

Reflection

Anne-Elizabeth Orton

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Appendix 1: Completed Exercise after Perec (1974)

Appendix 2: Survey Results

Appendix 2A: Initial Survey Analysis

Appendix 3: Reflection on Cutting Edge Symposium

Introduction

The aim of this project was to realise a developed use of 3D space in recent projection work by utilising two projectors to continue further exploration of issues relating to urban environment. Evidence of achieving this outcome is presented in this written analysis and photographic documentation.

The main emphasis on the project was the physical experimentation with projection and three dimensionality, however other aspects included:

- A continued gathering of feedback via an online survey set up after the last public exhibition of this work
- A written investigation in response to an exercise as suggested by Georges Perec in *Species of Spaces: The Street* (1974)
- Research into digitally based methods of three dimensional production

Weekly Breakdown

Week One (6.11.09)

Activities: Materials/Equipment bought/booked for following weeks, response to Georges Perec's exercise. (Appendix 1)

Outcomes/Observations: My own completion of this exercise; nearly two hours in a café, responding in writing to a series of questions as posed by Perec in *Species of Spaces* (1974) was part of the investigation but so too were the responses made by some other members of the Mixed Group Project (MGP) team. The exercise encourages observation of the urban environment in great detail and explicitly states that the observer should continue through the banal and out the other side until the environment seems alien.

'Make an effort to exhaust the subject, even if that seems grotesque, or pointless, or stupid.' (P.50)

As such, there is really no end to the records that could be made against it. For me the exercise served to underline but not unveil any new complexities in urban spaces, from permanent physical structures (exactly how many bricks are there in that wall and how many imperfections on the surface of each brick?) and transient physical interventions in space (how many pieces of litter, how many creases in the crisp wrapper?) through to human patterns and movements (why do people always cross the road there in that pattern? Why is that man crossing his legs while waiting for the bus?), however, as Perec states in the passage,

'You still haven't looked at anything; you've merely picked out what you've long ago picked out.' (P.50)

How did I know I'd observed anything new? What evidence did I have that I had really developed my thinking or moved my impression of the city forward at all? I really felt I hadn't. Perhaps in some areas I squeezed a bit more out than is usual for me to notice but that was debatable. I didn't feel I had covered any new observational ground at all. What became notable for me about this task, however were the responses of others as discovered when sharing outcomes with those who also completed the exercise on the MGP. Where others had felt a particular question fully exhausted, I had not only continued but not even felt near finished (cut short by time or a lack of space on the page rather than a perceived lack of things to observe). The fact that I had entered so much more detail than others was not just recognised by me but also by those who I shared responses with. If I had felt that I had identified something new, I would have assumed that this was because I had become recently 'switched on' by my investigations into urban spaces where others were not. However, the fact that I had felt the exercise so under complete suggests to me that this apparent hyper-awareness of environment might in fact be the reason why I felt compelled to begin discussing cities in the first place. I have also drawn the conclusion (along with a couple of comments from the online survey) that there is further ground to be covered in the exploration of these details and it might in fact be the seemingly banal, when presented in a fresh context, which encourages engagement with both the work and the city to which it refers.

Activities: Drawing with two projectors on to paper angled to catch both projections creating distorted/merged images (fig.1), drawing in to a corner with two sheets at right angles (fig. 2), projection of still image and drawing onto plaster (fig.3) and plaster block (fig.4).



Fig 1.



Fig 2.



Fig 3.

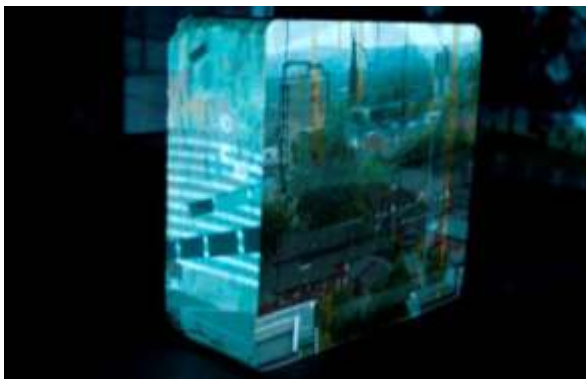


Fig 4.

Outcomes/Observations: As it was less than a month since the fruitful completion of the installation in Helsinki, I anticipated that I would find the drawing with two projectors stimulating and relevant to the development of the work. However, I was surprised to discover that the act of drawing in this way, despite the inclusion of the additional projector felt very much like returning over old ground and seemed rapidly pointless, to the extent that I hardly completed any drawing either on the angled paper (fig.1) or the 45° pages (fig. 2) before I began experimenting with two pieces of plaster that were in the studio. I tried drawing onto and scratching into one piece (fig. 3) but the most successful discovery was the projection of images at right angles onto the adjacent sides of the plaster block (fig. 4).

I found the quality of this projection worthy of note in several respects:

- Combination of images incorporating an object, the form of which begins to describe in three dimensions elements of objects within the photograph (buildings, cable boxes, bollards, etc)
- The effect achieved by moving the block forwards/backwards and side to side, giving the impression that the block was becoming an instrument of revelation as different parts of the projection became visible. >>

- The effect achieved by rotating the block on a central axis, causing distortion and merging of the two projections.
- A feature of the combined use of RGB projection and a fast shutter speed that I had not encountered before, which resulted in a range of alternative (invisible) colours recorded when capturing documentary photographs (fig. 4-8). To me this referred back to the dialogue between digital imaging processes and physical materials and suggested that I might deliberately adjust the hue and saturation of the images.

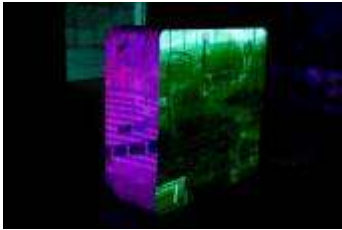


Fig 5.



Fig 6.

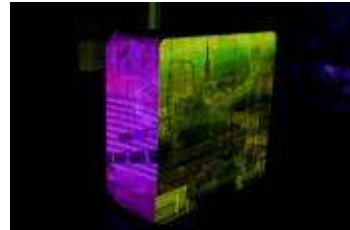


Fig 7.

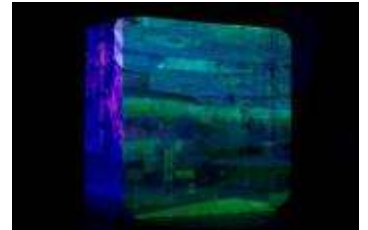


Fig 8.

As a result of these findings I planned to further pursue the projection of images at right angles onto a variety of different objects and textures in the following week, including continued use of plaster but also the incorporation of found objects

Week Three (20.11.09)

Activities: Creation of objects and surfaces to project still and moving image on to including plaster cast of bottle (fig. 9), plaster column containing found objects (fig. 10), newspaper covered bottle (fig.11), textured plaster column with residual grit on surface (fig. 12), use of found materials to make surfaces eg: maps, cardboard, carrier bags, newspaper (fig. 13) projection on to found piece of brick and rusty pipe (fig. 14) and projection onto folded paper (fig.15 & 16). Experiment with alternative configuration of projectors (opposite each other as opposed to at 45°).

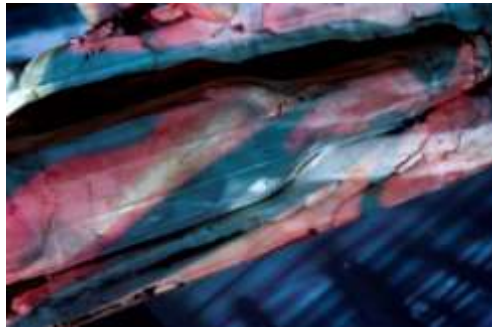


Fig 9.



Fig 10.



Fig 11.



Fig 12.



Fig 13.



Fig 14.



Fig 15.



Fig 16.

Outcomes/Observations:

- Newspaper, textured and curved objects are not as interesting as anticipated.
- Projectors at right angles continue to provide interesting opportunities to interrupt the images but do not especially work when placed opposite each other as that three dimensionality is lost and it becomes more about a double sided plane. *(Would four projectors be even more interesting or would the opposing nature of the arrangement negate the additional three dimensionality as discussed?)*
- The use of folded paper is successful to 'break' the images across each other and suggests that quality may be one of the reasons the plaster block was successful. The edge at which the two projections meet is a point of interest and provides opportunities for exploring relationships between images.
- Found objects are not terribly interesting on their own but can be when used to create an 'environment' where the contrast between shapes and textures can be discussed.
- Video and moving image is especially effective on rough/granular surfaces where it appears as though the actual surface is moving. Ways of exploring this further might include direct casts in plaster from the physical urban environment and/or the potential utilisation of laser etching to texturise the surface of a range of materials.

Following these outcomes, the plan for the final week was adjusted to include projection onto environmental casts by arranging cast slabs at right angles to replicate the occurrence of the images meeting at an edge whilst including direct environmental form.

Week Four (27.11.09)

Activities: Casting from urban environment using alginate and plaster (1 section of paving and one section of paving with partial drain cover) and projection of still and moving image onto resulting casts (fig. 17-22).



Fig 17.



Fig 18.



Fig 19.

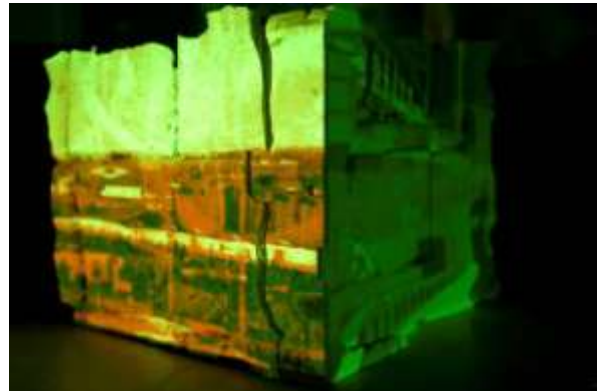


Fig 20.



Fig 21.



Fig 22.

Outcomes/Observations:

- Interesting when environmental artefacts are transferred to the cast (fig. 17) and this seems to echo the utilisation of newspaper as a collaged element when drawing in terms of including the actual fabric of the city as a material.
- Can be equally successful when images either contrasting to or harmonious with the cast are used (eg bricks projected onto brick-style paving or images of natural objects/entire landscapes)
- The projection of video onto the environmental casts continues to explore the effect of moving image on textured surfaces but also interrupts the scale and solidity of the cast, continuing to explore the theories of Place/Space as discussed by De Certeau (1984)
- Despite the three dimensionality, the work can still only really be viewed from one side. (*Do I need to experiment with four projectors?*)
- The immediately interactive element (drawing) has been lost though a more long term interaction still exists in gathering the casts. (*Does this matter?*)
- This would be difficult to realise on a large scale. (*Does this matter?*)
- Working at this scale seems to be moving the work back towards a craft outcome; it wouldn't be a huge leap to realise these objects as vessels. (*Could this be a way of discussing the enveloping nature of environment and the enclosure of many urban spaces?*)
- The use of one projection on to the corner of the block causing distortion of the image over the surfaces (fig. 18) is generally less successful than the utilisation of two projections at right angles.
- The use of casts and subsequent retention of minutiae of surface detail and environmental artefacts links clearly back to the Perec exercise and allows opportunities for discussing in three dimensions the 'banal' physical details of urban textures which would indeed be lost as 'pointless' in a photographic record. The incorporation of these observations as forms as opposed to two dimensional images (as projection) allows the viewer to interact directly with the featured element, though removed from context, without the distancing membrane of the photograph.

The conclusions drawn from this work and proposals for future development are discussed in the final chapter Summary, Conclusion and Development on page 12.

Analysis of Survey Results

Though the validity of these findings is questionable as there were a limited number of responses, I have derived some interesting ideas from the gathered data and have expanded my thoughts on human relationships and interaction with urban environment.

Previous responses to the same questions gathered during the installation revealed the general perception that one of the main positive elements of city living is the close proximity to amenities and cultural/social facilities while the main negative aspects included the stress generated by modern industrial demands and a fast paced society.

The new information (Appendix 2) supports these findings but has also allowed me to go deeper into these ideas and through that analysis (Appendix 2A) begin to generate a theory relating to feelings of ownership of urban space and how this effects positive or negative perceptions of environmental factors and city living.

Initially, the findings raised some confusion between positive/negative aspects of city living. Individuals seem to find it challenging to define those environmental encounters that stimulate contradicting emotional responses, for example, a city centre may be both exciting and stressful. One observation revealed that there was a discrepancy between the imagined or iconic *notion* of the city and the physical reality and *experience* of one.

The new responses did however confirm that the main positive elements (when successfully distinguished from the negative) are accessibility to amenities, transport and work places as well as cultural and social facilities. Negative aspects include exposure to crime, financial demands and pollution in the forms of chemical, noise and light. I also drew parallels between the concept of pollution and the comments relating to emotional stresses:

'You take on others people's moods..hectic, stress, depression' [*sic*]

and reason that this could be considered as a kind of emotional pollution, where pollution is the process in which the individual is subjected to and effected by external influences which negatively impact upon their wellbeing, be this physical or psychological.

The new findings also confirmed that methods of moving about the city tend to be varied. Individuals use many different forms of transport and this is often dictated by their reasons for travel. I found this worthy of note as it suggests that people are experiencing a range of different viewpoints of the environment; the view of a city when travelling by train is very different from that by bus and still more different when on foot. This indicates that the perceptions gathered by the survey will not be especially biased by methods of travel and that this might be discounted as an influencing factor in positive or negative perceptions.

60% of those who responded felt that they had no sense of ownership over the urban environment and this supports a majority as found in the previous results. The 40% who stated the opposite had recognition of direct physical impacts they have on the space in common, either through concept (input into town planning) or visual contributions (public display of design work). The majority stated change without input, an abundance of instructional signs (no parking, gates in constant use, etc) and a sense that they pass through with out interaction as their reasons for a lack ownership. It is interesting to note that the proportion who felt their strongest emotional response to the city was negative is an equal 60%. This led to careful analysis of the reasons stated and it can be recognised from this that there is a clear contrast between the identified sense of input, or contribution to the city and the main negatives highlighted which may be seen to stimulate feelings of a lack of control (crime, noise, drunkenness, provoking anger, irritation and fear). The main positive aspects stated relating to ownership, that an individual might recognise a contribution they have made to the

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environment, can conversely be seen to be indicative of an element of control. The main conclusion of these findings therefore relates to this idea; that an important aspect in feeling positive about city living is found in a sense of control characterised by a tangible input to the environment. When this is either absent or imbalanced by a build up of feelings related to a lack of control, negativity becomes the predominant perception.

This theory of control is supported by the findings that the most frequently stated positive feature of cities are those facilities in which individuals engage in a controlled and predictable fashion (cultural/social amenities) and that the most commonly identified negatives are those which directly stimulate senses of a lack there of (crime, noise, overcrowding and alienation).

One of the comments relating to ownership being found in the physical impact of design work on the city

‘Glimpses of me can be found’

links comments regarding alienation into this more directly. Lack of identity can be linked with a lack of input and control by considering that we divine elements of our personality through recognising the public outcomes of our own self-expression. By tangibly participating in the city (and achieving a sense of control in doing so) we can subsequently recognise a reflection of our identity in it. This then counteracts feelings of alienation and facilitates a more positive relationship with the urban environment.

That this theory has a bearing on the acts of graffiti and littering which are both elements used visually in the work, does not seem coincidental. In the case of graffiti, the act becomes an attempt to participate in and visually control the environment and is clearly linked with issues of identity; the repeated and prolific writing of a name to find fame and gain notoriety, all be it an anonymous way. That pride is often taken in writing in inaccessible but easily viewed places (such as high up on buildings or by train tracks) suggests an attempt not only to be seen by as many people as possible but also an attempt to increase the longevity of the work and the perceived permanence of the input.

Where littering occurs it may initially be caused by a desire to be rid of a worthless item; however a lack of a sense of ownership of the city justifies the act. If it were not ‘your’ environment why would you have a vested interest in maintaining it to a certain standard? If you have no control over it, why bother to inconvenience yourself by responding to the attempts of society to control it? Perhaps it would actually be quite welcome to find that a drinks can you dropped on Tuesday was still there on Wednesday; A reminder of your passing through, a monument to your existence, a personal continuity in the faceless mass.

These conclusions are not to say that having an input to a city space is the only way to feel positive about it or that a perceived lack of control is the exclusive generator of negativity. However, the findings of the survey support the supposition that they are at least contributory factors and can certainly be taken as starting points when looking to see how we might make social or environmental improvements on a larger scale, or how we might change out approaches on an individual basis in order to become happier and more fulfilled in our daily encounters with city spaces. Of course, adherence to social and legal norms prohibits certain courses of action, for example it would not be appropriate to engage in vandalism or littering in order to engender a sense of input and control, however participation in public arts activities or city planning might be worthy of consideration.

In terms of further developing the practical work, these findings have gone some way to explain why visual aspects such as images of graffiti and litter feel more pertinent in their inclusion than by their aesthetic values alone. It also raises some interesting questions about the public nature of the work and the previous suggestion of the possible inclusion of interactive elements.

Reflection on CAD/CAM Research

Previous reflection on this work had identified a potential utilisation of digital technologies in achieving 3D outcomes. Further research at the symposium on creative uses of laser cutting, organised by the University of Loughborough established that there were many potential creative implications in what is still an establishing if not emerging technology. Despite this assertion, further need for research into the direct physicality of these processes was identified as no direct experience was in place. To execute this, I attended an educational trade show at which it was possible to see demonstrations and possible outcomes of machines. This extended knowledge and understanding of these processes is summarised below:

Rapid Prototyping is the name given to a series of additive technologies by which a physical model is constructed using the digital data of a virtual model.

- *Fused deposition modelling* extrudes hot plastic through a nozzle to build the form. This method is marginally quicker to produce and the machines are cheaper to buy and are cost effective to run. The outcome can be clearly identified as a product of the process by the clear structure of the trailed hot plastic. This method will be the most easily accessible as it is the least costly.

- *Selective laser sintering* uses a laser to fuse powdered nylon, elastomer, or metal. This method is the more costly as the machines are more expensive and the process takes longer. The outcome however, is more flexible as there is less trace of process, it is possible to use multiple colours and models can be constructed which have separate or free moving parts. This is due to the method of employing powders to construct the model, which support separate elements in position during the construction process. This method would probably have the most creative applications.

CNC Routing is a reductive process similar to a lathe, by which a spinning piece of material (usually wood) is cut to shape by a digitally controlled tool. A CNC router is much more flexible than traditional techniques, however and can be used to consistently manufacture a wide range of items with speed and accuracy.

Laser Cutting (and etching) is the process by which lasers (*Light Amplification by Stimulated Emission of Radiation*) are used to cut through or etch into a wide range of materials. The distinction between cutting and etching is managed by varying the intensity and pulse rate of the beam. This technology is becoming increasingly accessible in education and the creative uses of both cutting and etching are being rapidly evolved by a variety of creative practitioners. More details of these processes, including my own potential applications, may be found in the reflection on the Loughborough symposium (Appendix 3). It is likely that this will be the first of these technologies I engage with, both for reasons of accessibility and due to the potential for etching as a method of effecting texture to a range of surfaces. It has already been noted that projection of video on to granular surfaces has been found to be especially effective and it is one of the next possibilities I intend to explore.

Summary, Conclusion and Development

Summary of Work Completed:

- **Week One:** Completed Perce exercise and re-established potential of minutiae.
- **Week Two:** Discovered projection on to block was successful.
- **Week Three:** Experimentation with projecting onto texture and objects concluded that texture was generally a more interesting feature to project onto than objects, especially in the case of video.
- **Week Four:** Combined projection of video onto textured surface and the incorporation of right angled projection onto a block. Most interesting points included a more direct interaction with the environment, a continued discussion of Place and Space (after De Certeau) and of minutiae (after Perce)

Conclusion:

This project has successfully achieved incorporation of three dimensions into the existing work. The inclusion of an additional projector and physical artefacts into the space has established several interesting features, most notably the utilisation of two projections from right angles and the aesthetics achieved in allowing these to 'break' across a variety of surfaces and objects. Also recognised from this were the qualities achieved by projecting moving image onto granular surfaces (in this case found objects; brick and rusty pipe) and a sense of dialogue between images derived from the meeting of two projections at the corner of a cuboid structure. That a solid rectangular form also reflects many of the subjects of the photographic references (buildings and tower blocks) serves to further indicate the continued use of these structures.

The inclusion of direct environmental casts facilitates a discussion of minutiae in both surface detail and wider environmental encounters and that this links clearly to the Perce exercise does not seem coincidental. Opportunities are raised for discussing the 'banal' physical details of urbanity which may be lost in a photographic record alone. The incorporation of these observations as forms in addition to two dimensional projections encourages a more direct interaction with the featured element owing to the inclusion of the third dimension. An additional feature of the casting process is the transferral of environmental artefacts to the cast (e.g. glass, cigarette ends) and this seems to echo the utilisation of newspaper as a collaged element when drawing in terms of including found materials in the work.

The concept of accident and unexpected digital dialogue has been further exemplified in the discovery that a combination of RGB projection and a fast shutter speed when capturing documentary photographs results in a range of alternative colours recorded. These are not visible in the installation due to the limitations of the human eye but become apparent in the document and lead to a possible experimentation with hue and saturation when preparing the digital images.

Summary and Conclusion of Other Research:

- Survey findings have resulted in the nascent development of a theory which discusses how individuals' perceptions of making a tangible physical contribution to the urban environment may engender a sense of ownership and control that stimulates generally positive responses to the city in contrast to feelings of fear and alienation in individuals who do not recognise a sense of ownership and state concerns relating to issues characterised by a lack of control.
- Research into digital methods of 3D fabrication have confirmed that laser cutting is likely to be the first process to pursue for reasons of accessibility and relevance of potential utilisation to proposed outcomes, especially incorporation of granular textures.

Development:

Ideas for development leading on from these conclusions include:

- **Convex Drawing**

Recognising the success achieved in projecting from right angles on to a block of cuboid shape, it is proposed that the drawing aspect may be revisited in a convex, not concave fashion. This would essentially involve drawing onto a free standing plinth-like object as opposed to sheets attached to a wall in a concave fashion as documented (fig. 2).

- **Slip Cast Vessel**

Working with casts at this scale suggests a potential new outcome in the possible realisation of cast objects as vessels. This could open discussions of the enveloping of human scale by the environment and a sense of enclosure in many urban spaces.

- **Incorporation of Laser Technologies to Create Texture**

A continued exploration of the dialogues between digital and traditional media could be realised in the incorporation of laser etching techniques to inscribe texture to the surfaces that video would then be projected onto. This could be included in to the ideas of revisiting the drawing in a convex fashion and the panels used to construct the plinth-like structure could be laser etched (and possibly even cut).

- **Interaction/Applications to Public Arts Projects**

A more long-term development which would only be possible after continued research into the findings of the survey and some development of the initial theory of control might include interactive elements (as suggested after analysis of the installation feedback) and could suggest opening the work up to an even more public and publicly interactive domain. Previous applications to take the work into public arts projects have been unsuccessful but have at least encouraged some reflection on the possibilities and this is worthy of further research and consideration.

Works Cited

Perec, G. (1974) *Species of Spaces and Other Pieces*. Revised edition. London: Penguin

De Certeau, M. (1984) cited in Manchester Metropolitan University (2009) *Strategies of Thought: Course Reader*. Manchester MMU