

Feeding the world

Terry Flaxton is creating high definition art with 'In Other People's Skins', shot with the HVX200 and projected on to an interactive installation.

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Recently, I have been made the British Arts and Humanities Research Council Creative Research Fellow in High Resolution Imaging at Bristol University. After a varied career as a director of photography, encountering HD early in the game, shooting four features as well as promos, TV dramas, cinema shorts, live shows and documentaries, I have taken three years out to look into the issues, both technical and aesthetic, around high resolution imaging.

One strand of my work is to compile a series of interviews with people who are shaping the HD world. This archive of over 30 interviews will be lodged at various institutions for use by future researchers. The history of film from 1890 to 1920 has very few verbatim accounts by the practitioners themselves, and that this should not happen with HD. The Verbatim History of HD Aesthetics and Technologies will be that record.

The second strand of my work is a series of installations and tests made with HD technology over the three years of the Fellowship. This includes *In Other People's Skins*, an interactive installation, which will tour seven UK cathedrals from February to June 2008. It will be seen at Winchester, Worcester, Gloucester, Bristol, Wells and Southwark Cathedrals and finish its run at Bath Abbey in June 2008.

A few years ago I made a small digital installation piece called *The Dinner Party*. Visitors enter a room: a table is set for dinner; there are eight unoccupied chairs. A dinner party is taking place, but there are no guests – just the images of their hands, food, wine, projected from above onto the white tablecloth and plates. I initially made this piece very informally, inviting some friends to have dinner, and suspending a Sony PD170 camera directly overhead. The dinner table was of exactly 16x9 proportions – for obvious reasons. The footage was edited, looped and projected back on to the same table, now empty except for eight plates, which act as little screens to catch the virtual food if positioned carefully. The chairs invite the audience to sit and touch (unlike a lot of contemporary art, this art is for touching), but with the irony that contents are virtual and so untouchable. The candles are a gesture towards the medium of light. There is enough of the real on this virtual table to allow the casual viewer to suspend disbelief.

This installation, even in its standard definition form, enjoyed a terrific response wherever it was exhibited, and I found myself wanting to stretch the form a little, to discover if there were more to be had. But I was also really excited about the possibilities for this kind of work if I took it into the realm of HD, where there seems to be the possibility of further suspending the audience on the threshold between belief and disbelief.

Perhaps I could start with a metaphor: at dusk, sometimes the brake lights of the car in front seem brighter than usual. Also, traffic lights seem too bright and too colorful. This is said to be due to the rods and cones in your eyes transferring duties from one to the other. The brain is switching from one more refined and developed technology that is used to dealing with color and a certain level of luminosity, to an earlier technology that developed in relation to movement and low light. So, take this idea, this fluttering and switching between technologies and shift this idea into definition: what if the brain needs to switch between levels of definition?

I had a conversation recently with an engineer who described an HD practical joke someone played – he boarded up a window in the office and then projected back onto that board an HD image of that same window, hoping to confuse his fellow boffins. And as with trompe l'oeuil paintings of the 18th century, there is a moment when illusion works. *The Dinner Party* works like this, in that I use an image that overlays a solid object. It seemed very clear that a higher definition image would produce a more believable effect – or more easily encourage the suspension of disbelief that we are familiar with in the cinema.

So last year I happened to be at an art event at the Bishops Palace at Wells Cathedral for the opening of a show and someone asked what I do – I told them that I earn my money on camera and I throw it away by making art. They wanted to know what kind of art, so I told them about the table and that what I really wanted to do was take it a stage further. They told me to hold that thought and, looking around, they spotted a man who they dragged me up to – the Bishop. I told him that I wanted to do a digital version of *The Last Supper* and he thought that a very good idea. I discovered that he wasn't the only person who liked the sound of it, as the exhibition tour grew to take in six abbeys and a cathedral. The Arts Council funded the project, and business sponsors came on board.

So a new work was born. *In Other People's Skins* is inspired by Leonardo Da Vinci's *The Last Supper*. It consists of a larger table covered in a white cloth and surrounded by chairs. Projected from above onto the white surface will be the images of the hands and arms of 12 people as they take food, break the bread, drink the wine. Visitors to the installation will be free to sit down at one of the 12 chairs and interact with the virtual guests – and to inhabit other people's skins. Initially, the virtual diners will be taking a simple 1st century meal of bread, wine and fruit. After a short time, the content of the images will change. Suddenly, we see an Indian family, a Chinese family, a Nigerian family or a modern English family taking a meal. The food on the table, the plates and dishes, the color of the hands and arms, the clothing and jewelry, all will be transformed so that the visitor finds themselves in a different century, a different world.

The act of eating together, sharing food, is a universal human experience, which crosses all cultural and religious boundaries, and the dinner table is the site where so much human communication takes place. The intention is not to create a piece based in any particular religion – on the contrary, the idea is to transcend religious divides and rather seek that which unites us.

In preparing to shoot *In Other People's Skins* I had to decide just where I would go with my image capture after simple SD. *The Dinner Party* had been shown off DVD, which damaged the definition of the images even more, and I was keen to maintain as much resolution as I possibly could with this new project.

I decided in the end that *In Other People's Skins* should be part of a journey through the various forms of HD that currently exist, all the way through to full scale and proper HD. Therefore I decided to work in the newish P2 system at this stage, and that during 2008 I aim to make a series of installations with work originating on the HDCAM and Panasonic Varicam formats and latterly, toward the end of 2008, I will use a camera such as the Sony F23 for the artwork.

The reason for the choice for what some would regard as hardly an HD format (and I had ruled out HDV on motion issues) is that I have been staring at HD for a long time now and I really want to know it in its material form. When I look at an image I want to see it up close and personal and at a large screen level – I want to see what all of those pixels are actually doing, and I want to know just how different pathways of posting the captured medium changes the way the image displays. Exporting through different codices was part of my post production research process, as I explored a number of possibilities for playing out the finished footage. We will most likely run off computer in a DVCPRO HD Codec (because it will run off 7200rpm drives), although we did also explore the possibility of exporting via HD DVD, but this has been more or less ruled out because of further encoding and deterioration of resolution. There were also prosaic issues of budget and practicality (ie, small runs of HD DVDs and BluRay are simply uneconomic)

Pre-production and production took just under a month: we sought out various communities – Gujeratis, Nigerians and pan-Asian – and asked them to join us in creating these meals. We wanted to find a range of continents, skin color, and food culture, including the simple question of what implements were used in each culture – the knife and fork, chopsticks, spoons or just hands. In consultation with our production designer Charlotte Humpston, we made choices of color for each of the meals so that the skin tones, the color of the table, the dishes and the food itself would be complimentary, both within each meal but also in contrast to the other meals. We also enlisted the support of a number of Bristol restaurants who generously agreed to provide the food (Nigerian food from Kalabash; Gujerati food from Myristica; pan-Asian food from Teoh's; European food from Bordeaux Quay) and also The Pier, which loaned all the tableware.

Shooting took place at the Wickham Theatre at the University of Bristol Drama Department. We built two scaff towers and set up with a walkway in between so that I could get at the camera without moving it. The P2 was suspended above the table (and I did in fact use a little HDV Z1 as backup). Lighting was simple – with *The Dinner Party* I'd wanted no shadows, so I used soft cover lighting from directly above with the light bounced directly off umbrellas. This time I wanted all the glasses to zing, so instead I set up four poly foam core boards to bounce the light in from the four corners: this gave soft shadows which disappeared when hitting a dark tablecloth (Nigerian and Gujerati) or wood (pan-Asian); but in the Western meal, with its crisp white tablecloth and the elaborate place settings with three glasses and three sets of cutlery at each place, the articulation gathered from cross shadows and cross illumination actually made the image sing. Funny how sometimes you do what you know you shouldn't and yet it works just fine...

So we started the week of production and I elected to data wrangle on to a Firestore, which behaved without fault and recorded everything. At each point I immediately downloaded everything on to an Octo Core Mac with 7GB of ram and about 1500GB of internal RAID, which runs at a fairly high read and write rate (I could also have brought my other kit, which has 480MB/s read and write rates), but for the P2 system 7200rpm is fast. And as soon as the data was downloaded I could show my guests what they had done. During the shoot I had a widescreen monitor on the set to allow everyone to see what was being gathered and demonstrate the issues around not putting their heads into shot.

The week was successful and people had a lot of fun in the shoot – it was, after all, a friendly, homely meal. I was pleased with the P2 image from the HVX200 – albeit only some 960 pixels wide, but it did articulate a lot of what I wanted to see and, in the HD game, you have to spend an awful lot more for quite small increases in quality. So basically the little P2 camera does a good job for the money.

The next challenge has been how to display these images without too much further degradation, and there is the usual balancing act to perform between cost, resolution (ie, number of pixels) and levels of luminance. To display through a full HD projector would be not only be prohibitively expensive (\$70,000 upward) but the kit itself is too big to be a realistic choice for a touring show – especially as it involves being suspended vertically some 12ft in the air. The smaller domestic home cinema projectors, which say they display full 1920x1080, do not have sufficient brightness, as they are geared towards an environment where light can be completely excluded – sadly not the case in a cathedral. We are currently looking at a Panasonic PT DW5100 at around 5000 lumens. It isn't full HD, but it has great intensity of image and color quality.



Terry Flaxton

Terry Flaxton is British Arts and Humanities Research Council Creative Research Fellow in High Resolution Imaging at Bristol University. He has been a DP and director since 1979. His many awards include a Prix Graph at Locarno, a Prix Nikki in Amsterdam, a Grierson, two RTS awards, as well as being nominated for best documentary at the Montreal Film Festival and best documentary (over several years) for the BFI Grierson Award. www.flaxton.btinternet.co.uk