

CARDIFF CHIMERA²⁰²⁰

Porosity Studio UNSW COFA/Cityscapers, British Council

In collaboration with:

Cardiff University
&
Glamorgan University

STUDIO • PROGRAM • NOTES

Pore: n. minute opening in surface, through which fluids may pass.

Porous: a. full of pores (lit. or fig.); hence of cogn.

Porosity: porousness, ns. 1

Ancient Chinese scholars were fascinated with porous rocks that became known as “scholar rocks”. The more richly porous the structures were, balancing air with mass, the more valuable they became.

“For the world of Chinese scholars stones has to be a source of inspiration, - mysteriously shrouded in feathery mist – to anyone with an interest in transparency, transformation, immateriality, dynamism, in spectacular surfaces, monoliths, or raw lumps of rock, in minimalist or archaic monuments”. (Ursprung, Phillip 2003: p 111.)

Mine also is a fascination with both exoskeleton and its fleshy centre, as a model for the body and architectural minimums, and the idea of architecture being analogous to the mathematical model of the “**Sierpensky sponge**”. This is a theoretical cube which is infinitely porous and hence:

“more than a surface, less than a volume....Its total volume approaches zero, while the total lateral surface of the hollowings infinitely grows.” (Ursprung, Phillip 2003: p 487.)

This obsession with dissolving architecture runs hand in hand with the idea that art has a role to play in promoting the adaptive re-use of existing urban structure via new “parasitic forms”. Hence the social construction of cities is prioritized over physical construction, program, or any issues to do with aesthetics.

My position as a practitioner is fairly unique. I am a registered architect who has practiced almost exclusively as an exhibiting artist since 1976. Only relatively recently has my practice fully engaged with the built environment. This combination of disciplines unites my interest in the city with my interest in minimum architectures of the body or their relative “prosthetic architecture”.

I have explored public art practice since the mid 1980's and this work has grown to expand the notion of site specificity to encompass the skin of architecture itself. In other words my art/architecture practice has moved from architecture to performance, to performance in the city, to gallery installation, to object making, to site specific public artwork both permanent and temporary, to parasitic architectural interventions, to urban infrastructure and planning projects, and finally to the idea of architecture as a site for art and through which we may reread the city. This line of inquiry builds on the lineage of Dada, Surrealism, and the Situationists.

POROSITY STUDIOS: BACKGROUND

In 1996 artist-architect Richard Goodwin established the *Porosity Think-Tank* within the College of Fine Arts (COFA) at the University of New South Wales. The term *Porosity* describes the nature of the edge condition existing between the skin of architecture and the public space of the city. In an empirical sense Porosity refers to the patterns of use, mobility, and security that describe the dynamic relationship between public access and the occupiable spaces of the city that are in constant flux. In 2004 Goodwin held the first international Porosity studio in Tsinghua, China. Subsequent studios took place in Beijing, Milan, Rotterdam and Den Haag. In 2007, the British Council became involved with Porosity and is now sponsoring students from around the world to participate in a series of three studios within the United Kingdom. Goodwin has always involved students in the moulding and development of Porosity.

Under the support of the 2003-2005 Discovery Grant, Goodwin embarked on a focused study of public/private space. The research produced has since been published widely in Architectural periodicals as well as the, monograph, *Porosity* and the book *Richard Goodwin: Performance to Porosity*. It has also been exhibited at various galleries such as the Ivan Doherty Gallery, Australia Galleries and the Museum of Sydney. Since its inception, Porosity research has widely influenced artists, architects, academics and even security.

The upcoming studio in Cardiff will be funded by The British Council Cityscapers Program as well as Wales / Cymru and will be held in conjunction with Cardiff and Glamorgan Universities.

CARDIFF CHIMERA²⁰²⁰ : THE STUDIO

Philosophy

The Chimera evokes the image of a hybrid monster, which, in Greek mythology, traditionally combines the bodies of a lion, a snake and a bird of prey. Its powerful symbolism within framework of the Cardiff studio draws to the need to embrace a multiplicity of urban strategies and solutions in order to survive as city dwellers and as human beings. As a metaphor for methodology and thinking, the Chimera and its seemingly endless combinations is appropriate.

Encroaching on us now are the problems of global warming, population growth, epidemic diseases and natural disasters. The days where nature was empirically analysed from the closed of lab and white coat have dissolved as man-made environments and nature continue their merge. It is in this climate that we ask students to project their strategies for the year 2020. The work produced by the studio will become entwined with the *Porosity Think-Tank* and its work to redefine public and private space in the city through processes of transformation and adaptation applied to existing armatures of built form. In particular the studio seeks new answers to fragments of Cardiff's future, both in terms of physical and social construction as well as urban planning.

Methodology

The power of varying student approaches and scales of intent lies in the way in which they might combine and influence each other. Students participating in this program are encouraged, but not forced, to collaborate and are able to choose the scale and focus of their respective actions: from performance to architectural design. However, for this studio in particular, the students will be encouraged to embrace a filmic language within their process and presentation. Dialogue between artists, architects, engineers, designers and urban planners continues to be a key driver of Porosity methodology.

Outcomes

The outcome for this multi-disciplinary design studio is a juxtaposition of strategies and visions for Cardiff as a city for 2020 and beyond. In devising their final strategies students will be asked, via collaborative groups or individually, to rethink a segment of Cardiff in relation to the date 2020. The resulting images and models of these ideas are unlimited in their scope. Although focusing in the end on some futuristic vision the studio will require intense on the ground research and engagement.

Each person or group will be responsible for a 3-minute digital film version of the strategy and the production of the appropriate material to convey the projected strategy. The exhibition will

be a Chimerical projection of the different strategies that takes its precedent with the VJ session.

A Cardiff Chimera catalogue, will be published ASAP after the event and will include images of each design in a book. Each design will have at least 4 pages or 2 double spreads within this collection of texts, photos and CDs of the Chimera.

2020: SMALL CITIES / BIG NEIGHBOURHOODS

The main armature for this studio is the city core of Cardiff and its evocation of many such urban forms throughout Europe and indeed the world. Talk about cities usually focuses on our larger metropolises as their problems are so complex. However as cities around the world merge and spread with explosions of the suburban areas, solutions need to be sought which address the old island like city centres, with their rich cultures and the rural landscapes now consumed by suburban expansion. Smaller cities are generally growing faster than large ones across Europe, and having to think carefully about appropriate urban forms, housing types, neighbourhood facilities, transport systems, green space, and of course jobs. Cardiff is the perfect model for this type of city.

This international studio will bring together a diverse range of experience in relation to the urban and suburban condition. Students from China, Japan, Australia, Vietnam, Singapore and India will work with students from Cardiff and the UK. 'Neighbourhood' is itself a loaded term that means many different things to different societies, cultures and people, and we will explore these different meanings and physical forms. Most societies accept that a mix of people, uses, facilities, opportunities, a sense of identity and a degree of self-sufficiency are necessary characteristics of a good place to live. The neighbourhood is a microcosm of the city as well as a functioning mechanism of it. It is the summary of the city from which inhabitants begin to build their social relationships. We will begin by looking at large new neighbourhoods—built, under construction and planned as prototypes, each brought to us by our participating students from across the world. We will discuss these and try to dissect them.

The subtext of these discussions is the spectre of 2020. The studio is attempting to create solutions, at the scale of the small city, to problems of climate, sea level fluctuations, displacement, energy, and conflict. These solutions will address survival physically, socially and psychologically. Ultimately it will be the choice of individual students and collaborative groups to choose both the scale and location of their enquiry.

When these strategies meet in both discourse and video juxtaposed as part of the final exhibition / performance the CARDIFF CHIMERA WILL BE BORN.

THE MIXING OF DISCIPLINES

Multi-disciplinary studios are nothing new within the current climate of both educational institutions and the professions as practiced today. The very nature of the information super highway enables and increases crossover and slippage to occur in a way which now mimics natural selection itself. The temptation and desire to appropriate and cross-fertilise data and information in our so-called post-modern era is also accelerated by our collective need to survive.

The temptation within this expansion of collaboration is to allow the metaphor of dissolution of boundaries to run amok resulting in the fear of anarchy. This studio believes in boundaries between professions, trades and vocations and their respective professional practices. It does however advocate that these boundaries should be as porous as possible. Movement through and between centres of thought should be fluid. The Porosity Studio also does away with the hierarchy of practice. This pedagogy is often denied but always implied ie: the architects and planners are deemed to be on top due to the economies of scale and by the legacy of Modernism and the beloved Bauhaus which decreed that architecture is the “mother of the arts”. If there is any mother it is art or poetry itself. All art, architecture, design, planning practice is seen by this studio as being part of one art spectrum – perhaps running between the mud cup at one end and Marcel Duchamp and Conceptual art at the other end. Architecture, Planning and sculpture are on that scale somewhere also – a flat plane divided by many porous borders. We are all essentially artists according to this idea.

This studio mixes disciplines at the scale of the city. We seek new solutions – not to form a Utopia but to survive, develop and understand the mixing of cultures. The intertwining of politics and built form is manifest in the legislation of codes and regulations that essentially write the city and can be understood through its first hand experience. Ultimately cities are written texts. It is up to us to question the existing text and its balances of public and private. We are attempting to add to the text of the city.

We ask all practitioners to bring their existing practise, personal histories and spatial intelligence to a forum in which they will test these skills and devices at the scale of the city. The choice of a direction or focus for these ideas in Cardiff will also be affected by the respective inputs of the tutors, lecturers, reading lists and other information given to provoke a response.

Students are asked initially to speculate about both the scale, content and territory to which they are drawn. They are also asked to express this concept or vision via a physical model, text and spoken explanation to be seen by the entire group. It is within this forum, and after the experience of actually being together and in Cardiff, that they can choose to make groups and begin a journey of mutual enquiry and design.

Here the multi-disciplinary process begins.

In some cases art students will become architects while in others engineers will perhaps sing on street corners or film people in buses.

THE CHIMERICAL MONSTER AND THE VJ SESSION

Most students will have been to a VJ session at some time to dance; films flashing, loud music etc. The VJ session is a relative of the DJ session and provides the controller with the ability to manipulate film images as well as sound in a kaleidoscopic effect. The VJ session works as the precedent for the exhibition we are working toward. The film and sound of the studio will manifest through the students process and not for the end goal of a great party. The exhibition's methodology, involving a collective merging of sound and image and various produced works is the Chimerical Monster that we anticipate for the final exhibition and is akin to the VJ session.

Some points about the Chimerical Monster and the VJ Session:

- The output of this studio will by its nature be diverse. The intensity of our work and play regime all day everyday will breed a type of family form. Participants will absorb ideas and cultural difference by osmosis. This already happens in universities – it is more intense within a non-stop tutorial. The unifying strategy for the studio involves chimerical thinking as well as a production requirement that at least a portion of the student work be produced on film.
- The questions asked by the Chimera are simple. Is there a dialogue happening between the ideas and/or is it possible to manufacture one?
- At the core of art, design and architecture is poetry or more simply put juxtaposition of things. The manipulation of juxtaposing ideas, symbols, colours, cultures, sounds etc. The Surrealists were the first artists to harness the power of random juxtaposition via the acknowledgement of the subconscious mind thanks to thinkers including Freud and games such as the Exquisite Corpse and Automatic Drawing.

The Exquisite Corpse / Chimerical Monster:

- The “Exquisite Corpse” describes the folded paper game of the Surrealists which hides preceding views of an image of the body. Unfolded, all is revealed and a new image of unlikely juxtapositions changes our perceptions of the subject.

- As Michael Sorkin, architect and critic wrote in his book 'The Exquisite Corpse'.
"Never mind that it's the greatest portmanteau metaphor for modern culture ever, demanding that its maddening, slippery concatenation somehow to be read, it's also a perfect image of the city: our greatest, most out-of-control collective artifact".
- From his role as architecture critic for the Village Voice in New York in the 1980s Sorkin has gone on to develop his career as both practitioner and academic to truly test and fracture our understanding of urbanism. His unbuilt projects and strategies of urban intervention and biological reinjection are made even more challenging when read within the driving credo for his book Michael Sorkin Studio Wiggle:
- "Fish are symmetrical but only until they wiggle. Our project is to measure the space between the fish and the wiggle. This is the study of a lifetime".
- This clear description of the age beyond the rectangle and the tyranny of mass production could also be read as a call to arms for all those promoting the next wave of city designers who model data.
- Leaping from this image, like one of the frogs on Sorkin's Wiggle book to the extraordinary oeuvre of Peter Greenaway, painter and filmmaker and his most recent VJ events, we will attempt to frame the studio. A quote from Greenaway's website, describing one of his performances, states:

"As "real time image conductor" he finally freed himself from classic cinematographic linearity. With his outstanding cinematographic eye and energetic approach Greenaway won the respect of fellow VJs worldwide and hereby set the pace in the top level international VJ scene."

Standing before a huge touch screen of films, Greenaway endlessly pulls together juxtapositions of film pieces to be played on huge screens surrounding and intersecting a crowd now immersed in a non-linear film and sound experience. This becomes a three dimensional exquisite corpse.

- We imagine a studio in which many new visions for segments of Cardiff are constructed and then recomposed as a VJ event in which the future exquisite corpse of Cardiff is revealed.
- The process is then applicable as a methodology for future city design studios and urban planning scenarios.
- The randomness of digitally projecting many different impressions and explanations of ideas for different parts of Cardiff may seem too much like a game. However this strategy is very serious. The very nature of a city is both a giant Exquisite Corpse and a chimerical monster.
- The monster sparks the imagination – our most important tool. It suggests new combinations and fleeting solutions which may excite more vigilance within a particular domain. The effects of this event cannot be recorded. Hopefully they will simply continue to work on our subconscious minds.

- The final critique sessions will involve all the output of each group or student. To date our final exhibitions of these outputs to the public have been very successful. However there remains the problem of transportation to other galleries and countries. Through this studio we will experiment with the final travelling show as a series of digital projections of the designs and artwork as a filmic experience.
- The Cardiff Chimera catalogue, which will be published ASAP after the event, will include images of each design in a book. Each design will have at least 4 pages or 2 double spreads within this collection of texts, photos and CDs of the Chimera.

THE TASK AND OUTCOMES

Students entering the studio know the following things:

- The studio is condensed into 2 weeks and will result in an exhibition of their output, a catalogue and a range of new relationships.
- For some it is an integral part of their university design program, while for others it is an elective or forms part of a research or post-graduate stream.
- Students are encouraged to collaborate and that these collaborations will possibly be with people of different cultures and disciplines. In some cases they may not even speak the same language with fluency.
- Students should be aware that the problems related to the future of Cardiff's urban infrastructure cannot be solved by their designs within such a short timeframe. However many will have fresh eyes and perspectives. Others are ready to test their views against these perspectives or wish to have their eyes opened again.
- During the previous studio in Edinburgh and Glasgow we used the text "Shifts Projections into the Future of the Central Belt", commissioned by The Lighthouse in Glasgow, as a foundation briefing document. This collection of four central strategies to solve the problem of resolving the connections between Glasgow and Edinburgh, forms a great example of the power of such studios to excite debate and find a clear focus. For example the strategy GRAS M-8 Park Urban (From Shifts) speculates about the use of the poorly used M 8 connection between the two cities as an urban park structure. In contrast Cadell 2, the Counter Tectonic strategy, stitches the linear urban connections between the centres with parks described as interruptions, which follow existing fault lines in the real landscape. These and other ideas could form an armature for both the students work and future planning authorities. We live in an age of subverted Master plans and the failure of Urban Planning subject to the pressures of politics and poor education. Within this climate it is important that collaborative studios speak to the profession and the public in languages clear enough and exciting enough to inform the ignorance of local government.
- At best, students will learn new methods and approaches to design and or art practice by absorbing the differences they see and perceive.

- Students are entering this studio with a particular spatial intelligence and cultural identity. They are bringing these ingredients to another place with its own distinct culture and identity. They will not be asked to discard these qualities. Indeed they are being asked to test these qualities and share the translation. How does a student from Shanghai see the traffic problems in Cardiff?
- Each student is asked to accept that the 6 small zones which we have divided Cardiff into summarise both the urban conditions and problems of Cardiff and other similar small cities dotted around the coast of not only the UK but also many part of Europe.
- Each student is asked to carry out fundamental research into the history of Cardiff, its geography and statistics before arriving at the studio. Overseas students are advised to use Google earth as an entry point to their studies. All students will be required to read the core texts as listed.
- Within the first few days of site visits, lectures and private research students will be asked to prepare a presentation of the idea for both a direction and brief addressing one of the areas in question or part of it as a site. This first presentation will include a physical model, drawings, performance or digital display which captures the essence of this idea. The studio at this point encourages the use of metaphor, naming, and philosophical background as implicit tools. The research necessary to reach this point need only be cited rather than explained. We want clearly articulated ideas presented in 2 minutes each. This will still take around 2 hours to complete but forms our first total studio discussion. Again feedback and discussion will be reserved for studio tuition and student interaction. Only during the final design crits on the second Friday will we have time for total studio discussion of all final design directions. This will be made possible by the formation of groups – greatly reducing the number of ideas to be presented.
- Due to this endless tutorial culture the final crits on the last day of the studio before our Chimera Event will be more a chance for everyone to witness all the schemes finalised than a presentation.
- During the production and development of the designs/artworks/installations/texts students will be combining a myriad of technologies, software, mediums etc. It is up to them in consultation with the tutors to decide on the outputs. The only disciplines imposed relate to the outcomes. Each person or group will be responsible for a 3 minute digital film version of the strategy and produce the appropriate material to convey their response. Each person or group will store core evidence of their research including texts, photography and films. Each student or group will write a text of no more than 1000 words to describe to idea. Everybody will be required to have worked with physical as well as data models where appropriate. Tutors will collect this material for the future catalogue and the final Cardiff Chimera event.

APPROACH TO CARDIFF

Cardiff has been divided into 6 parts by John Punter which will form the focus of our enquiry. These areas are to be accompanied by text from John Punter – summarising their main characteristics and their relationship to the city and its future planning.

- 1 Butetown/Hamadryad
- 2 Atlantic Wharf/Roath B.
- 3 City Centre
- 4 City Road/Howard Gns
- 5 Sports Village/Ikea
- 6 Callaghan Square corridor
(to be expanded)

METHODOLOGY

Tuition

The studio body is 60 students minimum. Four senior tutors including Richard Goodwin and Emma Price from Australia will be in full attendance and available everyday for consultation. John Punter and his associate from Cardiff will be also be full time tutors however, may need at times to attend other official duties briefly. There will be a number of assisting part-time tutors that are yet to be announced.

Within such an open program the direction of these tutors to the students will continually calibrate the outcome expectations of the individual students or student groups. This is one of the reasons why a formulated material and content outcome is not prescribed within this outline.

The students are there to write their own briefs and, with the assistance of the tutors, formulate an appropriate outcome to the problem implied in the name *CARDIFF CHIMERA*²⁰²⁰. This production, together with the condensed nature of the event, forms a combination with all participants to make the Chimera. The Chimera has a voice as the relationships forged by the event have voices.

The students will be introduced to their tutors during the inception of the program and advised to have conversations with all the tutors as they progress their ideas and that their responses will have to mediate between the different approaches. Tutors in turn are advised not to demand the abandonment of a differing philosophy or approach but instead to encourage the students to way the balance and make up their own minds.

In all cases it is the responsibility of the student to justify his/her response and to frame this strategy in ways which show an understanding of both the philosophical/historic lineage their idea and why they now have permission to think and act in such a way.

Supplementary tuition will be greatly appreciated – especially within disciplines and territories embraced by the studio and outside the expertise of the core tutors. For example in film-making or public art policies and implementation within Cardiff or the Architecture of Cardiff etc.

The tutors and their assistants will also be responsible for the continual collection and collation of student material as the studio progresses. For example, we find that students collect valuable sets of photographs and data, films and other records which will form a valuable layer of information for the future catalogue process.

In the main students are responsible for the presentation of their final designs and installations. All information is to be collected and stored within the data storage and computers of Richard Goodwin and Emma Price.

READING LIST

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PARTICULAR READINGS

It is important to note Mark Wigley's text, *Constant's New Babylon: The Hyper-Architecture of Desire* as the seminal text for the direction of the studio. This text and the others listed and supplied do not refer specifically to urban planning nor to Cardiff. They do however bring into question notions about "nature" and "man made environments" in a time when our very survival is under question. We have become a living laboratory as Latour suggests. So let's start experimenting.

“Atmosphère, Atmosphère” by Bruno Latour

An entry for the catalogue of Olaf Eliasson **The Weather Project**, New Tate Gallery, 2003, pp.29-41

In a legendary scene from Marcel Carné's *Hôtel du Nord* (1938), the beautiful actress Arletty mocks the odd vocabulary of Louis Jouvet, Monsieur Edmond, her unwanted suitor, exclaiming in her husky working-class Parisian: 'Atmosphère, atmosphère, est-ce que j'ai une gueule d'atmosphère?' ('Atmosphere, atmosphere, do I look like someone with atmosphere?'). A word that sounded pompous in the 1930s has now become commonplace, perhaps reflecting a universal condition. Indeed, in a series of daring books, the German philosopher Peter Sloterdijk has recently gone so far as to take anew approach to philosophy by stressing the importance of atmospheric conditions on our lives. In what amounts to a sort of expanded meteorology he argues that philosophers have been far too obsessed with objects and subjects, and not enough with air conditioning. Envelopes, spheres, skins, ambiances: these are the real 'conditions of possibility' that philosophy has vainly attempted to dig out of totally inaccessible infrastructures.

What Sloterdijk does in philosophy, Olafur Eliasson does in his art. In both cases, the tired old divisions between wild and domesticated, private and public, technical and organic, are simply ignored, replaced by a set of experimentations on the conditions that nurture our collective lives. Seen through this approach, climate control is not inspired by a mad ambition for total mastery of the elements, but by a reasonable wish to ascertain what sort of breathing space is most conducive to civilised life. The most important question is, how are we going to survive? In what sort of interior milieu should we be insulated? Since the sciences have expanded to such an extent that they have transformed the whole world into a laboratory, artists have perforce become white coats amongst other white coats: namely, all of us. We are all engaged in the same collective experiments. Both Sloterdijk and Eliasson are exploring new ways of escaping the narrow constraints of modernism. They benefit from the rich humus provided by the sciences, but they turn scientific results upside down, not to tell a great narrative of progress, but simply to explore the nature of the atmospheres in which we are all collectively attempting to survive.

Laboratories inside out: The World Wide Lab

That we are all engaged in a set of collective experiments that have over-spilled the strict confines of the laboratory needs no more proof than reading the newspaper or watching the television news. This year, it was the SARS epidemic that highlighted commercial, social, legal and medical relationships all over the world. Last year, in Spain, thousands of volunteers and specialists tried to fight yet another oil spill, this time from the sunken hull of the *Prestige*. Two years ago, thousands of officials, policemen, veterinarians, farmers, custom officers, firemen, struggled throughout Europe against the foot-and-mouth virus that was devastating the British countryside. There is nothing new in this, of course, since the concept of 'public health' was invented two centuries ago to pre-empt the spread of infectious diseases by means of quarantine and, later, disinfection and vaccination. But all these crises were the unwanted consequences of decisions to experiment on a very large scale: on food production in China, oil transport in Europe, non-vaccinated livestock in Great Britain. All are clear cases of what Ulrich Beck has called 'manufactured risks'.

By mentioning these cases I am not being indignant. I am not claiming that we should have checked food sources in China, banned single-hull oil tankers, or vaccinated livestock. I am not even saying it is a scandal that economic interests have taken precedence over public health. My point is different: a collective experiment in which farmers, consumers, cows, sheep, pigs, veterinarians, virologists are mutually engaged is underway. The question then is, has it been a well-designed experiment or not?

It is as if, following on from the science age, we have entered the experimental age. We have shifted from science and its modernist dream of total control to research without ever putting the original dream of control into doubt, even though its unwanted consequences are evident. The problem is that while we know how to conduct a scientific experiment in the narrow confines of a laboratory, we have no idea how to pursue collective experiments in the confusing atmosphere of a whole culture.

In times past, a scientist or a philosopher of science worked in a closed site, the laboratory, where a small group of specialised experts scaled down (or scaled up) phenomena that they could repeat at will through simulations or modelling before presenting their results. Then, and only then, could they be diffused, applied, or tried out in the public sphere. We recognise here the 'trickling down' theory of scientific influence: from a confined centre of rational enlightenment, knowledge emerged and then slowly spread out to the rest of society. The public could choose to find out the results of the laboratory tests or remain indifferent to them, but it certainly could not add to them, dispute them, far less contribute to their elaboration. Science was an activity carried out inside the walls of the laboratory. Experiments were undergone by animals, materials, figures and software. Outside the laboratory was the realm of experience – not experiment.

It would be an understatement to say that absolutely nothing has been left of this trickling down model of scientific production. The laboratory has extended its walls to the whole planet. Instruments are everywhere. Houses, factories, hospitals have become so many subsidiaries of the laboratories. Think, for instance, of the satellite network Global Positioning System (GPS), with which geologists and naturalists can now take measurements with the same range of precision outside and inside their laboratories. Think of the monitoring systems for fish quotas, for volcanoes, for glaciers: everywhere, instruments criss-cross the 'outside world' as if it were made of graph paper. Think of the new requirements for traceability, quality control and standardisation, which are as stringent outside factories as inside them. The difference between natural history – outdoor science – and lab science has slowly been eroded; so much so that it is now possible, through 3-D equipment, to organise 'field trips' inside datascares projected onto a screen in conference rooms. Soldiers in the recent war with Iraq, with one eye on the actual battlefield and the other on the 'digital battle field', must have found it difficult to detect the difference between the inside and the outside of the command-and-control war rooms.

Of course, nothing is more 'global' than global warming, which seems to be eroding the very planet from the outside. The key question of global warming demonstrates the fact that experiments are now taking place on a life-size scale and in real time. To be sure, many simulations and complex models are being tried out on huge computers, but the real experiment is happening to us, through the action of each of us, with all the oceans, high atmosphere and even the Gulf Stream – as some oceanographers argue – participating. The only way to find out if global warming is indeed due to anthropic activity is to see what happens if we try to eliminate noxious emissions. This is indeed an experiment in which we are all involved.

What is the difference between this collective experiment and what used to be called a 'political' issue? Nothing. And this is precisely the point. The sharp distinction between, on the one hand, scientific laboratories experimenting on theories and phenomena inside their walls, and, on the other, a political outside where non-experts get by with human values, opinions and passions, is simply evaporating before our eyes. These experiments made on us, by us and for us have no protocol. No one is in charge. No one is explicitly given the responsibility for monitoring them. Who has the last word, the power to decide for all of us? This is why a new definition of sovereignty is being called for.

When I say that the distinction between the inside and outside of the laboratory has disappeared, however, I am not saying that from now on everything is political. I am simply saying that contemporary scientific controversies are designing what Arie Rip and Michel Callon have called 'hybrid forums'. There used to be two types of representation: the representation of things in nature – and here the word 'representation' signifies accuracy, precision and reference – and the representation of people in society – where it means faithfulness, election, confidence, obedience. A simple way to characterise our times is to say that the two meanings of representation have now merged into one, around the notion of spokespersons offering clearly staged demonstrations to prove the existence of some new entity that becomes the object of collective concern.

The global-warming controversy is just one of those many new hybrid forums. Around the table, some people are spokespersons for high atmosphere, some represent the many lobbies for oil and gas, others speak for non-governmental organisations, while some still represent, in the classical sense, their electors. The sharp difference that seemed so important between those who represent things and those who represent people has simply vanished. What counts is that all these spokespersons are in the same room, engaged in the same collective experiment, in an imbroglio of people and things. This does not mean that

everything is political, but that a new politics certainly has to be devised, as Peter Sloterdijk has so forcefully argued in his vertiginous text *Regeln für den Menschenpark* (Rules for the Human Park).

One way to summarize this argument is to remind oneself that in both Old English and Old German the word 'thing' meant a case, a controversy, a cause to be collectively decided at the 'Thing', the assembly or forum. In other words, it referred to what was inside the human realm, as opposed to outside it. It is no coincidence that Eliasson is a son of Iceland, whose Parliament, the most ancient of Europe, is called the Althing and its members Althingmen. As an Icelander he knows quite well that all 'things' —matters of concern— begin an end in the Althing. One can say that things have become 'things' again: Ein Ding ist Ein Thing. If one looks at the scientific as well as in the lay press, there is hardly a thing that has not also become, through litigation or protestation, also a case, une affaire as we would say in French, res in Latin, aitia in Greek. Hence the expression I have chosen for this new politics: the Parliament of Things.

Let us dwell for a moment on this major transformation. It is one of the most tragic intellectual failures of our age that the best minds, the highest moral authorities we possess, dream only of one thing: 'If only', they say, 'we could control science, separate it entirely from the realm of human values, keep humanity safely protected from the encroachment of instrumental rationality, then we could live better lives.' John Rawls, for instance, invites us to judge about values hidden behind a 'veil of ignorance' while Jurgen Habermas would like us to put aside 'objectification' and 'reification' so as to deliberate more freely. They want to keep science and technology as distinct as possible from the search for values, meaning and ultimate goals! Is this not a tragedy if, as I have argued, the present trend is leading precisely in the opposite direction, so that the most urgent concern for us today is to make sure that we fuse together humans and non-humans in the same hybrid forums so as to inaugurate, as fast as possible, this Parliament of Things? When all our energy should be directed to this task, our best minds are dreaming, on the contrary, of an even sharper division that would render us even more inhuman than we are now, deprived of our very conditions of humanness: the things, the controversial states of affairs to which we are attached and without which we would die on the spot. Humanists of many hues and shades are scoring own goals, shooting themselves in the foot, wishing for what would be, if realised, the darkest of all nightmares.

The tragedy is compounded, when we see, on the other hand, numerous mad scientists who are still imagining the possibility of 'naturalising' the whole of social life and collective existence by taking it not as a controversial collective experiment but as a concatenation of incontrovertible causalities that are known only to them. Richard Dawkins still dream of limiting our bodies to our genes as much as Steven Pinker dreams of reducing our words to our brain. In their hands, those interesting cases, those beautiful controversies in search of a forum, are no longer what I would like to call matters of concern, but have become boring, cold matters of fact, stripped of every one of the ingredients necessary to make them scientific: researchers, instruments, theories, hesitations, history and collective experiments in which the scientists play a role among many others. From now on, I will use these contrasting terms: the modernist 'matters of fact' – invented for political reasons in the seventeenth century – and the non-modern 'matters of concern' in which we are now entangled.

As an example we could take the 'discourse of gene action', as Evelyn Fox-Keller calls it. How ridiculous it would be to try to keep a genetic interpretation of human behaviour as remote as possible from a moral, symbolic or phenomenological one, since genetics itself, as a science, is one of those hybrid forums torn apart by many fascinating controversies. The distance between Richard Dawkins' genetic theories and those of Richard Lewontin, for instance, is much greater than that between the whole field of genetics and, let's say, Jurgen Habermas' or Paul Ricoeur's view of humanity. This is what has changed so much: there are still people who oppose the notion of splitting science and humanity into 'two cultures', but their efforts have now moved inside the sciences themselves, which, in the meantime, have expanded to cover the whole of culture and politics. The new political, moral, ethical, artistic fault lines are now inside the sciences and technology, but to say 'inside' no longer means anything since it is also everywhere in the collective experiments in which we are all involved. If nothing is left of the trickling down model of science production, nothing is left of the two-culture argument either, even though our best minds still dream of keeping scientific facts and human values apart, or – even stranger – expect to 'build a bridge' between the two domains as if they were not totally entangled. Perhaps it is less a tragedy than a farce.

However, the fact that we cannot count on the help of moralists does not mean that we have

to shy away from our collective task of reinventing politics for things or that we have to become immoral or cynical. It just means that there is some controversy about the interpretation of the present time – and we know from history how difficult it is for thinkers to interpret what the present signifies. This is why we should devise a test to measure our bearings accurately.

Those who dream of separating facts and values believe that an arrow of time, a thrust forward, clearly distinguishes the past from the future. 'Yesterday', they say, 'we were still mixing things up – ends and means, science and ideology, things and people – but tomorrow we will separate facts and values even more sharply. We will no longer confuse the way the world really is with the way it should be. Others in the past created this confusion; we won't do it in the future.' Take the test, make the experiment, ask yourself if you sense this trajectory of the arrow of time. If so, you're a modernist. There's nothing wrong with that; you're in good company. If you hesitate, even a tiny bit, you're a postmodernist. But if, in the depths of your heart you're convinced that, whereas yesterday things were a bit confused and entangled, tomorrow facts and values, humans and non-humans, will be even more entangled, then you've stopped being modern altogether. You've entered a different world or, more precisely, you've ceased to believe that you're in a different world from the rest of humanity. You've finally discovered that when you mocked people from ages past or other cultures because, like my Celtic ancestors, they naively believed that the sky could fall on their heads, they did not mean this literally, since you too are concerned that the sky might fall on your head, in the form, for instance, of global warming. And if it is not a true belief for you, it means it was not a belief for 'them' either. Thus, there's no 'them' left. You've shifted out of the old state of anthropology as well as out of the former state of modernist history.

The lives of the ancients might have been entangled, but ours are even more so and on a much wider scale, with many more entities and agencies to take into account. If there's one thing we don't believe in any more it's the possibility of being emancipated, freed from all attachments, blissfully unaware of the consequences of our actions. End of modernist parenthesis; beginning of (or return to) what? The second modernity? 'Reflexive modernisation' as Ulrich Beck has proposed? The non modern? Why not 'terrestrial', 'mortal', 'anthropological', 'ordinary'? Yes, 'ordinary': that's the word I prefer. By ceasing to be modern, we have become ordinary humans again.

But in what way could having ceased to be modern possibly help us in carrying out our politics of controversial matters of concern, in inaugurating this Parliament of Things, the rules of which have to be written, the protocol book established? How would it make it easier to define the new sovereign?

Let me try to answer this with a simple but telling example. Monsieur Chirac, my President, decided four years ago to put an end to the violent controversy over mad-cow disease and the use of powder made out of crushed bones to feed livestock, stating that, from now on: 'Herbivores are herbivores are herbivores.' This statement is not as stupidly tautological as it sounds. Although at first sight it seems a truism, a fact of nature, it is in effect a strongly political statement, since Monsieur Chirac has taken a stand in the controversial matter of mad-cow disease and decided, yes decided, something that before would have been considered a matter of fact: 'Herbivores are herbivores and should remain so.'

Let us be careful here: when uttering this sentence, the President is not invoking Mother Nature's wisdom, forbidding man to break her limits. Chirac has a fully modernist mind (one of the few left), is a famous beef-eater, and I'm sure he doesn't give a hoot for the sacred limits of Nature. No, Monsieur Chirac is drawing what I will call, after John Tresch, a 'cosmogram'. He is deciding in which world he wishes the French to live: after the catastrophic collective experiment of mad-cow disease a cosmos is redesigned in which herbivores become herbivores again and for good – or at least until another cosmogram is designed.

What is a cosmos? As we know from the Greek and from the word 'cosmetic' it means a beautiful arrangement, the opposite being a kakosmos, a horrible shambles as Plato calls it. Once we've taken for granted that there exists only one cosmos, known by a unified science and simplified as one nature, politics – if I'm right in my interpretation of the present – no longer resides in defining what human values should be, but in drawing, deciding, proposing a cosmogram, a certain distribution of roles, functions, agencies to humans and non-humans. When uttering his sentence that looks like a factual statement Monsieur Chirac is in effect defining at once a type of landscape for the Corrèze region in which he lives, a role model for cattle-raisers, a type of industry, an agro-industrial model, a pattern for consumer taste, and probably also a European Union subsidy policy.

But is this not the way political claims have always been formulated? There is nothing new in these cosmograms since politics has never been simply about human values, but also about infrastructure, city planning, boundaries, landscape, ways of life, industry, economy and so on. Telling proof of this is in the beautiful fresco by Ambrogio Lorenzetti, the famous allegory of good and bad government in Siena City Hall. This painting does not only contrast good and wicked people but, above all, harmonious and destroyed landscapes, handsome and ugly dwellings, affluent and destitute economies. Things are everywhere mixed with people; they always have been.

There is, however, a huge difference in the way political claims can now be articulated around cosmograms and the way they were authorised before. 'The Great Pan is dead', Nature has disappeared, and so have the 'experts' mediating between the production of science and the desire or wishes of society. By 'Nature' I mean this unified cosmos that could shortcut political due process by defining once and for all which world we all have to live in. Nature, contrary to superficial impression, is not an object out there, but above all a political animal: it is the way we used to define the world we have in common, the obvious existence we share, the sphere to which we all equally pertain. In addition to Nature, we used to say, there exists what divides us, what makes us enemies, what scatters us around in a maelstrom of controversies: namely passions, subjectivities, cultures, religions, tastes ... Nature unifies in advance and without discussion or negotiation; cultures divide. 'If only', the modernist dreams, 'we could all be children of nature, forget about our cultural, subjective, ideological and religious divisions, we would all be unified again, we would all zoom in on the same solution.' More nature, hence more unity; more cultures, hence more divisions.

We know from the Bible that ever since God destroyed the Tower of Babel people have been scattered around the world, prisoners of their differing dialects and of their incommensurable cultural biases. But no one has yet told the terrifying story of the fall of the second Tower of Babel, when Nature herself, in a mutually induced crisis that should have made all of the people of the world agree again, has been destroyed under the weight of its own ambition, and lies everywhere in ruins. To the multiculturalism born in the aftermath of the first Babel, one should now add the many tribes of multinaturalism born in the wreck of the second. The whole political energy of nature depended on its being one and unified, and indisputably so: 'herbivores are herbivores'. But what can you do with multiple natures? This is, by the way, the trap into which political ecology has fallen. Nature cannot be used to renew politics, since it is the oldest means devised to block politics and to make it impossible to compose the cosmos since the job is already done. The weakness of ecological movements everywhere has no greater cause than this use of nature, which poisons their good will and thwarts their activism. It is their mono-naturalism that renders them unable to monitor the collective experiments regarding the many natures that need to be progressively assembled. They might expand to renew politics, but only when they're ready to swallow not only multiculturalism but also multinaturalism.

In case the first trial was inconclusive, here's another test to decide for yourselves if you're modernist, postmodernist or ordinary mortals. Do you believe that the second Tower of Babel can reach Heaven and that the whole planet, having been fully naturalised, will then agree rationally on all the important issues, with the little divisions that remain being due only to subjective opinions and leftover passions? A simple, sharp, but very discriminating test: do you associate Nature with a unification already completed, or with even more divisions in great need of a unification to be completed in the future?

It is my feeling that we now live in the ruins of Nature – in all the senses of this expression – and also more and more in the ruins of those sciences, so prolific in the last century, that dreamed of prematurely unifying the cosmos without taking the trouble of putting into practice what Isabelle Stengers has called 'cosmopolitics'. By borrowing this venerable word from the Stoics, she does not only mean that we should be attuned to the many qualities of multiculturalism and internationalism, but to the many worries of multinaturalism as well. The whole civilisation that has been devised under the heading of 'Cosmopolitism', because it was obvious that we all shared one nature, and especially one human nature, has to be reinvented, this time with the terrible added difficulty that there are many competing natures and that they have to be unified through due process – an agonisingly slow endeavour. The common world is not behind us as a solid and indisputable ground for agreement, but before us as a risky and highly disputable goal that remains very far in the future.

Some people, especially scientists and philosophers of science, have of late been terrified on hearing the second Tower of Babel begin to crumble. Irritated by the realisation that nature can no longer unify nor reconcile, that the new sciences are not dampening the fires of passion but fuelling them, they are turning against other philosophers, 'postmodern' thinkers, science students and anthropologists of various hues. Even philosophers of science like me have been accused of being responsible for the destruction of the second Tower, as if we were strong enough to behave like Samson and bring down the pillars of established nature upon our own heads! No, we are not that strong; we don't have this power, and we have no taste for heroic suicide. As for the Tower, it was never that stable anyway; if it has crumbled it is under the weight of its own ambition. By expanding everywhere to cover the whole of human experience it has lost its immunity, its unity, its privilege. It has become the common cause, and thus fully entered the realm of politics. Here, matters of fact have become matters of concern.

When pacing among those ruins, there is nothing to be sad or nostalgic about, since one of the many things that has made politics so weak in the past, in the European tradition at least, has been this absolute distinction between, on the one hand, the sovereignty of nature, and on the other the pathetic efforts of naked humans to put an end to their passions and divisive opinions. As long as the two Towers were not smashed to the ground at the same time it remained difficult to begin again and to define politics as what I call the 'progressive composition of the common world'. As long as one of them remained standing, it was impossible to secularise politics. You always had to defend hybrid forums against people, coming from the ranks of the social or natural sciences, who claimed that elsewhere, outside, in another place, existed a pure and perfect 'assembly' in the midst of which agreement could be obtained by 'simply' behaving rationally and by gathering people, in a reasonable manner, around 'indisputable matters of fact'. This miraculous recipe was enough to disqualify by contrast all other attempts to reach an agreement. As long as this phantom forum existed, all the others were deemed inefficient, irrational and impure.

Although, at first, it sounds like a negative step, it is a huge advantage for the monitoring of the collective experiment not to be threatened again by the promise of salvation through any science – neither physics, nor biology, nor sociology, nor economics, nor even procedural rationality. Now at least, there is no other alternative. We have already embarked. We cannot hope for the transcendence of nature, for the transcendence of rationality to come and save us. If we don't discover the ways through which the world can be made common, there will be no common world to share. It's as simple as that, and nature will no longer be sufficient to unify us, in spite of ourselves. To sum up, one could say that when Galileo modified the classical trope of the 'Book of Nature', adding that it 'was written in mathematical characters', little could he have anticipated that we would now have to say that the 'Book of Nature' is in fact a protocol book, a huge and complex ledger that should be written in a mixture of legal, moral, political and mathematical hieroglyphs. It is still a book, but how differently it reads ... What Sloterdijk, in meteorological philosophy, and Eliasson, in meteorological art, try to do, is to explore what could be called a completely new form of idealism. Idealism used to entertain the rather silly notion that the whole outside world exists only inside the mind, thus elevated to the level of an omnipotent demiurge. Idealists were wrong about the mind's power, of course, but they were right about one thing: interesting things happen inside not outside. Because of the simultaneous extension of science and the ever increasing entanglement of human activities with things, there is no longer any outside. The remaining inside is to be explored in great detail and with great caution because it is neither a mind nor an 'outside world' as the tired old modernist argument would have it, but rather a delicate sphere of climate control. What Sloterdijk and Eliasson help us all to discover is that even politics needs air conditioning. There is a great charm and more than a slight dose of irony in attempting such a demonstration in the empty space left by the ruined Turbine Hall – the hall of machines – at Tate Modern. Or should that be Tate non modern?

Footnotes:

Peter Sloterdijk, *Spheren I, II and III*, publisher, city date?. See for instance, this quote from the introduction to *Spheren III*: 'L'étude entreprise dans ce troisième volume reprend le fil au point où le travail de deuil sur la métaphysique impossible de l'Un est arrivé à son terme. Son point de départ, c'est la supposition du fait que la cause de la vie n'a été en de bonnes mains ni avec les religions traditionnelles, ni avec les métaphysiciens. Si la chose est exacte, il

faudrait entièrement repenser la relation entre le savoir et la vie. La philosophie, en tant que forme de pensée et de vie de l'ancienne Europe, est épuisée ; la biosophie a à peine commencé ; la théorie des atmosphères se consolide tout juste et laborieusement ; la Théorie Générale des systèmes immunitaires et des systèmes communs en est à ses débuts.'.

English translation needed.

Ulrich Beck, *Risk Society. Towards a New Modernity*, Sage, London, 1992.

See 'Theatre of the Proof', in the catalogue *Laboratorium*, Antwerp, 1999 (exhibition [at what venue?] curated by Hans Ulrich Obrist and Barbara Vanderlinden).

See Peter Dear, *Experiment As Metaphor In The Seventeenth Century*, publisher, city?, 1990, pp. 1–26; Peter Dear, *Discipline and Experience: The Mathematical Way in the Scientific Revolution*, University of Chicago Press, Chicago, 1995; Christian Licoppe, *La formation de la pratique scientifique. Le discours de l'expérience en France et en Angleterre (1630-1820)*, La Découverte, Paris, 1996.

See W.S. Broecker, *Science*, no. 278, pp. 1582–8

Michel Callon and Arie Rip, 'Forums hybrides et négociations des normes socio-techniques dans le domaine de l'environnement', in *Environnement, Science et Politique, Cahiers du GERMES*, no. 13, 1991, pp. 227–38.

Peter Sloterdijk, *Régles pour le parc humain, Mille et une nuits*, Paris, 2000.

See Y.[full name?] Thomas, 'Res, chose et patrimoine (note sur le rapport sujet-objet en droit romain)', *Archives de philosophie du droit*, no. 25, 1980, pp. 413–26. He argues that the course of history is exactly the opposite of what Martin Heidegger suggested – that all *Gegenstand* have now become *Ding* – in *What is a Thing?*, translated by W.B. Barton, Jr, and Vera Deutsch, with an analysis by Eugene T. Gendlin, publisher?, Chicago, 1968.

See Bruno Latour, *We Have Never Been Modern*, Harvard University Press, Cambridge, Mass., 1993, and its elaboration in *Politics of Nature* (to be published by Harvard University Press in spring 2004, English translation by Cathy Porter).

For a very early example [of what?] see Ludwig Fleck, *Genesis and Development of a Scientific Fact*, The University of Chicago Press, Chicago, 1935, and for a more recent case, Hans-Jorg Rheinberger, *Toward a History of Epistemic Thing. Synthetizing Proteins in the Test Tube*, Stanford University Press, Stanford, 1997. Matters of concern are what matters of fact become once you add to 'factuality' all that these authors deem necessary for the existence and sustenance of facts.

This difference is also a way of reminding ourselves that it is not a question of being anti-empiricist but of respecting in the empirical setting a much more complex situation than the one staged by the seventeenth-century philosophers. See Mary Poovey, *History of the Modern Fact. Problems of Knowledge in the Sciences of Wealth and Society*, Chicago University Press, Chicago, 1999.

Evelyn Fox-Keller, *The Century of the Gene*, Harvard University Press, Cambridge, 2000.

Richard Lewontin, *The Triple Helix. Gene, Organism and Environment*, Harvard University Press, Cambridge, Mass., 2000, for example. Equally distant from Dawkins' views are those of the biologists Jean-Jacques Kupiec and Pierre Sonigo, who have published in French a fabulous book with the fiery title *Ni Dieu ni gène* (Neither God nor gene), *Le Seuil-Collection Science ouverte*, Paris, 2000. They see the whole idea of the gene as information carrier as a mere theological fiction.

'Belief in belief' was the object of a systematic enquiry made by an exhibition held at ZKM, Karlsruhe, Germany, 2002. See the catalogue Bruno Latour and Peter Weibel (eds), *Iconoclasm. Beyond the Image Wars in Science, Religion and Art*, MIT Press, Cambridge, Mass., 2002.

Ulrich Beck, A. Giddens, et al., *Reflexive Modernization. Politics, Tradition and Aesthetics in the Modern Social Order*, Stanford University Press, Stanford, 1994.

John Tresch, 'Mechanical Romanticism: Engineers of the Artificial Paradise', PhD Thesis, Department of History and Philosophy of Science, University of Cambridge, 2001.

See the excellent chapter on this by Quentin Skinner in *Ambrogio Lorenzetti: the artist as political philosopher*, Cambridge University Press, Cambridge.

For a more complete argument see Bruno Latour, *War of the Worlds: What about Peace?*, Prickly Press Pamphlet, Chicago University Press, Chicago, 2002, and especially Bruno Latour, *Politiques de la nature. Comment faire entrer les sciences en démocratie*, La Découverte, Paris, 1999 (to be published by Harvard University Press, English translation by Catherine Porter, in 2004).

Isabelle Stengers, *Cosmopolitiques - Tome 1: la guerre des sciences*, La découverte & Les

Empêcheurs de penser en rond, Paris, 1996.

This is what has been called the 'science wars', supposedly pitting together 'real' scientists and postmodern thinkers indifferent to truth. On this rather obscure affair, see B. Jurdant (ed.), *Impostures intellectuelles. Les malentendus de l'affaire Sokal*, La Découverte, Paris, 1998, 1. [full name?] Hacking, title, publisher, city?, 1999. For an analysis of the philosophical stakes of the debate, see author?, *The Social Construction of What?* Harvard University Press, Cambridge, Mass., date?.

See Latour, *Politiques de la nature*, op. cit.

See the two chapters on Plato's Gorgias in Latour, *Pandora's Hope. Essays on the reality of science studies*, Harvard University Press, Cambridge, Mass, 1999. 'Phantom' is an allusion to W. Lippmann, *The Phantom Public*, Transactions Publishers, New Brunswick, 1993.

Only the absurd theories of science harboured by so many current artists and art critics could explain how the flood of kitschy biotech cyborgian clichés exhibited by artists such as Matthew Barney could pass for great and profound art 'about' biology. Any article in *Nature* or *Science* on DNA, embryos, termites or heart disease would generate ten times more 'art' for a fraction of the expense.

"Postscript on the Societies of Control" **Gilles Deleuze**

Gilles Deleuze, "Postscript on the Societies of Control", from *OCTOBER* 59, Winter 1992, MIT Press, Cambridge, MA, pp. 3-7.

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1. Historical

Foucault located the *disciplinary societies* in the eighteenth and nineteenth centuries; they reach their height at the outset of the twentieth. They initiate the organization of vast spaces of enclosure. The individual never ceases passing from one closed environment to another, each having its own laws: first the family; then the school ("you are no longer in your family"); then the barracks ("you are no longer at school"); then the factory; from time to time the hospital; possibly the prison, the preeminent instance of the enclosed environment. It's the prison that serves as the analogical model: at the sight of some laborers, the heroine of Rossellini's *Europa '51* could exclaim, "I thought I was seeing convicts."

Foucault has brilliantly analyzed the ideal project of these environments of enclosure, particularly visible within the factory: to concentrate; to distribute in space; to order in time; to compose a productive force within the dimension of space-time whose effect will be greater than the sum of its component forces. But what Foucault recognized as well was the transience of this model: it succeeded that of the *societies of sovereignty*, the goal and functions of which were something quite different (to tax rather than to organize production, to rule on death rather than to administer life); the transition took place over time, and Napoleon seemed to effect the large-scale conversion from one society to the other. But in their turn the disciplines underwent a crisis to the benefit of new forces that were gradually instituted and which accelerated after World War II: a disciplinary society was what we already no longer were, what we had ceased to be.

We are in a generalized crisis in relation to all the environments of enclosure--prison, hospital, factory, school, family. The family is an "interior," in crisis like all other interiors--scholarly, professional, etc. The administrations in charge never cease announcing supposedly necessary reforms: to reform schools, to reform industries, hospitals, the armed forces, prisons. But everyone knows that these institutions are finished, whatever the length of their expiration periods. It's only a matter of administering their last rites and of keeping people employed until the installation of the new forces knocking at the door. These are the *societies of control*, which are in the process of replacing disciplinary societies. "Control" is the name Burroughs proposes as a term for the new monster, one that Foucault recognizes as our immediate future. Paul Virilio also is continually analyzing the ultrarapid forms of free-floating control that replaced the old disciplines operating in the time frame of a closed system. There is no need to invoke the extraordinary pharmaceutical productions, the molecular engineering, the genetic manipulations, although these are slated to enter the new process. There is no need to ask which is the toughest regime, for it's within each of them that liberating and enslaving forces confront one another. For example, in the crisis of the hospital as environment of enclosure, neighborhood clinics, hospices, and day care could at first express new freedom, but they could participate as well in mechanisms of control that are equal to the harshest of confinements. There is no need to fear or hope, but only to look for new weapons.

2. Logic

The different internments of spaces of enclosure through which the individual passes are independent variables: each time one is supposed to start from zero, and although a common language for all these places exists, it is *analogical*. On the other hand, the different control mechanisms are inseparable variations, forming a system of variable geometry the language of which is numerical (which doesn't necessarily mean binary). Enclosures are *molds*, distinct castings, but controls are a *modulation*, like a self-deforming cast that will continuously change from one moment to the other, or like a sieve whose mesh will transmute from point to point.

This is obvious in the matter of salaries: the factory was a body that contained its internal forces at the level of equilibrium, the highest possible in terms of production, the lowest possible in terms of wages; but in a society of control, the corporation has replaced the factory, and the corporation is a spirit, a gas. Of course the factory was already familiar with the system of bonuses, but the corporation works more deeply to impose a modulation of each salary, in states of perpetual metastability that operate through challenges, contests, and highly comic group sessions. If the most idiotic television game shows are so successful, it's because they express the corporate situation with great precision. The factory constituted individuals as a single body to the double advantage of the boss who surveyed each element within the mass and the unions who mobilized a mass resistance; but the corporation constantly presents the brashest rivalry as a healthy form of emulation, an excellent motivational force that opposes individuals against one another and runs through each, dividing each within. The modulating principle of "salary according to merit" has not failed to tempt national education itself. Indeed, just as the corporation replaces the factory, *perpetual training* tends to replace the *school*, and continuous control to replace the examination. Which is the surest way of delivering the school over to the corporation.

In the disciplinary societies one was always starting again (from school to the barracks, from the barracks to the factory), while in the societies of control one is never finished with anything--the corporation, the educational system, the armed services being metastable states coexisting in one and the same modulation, like a universal system of deformation. In *The Trial*, Kafka, who had already placed himself at the pivotal point between two types of social formation, described the most fearsome of judicial forms. The *apparent acquittal* of the disciplinary societies (between two incarcerations); and the *limitless postponements* of the societies of control (in continuous variation) are two very different modes of juridical life, and if our law is hesitant, itself in crisis, it's because we are leaving one in order to enter the other. The disciplinary societies have two poles: the signature that designates the *individual*, and the number or administrative numeration that indicates his or her position within a *mass*. This is because the disciplines never saw any incompatibility between these two, and because at the same time power individualizes and masses together, that is, constitutes those over whom it exercises power into a body and molds the individuality of each member of that body. (Foucault saw the origin of this double charge in the pastoral power of the priest--the flock and each of its animals--but civil power moves in turn and by other means to make itself lay "priest.") In the societies of control, on the other hand, what is important is no longer either a signature or a number, but a code: the code is a *password*, while on the other hand disciplinary societies are regulated by *watchwords* (as much from the point of view of integration as from that of resistance). The numerical language of control is made of codes that mark access to information, or reject it. We no longer find ourselves dealing with the mass/individual pair. Individuals have become "*dividuals*," and masses, samples, data, markets, or "*banks*." Perhaps it is money that expresses the distinction between the two societies best, since discipline always referred back to minted money that locks gold as numerical standard, while control relates to floating rates of exchange, modulated according to a rate established by a set of standard currencies. The old monetary mole is the animal of the space of enclosure, but the serpent is that of the societies of control. We have passed from one animal to the other, from the mole to the serpent, in the system under which we live, but also in our manner of living and in our relations with others. The disciplinary man was a discontinuous producer of energy, but the man of control is undulatory, in orbit, in a continuous network. Everywhere *surfing* has already replaced the older *sports*.

Types of machines are easily matched with each type of society--not that machines are determining, but because they express those social forms capable of generating them and

using them. The old societies of sovereignty made use of simple machines--levers, pulleys, clocks; but the recent disciplinary societies equipped themselves with machines involving energy, with the passive danger of entropy and the active danger of sabotage; the societies of control operate with machines of a third type, computers, whose passive danger is jamming and whose active one is piracy or the introduction of viruses. This technological evolution must be, even more profoundly, a mutation of capitalism, an already well-known or familiar mutation that can be summed up as follows: nineteenth-century capitalism is a capitalism of concentration, for production and for property. It therefore erects a factory as a space of enclosure, the capitalist being the owner of the means of production but also, progressively, the owner of other spaces conceived through analogy (the worker's familial house, the school). As for markets, they are conquered sometimes by specialization, sometimes by colonization, sometimes by lowering the costs of production. But in the present situation, capitalism is no longer involved in production, which it often relegates to the Third World, even for the complex forms of textiles, metallurgy, or oil production. It's a capitalism of higher-order production. It no longer buys raw materials and no longer sells the finished products: it buys the finished products or assembles parts. What it wants to sell is services but what it wants to buy is stocks. This is no longer a capitalism for production but for the product, which is to say, for being sold or marketed. Thus is essentially dispersive, and the factory has given way to the corporation. The family, the school, the army, the factory are no longer the distinct analogical spaces that converge towards an owner--state or private power--but coded figures--deformable and transformable--of a single corporation that now has only stockholders. Even art has left the spaces of enclosure in order to enter into the open circuits of the bank. The conquests of the market are made by grabbing control and no longer by disciplinary training, by fixing the exchange rate much more than by lowering costs, by transformation of the product more than by specialization of production. Corruption thereby gains a new power. Marketing has become the center or the "soul" of the corporation. We are taught that corporations have a soul, which is the most terrifying news in the world. The operation of markets is now the instrument of social control and forms the impudent breed of our masters. Control is short-term and of rapid rates of turnover, but also continuous and without limit, while discipline was of long duration, infinite and discontinuous. Man is no longer man enclosed, but man in debt. It is true that capitalism has retained as a constant the extreme poverty of three-quarters of humanity, too poor for debt, too numerous for confinement: control will not only have to deal with erosions of frontiers but with the explosions within shanty towns or ghettos.

3. Program

The conception of a control mechanism, giving the position of any element within an open environment at any given instant (whether animal in a reserve or human in a corporation, as with an electronic collar), is not necessarily one of science fiction. Félix Guattari has imagined a city where one would be able to leave one's apartment, one's street, one's neighborhood, thanks to one's (dividual) electronic card that raises a given barrier; but the card could just as easily be rejected on a given day or between certain hours; what counts is not the barrier but the computer that tracks each person's position--licit or illicit--and effects a universal modulation.

The socio-technological study of the mechanisms of control, grasped at their inception, would have to be categorical and to describe what is already in the process of substitution for the disciplinary sites of enclosure, whose crisis is everywhere proclaimed. It may be that older methods, borrowed from the former societies of sovereignty, will return to the fore, but with the necessary modifications. What counts is that we are at the beginning of something. In the *prison system*: the attempt to find penalties of "substitution," at least for petty crimes, and the use of electronic collars that force the convicted person to stay at home during certain hours. For the *school system*: continuous forms of control, and the effect on the school of perpetual training, the corresponding abandonment of all university research, the introduction of the "corporation" at all levels of schooling. For the *hospital system*: the new medicine "without doctor or patient" that singles out potential sick people and subjects at risk, which in no way attests to individuation--as they say--but substitutes for the individual or numerical body the code of a "dividual" material to be controlled. In the *corporate system*: new ways of handling money, profits, and humans that no longer pass through the old factory form. These are very

small examples, but ones that will allow for better understanding of what is meant by the crisis of the institutions, which is to say, the progressive and dispersed installation of a new system of domination. One of the most important questions will concern the ineptitude of the unions: tied to the whole of their history of struggle against the disciplines or within the spaces of enclosure, will they be able to adapt themselves or will they give way to new forms of resistance against the societies of control? Can we already grasp the rough outlines of the coming forms, capable of threatening the joys of marketing? Many young people strangely boast of being "motivated"; they re-request apprenticeships and permanent training. It's up to them to discover what they're being made to serve, just as their elders discovered, not without difficulty, the telos of the disciplines. The coils of a serpent are even more complex than the burrows of a molehill.

TIMETABLE

Time	Activity and Methodology
Friday 27	
9am – 10am	Introduction and welcome by British Council and City Officials
10am – 11am	Introductory lecture by Richard Goodwin Including full outline of studio and outcomes etc.
11am – 12pm	Intruductory lectures by John Punter and Huw Swaine
12pm – 1pm	Film by Chris Marker
1pm – 2pm	Lunch
2pm – 3pm	Bus and Walking Tour of Cardiff
3pm – 4pm	Group Discussions and meet the Tutors
4pm – 5pm	Look around the University and Studio
5pm – 8pm	Student Pecha Kucha presentations 2 mins each Casual drinks to be arranged
Saturday 28	
10am – 12pm	Greater Cardiff Tour: Garth Hill, Tatts Well, City Centre Detailed explanation of 6 zones for study and Cardiff geography and history.
12pm – 1pm	Lunch
1pm – 5pm	Walk to Bay, WMC, Senedd, CB visitor centre and Bay Model + film.
5pm – 9pm	Group Dinner and drinks, St David's Hotel, Mermaid Quay Endless discussions
Sunday 29	
9am – 7pm	Individual and group roaming + the commencement or continuation of research.
Monday 30	
9am – 12am	Lecture: Cardiff History and Geography + City Centre Strategies The commencement of studio + tuition Students made aware of first presentation deadline between 10am and 12pm on Tuesday 31 – questions answered Students reacquainted with tutors and allowed to claim spaces for the production of models and research. The tutors will circulate while students commence work and initiate discussions with fellow students. Some will elect to visit computer labs, libraries or even

	explore the city. All are encouraged to at least talk to one tutor before lunch.
12pm – 1pm	Lunch
1pm – 6pm	<p>Studio time continues. Students are also encouraged to collect maps and data provided for the studio and to commence drawing, research, model making and site visits as required.</p> <p>At this stage we will suggest appropriate scales for schematic drawing and analysis – perhaps 1:1000 for example.</p> <p>We will also discuss and encourage students to use Google Earth as a tool and to commence dialogue with others within the group via Facebook and direct contact.</p> <p>Data modelling and a range of softwares will also be discussed in relation to a range of types of collected data.</p>
6pm – 8pm	<p>Lectures by Richard Goodwin and John Punter about their practice</p> <p>Followed by dinner and drinks</p>
Tuesday 31	
9am – 1pm	<p>Presentation of initial ideas, conceptual models and drawings</p> <p>Each student will have to complete this presentation in 2 minutes.</p> <p>This event is critical to the studio. It represents an opportunity to choose a group or possible partner for your project. In some cases it may involve discarding your own direction for one more favoured. In other circumstances you may see the opportunity for a new synthesis. In other circumstances you may simply be intrigued to experiment with someone whose practice is from a different culture or discipline. The following lunch, afternoon and evening will be an important opportunity to make contact. However it will not be the last chance.</p>
1pm – 2pm	Lunch
2pm – 3pm	Lecture: Film theory/ technology. Further provocation to imagine the final result and to think filmically. Huw
2pm – 6pm	Studio time, Group formations, tuition, research, site visits
6pm – 8pm	<p>Evening lectures by – to be filled</p> <p>Followed by dinner and drinks.</p>

Wednesday 1

9am – 12pm

Studio time with tuition

Groups should now be established

Discussions about the outcomes for the next major presentation

Friday 3

These presentations will finalise the design directions.

Groups are encouraged to conceptualise as a group but to delegate tasks for specific output. Planners need to have a program for the collection of drawings and 3D data within the computer to a larger scale – 1:500 and be discussing the compilation of more complex data within different parameters which have been set by their conceptual process. For instance they may choose to model immaterial data as well. This must run parallel to the use of models and or film. For others it will be impossible to predict. Hence the continual conversation with the tutors – who are now becoming collaborators as well.

12pm – 1pm

Lunch

1pm – 6pm

Studio

6pm – 8pm

Lecture: Emma Price / Public Art Guy from Cardiff

Followed by dinner and drinks.

Thursday 2

9am – 12pm

Studio

12pm – 1pm

Lunch

1pm – 6pm

Studio

6pm – 8pm

Lecture: Russell Lowe / Cardiff lecturer

Followed by dinner and drinks.

Friday 3

9am – 1pm

Concept Presentations and critiques

1pm – 2pm

Lunch

1pm – 2pm

Round table discussions of critiques in 4 groups

2pm – 6pm

Studio

6pm – 7pm

Cardiff students to show visitors the town

Saturday 4 – Sunday 5

Free Weekend. Students to decide on travel, break or continued work

Monday 6

9am – 12pm	Studio
12pm – 1pm	Lunch
1pm – 6pm	Studio
6pm – 7pm	Panel discussion by local practitioners about Cardiff's future etc

Tuesday 7

9am – 10am	Progress lecture shared by Richard Goodwin, John Punter and Huw Swaine + open debate
10am – 12pm	Studio
12pm – 1pm	Lunch
1pm – 6pm	Studio

Wednesday 8

9am – 7pm	Studio – Final production and film editing for Chimera.
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Thursday 9

9am – 12pm	Final Presentations – no critique. All students to participate in witnessing the complete body of work of the studio.
12pm – 1pm	Lunch
1pm – 5pm	The set-up of the exhibition/ technologies
5pm – 7pm	Opening speeches
7pm – late	VJ Session and Party
