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## Emails, scanners and drawing

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### **Emails, scanners and drawing**

April 2003

Phil Sawdon and Emily McLennan

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During March 2003 there was a flurry of email correspondence by members of the [UK Drawing-Research network mailing list](#) concerning the use of scanners as a tool for drawing. Interest in the debates that inhabit mailing lists is often at best marginal but we became intrigued once Andrew Hinton from Leeds College of Art and Design identified some practical difficulties;

‘As we are stretching the definition of drawing to its contemporary place can anyone advise me on my inverse scanning project? Scanography is well established but I still can't get my scanner to work 'above' the object rather than 'below'’.

Garry Barker advised the following;

‘Have you tried to use a hand held scanner? You can 'draw' with them as they can be passed over any 3D form in multi directions. Control can be very fine as you can manipulate distance (focus) as well as selection of what is in and out of travel’.

Andrew replied:

‘I have been trying to use a flatbed scanner turned upside down. I probably need an engineer from Epson to say what the snag is halfway across the scan. I am researching tools for textile designers and I want to push basic, domestic digital equipment, to its limits or find ways to 'filter' drawing with digital intervention as part of the process. Have I hit a brick wall with the scanner? I have two so destruction is not an issue’!

With all the above in mind we set about trying to answer the question as to whether you can use a flatbed scanner to ‘draw’? I should mention at this point that ‘we’ are Emily McLennan an undergraduate studying ceramics at Loughborough University School of Art and Design and Phil Sawdon a lecturer on that course. McLennan’s work involves the use of photograms and through tutorial discussion we anticipated the potential visual developments if we could ‘use’ the flatbed scanner. The efforts to uncover a hand held scanner were fruitless and let’s just say some cupboards are best left closed. So nothing daunted and as white coated ‘scientists’ from a 50’s B- movie

the Umax Astra 2200 (flatbed A4) was prepared for service to the drawing community.

We started by 'drawing' with the objects i.e. moving them in relation to the scanning sequence. The following images have not been subsequently manipulated or adapted; they are as 'drawn'.

*Bonnet*, Emily McLennan, 2003

*Dress*, Emily McLennan, 2003

However part of the original question asked if it was possible to 'draw' with the scanner turned upside down? Yes it is, here is a selection of our results.

*Stack*, Emily McLennan, 2003

*Clothesline*, Emily McLennan, 2003

*Drawing*, Phil Sawdon, 2003

The method involved holding the scanner with the lid removed and moving it through space in relation to the static object (subject) as the scan sequence progressed. The distances from the subject were initially intuitive and it became apparent fairly quickly that the local 'interference' could be controlled and its desirability a matter of aesthetic judgement. The principle of operation is similar to that of the photographic strip camera which is used extensively in aerial photography. The paper entitled Multiple-Center-of-Projection-Images by Paul Radernacher and Gary Bishop, University of North Carolina talks about it:

'[...the] photographic strip camera...is a camera with a vertical slit directly in front of a moving strip of film...As the film slides past the slit a continuous image-slice of the scene is acquired. If the camera is moved through space while the film rolls by, then different columns along the film are acquired from different vantage points. This allows the single image to capture continuous information from multiple viewpoints. The strip camera has been used extensively, e.g., in aerial photography' [Rademacher and Bishop].