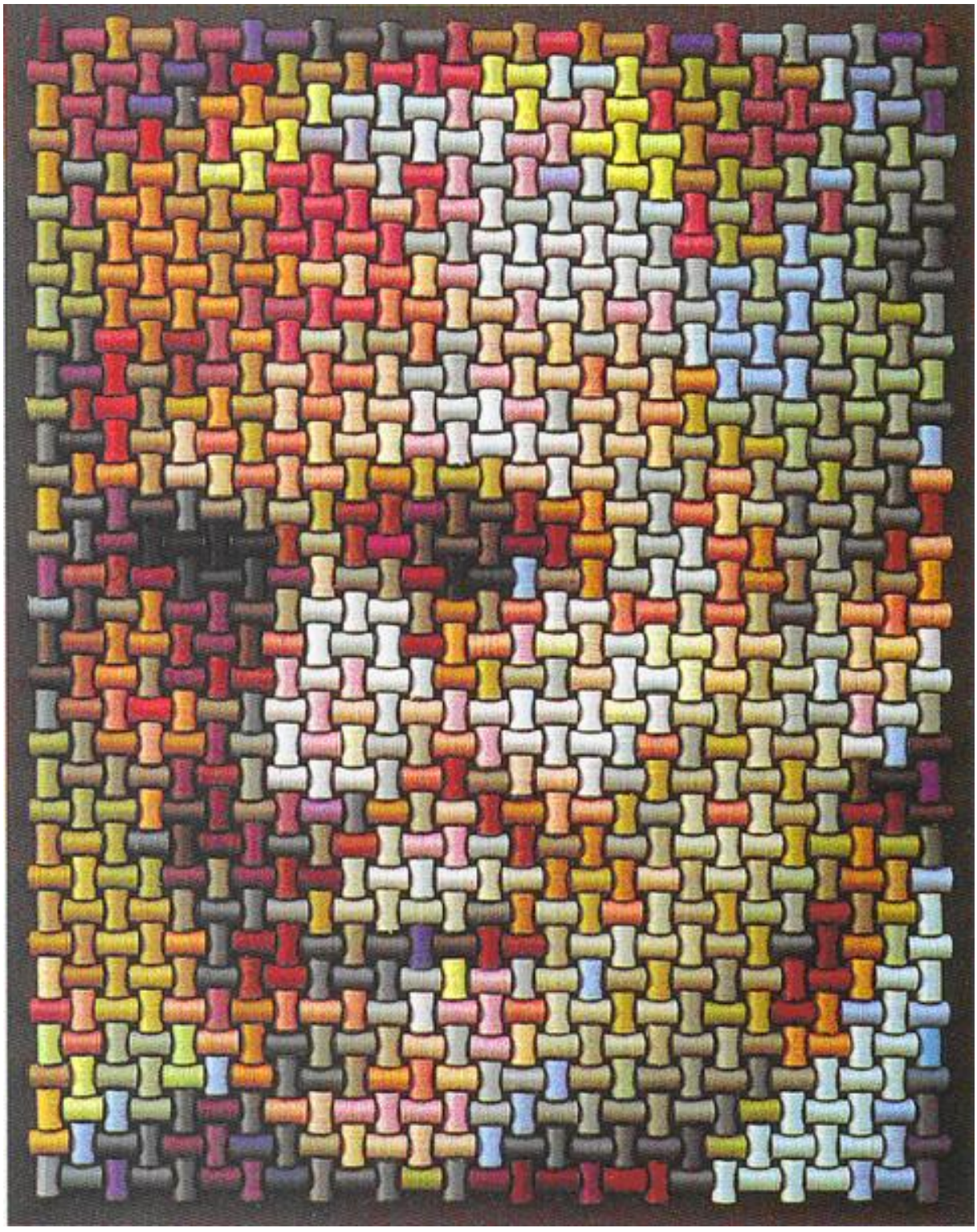
Patrick is studying for a masters degree in Arts Computing at Goldsmiths College, London

PAGE 60 deadline for contributions is 15 March



MONA LISA Seashells on plywood 1997 Collection of Scot Morris Ken Knowlton

The original is naturally in colour

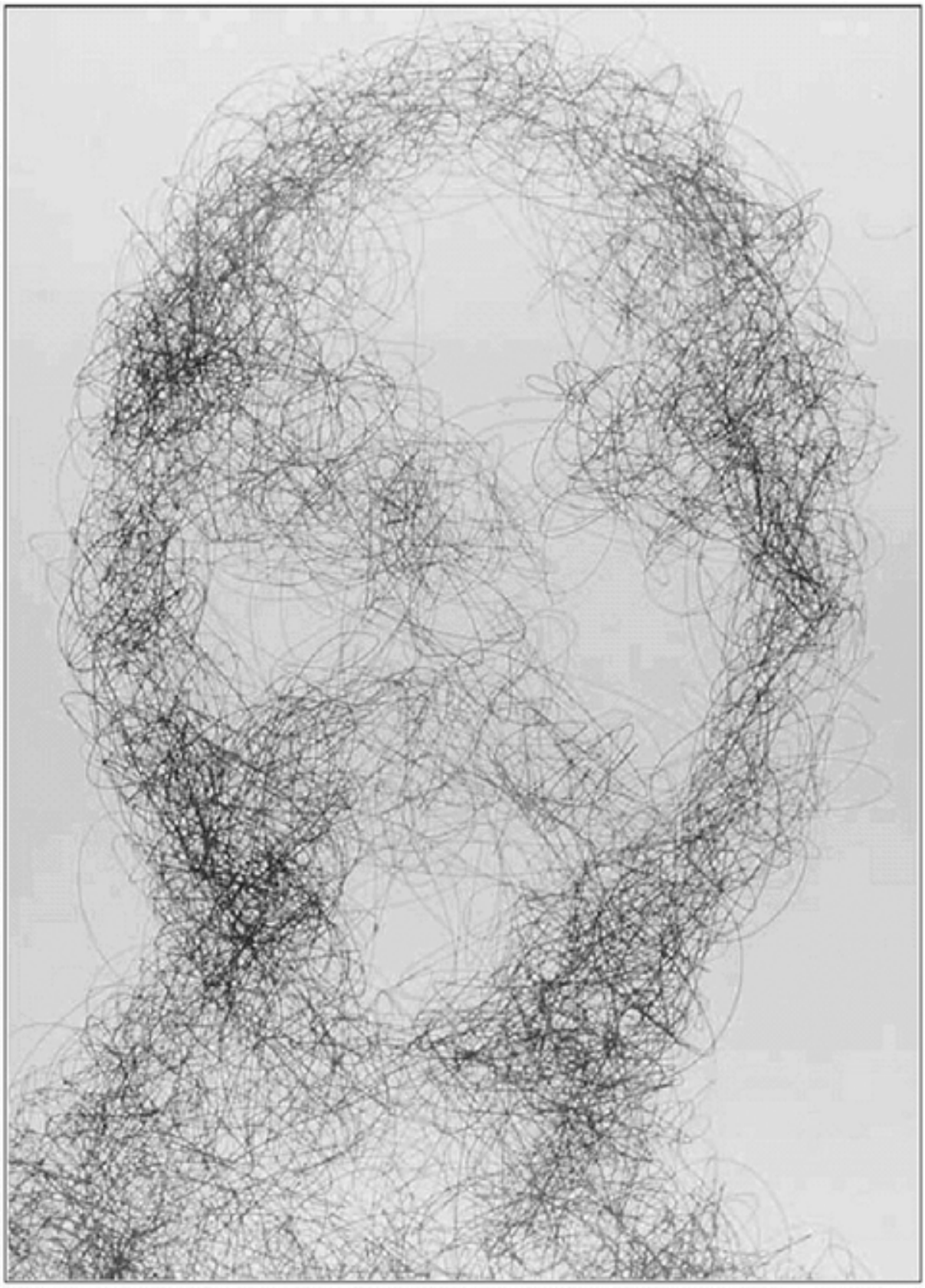


SPOOLS OF THREAD 2001 Coloured spools of thread Ken Knowlton

This portrait of Aaron Feuerstein, owner of a fabric manufacturing company in Massachusetts, was made as a tribute to his social responsibility. When most of the company's premises were destroyed by fire in 1995 the employees were not laid off but kept on full pay during the recovery

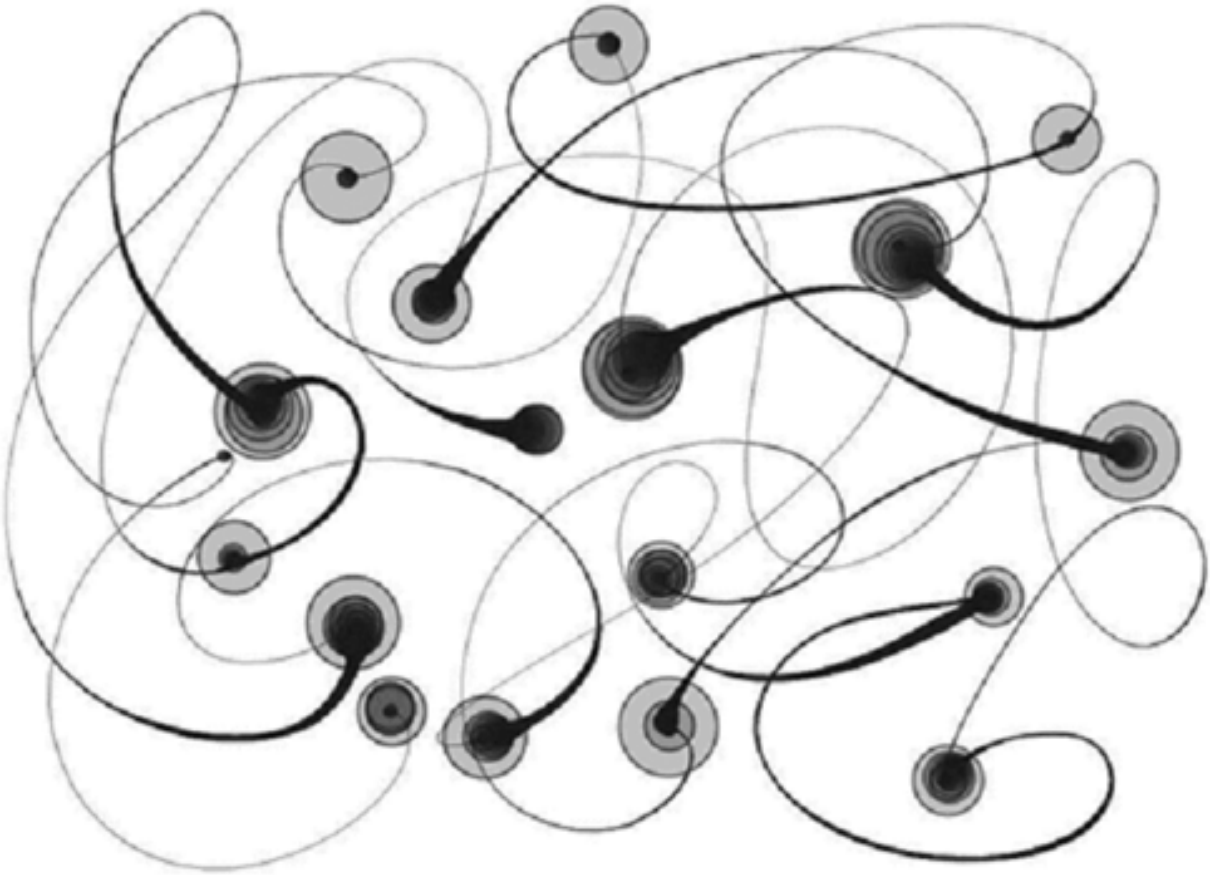
This image works on three levels: as an array of spools, as a simulated woven fabric and as a portrait

JC Line printer image Collection of John Young Originator unknown



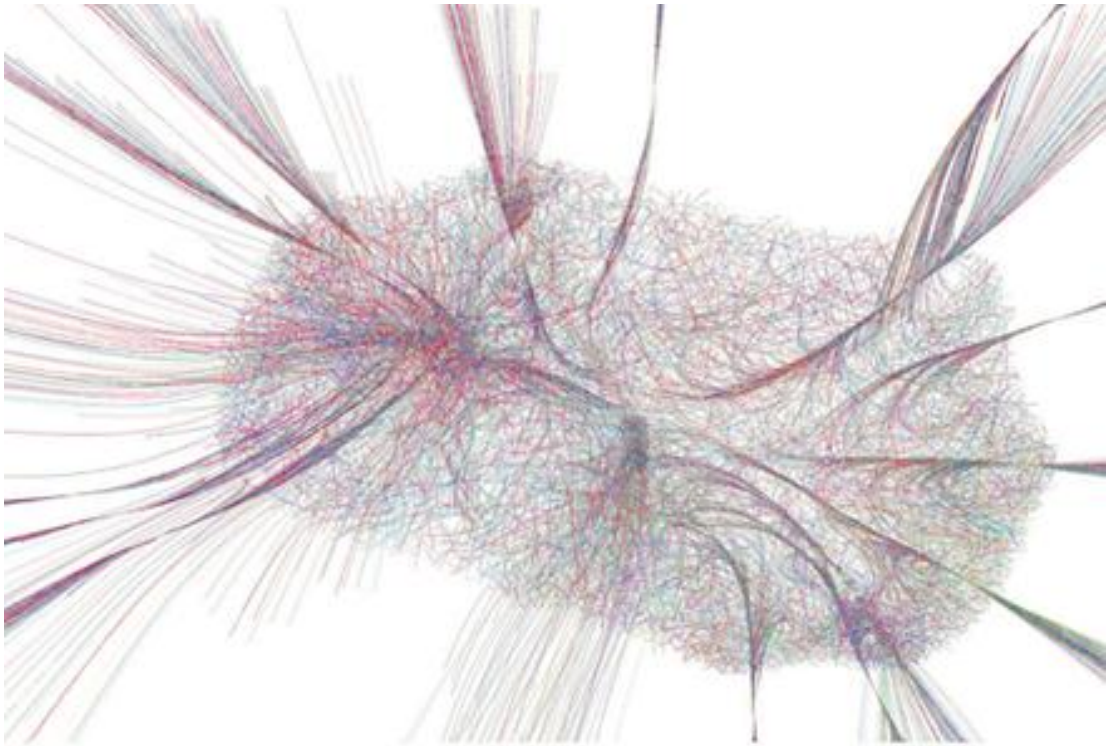
PATRICK 1 2004 China ink on Arches paper Patrick Tresset

The original is in muted colour See Patrick's note on page 3



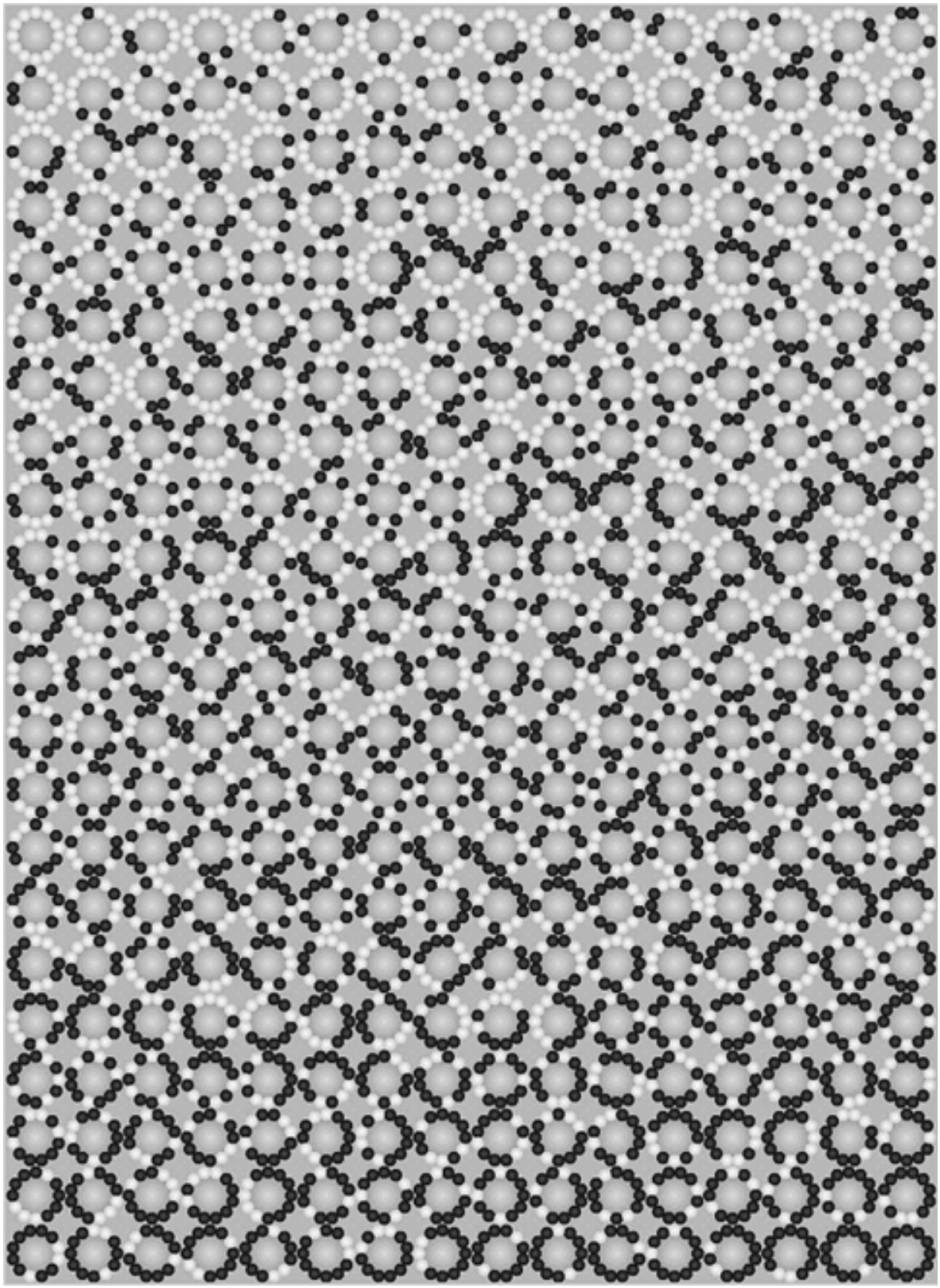
RENAMED **Tom Kemp**

Using the Painter package, this was made with stylus and graphics tablet in a single five-second stroke



PARTICLE PAINTING 449 **Tom Kemp**

Using the Particle Painter software at www.tomkemp.com/particle, several thousand particles were released into a universe where gravitational force does not decrease with distance



352 NECKLACES 2005 Alan Sutcliffe

All the necklaces of twelve beads, each black or white, turning over not allowed
There is an equivalence with the chords of zero to twelve notes in an octave of semitones

CAS Meetings 2005

7pm Tuesday 1 February
Musical Chords and Mathematical Necklaces: Composing Scores for an Electronic Piano
Alan Sutcliffe

BCS London HQ
First Floor The Davidson Building
5 Southampton Street
London WC2E 7HA

The Davidson Building is on the east side of Southampton Street about 50m from the Strand

The number of necklaces of 12 beads each black or white is the same as the number of chords of 0 to 12 notes from an octave of semitones

Peter Zinovieff and Alan Sutcliffe are collaborating on a system to compose printed scores and realise them on an electronic piano
One piece will use all the chords there are
The context of this project will lead to talk of composition and improvisation and of music that no-one would compose

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7pm Tuesday 15 February
Scanning the Horizon
Open discussion

Given the ease of access to vast amounts of information in our online, broadband worlds, are there specific roles for artists in interpreting and guiding users through the jungle of information, by making "works" or by other means?

If there are, what should the CAS be doing to promote such activities?

If not, what other roles could artists adopt in this arena?

Discussion evenings are relaxed informal conversations about topics of immediate interest or anything really. All welcome

System Simulation Ltd
Bedford Chambers The Piazza
Covent Garden London WC2E 8HA
Tel: 020 7836 7406

Directions at: www.ssl.co.uk/content/map.html

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6.30pm Wednesday 16 March
The Patric Prince Collection
Douglas Dodds

The Patric Prince Collection of digital art and its place in the Victoria and Albert Museum. Douglas is Head of Central Services in the V&A's Word & Image Department, which incorporates the National Art Library and the Museum's prints, drawings and paintings collections

Prints and Drawings Study Room
V&A Cromwell Road
London SW7 2RL
Tel: 020 7942 2000

7pm Tuesday 22 March
Tony Longson
The former teacher at the Slade School of Fine Art in London and now at the California State University, Los Angeles talks about his work

http://www.artnet.com/artist/424078303/Tony_Longson.html

System Simulation Ltd
For venue details see 15 February

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7pm Thursday 14 April:
New York Digital Salon

Bruce Wands
Director of the New York Digital Salon talks about the history of this influential institution

http://www.nydigitalsalon.org/

System Simulation Ltd
For venue details see 15 February

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7pm Tuesday 17 May
Progress of the CACHe Project

Nick Lambert and Catherine Mason will provide an update on the progress of the CACHe project on the history of computer arts being carried out in the Art History Department at Birkbeck College

School of History of Art, Film and Visual Media
Birkbeck College
43 Gordon Square London WC1H 0PD
Tel: 020 7631 6134

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Other Events

1.30 - 6pm Wednesday 23 March
Art and Social Intervention Symposium
The work of the Artist Placement Group
“Barbara Stevani, John Latham have been invited”

Tate Britain Auditorium
£15 concessions £10 including drinks at 6 - 8pm
www.tate.org.uk

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12 – 15 April
Creativity & Cognition 2005
Conference at Goldsmiths College London
Paul Brown is chairing a panel
Retrospectives - Pioneers
http://www.creativityandcognition.com/

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The Gustav Metzger DVD

Pioneers in Art and Science: Metzger is a documentary by Ken McMullen and an initiative of the Arts Council England but it does not appear to be on sale at any of the main public art galleries in London
It can be bought online at http://www.pinnacle-entertainment.co.uk/
£16 inclusive

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

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

There is an optional annual contribution of £10 (€20 or $20 overseas) for which members receive a printed copy of each issue of PAGE

The British Computer Society (BCS)
The CAS is a Specialist Group (SG) of the BCS

The CAS receives funding from the BCS

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

Website
www.computer-arts-society.org

Publication
PAGE the Bulletin of the Computer Arts Society appears quarterly and can be downloaded from the CAS website

Archiving computer arts
The 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 2005 & 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 hopes that this might develop into wider collaboration

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

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