

## Art on the edge

### Digital Printmaking Reviewed

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Ten years ago I curated *The Electronic Print 1*, the first exhibition in Britain of prints created by computer which was held at the Arnolfini Gallery in Bristol and showed work from 33 pioneers in the field from across Europe and the United States. The exhibition featured a broad range of digital imagery created through pen and film plotters, as well as a number of digital works created on the computer, but then printed via photomechanical transfer to traditional media such as silkscreen and etching. At the time such productions were often regarded by galleries as the esoteric products of art's obsessional, if not lunatic fringe. It was significant therefore that a major contemporary venue was willing to risk showing work whose only commonality derived from the medium of its creation. Especially so, because no one could guarantee that it would survive more than a few years before fading from the paper.

Since then a number of shows of digital print have taken place in Britain, most notably *ArCADE 1* and *2* curated by Sue Gollifer [2](#) in conjunction with the Computers in Art and Design Conference, and annual competitions run by Canon and Epson. Regular exhibitions of specialised computer prints are also held at the Colville Gallery in London and most Art Schools teach some form of electronic output as part of their Printmaking degrees. Recently the BSI (British Standard Institute), in collaboration with groups such as the Royal Society of Painter-Printmakers have, after many years of argument, included computer work in its categories of prints [3](#) :

Widely available software such as Adobe Photoshop and Painter combined with cheap and accurate inkjet printers have brought the production of digital prints well within the technical and financial range of most artists. The Epson printer range in particular has allowed for budget inkjet printing at very high quality on to most substrates.

“It is now cheaper for an artist to set him/her self up with a multimedia system, a flatbed scanner, printer and a mass of software than to purchase the equipment needed to make etchings”. [4](#)

Commercial processes such as ‘Giclee’ [5](#) or Iris prints offer a finer result still: the printer produces the reproduction with a printer which sprays micro-bursts of ink on a sheet of watercolour or other paper. The finished piece is often sprayed with a ultra-violet coating to help it to resist fading. The Iris printer's inkjets

spray extra fine droplets. A resolution of 1800 apparent dots per inch are possible with an Iris printer, which also uses variable dot sizes to provide enhanced resolutions. The ink it uses must be dye based, so it is thin enough to go through printer nozzles, as pigment based paints would clog them. Dyes are by nature not light-fast and will tend to fade with exposure to the ultra-violet rays of sunlight. Since the dyes are water based, 'Giclee' prints must also be kept from effects of water or humidity.

The way the art world determines print longevity is by the 'Blue Wool Scale'. This measures archival quality on a scale from 1 to 8. Most standard inks for computer printers are rated 4 or lower. In spite of these problems, new ranges of light-fast inks have now been developed with wide colour gamuts and strong resistance to fading, particularly those preservation inks based on silver or platinum.<sup>6</sup> At these levels of permanence we are well above the shelf life of some archival photographs and many watercolours.

The superb quality of Iris Inkjets combined with the new ranges of archival inks and papers has allowed the editioning of professional printwork for the art market. Indeed clusters of digital artists have now emerged grouped around professional digital studio production in the USA . While all this is entirely laudable, surely, the first question that we should ask is whether these favourable conditions have led to the production of innovative and exceptional work? There are no easy answers, but judging by most work encountered in a variety of digital print shows , the answer is probably a cautiously qualified "no".

Ten years ago, access to equipment and expertise were the real stumbling blocks for the digital printmaker, as a consequence achieved work was highly experimental and addressed the technology from within. One thinks of *Aaron* , the artificial intelligence work produced by Harold Cohen, which printed endless original variations of his drawing style independent of the artist's presence. With the abolition of technical constraints, the discipline required to create work of this nature evaporated and artists have been more inclined to treat it simply as a reproductive medium.

The opposition to digital print used to be that the surface texture and felicity of the traditional print is non-reproducible electronically. This was always at best half an argument when comparing the output from planographic print media such as litho and screenprint. A deeper objection appears to lie in the difficulty of knowing when to stop. The computer often gives too much room for second chances. This is wonderfully illustrated in the case of Richard Hamilton. In the 1950s he was the creator of the montage *'Just What is it Makes Today's Homes So Different, So Appealing?'* which is sometimes considered to have given birth to the term "POP" Art. That image was disproportionate, rough-edged and rawly

immediate; a perfect critique of the emerging consumer society of the 1950s. Years later Hamilton was asked by the BBC to repeat the exercise on his Quantel Paintbox for a TV arts programme. Unhappily, Hamilton smoothed out all the original discontinuities in his contemporary attempt on the same subject. He updated the imagery into something indistinguishable from an advertisement.

Some Printmakers and Artists, aware of the need to bring Print and Technology into a new relationship with the public, experimented throughout the 1990s with transferring digital print to permanent surfaces. In America Cynthia Beth Rubin with her large colour enamel panels(illustrated) for the University of Connecticut.<sup>7</sup>

Barbara Jo Ravelle with her 200 foot digital mural in mosaic at at Denver convention Centre and subsequent work at Lafayette(illustrated) and Fort Meyers<sup>8</sup>

Athena Tacha with her photographic etchings on stone paving at Green Acres park in Cleveland (illustrated) and at various memorials in America has led the way in transferring large scale digital and photographic images to public sites on durable materials.

In Britain, Bruce Williams pioneered the merger of digital print and sculpture with his pierced “Kiss Wall” (illustrated) installed on the Brighton Sea front. The wall showed a number of digital prints of couples kissing. The images were drilled through curved aluminium sheeting. The images could be read as projections of sunlight on the floor or as matrices of absence on the sheet itself. He also installed “Runners” (illustrated) at Haringay stadium. At the time (the early 1990s) I also developed large full -coloured digital ceramic tile panels attempting to realise the potential quality of the digital print as a permanent environmental feature in public spaces. (illustrated)

The Ceramicist Paul Scott<sup>9</sup> has also long championed the cause of the Fine Print on ceramic in the UK, through a series of group exhibitions culminating in “Hot Off the Press”. That show featured a section on computer-generated ceramic printworks, including a series from the 1960s by Eduardo Paolozzi and the Kelpra studio, and from the 1990s with my on-glaze digital tile panels, as well as colour printed plates by William Latham (using his *Mutator* software developed in conjunction with IBM) and my own computer-generated tile

panels.(illustrated)

Increasingly Printmakers are becoming aware of the Internet as a means of exchange, collaboration and marketing. In the UK, Printworks magazine has been at the centre of this increased online awareness. Expertise in permanence and fidelity have given birth a new elite society of Electronic Printmakers and various organisations clustered around university departments have created a new online artistic community . Typically, in the USA things have moved on at an altogether faster pace than in Europe and there are now at least six major studios dealing exclusively in the creation of Digital Prints. Studios such as Cone Editions, Digital Academy and Muse X Editions<sup>10</sup>. Established in 1995, Muse X Editions' website offers a web gallery of its artists and online edition selection and ordering. The International Association of Fine Art Digital Printmakers<sup>11</sup> offers a similar association of information and marketing. Originating in the States, it now has become a worldwide organisation. The IAFADP Euro chapter was inaugurated in 1998.

The future for the electronic print remains an uncertain one. No doubt the ease with which complex editions can now be produced will stimulate new genres of digital printmaking. Promising signs of the conventional print establishment granting acceptance to the new methods are continuously appearing: the 21st International Biennial, at Ljubljana in Slovenia included some computer prints in the exhibition which were given equal status with etchings, lithographs and other original prints. Closer to home , the *Relativities* exhibition and its preceding British International Miniature Print incarnations have always accepted the electronic image as part of the currency of the miniature print. This trend is set to continue, for Printmaking continues its historical incorporation of technologies. But this technology is altogether different and artists now need to question the role of the print as "object" in an age of ubiquitous virtual imagery.

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1 Electronic Print ISBN 0 907738273 Arnolfini/Bristol Polytechnic 1989

2 see [www.bton.ac.uk/ctiad](http://www.bton.ac.uk/ctiad)

3 "A.8. New Technology Processes – . these involve the use of computers, computer screens, computer printers, laser printers, fax machines and the like, in the creation of the matrix or the edition"

4 Mark Milmore–Printworks website ([www.eyelid.ukonline.co.uk/print/works.htm](http://www.eyelid.ukonline.co.uk/print/works.htm))

5 The term Giclée originated in 1991 with Jack Duganne who coined the term to refer to fine art

prints created with digital output. It was intended to be a word which would be added to the lexicon of printmaking terms in the vocabulary of fine art printmaking. It's derivation comes from the word "gicleur," the french word for "nozzle." Gicler is the french verb "to spray" (as from a nozzle) and thus the direct object of the "spraying nozzle" would be Giclée as most digital printers today use nozzles to direct ink onto a substrate. The main intention of the word Giclée was to distinguish "fine art prints" from those created for non-art or commercial purposes

6 Luminos, Conetech , Colorspan and Lysonic inks all claim longevity of over 25 years. Recent tests by Wilhelm Imaging for the International Association of Fine Art Digital Printmakers rated an ink life of 45 years for Giclee inks in the ColorSpan EnduraChrome range on Arches paper. Black inks for the Iris had a life of up to 150 years and Lysonic inks designed for the Epson range of printers were rated at over 65 years. Hewlett Packard Dye-based inks were getting ratings of up to 100 years. Some ratings for Encad printers went up to 175 years.

7 These enamels were photo silkscreened from computer generated separations

8 Installed: January 1999 Barbara Jo Revelle and John Caron. The Ft. Myers Federal Building's mural dimensions: 100' wide by 20' high. Created from thousands of graded mosaic pieces matched to a master digital montage printout. This composite image contains several elements important in the history of Ft. Myers.

9 "Ceramics and Print" Paul Scott A.C. Black London 1994

10 [www.musex.com](http://www.musex.com). The vision of Muse X Editions is to wed cutting edge conceptual art to the latest graphic and photographic technology.

11 [www.iafadp.org](http://www.iafadp.org)