Image: Will Alsop / Acrylic Paint

Image: Maia Engeli / Childs Tooth

Image: Arch-OS / Hard-disk

Image: Ron Arad / Laser Sintered Cobalt Chrome

Image: Caruso St John / Gold leaf

Image: Sana Murrani / Pencil

Sliding Scales

13th December 2006 – 19th January 2007

Bartlett School of Architecture
Institute of Digital Art & Technology

Introduction

Sliding Scale presents a view of our relationship with the peculiar landscapes of digital technology as an 'ecology'. In exploring these landscapes we navigate through a territory that is disturbed, moist, blurred and vacillating. We are forced to focus on the 'relationships between' where process replaces product in importance; just as systems supersede structure.

The tools that form these landscapes are harbinger's for a meaningful ecological (both machinic and natural) audit of specific sites and processes. They demand the development of new strategies and protocols for their users (designers, engineers, architects and artists) and require that the sites, agents, provocateurs, disparate observers and drifters that consume and influence their output critically engage with them. Modern architecture has currently failed to provide architects with the necessary tools to create architectures that are fully in tune with the wide gamut of artificial and natural ecological conditions. For those of us interested in the development of architectures for the post-biological inhabitants of the twenty-first century this 'Sliding Scale' represents a beacon in a still dark landscape.

The aim of the workshop is to explore, polemicise and develop architectural ideas and solutions that engage with this digital ecology. These include the impact of the advanced technologies of reproduction, new techniques in communication and issues of sustainability.

"When art is a form of behaviour, software predominates over hardware in the creative sphere. Process replaces product in importance, just as system supersedes structure." (Roy Ascott, 1968)

Context

In May 2004, i-DAT organised a project and exhibition for Architecture Week in which architects were invited to submit an object to be scanned by an Electron Microscope. The scanned images were blown up to A0 size and exhibited in the Out of Scale show at the Plymouth Arts Centre.

Out of Scale explored architecture's relationship with image, digital technology, structure and materials, by focusing upon microscopic detail. The show reveals the unusual relationship that architects have with scale, how the digital systems and measuring tools transform models of actuality, from the precision of the scalpel blade used to make a model to the materials used to construct the finished building.

As demonstrated, when faced with such a decision, the architects made some very unusual choices, all of which point towards larger issues fundamental to architecture. The Richard Rogers Partnership chose to magnify Welsh Slate that is currently being used in the building of the National Assembly for Wales. Will Alsop submitted a fragment of paint since so much of his architecture is developed from paintings. The Thomas Heatherwick studio contributed an image of the grain of sand that has informed their design of a building in Grange over Sands in the Lake District. Sana Murrani, an Iraqi architect has selected old technology in focussing on the point of of a HB pencil. Wayne Hemingway sent us a small piece of Lego that indicates a more playful response to the brief.

Since the project, the University of Plymouth has purchased a Rapid-Prototyping Machine that 'prints' three dimensional objects. The Sliding Scales project extends the Out of Scale inquiry by asking designers not simply use the microscope as a looking tool, but as a making tool that will inform the design and development of a 'printed' three dimensional form.

Task

A: Modelling scales

You will begin by doing a three minute presentation on 'scale' in relation to your design work. This will be used as a tool for you to choose another person to work with for the workshop.

The task of the workshop is to define your ecology in relation to your practice and develop a rigorous approach what will eventually be modelled using rapid prototyping techniques and an image produced using the SEM.

What are the relationships between the image and the process?
Who would be the user of your process object?
Can an object be a process?
Can an image be a system?

B: Outcome

IMAGE	A2 digitally printed image from SEM– to be read as system
MODEL	Rapid prototyped model– to be read as process
TEXT	100 word description

Seminar

Over about two centuries, during which the Copernican hypothesis was accepted – or at least became almost impossible to refute on the basis of existing methodologies – the idea of a God's eye view as the only perspective became equally impossible to sustain. As in its wake, western science developed away from philosophy under the influence of Bacon's anti-mediaevalism and Boyle's experimental practice analytical method became progressively dominant in science and (later) in philosophy. As a consequence instruments such as the astrolabe and telescope were developed by and for Enlightenment Astronomers not to look at the heavens and its arcane patterns as they did previously, but into the eye of God and the heavens as a constellation of particles.

One of the claims of this paper is that at this point, the concept of contemporary technology as the material and practical manifestation of an analytic method was established. Another claim derives from the view that in the late 17th and early 18th century a number of catastrophic events made it difficult to believe in the centrality of man in the divine scheme and the idea of 'technology' as the instrument of scientific method used to confront nature in the face of an indifferent God was developed. This 'new technology divided its problems and delegated agency to the micro solutions of cogs and gears only to reunite them into a coherent and mysterious machine which produced the contemporary illusion of technology as a cultural determinant.

This paper will outline this history and argue that aside from established criticism of technological determinism, to ascribe cultural agency to technology is to misunderstand it as an epistemology and to loose its cultural contact with the metaphysical. It will do this by first examining the history of the Orrery and proposing it as a metaphysical object which in the following centuries has been replicated in western cosmology laying the ground for the claim that contemporary space exploration is both a frontierist and a metaphysical project.

Schedule

i-DAT, Plymouth
Wednesday 13th Dec
13.00 –13.45   Meet. Introductions. Briefing
14.00–16.00   Seminar. 'Looking into the Eye of God'
16.00 – 18.00   Three minute presentations
                        Team allocation and project preparation
18.00 – 20.00   Project development
20.00 – 22.30   Pizza Express project development dinner

Thursday 14th Dec
09.30 – 17.00   SEM (Scanning Electron Microscope)
09.30 – 17.00   Project development when not in SEM

Friday 15th Dec
09.30 – 10.30   Introduction to Rapid Proto-typer
11.00 – 12.00   Project development and presentation prep
13.00 – 15.00   Seminar / presentation of proposed method

Bartlett, London
Monday 8th Jan Deadline for return of 3D models for Rapid-prototyping
Friday 19th Jan Bartlett seminar to present all projects

Project Team

Tutors: Shajun Murray, Mike Phillips & Chris Speed
Seminar: Professor Michael Punt
Scanning Electron Microscope: Pete Bond
Rapid Prototyper: Neil Hughes

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