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Genescapes: visualisation and value finding

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Abstract

This paper deals with locating art practice within a specific social context (within genetics). Art practice is understood as a process of transactions - a shared process of 'making meaning'. The methodology is based on visual dialogue between myself and a group of clinical consultant geneticists. Here I make artwork which is developmental, not finalised and which was based, or inspired by DNA. The purpose of this work was to stimulate thinking leading to new artwork and new thinking. The dialogues in and around the artwork gives myself and the geneticists ideas and insights, we reflect on the experience, meet again and the artwork is developed further. This work is part of a practice-led PhD study in visual art.

Background

Currently I'm doing PhD research into visual art practice *through practice* (September 2001-2004). This studentship is attached to a larger research project called 'On the Edge' which is looking at the *value* of visual art from the socio economic and artistic perspectives in order to give a richer picture of art's cultural worth. (To find out more about this AHRB funded project you can visit our website: ontheedgeresearch.org)

For most of my professional life I have worked as a designer – a graphic designer. Three years ago I decided to study and practice art in order to 'move on' creatively after working in the design and publishing industry for about 10 years. This background led me to valuing a particular context in which to practice and develop a particular methodology.



As a relatively 'young' artist – in terms of practice, not age I hasten to add, I am questioning what the *role* of an artist might be. In other words how do I understand and shape a 'critical practice'. There are three areas of consideration - the artist's motivation to make art, how does art making happen and what are the effects or outcomes. At the outset of my research 'functionality' was a key question. Designers often structure their thinking

in terms of ‘problem solving’ and design briefs are written, sometimes by the designer and the client together, to fulfil specific communication needs. The message, the medium and the audience are clearly defined. As artist I did not have a clear message it was more a concern over a set of issues. The mediums I use seem to continually change depending on the nature of what I’m trying to communicate and the ‘audience’, a traditional term for those encountering art, is what I’m interested in theoretically and developing or ‘growing’ in my practice based research.

Because of the radical shift in the boundaries of ‘art’ over the last century it is now ‘difficult to achieve consensus on definitions of art, the nature of the aesthetic experience, the relative place of communication and expression, or criteria of evaluation’ (Wilson 2002:17). How then might we define the term? Matarasso (2000:2) from a cultural policy perspective, describes art as:

‘... a means through which we can examine our experience of ourselves, the world around us, and the relationship between the two, and share the results with people in a form which gives free rein to our intellectual, physical, emotional and spiritual qualities.’

This definition *suggests* an ethical basis for art practice – where the business of making art involves examining and sharing, it also suggests that art making is based on ‘relationship’. Arguably it is the artistic process which is important, not necessarily the product or artwork per se. A key task then, for the artist/researcher, is to communicate what the qualities of the process might be.

Artistic approach and the notion of ‘engaged’ practice

In the western world the separation of the artist from society began in the early part of the Renaissance and ‘emerged in full form in the Romantic era’ (Freeman in Wasserman, 2000). Here the individual was elevated to a special or ‘high’ social status. This, coupled with the commodification of art products, led to a ‘pervasive preoccupation’ by artists in the west over the last century – one attempting to ‘collapse the boundary between art and life’ (Wasserman 2000). This would include movements such as Dada and Fluxus and individuals such as Kaprow, Beuys and Chicago to name but a few. Of course in some traditional and ancient cultures this divide between art and life simply never existed. If indeed ‘art’ had a label or a name at all, it was no more and no less than a natural part of everyday life (ibid 2000).

In the States the ‘New Genre Public Art’, an umbrella term embracing artists, curators and critics such as Lacy (1995) and Lippard (1997) advocates a ‘participatory approach’. Here artists work in a more socially engaged way, by working with other people to realise an artwork. Common artistic interests are focused around ‘social activism’, ‘redefining audiences’, ‘relevance for communities (particularly marginalized ones)’ and ‘collaborative methodology’ (Lacy 1995:25). This ‘New Genre’ a term invented by the author, was undoubtedly a reaction against the institutionalisation and commodification of art and art’s funding. Lacy’s book published in the mid nineties was an attempt to *place* artistic practices in a more socially, and by extension, politically responsible position.

Lacy suggest that the artist must be ‘open’ to influence from other people and key qualities such as ‘generosity’ and ‘empathy’ are suggested but there is little detailed literature on how exactly in the artistic process this happens. By placing the emphasis on the process not the product per se, the focus becomes the relationship between the artist and the other. Lacy goes as far as to suggest that it may in fact be *the relationship itself* which is the ‘art’ or the critical practice (ibid:20)

Artists make art or ‘make-meaning’ in all sorts of ways. In practice based art research, understanding is taken to be ‘inductive’ as opposed to ‘deductive’. In other words understanding is *arrived at by or through experience*.

However unlike scientists, artists do not have clearly defined research tools nor widely accepted methodologies for practice.

De Certeau, (a French philosopher and Jesuit Priest) offers a valuable framework for thinking about the practice of art. What is refreshing about de Certeau's thinking is that he inverts the top-down model of cultural production and passive consumption to a bottom-up model of consumption as a form of production. In other words it is the way human beings in 'ordinary culture' or every day life appropriate and reuse objects, information, language and spaces - a kind of 'silent' or unseen production. De Certeau suggests that people who are deprived of power (the non-producers) in relation to the given or the 'proper' that is an 'institution' or 'discipline' behave tactically and this human quality of 'tactics' is a kind of survival instinct that can be traced back to something essentially primordial – to the 'tricks and disguises that certain fishes or plants execute with extraordinary virtuosity' ([de Certeau 1984:40](#)).

In the second volume of the Practice of Everyday Life: Living and Cooking ([translated into English in 1998](#)) de Certeau along with his research colleagues, Giard and Mayol deepens the enquiry of 'culture as it is practiced'. De Certeau concludes this research outlines 'three priorities', 'orality', 'operativity' and 'ordinary' (De Certeau, Giard, L and Mayol, P 1998: . His project reinstates the private personal moments, the gestures and actions we all experience calling it 'the practical science of the singular'. In ordinary culture social exchanges (or transactions) can be 'an economy of the gift', technical invention can be 'an aesthetics of tricks' and moral resistance can be 'an ethics of tenacity' ([de Certeau in Giard, 2003](#))

What de Certeau calls the 'operativity' of everyday practices has three aspects 'aesthetic', 'polemical' and 'ethical'

Of the aesthetic he says that it 'opens up a unique space within an imposed order'. It is a 'poetic gesture' which 'bends the use of (common) language to its own desire in a transforming reuse'.

The polemical aspect is 'relative to the power relations that structure the social field as well as the field of knowledge'. Here it is how we 'appropriate information for oneself (to) put it in a series, and (to) bend its montage to one's own taste. We do this by 'tracing one's own path' using 'barely visible or nameable operations'.

The third aspect, ethical, is where 'everyday practice patiently and tenaciously restores a space for play, an interval of freedom, a resistance to what is imposed (from a model, a system, or an order)' ([De Certeau, 1998: 254-255](#)).

While everyone is essentially creative what might constitute a critical artistic practice? De Certeau gives us some clues. Maybe artists are more self consciously aware in their practice of the aesthetic, polemical and ethical aspects. Maybe artists self consciously look for opportunities and make these aspects explicit through the processes and products they make. De Certeau offers a framework or a cultural logic – providing some tools to consider what an artistic process *could* involve.

A brief comparison between artists and scientists - the notion of 'visualisation'

In recent years there has been a huge increase in the interest of what might be called the interface between art and science. Fuelling this interest in the UK are relatively wealthy funding bodies notably the Wellcome Trust's 'SCI-ART' scheme (1998-), Art Catalyst (1993-), Gulbenkian Foundation's Programme 'Two Cultures' (1997-) and NESTA (National Endowment for Science, Technology and the Arts, 1998-). Comparisons between the practices of art and science have been drawn by numerous authors and this is a huge area of interest drawing on areas of cognitive science, experimental psychology, theories of perception and creativity etc.

Key authors would include [Kemp \(2000\)](#) who proposes ‘a set of eight features which although they come from the world of science they are applicable to the world of art’. Wilson, in his encyclopedic sized title ‘Information Arts: Intersections, Science, and Technology’ ([MIT, 2002](#)), draws key similarities and differences between art and science. Elkins, from a visual cultural perspective ([2002](#)) analyses the ‘domain’ of visual imagery bringing together the ‘vast array’ of ‘non-art’ - often scientific imagery together with art imagery ([1999](#)).

Visualisation or how we understand the world in terms of making it visible could be as [Ede \(2000\)](#) suggest be ‘sciences crowning glory’ by modelling and formulating theories. The scientific method of visualisation - diagrams, MRI scans, telescopic images etc and art work are simply, as the science writer Dennet says, two different *kinds* of ‘mind tools’ ([Dennet in Ede: 118](#)).

There are *two crucial* similarities between practitioners in art and science.

Firstly, the perceptual level. Both disciplines require practitioners who are adept at ‘visual thinking’ a term coined to reinforce the fact that ‘thinking and visualising are not mutually exclusive activities’. This kind of perception and understanding is believed to be ‘quintessentially beyond logic and words’ ([Ede, 2000:75](#)).

The second crucial similarity is the desire or need to make images at all. Both disciplines, as Kemp describes, have a ‘desire to bring the unseen and unseeable into visual form’, and both use ‘model building as an essential aspect of understanding, in which the remaking of nature conducts a vital dialogue with what is seen.’ ([Kemp, 2000:178](#)). Experimental scientists and experimental artists produce visual material which change the way we perceive the world. In other words they affect our ‘intentionality’ ([Searle, 2000](#)) or the way in which our conscious minds relate to the world. The DNA double helix and cubism are obvious examples.

A difference between the *use* of images in science to that of art is that while scientific images might be open to differences of opinion, the meaning is generally agreed in the wider scientific community. In science there are clearly defined languages. Visual communication is considered successful ‘if creators and viewers share the same interpretation of what they are looking at’ ([Ede, 2000:74](#)). While the same could be said of visual art, in broad theoretical terms - ‘canons’ or ‘movements’ within the discipline, arguably a quality of visual art is precisely the opposite. Visual art can provoke different interpretations, it can be intrinsically ambiguous.

Ede notes that pre 20th century scientists drew from ‘the role of the observer’s personal understanding, intuition and memory’ but that this has been gradually ‘replaced by more focused technical skills of reading and interpreting figures’. This ‘dominant model for scientific knowledge thus dispensed with problematically ambiguous images and illustrations.’ ([ibid:75-76](#))

In contrast artists looking at scientific images ‘tend to look ‘offscreen’’, on the edges or even the imagination. They are used to recognising that ‘pictures’ have depth, layers and multiple meanings because conceptual thinking plays as much, or more, of a part in seeing as simple visualising ... Suggesting alternative interpretations is the artist’s natural way of working’ ([ibid: 61](#)).

This sketch of key similarities and differences between the making and the use of visual material in science and art points to why there is much to be gained by working across and between the two disciplines.

I will now briefly describe my approach to art practice and then present some work I have done with geneticists.

My approach to art practice stems from my previous work as a graphic designer where I enjoyed the push and pull of different skills and personalities coming together and shaping the final outcome. For a long time (c 10 years)

this was bilingual (Gaelic/English) books and other printed materials. Instinctively almost, making art, or *making meaning in terms of art*, had to be a *shared process* between the artist and others.

Just as an information or graphic design background is a reference for me, the world of science and their use of visual material is also an external reference as 'artist'. These disciplinary references (the polemical in terms of raising questions and contradictions) can provide a certain creative tension. Inter and cross disciplinary work offers the possibility for a richness of exchanges (dialogue, images etc). It is the differences as well as the similarities between methods and processes of producing and using visual material which can be a creative space for artists working with scientists.

Why work with geneticists?

The whole thing began because I was interested in notions of 'identity' especially Scottish iconography. Because two good friends are research scientists I began to understand a little about the science of genetics. I became fascinated by this 'other' world, their methods and interpretations at a research level and at a subject level. Currently in the media we seem continually to hear about new genetic developments which are raising social, cultural and ethical questions. Not surprisingly many visual artists are interested in genetics (e.g. [Levy, 1996](#), [Paradise Now Exhibition, 2000](#), www.GenomicArt.org)

Because the inspiration for the art work I was making came from genetics it was an obvious and natural step to approach and work with geneticists. I was fortunate in that a colleague introduced me to a clinical consultant geneticists which led to me meeting the whole group*. Because of what they do I felt an empathy towards their profession. As clinical consultants they are placed on the sharp edge between imparting complex scientific information and the fast changing biotechnology industry. Clearly they would be very informed, articulate and would be visually literate. As clinicians they use scientific diagrams and other visual tools to both interpret the results of a genetic test (for example in predictive testing) and they use visual materials to explain the results to their clients. With a background in design I appreciated the information and educational aspect of their profession.

My **intention** was that by working with them I could understand the science and what they do better. Most importantly their interpretations and insights to the artwork made could lead to new work.



Methodology: A conversational approach to making art

Making meaning *in terms of art* is understood as a process of **exchanges or transactions** between the artist and others.

The Process

I make prints, photographs and drawings and show this to the group of 4 people. Sometimes it's the whole group, other times the meetings are one to one. The images become the subject of conversation. This gives things to the geneticists and to me. In response to this I bring made and sourced things back to them and the conversation continues. Similarly the geneticists bring things to the table. This way of working is participatory in the sense artist plus others contribute to the development of the artwork. The process is reciprocal and is a shared experience of talking, thinking, sourcing and making.

Kinds of exchanges have been dialogues, e mails and also objects, books, introductions to other people and invitations to events.

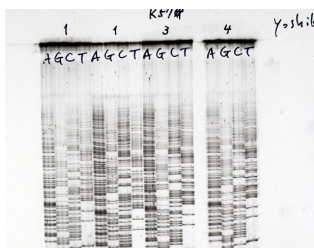
These conversations are taped and transcribed and e mailed back to the geneticists. This is rather time consuming for me, but is a necessary part of the method, not simply in terms of accuracy of who said what, but it is part of the *reflective process* - to revisit the conversation. It is important to hear the conversation's 'vocal grain' (de Certeau 1984) - the hesitations, overlaps, interruptions, intonations and so on.

To date there have been three group meetings and a number of one-to-one meetings with the geneticists. These are usually about an hour and a half, after their working day in the Medical School where they work.

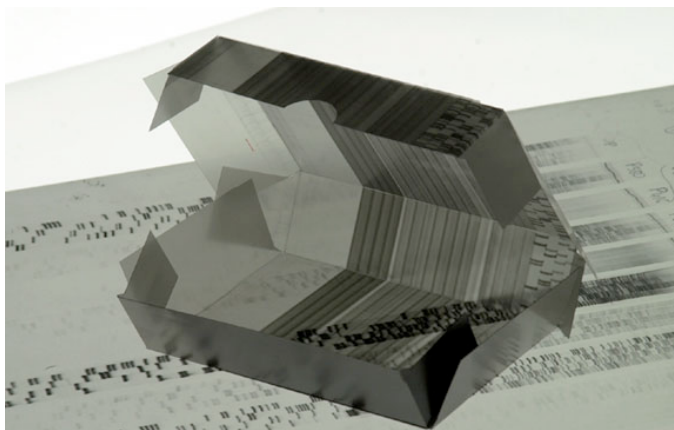
To illustrate the process I will trace one development.

Tracing an example of artwork developing

The previous images come from a set of 23 black and white photographs which were shown at a meeting with the geneticists (Shiela, Zosia, Astrid and John). These boxes are made from autoradiograms.



This is a method of visualising DNA, and what we see (above) is a genetic 'fingerprint' if you like. They look like large negatives. I took some of these cut them into templates and folded them into three-dimensional containers.

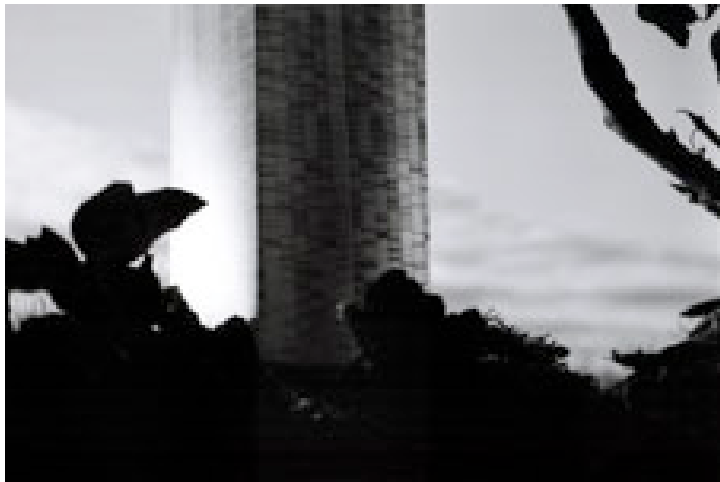


When I showed this to Sheila at an earlier meeting said it looked like ‘Pandora’s Box’ – she gave it name or title. She went on to use an image of the box at a conference on Huntington’s Disease, a genetic disorder.

This naming by Shiela and the strong metaphor of box led me make a more elegant shaped container and place these in different situations and photograph them. By re-contextualising the boxes they could take on different meanings or interpretations. I edited the photos to twenty three images, simply because that is the number of chromosomes we have, and called this set ‘23 *Genescapes*’.



In conversation with the group this image (Genescape No. 9) was described by Astrid as ‘small lightening containers’ or ‘transmitting batteries’. Things which ‘transmit knowledge’.



John saw buildings, with the DNA bands like windows in the Genescapes like No. 3 (above) and it was suggested that it would be good to joint with an architect and put the DNA pattern onto a building. Zosia also like the idea of buildings but she felt that there was a distinct lack of people in the artwork, something she would have preferred.

At the next meeting I took some collograph blocks. A printing technique I’d been working with for some time. Here the bands of DNA lie on top of the surface as it were. These DNA bands are like windows. There is also a

kind of gold light emitting from it. John particularly liked this and I explained that this image of ‘windows’ was connected to what he’d seen and spoken about in the Genescape images previously.



Serendipitously an opportunity to make artwork for a waiting room in a small rural hospital in Huntly came about through someone seeing the work I’d made with the geneticists. I am currently working with staff there.

This opportunity could extend or open out the ‘audience’ by working with the medical staff there, and possibly the ‘general public’ – the patients or visitors. This way of working can be thought of as building a ‘constituency’. Lacy suggests that some artists develop or build a ‘constituency’ in terms of audience and suggests that this could involve a ‘juxtaposition’, or bringing a diverse group of people into the ‘structure of the work’, to listen to other ‘voices’ (1995:35).

With this approach, unlike the tradition of making art objects and placing it in the public domain (e.g. gallery or museum) in a fairly *anonymous way*, the artwork can be developed with others and can bring more people into the process as the work develops. For me this seems like a natural way of working, graphic designers would almost always work with other people from a mixture of ‘disciplines’ or backgrounds.

Analysis

To understand where the value of my approach to art making lies I refer back to de Certeau’s tools or framework for thinking about everyday practices, specifically ‘operativity’ – how we operate. (de Certeau 1998)

The ethical aspect

Something said about the art process by Shiela when we were working together as a group is interesting. She said ‘*what’s fun about this in a way is learning about each other but also learning about ourselves because this is encouraging us to say and think things that normally we don’t.*’ This connects to the ethical aspect of practice where art can ‘restore a space for play, an interval of freedom, a resistance to what is imposed (from a model, a system, or an order)’.

Because we were working across disciplines we had to use ordinary language in the sense that it was less technical, but the interpretations and ideas discussed around the artwork in a conversational way meant people commented on, disagreed, interrupted, added to, thought of something else, related their own stories or a reflection

on an image, made suggestions, and made connections with other things they'd seen. The dialogues were 'multilayered' and could shoot off in 'unplanned directions' (Jacobs 1998:19). Particularly when we worked as a group people had the chance to voice their views to, as de Certeau describes, 'establish distance, to defend the autonomy of what comes from one's own personality.'

The aesthetic aspect

Sheila's naming of the artwork – 'Pandora's Box' was her appropriating meaning for herself. By giving it a name or a title she '**transformed**' the object. She later asked me if she could show Pandora's Box to an audience of scientists at a conference. In Greek mythology when the box was opened by Pandora all the evils of the world flew out. The last thing to remain in the box was hope. At this international conference the artwork shown in a Power Point projection functioned as a kind of '**a poetic gesture**' by Sheila.

I understood that where and how artwork is shown is not necessarily predetermined by the artist. Later Sheila was asked by her local church group to give a talk on genetics and ethics in the local church hall. Here she used the image again and here I saw how it could work for her - this time with a lay audience. Sheila introduced her role as a consultant geneticist as that of giving people information about genetics, (in this talk as in her daily practice), and this giving of scientific information aims to empower people so they can make their own informed decisions or choices.

The Pandora Box image used towards the end of her talk **left a kind of opening**. As an 'illustration' it pointed to how new genetic disorders are continually being discovered and that there is always hope for new cures or the alleviation of suffering. But the image also acted as accent on a deeper level too. After the talk there was much discussion from the audience ranging from biotechnologies involvement in genetic research, to, where in the life cycle researchers could use cells from foetally derived material. Sheila was comfortable with research into stem cells but there was a developmental point where she drew a line. She emphasized the fact that all of us - 'not just the scientists' are responsible for the future of genetic science - in terms of what we find acceptable and unacceptable. Sheila made it clear that her hope was that research scientists would respond ethically to the pressures of the biotechnology industry and that we all have a part in determining how this industry conducts itself. Seen in this light Pandora's Box pointed less to the fact of new medical advancements but to the hope that by giving people accurate and clear information about genetics (as in this talk) the general public can and should make up their own minds on what acceptable genetic research and its applications might be. In other words, for us all to share in the debate and responsibility of how the field of human genetics develops in the future.

The polemical aspect

On a broad level as artist I draw from a number of disciplines or 'institutions' in my practice – graphic design, visualisation in science and visual art. In this space I 'appropriate information', I 'put it in a series' and 'bend' the 'montage' to suit my 'own taste'. An obvious visual example was the use of the autoradiograms. These 23 *Genescapes* suggested alternative interpretations (understood by the responses by the geneticists) and as such raised (or pointed to) different questions or issues relating to genetics e.g. the relationship between nature and nurture, hereditary aspects. Another dimension of the polemical is that my work is usually seen outside the traditional or institutional art space of 'gallery' - in meeting rooms, at biotechnology trade shows, corridors in hospitals and church halls for example.



For example in this image (above) I responded to an invitation by John to show work at a Scottish Genetics Meeting. I called this series of digital prints 'Inheritance' (a kind of tartan DNA) which was displayed outside the room where the meeting took place - in the corridor of the Maternity Hospital at Foresterhill,

This polemical aspect is also interesting from an epistemological/methodological perspective. What practice led art research must try to do is articulate the 'tracing (of) one's own path' which operates through what de Certeau calls 'barely visible or nameable operations'. One problem in my research is simply the lack of language to describe artistic *process*, something my PhD research is grappling with. Another problem is how to evidence or see the 'hidden' productions, which can be subtle things such as the way the collograph blocks were touched and 'read', or how humour and playfulness has been a quality of the art process experience. These fragmentary 'moments' of engagement are very important but difficult to articulate meaningfully.

By way of a conclusion

I define the method I'm using – conversations in and around developmental art objects – as a 'visual dialogue'. Making meaning is thus understood as a *dialogic process*, where meanings unfold through time. In this sense 'meaning' in terms of visual art is like meaning in conversation, it is not fixed or closed but is 'multilayered' and 'provisional' (Jacobs, 1998:19). Brenson notes that the important qualities of conversation are that it is 'open', 'fluid', and he stresses the 'importance of listening' (Brenson in Jacobs 1997:). He draws a direct parallel between the experience of encountering art objects and the inter-subjective conversational experience:

'Conversation, at it fullest, illuminates the aesthetic. It can generate an aesthetic experience that may not be as self-contained and therefore as physical as one's encounters with painting and sculpture, but it can take on a comparable resonance and eventually may inhabit the same region of the imagination. Like the give-and-take between viewer and a painting or sculpture, conversation of the profoundest kind depends upon, and therefore draws out, virtues like attentiveness, goodness, generosity, and commitment. It also makes each person who partakes of it feel part of something larger than his or her individual self.' (ibid:125)

I believe visual art in particular to be a way of having a conversation and that the art process can open a space to think, to speak and to act differently in our everyday lives. While the art object can act as a catalyst for thinking, what is valuable to me as artist is the nature of conversation, or 'conversation at its fullest' having recognised (felt) in the geneticists some of the qualities which Brenson points to.

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