Metalogues on the Thickened Ground

Landscape Production &
Urban Morphologies

Rosalea Monacella

Metalogues on the Thickened Ground

Landscape Production and
Urban Morphologies

Rosalea Monacella

A project submitted in fulfilment of the requirements for the degree of Doctor of Philosophy.

Declaration

I certify that except where due acknowledgement has been made, the work is that of the author alone; the work has not been submitted previously, in whole or in part, to qualify for any other academic award; the content of the thesis is the result of work which has been carried out since the official commencement date of the approved research program; and, any editorial work, paid or unpaid, carried out by a third party is acknowledged.

Rosalea Monacella

November 2011

Acknowledgments

Thank you to Supervisor: Professor Leon van Schaik

Thank you to Greg Afflick, Tarryn Boden, Kathryn English, Thomas Harper, Andrew Miller and Joseline Setiawan , to everyone in Landscape Architecture Program at RMIT University, to Richard Blythe and Miki Raeburn for their patience and support in completing this research. Thank you to all the students who I have taught and have taught me over the years.

Dedicated to my partner Craig Douglas, and my parents Isabella and Guido Monacella

Abstract **Metalogues on the Thickened Ground**

**Landscape Production and
Urban Morphologies**

Could we consider urban morphologies as figures that emerge as 'horizontal phenomena'? Could we consider urban morphologies as embedded within the complex systems of the city rather than assume they demarcate the city through an overlay of lines? Could the urban form then be considered as an affect which emerges from a dynamic thickened ground, creating a new landscape?

If landscapes are understood in terms of their connectability to the order of things in the universe (as, for example, in physics), where landscape's connectability is a reciprocation of forces between itself and its context at all scales, then each connection is a shared force, a received and distributed force. If the order of the landscape is inherent in its process of transformations, to what extent does this order produce the city?

This research aims to contribute to the discourse on Landscape Urbanism which is often positioned and grounded within the philosophical and scientific fields. However, it is argued that the ability to open up new possibilities, new ways of thinking and acting, lies in the act of design. This research, therefore, aimed to reveal these possibilities through a structured design process which linked the disciplinary fields of Landscape Architecture and Architecture.

Figure I
List of Pieces

1.Deleuze, On the Line
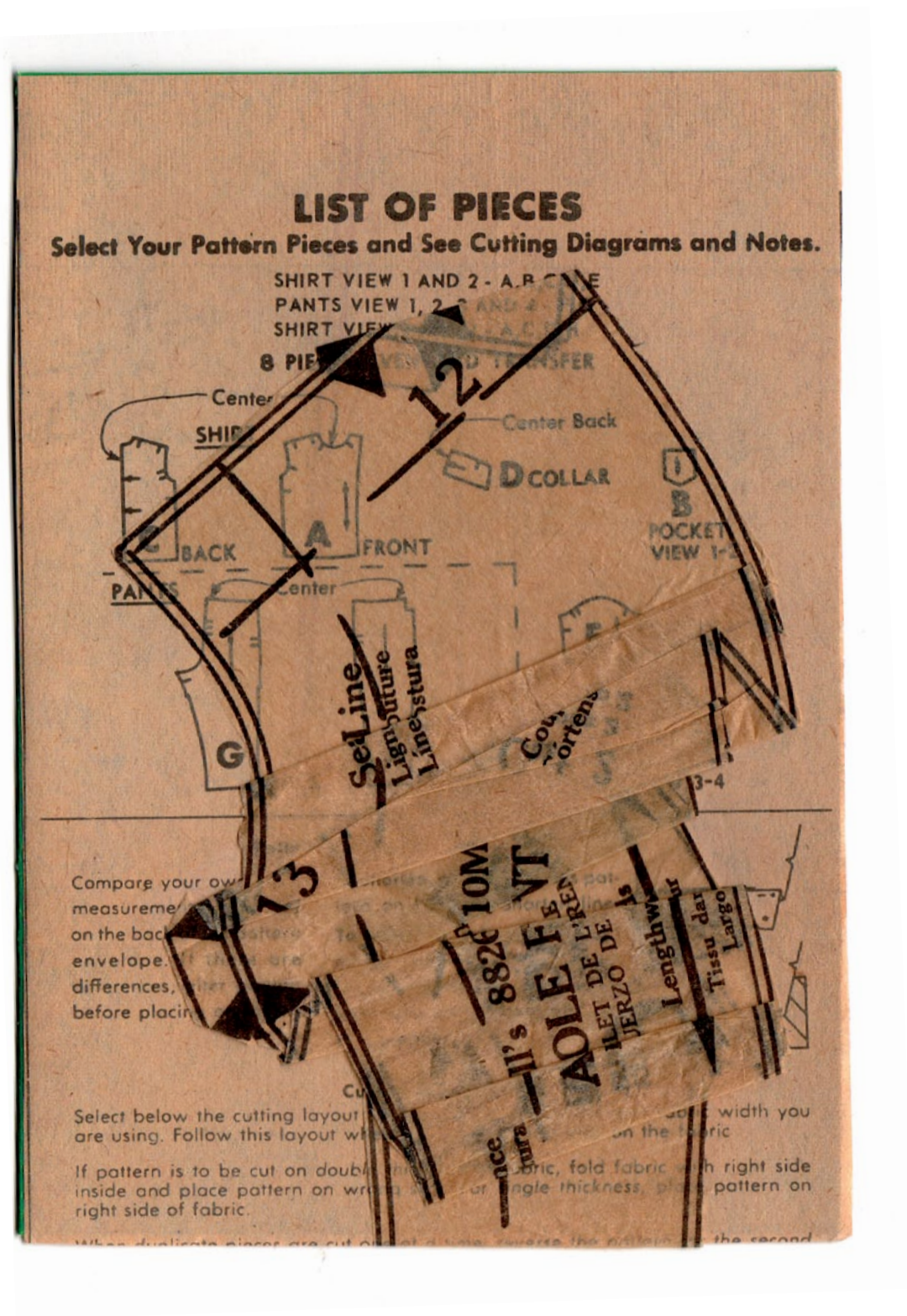
Instruction Manual

"writing has nothing to do with signifying, but with land-surveying and mapmaking, even countries yet to come."[1]

This appropriate visual record is a collection of fascinations and, more preciously, points in time that now resemble the field of my research topics produced in different periods of my life during my candidature. I feel that each of these are moments of intrigue, bewilderment and at times frustration; they have become milestones which resembles climbing a mountain of observation, reflection and curation.

I'm not recounting anything new but, for me the journey has been analogous to starting at the base of the mountain with disorientation; the figure of the mountain was blurred, infinite and intangible. I'm midway up the mountain, I turn around and I see the path that I have traveled along so far, and the journey ahead becomes clear; the vastness has narrowed. I'm nearly at the peak, I see the entire path I have traveled along in the relationship to the rest of the mountain. I can outline the figure of the mountain; its undulations and the characteristics that define its morphology. I also see in the distance its relationship to other mountains, the potential ranges to traverse and pursue. The notion of experience; observer, immersion, transition and reposition has become the catalyst for order.

The order of this manual is not necessarily about chronology. It is an attempt at positioning myself and the reader in a range of orders driven by the material at hand and subject at play. As the appropriate visual record is one of the components contributing to the conclusion of the research. Its ambition was to focus on the intersections of the various threads.

A number of principles have emerged in the body of work where the recorder, the trace, and the expression explore a framework for continual reflection, making, thinking and seeing.

Rather than positioning these principles against a scientific background, those theories of form, (where does form emerge from?) that have emerged from concepts held within the disciplines of biology and physics, often turn out to be improbable first premises from which to approach the question: the genesis of form!

The principles question the position of the subject (from within, outside and in between various states of becoming) when considering the world, and in particular, the city.

relations
singularities
event
convergence

becoming
life
duration

reference — time/space — multiplicity — system — inertia — unit — measure

extensity — metric — entropy — intrically divisable

coexistance — territory — comparison — relate

technological
signifier
technical
transition
totalisation
operations
territorial

abstract
machine — thresholds

two sided
simultaneous
qualities — divergent lines
virtual — difference

Affects — actualised

emergence
dematerialsition
regime
semiotic
territory
milleu
strata
assemblages — expression

events
cartesian
techniques
(systematic)

integrated
complexities — limiting
conditions — deflection — moment — quantative — material

time
flow
recording
transformation
movement
movement
matter
forces
vital

stratum
infinte
fractal
real

change

duration — continuous
progress — time — eternity — life of things — becoming

image — map — seeing — representation — reading — idea

coexistant
diverse
memory
virtual
matter
tendencies
movement

real

movement

units — flows — performance — task — function — time — extension — envelope — limit — schema — space

abstract units — ordinates
(static) — time

landscape — matter — morpholgy — context

influence
direction
metacommunicable
forces — transformation
logical nuit — arrangement
meaning — self regulating

order

emergence — representation — evolution

relations

affiliations

visible/invisible

multiplicity — succession — fusion — organisation — heterogenity — qualitative — virtual

potential

actualisation

code

form

indeterminate

time

transfer

morphogenisis

evolution — emergence — autonomy — self referential — complexity — virtual/actual

coexistance

figure
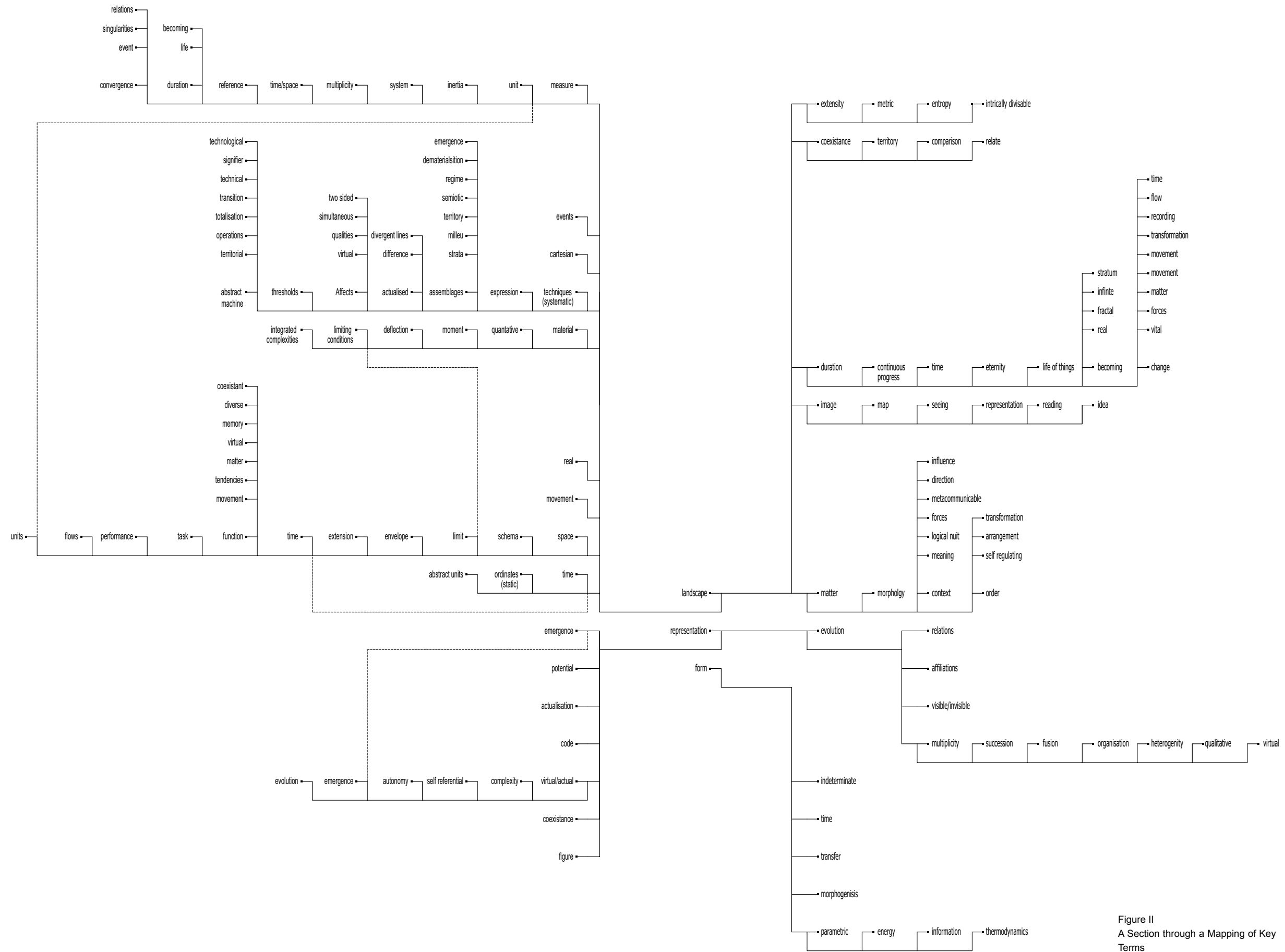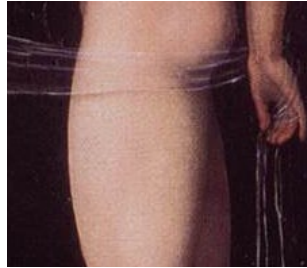
parametric — energy — information — thermodynamics

Figure II
A Section through a Mapping of Key
Terms

Preface

The translucent threading of the veil which intertwines the three figures, constructing continuity and a collective expression.

The Three Graces: the goddesses of joy, charm and beauty are in a collective posture consisting of three flexible bodies, extending their limbs and filling the space in the most beautiful way. They lean and arch to form one flexible entity connected by the gentle placement of the elongated fingers of the goddess of beauty; by the transparent material of the veil which swirls around the three graces with the gentle curves being held by a poised shoulder, and by their hands highlighting what lies beneath rather than hiding it. The veil does nothing to conceal the hips, breasts, bottom and pubic area of the graces; and as the veil threads through the white highlights of the folds and hems, it forms almost calligraphic shapes of parametric lines and curves, and a geometric structure against the dark background. Remarkably in the very place where it is most needed, the material almost disappears against the pale bodies; and where it is in fact unnecessary, the structure of the veil can be seen much more clearly. The collective expression of the three intertwined graces form the painting with the continuity and movement of the veil, as it emerges from the canvas. Cranach's three graces is not about three individual figures composed in a painting, but in the multitude of events, in the expression of form, and in the variation of colour and illumination.

Ever since I completed the design studio in my undergraduate degree with RMIT Architecture Professor Peter Corrigan, over a decade ago, I have been haunted by Cranach's painting. I now thought the time was appropriate to acknowledge its presence and influence in the work I have undertaken throughout this period. This was instigated initially by looking at how urban form could be considered as a figure emerging as a 'horizontal phenomena' embedded within the complex systems of the city; and in demarcating the city not through an overlay of lines, but as an urban form considered as an affect

Figure III-VIII
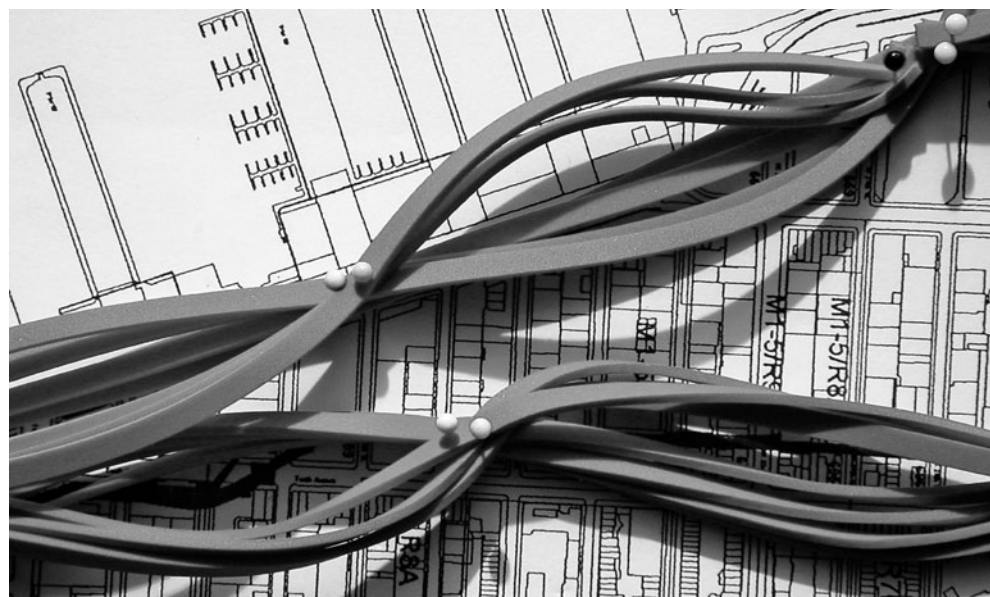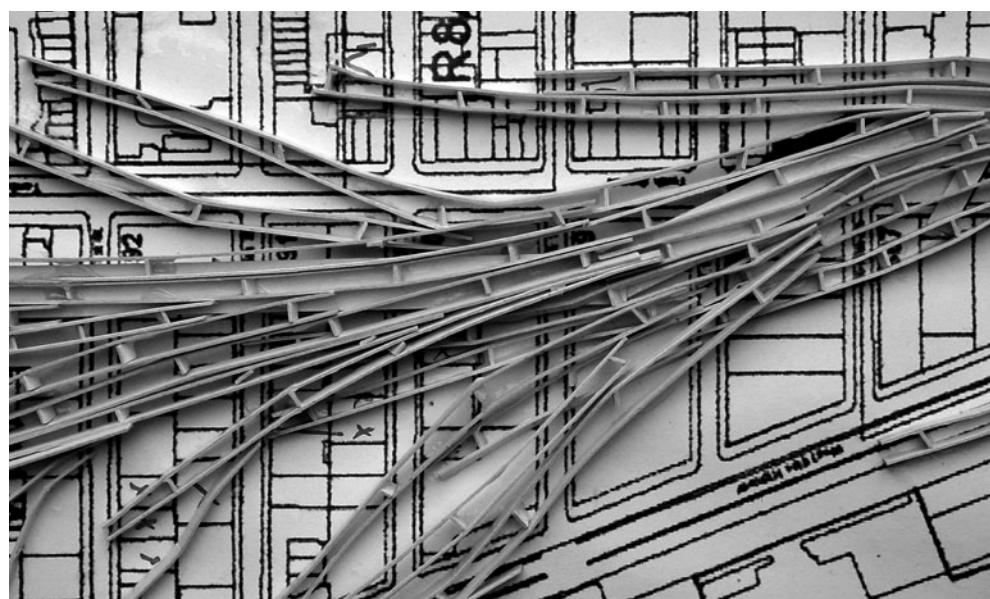The Three Graces
by Lucas Cranach
(The Elder) 1535

emerging from a dynamic thickened ground to create a new landscape. I was continually drawn back to the structure of Cranach's painting of the graces and what the intrigue of the threaded veil posed to the observer.

Through these processes and states of change, I discovered hierarchies and the form of thought change. What I have found through the processes of my PhD is that influences and thoughts (which I often let loose and disconnect), resurface and demand to be acknowledged. Otherwise they continue to buzz around like an annoying fly persisting in its endeavor to pursue a singular path towards that which it is seeking.

After the completion of my Masters I was left with the frustration of what had surfaced in this period- the validity and generation of the diagram in an urban landscape. What is the diagram? From where did the diagram emerge? What is the materiality of the diagram? How does the diagram arise from the abstract and (what were considered at the time) an arbitrary set of relationships between the materiality of the urban and the landscape? The questions continue… on reflecting on what I had produced during this period I didn't see that I was doing anything different from my modernist counterparts in disregarding the ground they operate on. A ground that could be easily colonized and marked as if nothing had proceeded it. My ambition for the diagram throughout this work is to discover what potential relationships and territories in city-form could emerge from a new way of diagramming.

The research on which this PhD is based is a combination of work completed over a number of years in collaboration with students, with others as a collective, and on my own.. Liveliness, spillage, seepage and contamination between these different modes of practice are undeniably there, but within the PhD, another form of my collective practice is uncovered. The PhD reveals a new collective which connects individuals within the relationships, intersections and expressions of the material identified in the research. The PhD reveals through this new collective some potential connections to practice and proposes generative opportunities for designing the city and its morphology.

Figure IX
Highline Competition Model 01

Figure X
Highline Competition Model 01
detail

Figure XI
Highline Competition Model 02

The PhD's contribution to knowledge in the field of Landscape Urbanism is in new ways of considering how urban morphologies are produced from a landscape. These arise where the urban form as a figure emerges as a 'horizontal phenomenon' imbued with the complex systems of the city; and as a figure doesn't demarcate the city through the applied lines of the traditional diagram. The research proposes as an alternative, a 'dynamic thickened ground' as a means of creating new urban landscapes.

The research is situated within the field of the designed work, and through these designs the new method is shown under development, and is then tested by drawing from and constructing connections, to disciplinary areas including chiefly philosophy, science, cybernetics, history and urbanism. The research thus explores and positions the new 'dynamic thickened ground' approach to designing, relative to concepts and ideas usually associated with the discourse of 'Landscape Urbanism'. It connects the 'dynamic thickened ground' approach to other disciplinary fields by a process of formulating multiple cross-sections through the siting and placements located within the research.

Figure XII
Lea Valley, London, UK
Masters model 03

Introduction

Glossary

(ph); philosophy
(sci): science
();   other
(cy); cybernetics
(hy); history
(ur); urban

Abstraction:

(ph);

();

(cy) Nature presents us with a host of phenomena which appear mostly as chaotic randomness until we select some significant events, and abstract from their particular, irrelevant circumstances so that they become idealized. (…) when we try to understand nature, we should look at the phenomena as if they were messages. (…) each message appears to be random until we establish a code to read it. This code takes the form of an abstraction, that is, we chose to ignore certain things as irrelevant and we thus partially select the content of the message by a free choice. (Hofstadter D., GEB);

(hy)

(ur) The use of the term abstraction here is not intended to be confused with the purist or modern notion of visual abstraction. In those instances abstraction involves an aesthetic reduction to fixed formal essences through the paring away of differences. An alternative concept of abstraction, one that is more generative and evolutionary, involves proliferation, expansion and unfolding. This marks a shift from a modernist notion of abstraction based on process and movement. (Lynn G., AF); (p39) P

Abstract Machine:

(ph) Abstract machines operate within concrete assemblages. They are defined by the fourth aspect of assemblages, in other words, the cutting edges of decoding and deterritorialization. They draw these cutting edges. Therefore they make the territorial assemblage open onto something else, assemblages of another type (…) there are different types of abstract machines that overlap in their operations and qualify the assemblages: abstract machines of consistency, singular and mutant, whith multiplied connections; abstract machines of stratification that surround the plane of consistency with another plane; and axiomatic or overcoding abstract
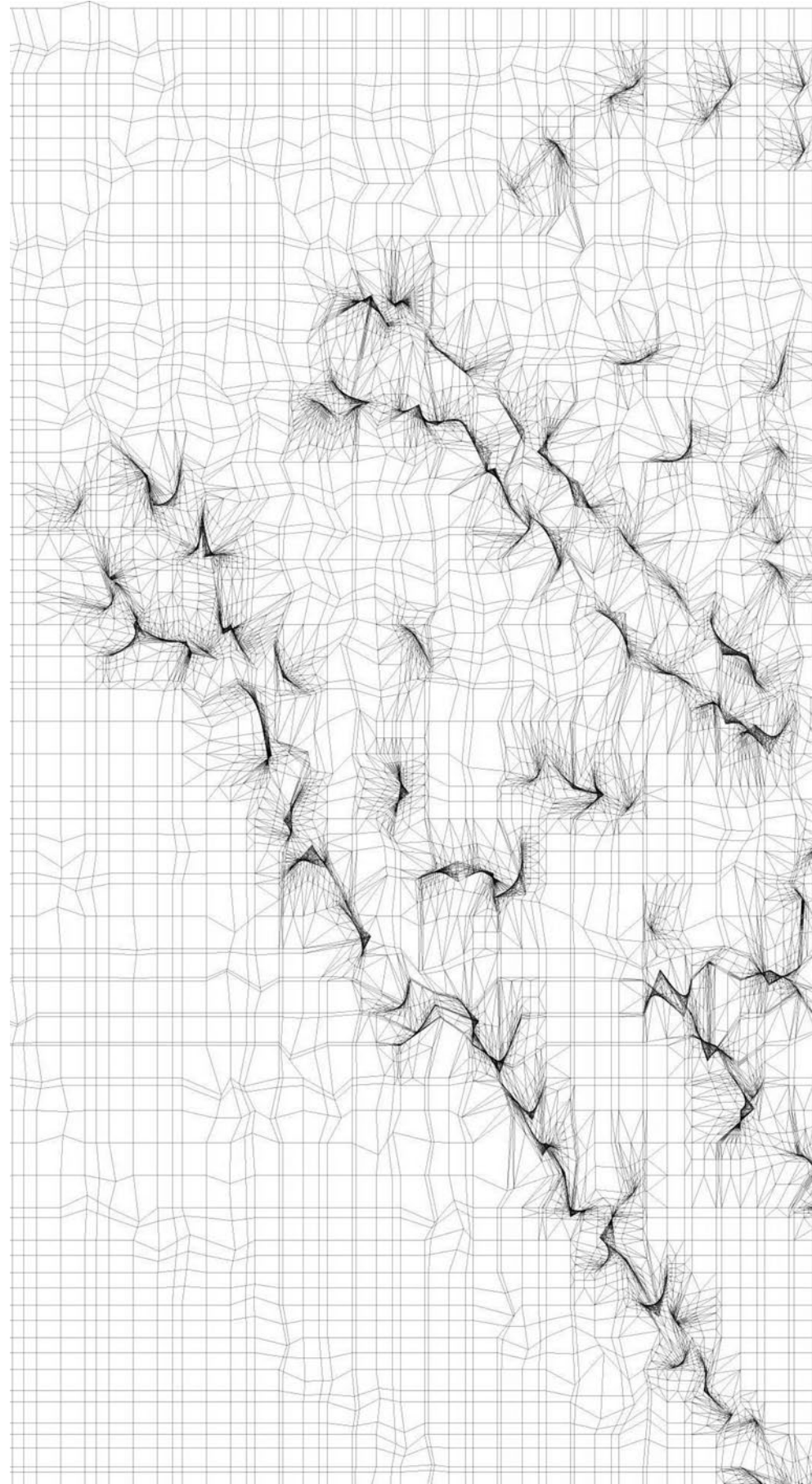
Figure XIII
Grid Distortion 01
Re-mapping Beach

Introduction

Thickened Ground

The City and the Discourse of Landscape Urbanism

Could we consider urban morphologies as figures that emerge as 'horizontal phenomena'? Could we consider urban morphologies as embedded within the complex systems of the city rather than assume they demarcate the city through an overlay of lines? Could the urban form then be considered as an affect, which emerges from a dynamic thickened ground, creating a new landscape?

If landscapes are understood in terms of their connectability to the order of things in the universe (as, for example, in physics), where landscape's connectability is a reciprocation of forces between itself and its context at all scales, then each connection is a shared force, and a received and distributed force. If the order of the landscape is inherent in its process of transformations, to what extent does this order produce the city?

This research contributes to the discourse on Landscape Urbanism which is often positioned and grounded within the philosophical and scientific fields. However, it is argued that the ability to open up new possibilities, new ways of thinking and acting, lies in the act of design. This research, therefore, reveals these possibilities through a structured design process which links the disciplinary fields of landscape architecture and architecture.
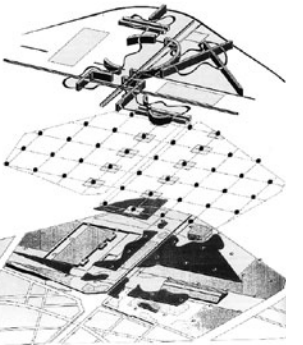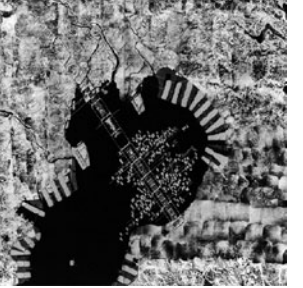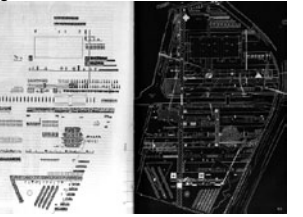

Figure 001

Figure 002

Figure 003

Figure 004

Figure 005

Figure 006

Figure 007

machines that perform totalizations, homogenizations, conjunctions of closure. Every abstract machine is linked to other abstract machines, not only because inseparably political, economic, scientific, artistic, ecological, cosmic – perceptive, affective, active, thinking, physical, and semiotic – but because their various types are as intertwined as their operations are convergent(…). (Deleuze G., Guattari F., TP); (pg510-511) P
();
(cy);
(hy) (…) all (…) transitions from chaos to order are said to be "mechanism independent". Only the mathematical structure of these transitions matters, as far as their self-organizing effects are concerned, and not the concrete ways in which the organization of molecules (or photons) is carried out. For this reason these mechanism-independent, structure-building singularities have been conceptualized as 'abstract machines': that is, single 'mathematical mechanisms' capable of being incarnated in many different physical mechanisms. (De Landa M., WAIM) ; (p18) P
(ur) Any abstract machine (…) can be understood as both a technical statement and as a signifier. (…) The difference between its abstract and representational roles can be located precisely at the moment it crosses the technological threshold from being a diagram to a concrete assemblage. (Lynn G., AF); (p39) P

Accidental:
(ph) (…) If the evolution of life is something other than a series of adaptations to accidental circumstances, so it is not the realization of a plan. (…). For accident, then, an allowance must first be made, and a very liberal allowance. We must recognize that all is not coherent in nature. By so doing, we shall be led to ascertain the centers around which the incoherent crystallizes. This crystallization itself will clarify the rest; the main directions will appear; in which life is moving whilst developing the original impulse. (Bergson H., CE);
();
(cy);
(hy);
(ur);

The research examines a proposed central argument that transforms the modernist notion of the grid, from a geometry which orders the city[1] through composition, to considering the grid as an effect which emerges from the city. The projects undertaken establish a genealogy of the grid through a series of twentieth century case-studies which identify the city's shifting categorisation and relationship to the grid. These case studies consist of Le Corbusier's 1933 Ville Radieuse, Ludwig Hilberseimer's 1949 New Regional Patterns, Louis Kahn's 1953 Philadelphia Traffic Studies, Kenzo Tange's 1961 Tokyo Plan, Superstudio's 1969 Continuous Monument, and OMA's 1982 Parc De la Villette. These case-studies imply various morphologies of the city and associated morphological patterns of the city. The case studies reveal the problems associated with the grid when it is used as a site for 'inscription'; a figure/geometry which has the inability to transform in accordance with the destabilising tendencies of the city. For this reason it is important to place these case-studies within a genealogy of the grid as a means for re-conceptualising the city and the city's relationship to the grid.

The use of the grid in the modernist city attempts to construct relationships between parts, and the fragments which compose the city and subsequently formulate an urban form with clear and precise edges and territories. The grid devises oppositions that separate and seclude in an effort to impose control and order. The grid is considered a sign of universality and equality; a geometry which, when effectively deployed levels 'social hierarchies' and provides new patterns of socialisation. The principles of Cartesian rationalism are expressed in the establishment of an all-inclusive grid. The Jeffersonian grid, for example, imposed over America created rational systems of regulation and control which, Jefferson believed, would allow representative democracy and political equality to flourish. The grid as a geometrised spatial order, evenly distributed order and control over the country's vast territories; it was 'an attempt to measure the immeasurable'. Michael P. Conzen's (ed.) The Making of the American Landscape (1990) illustrates how the transition from the industrial city to the modernist city shifts the morphology of the city. He renders visible the morphological transformation of the city from being comprised of dense regional centers with clearly divisible urban and rural edges, to the reconfigured relationships of the modernist 'machine city'. The machine

1 The meaning of the 'city' in this context refers to the city as landscape: a coagulation of fluctuating systems, a slowing or acceleration of temporal processes

city is best exemplified in Le Corbusier's 1933 Ville Radieuse where the singular center shifts to become a multi-centered pattern. Le Corbusier saw geometry as the foundation; it was the material base on which symbols were built to represent perfection and the divine. Le Corbusier considered order not as the dichotomy between order and disorder – rather order was seen as a pursuit of flexibility and informality through the investigation of geometrical forms of order. But, this pursuit failed because the geometry tried to contain the dynamic urban processes within the fixed, rigid frame of the grid that were neither derived from, nor redirected to, any of the processes with which it was involved.

These historical ambitions for flexibility and urban processes are still prevalent in the current discourse on the city in examples such as in James Corner's (ed.) Recovering Landscape: Essays in Contemporary Landscape Architecture (1999) which suggests a shift away from the object qualities of the grid, to flows and systems that distribute form. In Ludwig Hilberseimer's New Regional Patterns (1949) the grid is utilised as a diagram of regional settlement patterns which articulate flows and forces in relation to the morphology of the city. However, the pattern conceived as units within the systems of the city must remain ordered and rigid, and not allow ongoing changes to the city. With Louis Kahn's 1953 flow diagrams for vehicular circulation patterns, Kahn suggests the need for techniques of representing the fluid, process-driven characteristics of the city, where various systems, with their forces and shifting processes, come together to categorise the city. This suggests the need to shift how the grid is considered beyond just a geometrical figure. This research investigates how the grid, its measures and orders, can be reconsidered. It speculates on how the grid as an organisational structure can be considered as a figure which emerges from the city as a 'horizontal phenomena' imbued within the complex systems of the city. It is not dissimilar to geological strata of the earth, layers of sedimentary rock or soil with their own inherent characteristics, structure and form which distinguish one layer or material system to the next. The notion of the grid is consequently reconsidered in its definition, from an overlaid ordering device, to an ordering system which is inherent in the matter which forms the city.
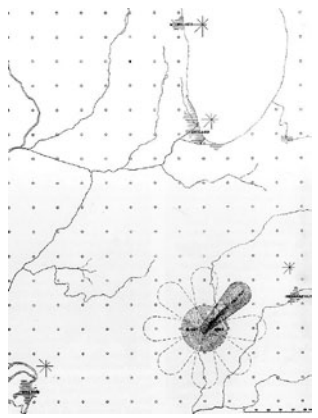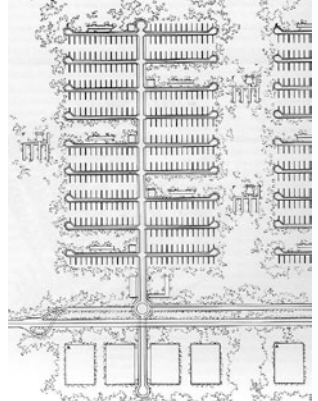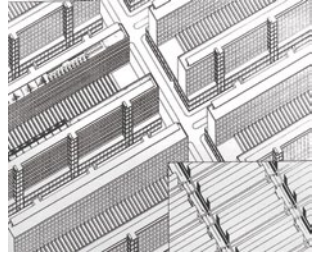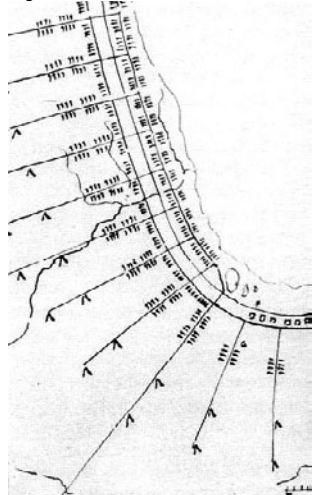

Figure 008

Figure 009

Figure 010

Figure 011

Figure 012

The research contributes to the discourse on Landscape Urbanism which is often positioned and grounded within the philosophical and scientific fields as a means for its justification. However, the ability to open up new possibilities in conceptualisations that grow the discourse, lies in the act of design. The aim of the projects undertaken is to contribute to the discourse on Landscape Urbanism through a set of design projects linking the disciplinary fields of landscape architecture and architecture.

My Community of Learning

The emergent practice of Landscape Urbanism, where the ubiquitous problem of dealing with the city's dynamic and destabilising tendencies, has been and continues to be, a central focus of the discourse.

The term Landscape Urbanism was coined by Charles Waldheim at the first dedicated Landscape Urbanism conference sponsored by the Graham foundation in Chicago in 1997. This conference proceeded two key conferences that occurred at the University of Pennsylvania in 1993 and at the Architectural Association in 1994. The speakers for these conferences included Mohsen Mostafavi, Adriaan Gueze, James Corner, Charles Waldheim, Alex Wall, and Christophe Girot. The late 80's and early 90's were a formative time for a discourse on Landscape Urbanism where an intense body of work was undertaken in dealing with the expanding city and the complex urban reformation projects associated with this expansion. The pursuit lead by Corner and Mostafavi at the conferences was to push the disciplinary boundaries between Architecture, Landscape Architecture and Urban Design as a means for dealing with the city's everchanging complexities. The key, influential publications generated at the conference were Recovering Landscape: Essays in Contemporary Landscape Architecture (Princeton, 1999). and Landscape Urbanism: A Manual for the Machinic Landscape (AA, 2003) During the early formative years of the discourse Charles Waldheim, Anu Mathur, Georgia Daskalakis, Alan Berger, Chris Reed, were students at the Univerisity of Pennsylvania.

The term landscape, in this practice, is a term which refers to an organisational system and techniques where time is imbued within its operations; providing as Stan Allen suggests a 'model for process and change'. Most often within the practice, the term's usage is diverse; it is regularly a reference to the city, urbanism, infrastructure, and strategic planning, alongside distinct ideas of nature and environment.

Within various discourses of landscape urbanism the city is considered through the emergence of various grid morphologies. The examination of these various morphologies is used to construct a 'virtual net' which
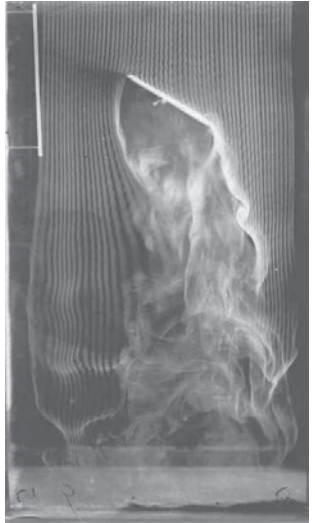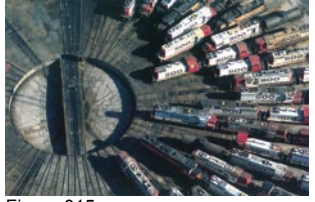

Figure 013

Figure 014

Figure 015

Figure 016

Figure 017

not know in advance where or when such a crystal will begin to nucleate or form, but one knows it will emerge – apparently spontaneously – from a flux or convergence of flows, not in a prepared form or space. The form of the crystal, however, is not fixed from the beginning – it is merely an incarnated singularity, a speck of dust-ice, that has been carried to a new level where it interacts with higher-order flows (…). (Kwinter S., AT);

Adaptation:
(ph) (…) adaptation explains the sinuosities of the movement of evolution, but not its general directions, still less the movement itself. The road that leads to the town is obliged to follow the ups and downs of the hills; it adapts itself to the accidents of the ground; but the accidents of the ground are not the cause of the road, nor have they given it its direction. (…) evolution does not mark out a solitary route (…) it takes directions without aiming at ends, and (…) it remains inventive even in its adaptations. (Bergson H., CE); (p102)
(sci) For Ashby, adaptation is based on identifying a subset of essential variables in a system. Those variables must be kept in bounds by the coordinated dynamical behaviour of the system coupled to its environment (called the System). In any initial state, the System flows to some attractor. On that attractor, the essential variables either are or are not kept in bounds. In the former case, Ashby alters nothing. In the latter case, he in effect introduces a jump mutation in some parameter setting, thereby altering basins of attraction. With the new basins, the system may flow from its current state, with some essential variables out of bounds, to a new attractor which keeps all essential variables within bounds. If so, Ashby stops the adaptive process. (Kauffmann S., OO);
(cy) A feature of an organism whereby it seemingly fits better into its environment and way of life. The process of achieving that fit. (Bateson G., MN);
(hy);
(ur);

Affect:
(ph);What is being termed affect in this essay is precisely this two sidedness, the simultaneous participation of the

cultivates destabilised organisational systems as a means for the reconfiguration and categorisation of the city. The aim of this research is to position the 'virtual net' through an examination of how the grid has shifted in various disciplinary discourses of architecture, from being a figure which organises through the composition of parts, to a field condition in which the grid emerges. This approach conceptually identifies that it is both parts and processes which define the city.

The current discourse on Landscape Urbanism, in particular within the dedicated program at the Architectural Association, is often positioned and grounded within the philosophical and scientific fields. This positioning has two purposes. First, locating Landscape Urbanism in this company is a means of justifying its conceptual and methodological apparatus. Second, this cross-disciplinary base opens up the possibilities as to how the discourse can be conceptualised. The aim of this research is to contribute to the discourse on Landscape Urbanism through its positioning within the disciplinary fields of architecture, landscape architecture and urbanism. In particular, the research examines the ways in which the category of the city is altered in the hybrid practice of Landscape Urbanism.

The research is influenced on one hand by theoretical exploration of the subject: its structures and organisation by thinkers such as Foucault, Deleuze, Hardt, and Negri. On the other hand, the project explores the scientific: the morphology and complex systems as investigated by Geddes, Darwin, D'Arcy Thompson, Rene Thom, and Ilya Prigogine.

These frameworks inherently influence the way I examine and ordered the various design projects conducted by and with others, through teaching and in my own practice. This body of work forms a genealogy of the city and that of what I have entitled 'Thickened Ground'.

The genealogy is framed through a set of conversations which examine and reveal the intersections that emerge through the various threads of the project work.

The Conversations for the Research are as follows.

Conversation One:
A Conversation about Representation:
    A conversation about the Recorder
    A conversation about the Map
    A conversation about the Expressive Surface

Conversation Two:
A Conversation about Landscape:
    A conversation about the States of Change
    A conversation about the Water Reservoir

Conversation Three:
A Conversation about Form:
    A conversation about Wearable Cities
    A conversation about Urban Morphologies

Conversation Four:
A Conversation amongst Conversations

The order of these conversations is not necessarily about chronology. It is an attempt at positioning myself and the reader in a range of orders driven by the material-at-hand and subject-at-play. As the research catalogue is one of the components contributing to the conclusion of the research, its ambition is to focus on the intersections of the various threads.

A number of principles have emerged in the body of work where the recorder, the trace, and the expression explore a framework for continual reflection, making, thinking and seeing. Rather than positioning these principles against a scientific background, the theories of form, (where does form emerge from?) have emerged from concepts held within the disciplines of biology and physics. These often turn out to be improbable first premises from which to approach the question: what is the genesis of form! This questioning is conducted through a series of design projects. The notion of experience: of the observer, by immersion-transition and in reposition has become the catalyst for order. The principles of questioning and in its positioning occur from within, outside and in between various states of becoming, when considering the world, and in particular, the city and its formations from landscape.

Figure 018

Figure 019

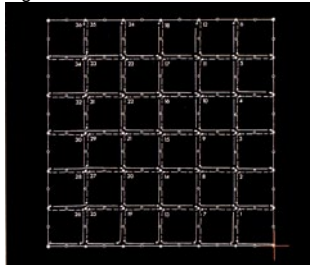Figure 020

Figure 021

Figure 022

Figure 023

Figure 024

Figure 025

Complex Systems and Self Regulating Order for the City

The emphasis in the body of work is to shift the grid, from an object of appearances, is to a focus on processes of formation and transformation. Within the current discourse on the city, Stan Allen's From Object to Field (1997) suggests the city has inherent and complex self-regulating orders which can be considered as an order for the contemporary city. In James Corner's and Alex MacLean's Taking Measures Across the American Landscape (1996) the city is not conceived as a finite entity with distinct edges and scales of operation. Rather, the city is conceived as a place where the decentralisation of power and hierarchical ordering enables a multiplicity of global and local connections.

Within the concept of the city, can connections and orders be calibrated within the set of complex systems that form the city? As Corner and MacLean (1996) highlight through their collation of aerial photographs, the city is a participatory landscape. They identify the agricultural fields that they endlessly document, derive their form from the logistics and complex systems of farming. They go on to suggest that the city form emanates from the flows, the processes and the forces of distribution and density of the city.

Does considering the city as a set of complex systems suggest interdependency between systems, by abandoning direct control and the ability to influence the city's order, through the tendencies and rhythms identified within the set of systems which make up the city? Francoise Choay in The Modern City: Planning in the 19th century discusses how the complexity of the city, until the industrial revolution, was considered through semiotic systems. Their elements were related synchronically within the context of rules and codes which instituted controlled order. This complete legislative system was unable to accommodate the processes and changes of the city. With modernism, a system originated with reference to the notion of a geometry offering a simplification and rationalisation of problems exposed by the problematic nature of the city. According to historian/philosopher Manuel DeLanda (Ref) who wrote on the current discourse on the city, the understanding of complex systems provides

a model where order is not conceived as either continually chaotic or of a rigid order. Rather the understanding is one which sits between chaos and order. The notion of complexity is considered as the point at which self-regulating systems emerge to create new morphological patterns of coherence and structures of relations of the city form. The research argues a stronger connection in considering these complex systems of the city. How does the proliferation of these possible dynamic connections accommodate both these transformations? How do complex forms of urban organisation arise in a context of continual remaking of the city; the moving of information and communication between differentiating structures; and the communication between a multiplicity of systems (such as economic, political, social, environmental and infrastructural systems)? The research is concerned with 'emergence' as the operational model for this complex set of relationships for the city, and where an emergent state of being for the city, where local behaviours and rules, have a global affect.

Landscape and the city

In Alex Wall's 1999 paper, Programming the Urban Surface, the proposition is advanced that the city is a horizontal phenomena which can measure and order it own existence . Wall utilises the term landscape as a means for describing the city as an active plane which 'organises and supports a broad range of fixed and changing activities'. Landscape for Wall doesn't conjure up images of natural, idyllic or recreational spaces, but implies a performative 'connective tissue' that organises both the objects and spaces of the city and the complex systems, dynamic processes and events that move through them. By looking at the contemporary case studies (such as OMA's 1982 Parc De la Villette which puts forth the idea of city as a vast surface in which architecture, infrastructure and landscape are considered as an undifferentiated plane subject to the same forces). Wall discusses Parc De la Villette as surface which has the ability to support and connect a diversity of systems/activities in time. From the early to mid-twentieth century, landscape was considered as an embellishment to the plan. Landscape performed as a source of respite from claustrophobic urban density and harshness, as demonstrated in examples such as Frank
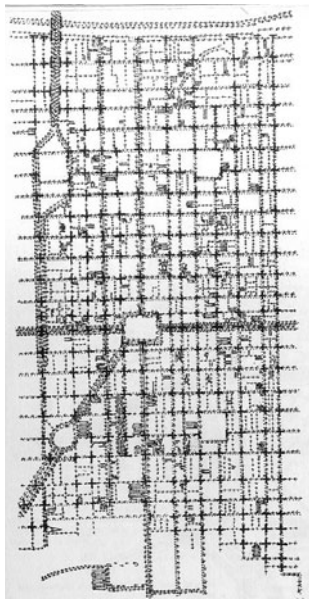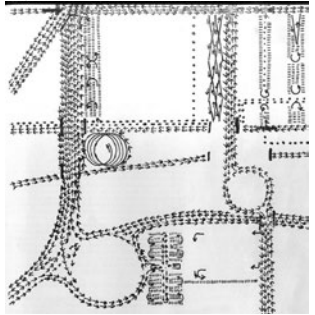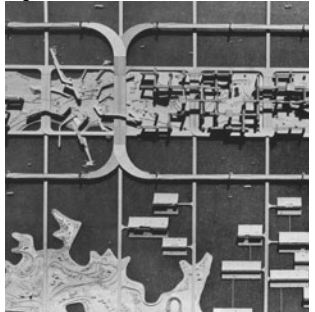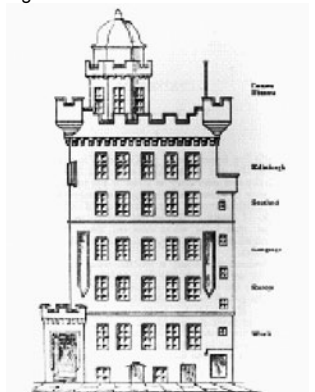

Figure 026

Figure 027

Figure 028

Figure 029

Figure 030

Lloyd Wright's Broadacre City proposal which revelled in the expansive, urban field of green suburban development. The encasement of the city's green lungs by rigidity and order in a densified state was considered as a device for easing the logic of an inflexible geometry, and the vision of the city as architecture. In this manner, landscape was a token to the architecture.

Landscape is often associated with 'models of active organisation', such as logistics, genetics, networks, earth sciences, philosophy and physics. Alex Wall suggests that the term landscape is not meant to conjure up images of 'pastoral innocence' or concepts of landscape. Instead, landscape is a concept which is a medium of both experience and expression. Greg Lynn implies that landscape is a system where a point of change is distributed smoothly across a surface so that its influence cannot be localised at any discrete point where change is an implied condition, a 'virtual motion' which can initiate flows through without literally moving. Greg Lynn's[4] 'ethics of the animate', Conrad Waddinton's[5] 'epigenetic landscape', Rene Thom's[6] 'morphogenetic landscape', or Sanford Kwinter's[7] 'landscapes of change' – all attempt to consider landscape as a modality which depicts transformational events within an extensive surface, or which formalise different 'types' of existence within a schema. Can Landscape be considered as an operative surface for an inclusive multiplicity and pluralism within the city, that may still embrace, as James Corner[8] suggests, a surface that aligns diverse and competing forces into 'newly liberating and interactive processes'?

If Landscape is a thing in itself, which exists in its connectability to the order of things outside itself, and where its connectability is the 'order of force'. Each connection is a shared force, a receiving and distributing force. Therefore, if the order is inherent in the process of its transformation, is this what produces the city?

4 Lynn, Greg, Animate Form, New York, Princeton Architectural Press, 1999.

5. Waddington, Conrad,.H, The Strategy of Genes, New York, Macmillian Press, 1957.

6. Thom, Rene, Structural stability and morphogenesis: an outline of a general theory of models, California, Addison-Wesley, 1989.

7. Kwinter, Sanford , Landscapes of Change. Assemblage (19), Cambridge, Masachusetts, The MIT Press, 1992.

8.   Corner,   James(ed.), Recovering landscape: essays in contemporary landscape architecture. Princeton Architectural Press. New York, 1999.

A Conversation about Representation:

A Conversation about the Recorder

increase the complexity of these artificial environments, they become fertile ground for synthetic life. (…) A movie audience watches autumn leaves blowing down the street. The audience does not realize the scene is computer-generated animation. The event looks real because the video is of something real: individual virtual leaves being blown by a virtual wind down a virtual street. As in Reynolds's flocks of virtual bats, there is a real shower of things really being pushed by a force in a place with physical laws. (Kelly K., OC); (p312-313) P

(hy);

(ur) Animation is a term that differs from, but is often confused with, motion. While motion implies movement and action, animation implies the evolution of a form and its shaping forces; it suggests animalism, animism, growth, actuation, vitality and virtuality. In its manifold implications, animation touches on many of architecture's most deeply embedded assumptions about its structure. (Lynn G., AF); (p9) P

Artificial Intelligence (AI) :

(ph);

();

(cy) (…) most AI work goes into efforts to build rational thought ('cognition') out of smaller rational thoughts (elementary steps of deduction, for instance, or elementary motions in a tree). (…) there are some people who believe that the ultimate solution to AI lies in getting better and better theorem-proving mechanisms in some predicate calculus. They have developed extremely efficient and novel ways of thinking about logic (…).

One group of AI people who seem to have different attitude consist of those who are working on problems of perception and recognition. There, the idea of co-ordinating many parallel processes is important, as is the idea that pieces of evidence can add-up in a self reinforcing way, so as to bring about the locking-in of a hypothesis that no one of the pieces of evidence could on its own justify (…). However, it is very different in flavor from ones operating in a world where everything comes clean and precategorized - where everything is specified in advance (…). The missing link seems to be the one between perception and cognition, which I would rephrase as the link between subcognition and cognition,

Figure XIV
Morphologies of the Can

Conversation

Conversation # One

A Conversation about Representation:

A Conversation about the Recorder

So what are you thinking? ... What threads of thought are you constructing? … What are the connections between threads? … As the threads reconfigure themselves in the cognitive flow of thought, what form of connections emerge?

A number of principles have emerged in the body of work; the recorder, the trace, and the expression. They are key in the exploration of a framework for continual reflection, making, thinking and seeing.

These principles are not evaluated against a scientific background. They are not considered in the context of theories of form which have emerged from concepts held within the disciplines of biology and physics which seek to answer the question: from where does form emerge? The principles often turn out to be improbable first premises from which to approach the question: what is the genesis of the thickened ground which forms the city?

These principles question the position of the subject which I form within, outside and in between various states of becoming when considering the world and in particular the city.

In addition these principles consider the notion of 'becoming' as key to the very production of events; a product which is the synthesis of forces signifying the dynamic interactions that produce the morphology of the city, and that when actualised mark every moment of the state in its transformation.

This is not to suggest that the notion of becoming represents a phase between two states for the landscape, or in other cases, the morphology of the city. Rather it is to be considered a product, final or interim, forming the dynamism of change with no particular goal or determined end-state/s.

1 'Becoming is the very production of events. It is not that the time of change exists between one event and another. It is not that the time of change exists between one event and another, but that every event is but unique instant of production in a continual flow of changes evident in the cosmos. The only thing 'shared by events is their having become different in the course of their production.' Parr, A., Ed. (2005). *The Deleuze Dictionary*. New York, Columbia University Press.
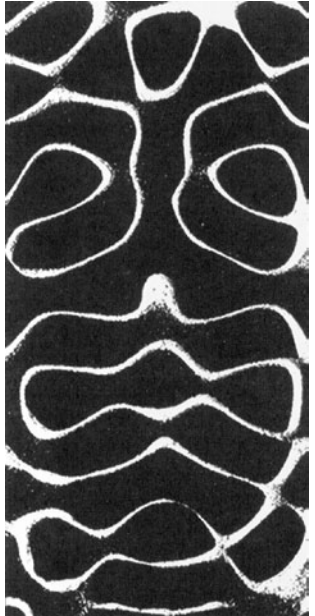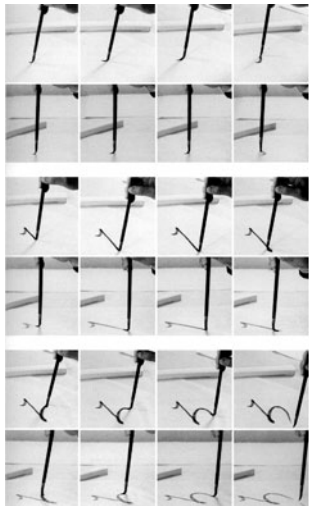

Figure 031

Figure 032

Figure 033

Figure 034

the gap between the sub-1000-millisecond world and the super-100-millisecond world (…). (Hofstadter D., MT); (pg644) P
(hy);
(ur);

Assemblages:

(ph) Assemblages are already different from strata. They are produced in the strata, but operate in zones where milieus become decoded: they begin by extracting a territory from the milieus. Every assemblage is basically territorial. The first concrete rule for assemblages is to discover what territoriality they envelop, for there always is one (…).
Inasmuch as they are territorial, assemblages still belong to the strata. At least they pertain to them in one of their aspects, and it is under this aspect that we distinguish in every assemblage content from expression (…). The reason that the assemblage is not confined to the strata is that expression in it becomes a semiotic system, a regime of signs, and content becomes a pragmatic system, actions and passions. (…) Its territoriality (content and expression included) is only a first aspect; the other aspect is constituted by lines of deterrirotialization that cut across it and carry it away. These lines are very diverse: some open the territorial assemblage onto other assemblages (…) others open assemblages onto abstract and cosmic machines that they effectuated (…). (Deleuze G., Guattari F., TP); (pg504-505) P
();
(cy);
(hy);
(ur);It is nothing less than a new domain of emergence, bigger and wilder than the urban itself and in total antipathy to the few vanities of mere 'architecture'; it is a domain that assembles itself on the far side of the complex regime and that is capacious enough actually to absorb the urban into itself (…) at once displacing it and reimparting it anew. (Kwinter S.,PP) (pg 30)

Attack:

(ph);
();
(cy);
(hy) (…) the attack is not a homogeneous whole: it is perpetually combined with defense. The difference between the two is that one cannot think of the defense
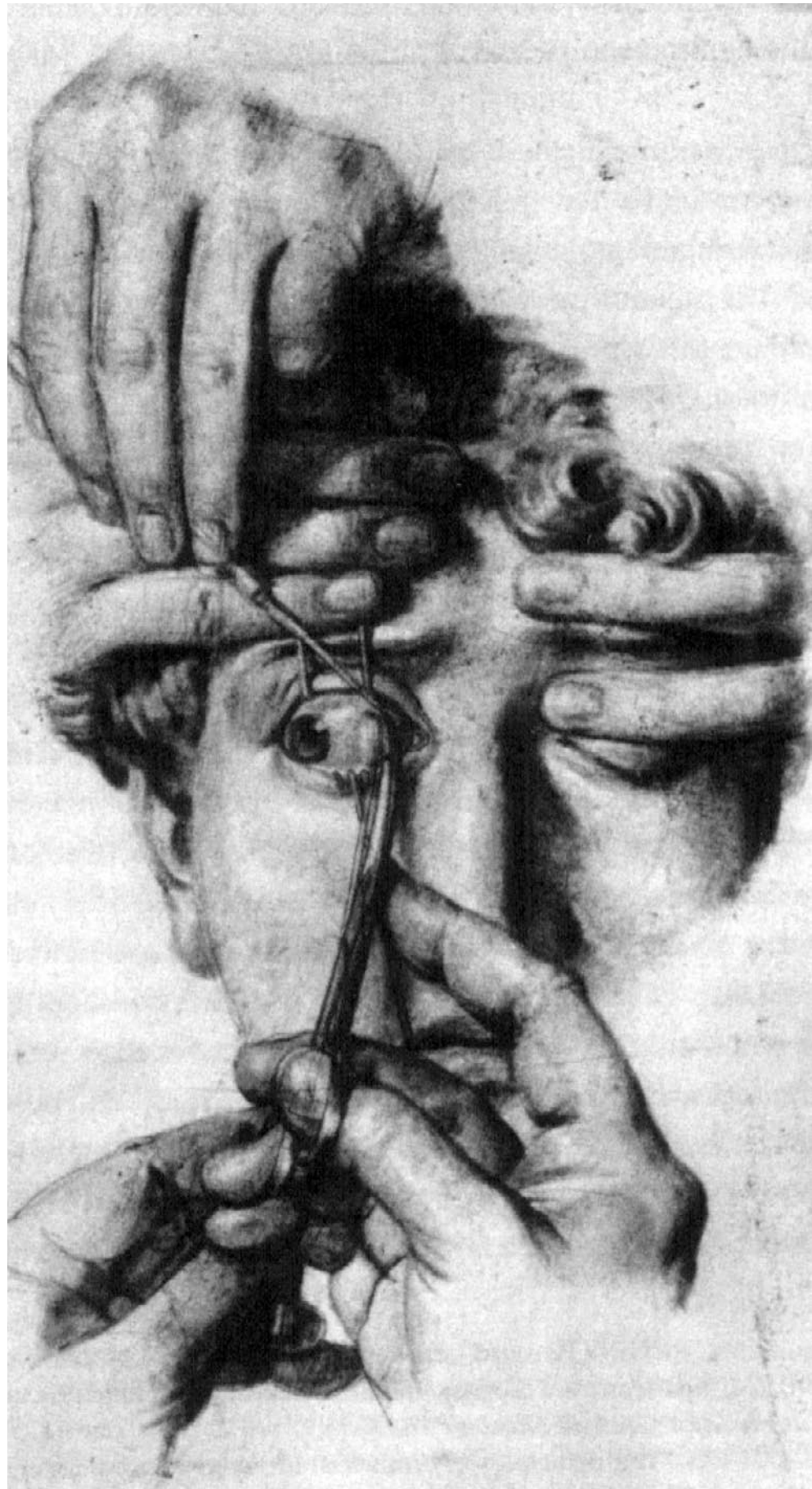

Figure XV
Techniques of the Observer,
Nicolas-Henri Jacob

The ambition of these principles and their associated conversations is for you as the reader to cognitively reposition yourself as you progressively move through the compilation of thoughts, reflections upon and their associated works. Consequently this encourages you to imagine yourself as a whole, in parts, in various formations and relationships between parts, or at times an extension of the works themselves.

Disorientation

- An endless and boundless experience

- The shimmering afternoon sun beaming down onto the landscape

- A landscape which pulsates with the passing gales and shifting light

This landscape is altered. Chronological time as we know it is still; a different life and rhythm is present. Increments, coordinates and scale as purely quantitative measures cease to exist in this landscape, a new body of knowledge is required.

The term 'landscape' in this context no longer refers to as Alex Wall states the 'prospects of pastoral innocence but rather invokes the functioning matrix of connective tissues organized not only objects and spaces but also the dynamic processes and events that moves through them'2. Landscape is considered as a field condition; an active plane of organising principles and events where fixed and changing relationships are formed.

Within the landscape field of view a conflict of territory and structure emerges within itself. Just as with a camera that has an auto focus feature attempts to adjust and construct a frame with no apparent single focal point. From the onset a seamless condition exists between horizon and ground, between foreground, middle ground and background … zoom in, zoom out and attempt to focus … it doesn't work, start again … conventions of projection are not relevant!

The gaze is not relevant in this situation. The eye of the observer shifts in this state. It's not the observer that
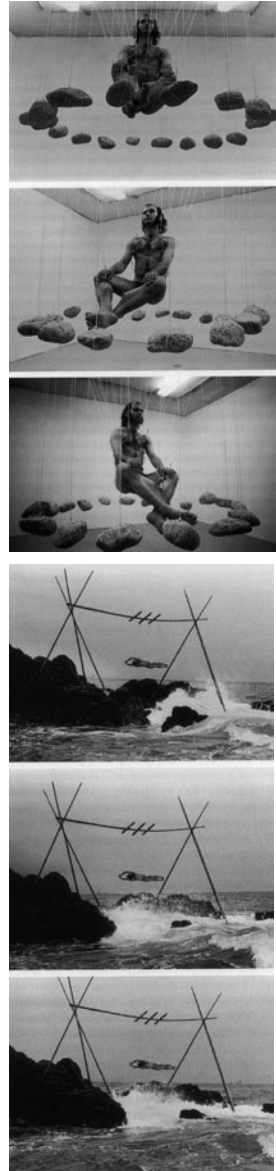

Figure 35

without that necessary component of the concept, the counterattack. This does not apply to the attack. The offensive thrust or action is complete in itself. It does not have to be complemented by defense; but dominating considerations of time and space do introduce defense as a necessary evil. In the first place, an attack cannot be completed in a single steady movement: periods of rest are needed, during which the attack is neutralized, and the defense takes over automatically. Second, the area left in rear of the advancing forces, an area vital to their existence, is not necessarily covered by the attack, and needs special protection. The act of attack, particularly in strategy, is thus a constant alteration and combination of attack and defense. (Von Clausewitz C., OW);
(ur);

Attractor:
(ph);
(sci) More than one trajectory can flow into the same state cycle. Start a network with any of these different initial patterns and, after churning through a sequence of states, it will settle into the same state cycle, the same pattern of blinking. In the language of dynamical systems, the state cycle is an attractor and the collection of trajectories that flow into it is called the basin of attraction. We can roughly think of an attractor as a lake, and the basin of attraction as the water drainage flowing into that lake. (Kauffmann S., HU); (p78) P
(cy) Let (M,X) be a dynamical system defined by the vector field X on the manifold M. An attractor F of the system is a closed set invariant under X and satisfying conditions:
1 There exists an open invariant neighborhood U of F, called the basin of the attractor F, such that every trajectory starting from a point of U has F as its ω-limit set.
2 Every trajectory whose α-limit set contains a point of F is contained in F.
3 F is indecomposable, that is, almost every trajectory of X in F is dense in F. (Thom R., SSM); (p38-39) P
(hy) Call a state toward which a system tends an iattractori. (…) The attractors are limit-states, unreachable extremes lying at opposite ends of a continuum of potential syntheses of interiority and the outside, closure and open-endedness. (Massumi B., UGCS); (p60/p116-117) P
(ur) Sometimes an area becomes

Figure XVI-XXIV
Suspension Seies by Stelarc

3 Nixon, Mignon.,Ed.(2002). Eva Hesse. October Files 3. Cambridge, MIT press

determines the territories but the landscape itself. It's where the landscape becomes the observer. It looks back at what we have and what we have seen and is where its limits, its tendencies, its actions and effects are discovered and where temporary territories are made. Its fragments and relationships are the territories.

For a few moments my body in this landscape acts as an alien, or a foreigner that has the inability to engage, which forces an engagement with a different set of positioning and orientation systems.

In this situation different senses and modes of engagement are required. Seeing is not achieved by the eye alone but by the seeing associated with touch, the other senses and the body itself.

Scale is not an absolute condition determined by quantitative measures. For the empiricist Newton, these qualifications are equivalents and determine the nature both of the concepts in question and of the entities corresponding to them. In this case, scale as order, is achieved by the relationship of the body to rhythms, traces, patterns, and processes of the landscape. This forces a different form of engagement. Rather than viewing through a western gaze you are required to be embedded and operating within the landscape. A different set of positioning systems need to be constructed!

Cartesian optics lead us to a sense of detachment from the world. This is exemplified in the camera obscura and the perspective machines used during the Renaissance. This detachment is visual and of the eye, whereas the hand and its motion draws us into the world. Therefore I argue for a reconnection between the hand and eye.

Within

'Non productive, formless, the body, the body without organs, is instead the site of inscription or recording, it is the place through which signs circulate in an effort to decode the flows of desire, at the same time setting up the illusion that they themselves are the agents of production. When the productive connections pass from the machines to the body without organs (as from labor to capital), they write…' [3]
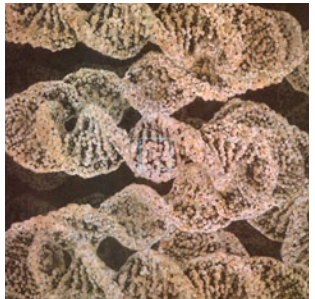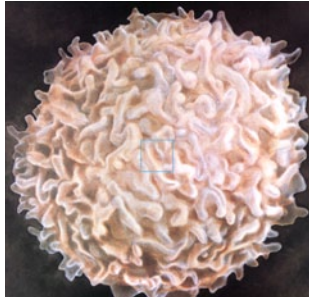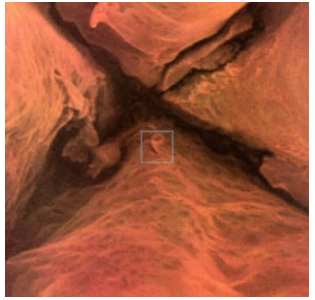

Figure 36

suddenly popular. Attractors appear: it might be the proximity of a new, or even a rumored highway, beautiful nature, or comfortable neighborhoods. Attraction is translated in buildings. Sometimes the nature of the attractor remains a mystery; seemingly nothing is there (…). (Koolhaas R., *SMLXL*); (p844) P

Automatisation:

(ph);

();

(cy) The magic of automation, and in particular the magic of an automatization in which the devices learn, may be expected to be (…) literalminded. If you are playing a game according to certain rules and set the playing-machine to play for victory, you will get victory if you get anything at all, and the machine will not pay the slightest attention to any consideration except victory according to the rules. (Wiener N., GG);

(hy);

(ur);

Becoming:

(ph) A becoming is not a correspondence between relations. But neither is it a resemblance, an imitation, or, at the limit, an identification (…). Becoming produces nothing other than itself (…). What is real is the becoming itself, the bloc of becoming, not the supposedly fixed terms through which that which becomes passes. Becoming can and should be qualified as becoming-animal even in the absence of the term that would be the animal become. (…) This is the point to clarify: that a becoming lacks a subject distinct from itself; but also that it has no term, since its term in turn exists only as taken up in another becoming of which it is the subject, and which coexists, forms a bloc with the first. (Deleuze G., Guattari F., TP); (pg237-238) P

(sc);

(cy);

(hy) Be(com)ing is fractal (…). The physical and cultural worlds are an infinite regress of interlocking levels. Each level or stratum recapitulates mechanisms from the last on a larger scale, and adds new ones of its own. (Massumi B., UGCS); P

(ur) Architecture must turn away from the comfortable vanity and narcisism that continue to protect it from the hazardous realities of historical becoming. (Kwinter S., FB);
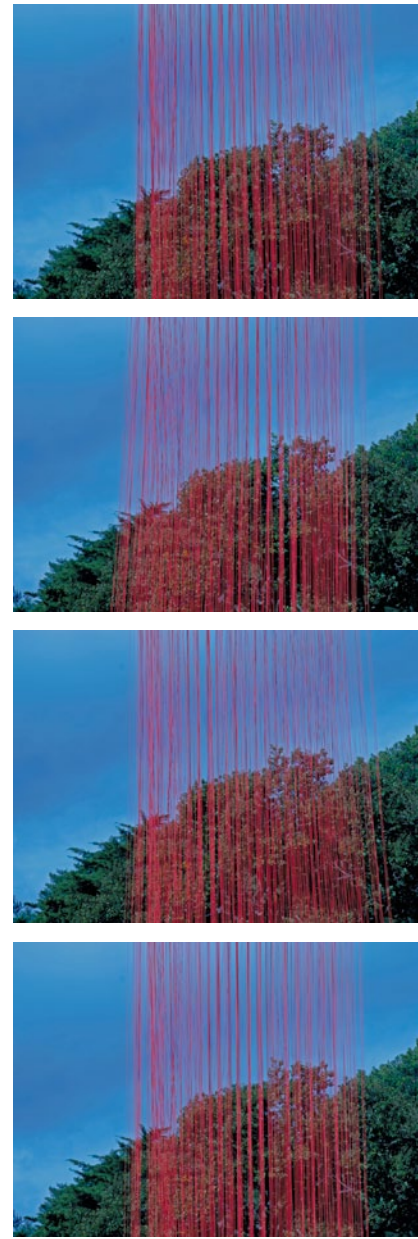

Figure XXV
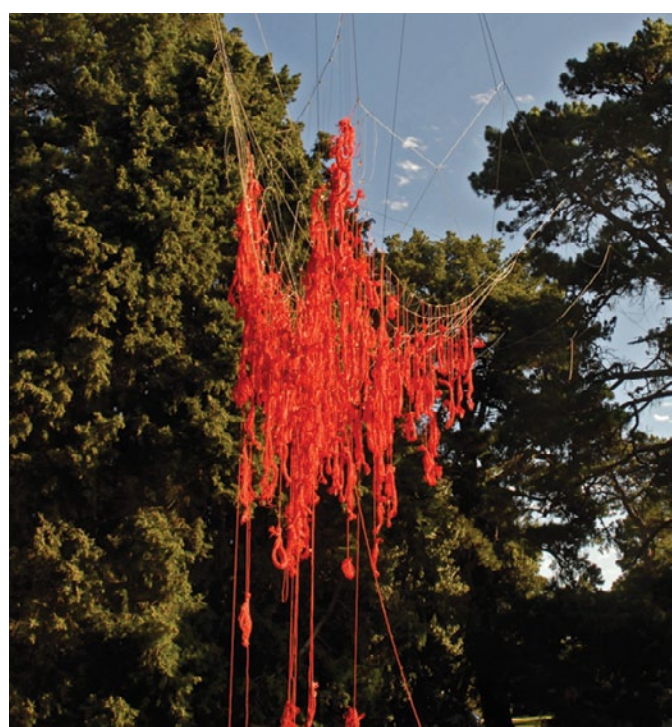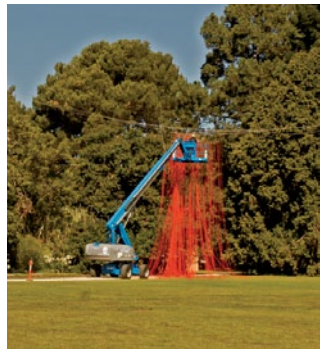Terra Fluxus, Helen Lempreire National Suclpture Award

Figure XXVI
Terra Fluxus, Helen Lempreire National Suclpture Award

Bifurcation:

(ph) Roads may fork or by–ways be opened along which dissociated elements may evolve in an independent manner. But nevertheless it is in virtue of the primitive impetus of the whole that the movement of the parts continues. Something of the whole, therefore, must abide in the parts; and this common element will be evident to us in some way, perhaps by the presence of identical organs in very different organism. (Bergson H., CE); (p54) P

(phys) All systems contain subsystems, which are continually 'fluctuating'. At times, a single fluctuation or a combination of them may become so powerful, as a result of positive feedback, that it shatters the preexisting organization. At this revolutionary moment – (…) a 'singular moment' or a 'bifurcation point' – it is inherently impossible to determine in advance which direction change will take. (Prigogine I., Stengers I., OOC); (pXV) P

(cy)

(hy) Instead of a unique and simple form of stability, we now have multiple coexisting forms of varying complexity (static, periodic, and chaotic attractors). Moreover, when a system switches from one stable state to another (at a critical point called a bifurcation) minor fluctuations may play a crucial role in deciding the outcome (De Landa M., TYNH); (p14) P

or

(…) the events at the onset of self-organization are called 'bifurcations'. Bifurcations are mutations that occur at critical points in the 'balance of power' between physical forces - temperature, pressure, speed and so on - when new configurations become energetically possible, and matter spontaneously adopts them. (De Landa M., NL, ZINC); (pg 135) P

(ur);

Branching:

(ph);

();Manyproblemsofahydrodynamical kind arise in connection with the flow of blood through the blood-vessels; and while these are of primary importance to the phsiologist they interest the morphologist in so far as they bear on questions of structure and form. As an example of such mechanical problems we may take the conditions which go to determine the manner of branching of an artery,

or the angle at which its branches are given off (...) (Thompson D., GF) (pg126) P
(cy); In virtually all known organisms, differentiation proceeds down branching pathways such that one cell type gives rise to a few further cell types, until the spectrum of cell types characterizing the adult organism is eventually formed. (…) Thus branching pathways and the poised properties of competent cells are both a reflection of an idea we can state qualitatively: Cell types must be very constrained patterns of gene expression among the 2 20 000 to 2 100 000 possiblities. Then exogenous inductive signals can trigger each such constrained pattern, or cell type, to change to only a few other constrained patterns. (Kauffman., OO) (pg 408-409) P
(hy);
(ur);

Causality:
(ph) There is (…) immanent in the philosophy of Ideas, a particular conception of causality, which it is important to bring into full light, because it is that which each of us will reach when, in order to ascend to the origin of things, he follows to the end the natural movement of the intellect. (…) Everything is derived from the first principle, end everything aspires to return to it. But these two conceptions of the divine causality can only be identified together if we bring them, both the one and the other, back to a third, which we hold to be fundamental, and which alone will enable us to understand, not only why, in what sense, things move in space and time, but also why there is space and time, why there is movement, why there are things. (…) The affirmation of a reality implies the simultaneous affirmation of all the degrees of reality intermediate between it and nothing. (…) (…) we perceive God as efficient cause or as final cause, according to the point of view. And yet neither of these two relations is the ultimate causal relation. The true relation is that which is found between the two members of an equation, when the first member is a single term and the second a sum of an endless number of terms. (Bergson H., CE); (p322-325) P
() Final cause is cause based on purpose or design: a wheel is round because that shape makes transportation possible. Physical cause is mechanical: the earth

'Terra Fluxus' is a recorder of the dynamic medium of landscape; it explores the principle of the recorder as a field condition which is continually remaking itself.

The field of 800 vibrant red filaments are suspended in the air and floating just above the ground plane. The space recorder translates the shifting processes coursing through and across the fibrous field and extending into the landscape itself. Terra Fluxus shifts in the wind, interacting with the sway of the trees and a play of light. It is intended to amplify our senses to the subtleties of the phenomenon of the landscape. Terra Fluxus shifts the landscape from a thin veil over the ground to a thickened surface which encapsulates the forces from the sky to deep down into the earth. The project was a temporal sculpture. Its short-lived life was determined by the rules of the exhibition in which it appeared. More fundamentally, temporality was in the sculpture's nature; it fluidly adapted to, and integrated with, the dynamic medium of the landscape in which it was sited.

'The field describes a space of propagation, of effects. It contains no matter or material points, rather functions, vectors and speeds. It describes local relations of difference within fields of celerity transmission or of careering points, in a word, what Minkowski called the world.'[4]

In Terra Fluxus the recorder has the ambition of constructing a field-condition which records or inscribes the complex and dynamic behaviours such as the flow, movement and complexities of the installation itself and the context and positioning. Terra Fluxus is an agent for the production of connections to inscribe the construction of what is determined and defined as the landscape.

The field-condition comes into being where individual filaments move from a singular filament to a field-condition. Each filament exists and operates on its own but is also inclusive of all 800 filaments that constitute the installation. The installation itself is influenced by and constructed within the conditions of the context and its positioning. The field-condition is not formed by any overarching geometrical plan form, but emerges from its intricate connections to both the physical and invisible and at the points of diversity of scales and orders. The recorder is determined and understood through its intervals, repetitions, and seriality

which are key concepts in its understanding. Form matters, but not so much the forms of things, as the form between things. The figure of the filament and its field condition can never be separated as distinct entities, as both are inter-dependent.

With the recorder, a regular field exists. The field has a physical presence in the underlying structure of the grid. Its presence is produced by the stainless-steel cables (the positioning of which is arbitrarily configured in the site) and by the length of rope purchased. The steel-cabled grid coexists with the emergent figure which is continually produced, and is never retained in the recorder, other than through its wear and tear and over long periods. Only through wear and tear is the permanency of its deformation demonstrated.

The construction of the field is in order to see information that is often invisible; to see information (not in a calculated and precise capturing of information), but as a means of calculating and predicting abstract quantities or behaviors.

The recorder shifts the understanding of the field from what is often perceived as horizontal phenomena, enabling it to be considered as a thick and deep condition. Terra Fluxus records not only what happens on the surface, but it primarily records the flows and movements that occur in the sky. It considers the field not only as a horizontal condition extending infinitely across the surface of the earth, but also as a thickening condition, and a four-dimensional condition that incorporates space and time.

Resonance

'What, in fact, is sensation? It is the operation of contracting trillions of vibrations onto a receptive surface.'[5]

How can the understanding of sensation and resonance facilitate the emergence of time as more than a 'contracted quantity'?[6] How can such understanding allow us to perceive time beyond the singular moment, or in binary opposites? How can such understanding take us beyond the duality of time as a homogeneous quantity and a heterogeneous quality? How can it allow us to pass from one to another in a continuous movement? Can time be

4 Kwinter, S., Ed. (1986). La Citta Nuova: Modernity and Continuity. Zone 1/2. New York, Zone books.

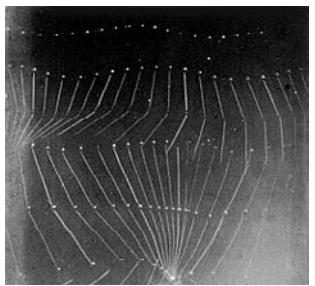5 Gilles Deleuze (1988) Bergsonism, New York: Zone Books. pg 74
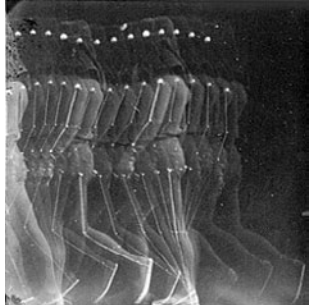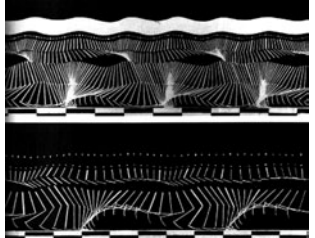
6 ibid. pg 74

Figure 037

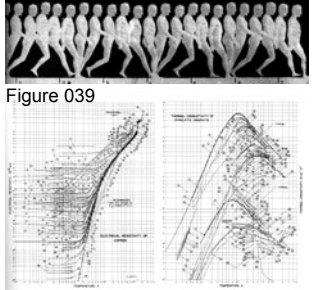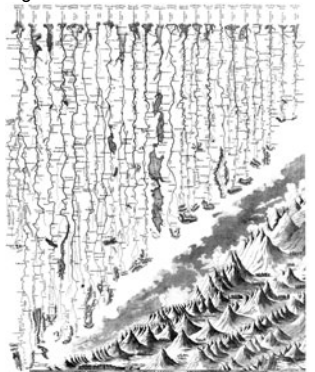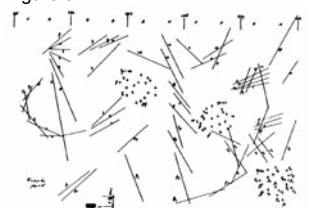
Figure 038

Figure 039

Figure 040

Figure 041

Figure 042

is round because gravity pulls a spinning fluid into a spheroid. The distinction is not always so obvious. A drinking glass is round because that is the most comfortable shape to hold or to drink from. A drinking glass is round because that is the shape naturally assumed by spun pottery or blown glass.

(…) an adaptationist explanation for the shape of an organism or the function of an organ always looks to its cause, not its physical cause but its final cause. (Gleick J., C); (p201) P

(cy);

(hy) If meaning is a meeting between asymptotic lines of causality which have no common form or correspondence, who or what introduces them to each other? No one person or thing, but the infinity of forces, some willed, most fortuitous (…). (Massumi B., UGCS); (p17) P (ur);

Cause-effect:

(ph) A cause may act by impelling, releasing or unwinding. The billiard-ball, that strikes another, determines its movement by impelling. The spark that explodes the powder acts by releasing. The gradual relaxing of the spring, that makes the monograph turn, unwinds the melody inscribed in the cylinder (…). What distinguishes the three causes from each other is the greater or less solidarity between the cause and the effect. In the first, the quantity and quality of the effect vary with the quantity or quality of the cause. In the second, neither quality nor quantity of the effect varies with quality or quantity of the cause: the effect is invariable. In the third, the quantity of the effect depends on the quantity of the cause, but the cause does not affect the quality of the effect. (…) Only in the first case, really, does cause explain effect; in the others, the effect is more or less given in advance, and the antecedent invoked is its occasion rather than its cause. (Bergson H., CE) ;

();

(cy) We use the same words to talk about logical consequences and about sequences of cause and effect. (…) But the if … then of logic in the syllogism is very different from the if .. then of cause and effect. (…) When the sequences of cause and effect become circular (or more complex than circular), then the description or mapping of those sequences onto timeless logic becomes self-contradictory.

Figure XXVIII
Lake Mungo, Australia

Paradoxes are generated that pure logic cannot tolerate. (…) The if … then of causality contains time, but the if … then of logic is timeless. It follows that logic is an incomplete model of causality. (Bateson G., MN);
(hy);
(ur);

'Central Place' System:
(ph);
();
(cy);
(hy) That group of cities may form hierarchical structures is a well-known fact at least since the 1930s, when the term 'Central Place' system was introduced to refer to pyramids of urban centers. (…) pyramids of towns organized around hierarchical levels of complexity. The distinction in space of these hierarchical systems was directly tied to geographical distance, since the residents of a town would only travel so far in search of a desired service (…).
One very important feature of Central Place and Network systems is the type of cultural structures they give rise to. (…) hierarchical constructions tend to undergo a homogenization before their materials harden into a pyramid (…).
Even before the advent of national capitals, the dominant cities of Central Place hierarchies performed their homogenizations at a regional level, transforming local cultures into 'great traditions'. (De Landa M., TYNH); P
(ur);

Chance:
(ph); In analyzing the idea of chance, which is closely akin to the idea of disorder, we find the same elements. When mechanical play of the causes which stop the wheel on a number makes me win, and consequently acts like a good genius, careful of my interests, or when the wholly mechanical force of the wind tears a tile off the roof and throws it onto my head, (…) I find a mechanism where I should have looked for, where, indeed, it seems as if I should have found, an intention. That is what I express in speaking of chance. (Bergson H., CE) (pg233-234) P
(phys) Self-organization processes in far-from-equilibrium conditions correspond to a delicate interplay between chance and necessity, between fluctuations and deterministic laws. We expect that

realised and articulated as complexities, making operation and magnitude inseparable?

We need to consider how flow of movement and its topology can define an unclaimed space, shifting the categorical definitions of landscape to differentiated qualities of becoming: '…landscape is a system where a point of change is distributed smoothly across a surface so that its influence cannot be localized at any discrete point… The slow undulations that are built into any landscape surface as hills and valleys do not mobilize space through action but instead through implied virtual motion… The landscape can initiate movements across itself without literally moving. The inflections of a landscape present context of gradient slopes, which are enfolded.' [7]

The recorder,Terra Fluxus shifts the ideas about representing fragmentary systems of landscape, and the built-environment. In addition it considers these organisations as dynamic sets that influence each other and result in a landscape that is spatially derived from both the virtual and real concepts of change and time. The recorder reinforces the investigation into problems of the landscape-field as shifting planes and territories that are differentiated by material difference and qualitative performance.

The recorder Terra Fluxus and its field condition represents itself, and in itself is a mechanism of representation under constant change and transformation. It is where its making is continually re-making and is never complete, or in a perfect state of equilibrium. The recorder reveals a place of permanent representation without limits, engaging with the visible and invisible conditions that constitute the landscape-field where it sits and is revealed. It doesn't have the boundaries that are determined by ideological or hypothetical frames as these are ineffective in describing its shifting state of being. Terra Fluxus is simultaneously the recorder of the abstract and the real. The relationships and connections are formed for the recorder to speak about and articulate the complexities of what it experiences, and what determines its limits. These relations don't characterise the particularity of the structure or the circumstances of the context it is deployed within, but its discourse as a process-line, and as a productive landscape-field.

7 Greg Lynn (1999) Animate Form, New York: Princeton Architectural Press. pg 29

Through

Driving through the Willandra Lakes district which is located on the border of northern Victoria and New South Wales in Australia, and pausing on the freeway, I attempted to position myself within the landscape. This proved to be a struggle brought about by my preconceived conventions. The struggle consequently caused a shift in my perception where my body was not considered as a whole but as disparate parts that sensed and responded to the landscape in their own receptive way. The engagement with the landscape forced the body to be considered as a set of scattered components engulfed by the landscape, fragmented but connected through the functioning of the body itself.

'When it comes to dividing an entity we begin to speak of its "parts" rather than the "whole", and its form already seems to compromised. But when the division is ideally carried to its ultimate consequences, that is, to infinitesimals, the original form appears fragmented, unrecognizable and ultimately transformable into something else.'

'Infinite division implies the tendency to return to pure potentiality, to the substantial principles of all subsequent existence.'[8]

Measure is achieved by the relationship of the body to rythmns, traces, patterns, and processes of the landscape which force a different form of engagement. Rather than simply viewing through the western gaze, an act of embedding and operating within the landscape is required. Aboriginals for centuries have claimed no territory over the land and have understood time and scale in the same way that mother-nature breathes and exhales Can this be the mechanism of seeing, reading and writing - operating within the landscape?

In Emily Kngwarreye's work, the canvas becomes the 'scape, a part of the land. The layering upon of paint and the working of the traces become a part of the landscape itself. It conjures up images of an interview which was conducted with an influential group of female artists talking about the experience of a trail that they had recently been on, and explained their tracing of a path into the red desert soil, and concluded remarking that this is how they draw.
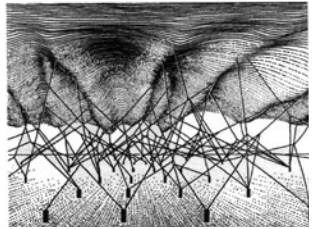
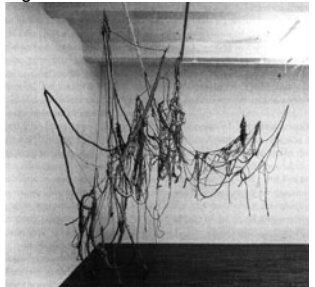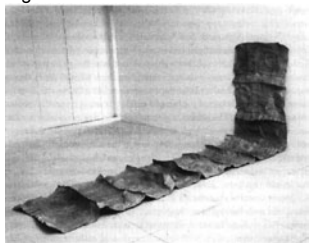8 A Brief History of Infinity, Paolo Zellini

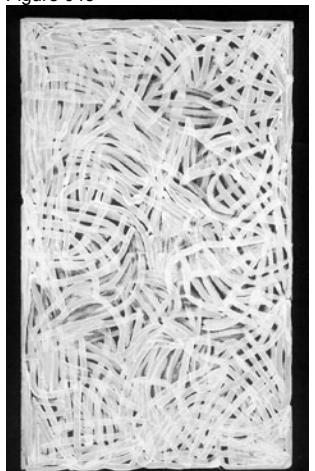Figure 043

Figure 044

Figure 045

Figure 046

Figure 047

near a bifurcation, fluctuations or random elements would play an important role, while between bifurcations the deterministic aspect would become dominant. (Prigogine I., Stengers I., OOC); (p176) P (cy);

(hy) The closest thing there is to order is the approximate, and always temporary, prevention of disorder. The closest thing there is to determinacy is the relative containment of chance. The opposite of chance is not determinacy. It is habit. (Massumi B., UGCS); (p58) P (ur);

Change:

(ph) (…) what is properly vital in growing old is the insensible, infinitely graduated, continuance of the change of form. Now this change is undoubtedly accompanied by phenomena of organic destruction (…). The evolution of living being, like that of embryo, implies a continual recording of duration, a persistence of the past in the present, and so an appearance, at least, of organic memory. (Bergson H., CE); (p19) P

(phys) Is change, whereby things are born and die, imposed from the outside on some kind of inert matter? Or is it the result of the intrinsic and independent activity of matter? Is an external driving force necessary, or is becoming inherent in matter? (Prigogine I., Stengers I., OOC); (p291) P (cy);

(hy).;

(ur); It is true, that change may and ought to be seen as a type of movement - the flow of matter through time – but even the simplest mechanical movement of the classical translational type resisted scientific and philosophical assimilation until very late in our history. For 'transformation' and 'invention,' I wish to show, are also twin and inseparable functions. Both are quality- producing processes that describe the coherent flow of matter through time, and it is time, and only time, that makes the new both possible and necessary. (Kwinter S., AT) (pg 8) P

Chaos:

(ph);

(phys) A state of disorder and irregularity whose evolution in time, though governed by simple exact laws, is highly sensitive to starting conditions: a small variation in

Figure XXIX
Emily Kingwareye, *Ceremony*

They draw how they experience the landscape and how they are engulfed within it. It's from the traces and paths that you actually construct the painting as a landscape. The canvas is the landscape boundless, and it is what exists, and the drawing intensifies the canvas.

In the painting, the diagrammatic operation is invisible, similar to Francis Bacon's triptych through which he identifies the action of painting as a form of abstraction of haptic space, where the figure and figurative are transformed into figurations inclusive of the canvas they emerge from.

'Miss X claims that she no longer has a brain or nerves or chest or stomach or guts. All she has left is the skin and bones of a disorganised body. These are her words'[9]

From Above

When shifting from the engulfed experience to the bird's eye view of the landscape, and while skimming over a series of books that look at Melbourne, rural and urban areas of America, New York , London and England, the visual intrigue and engagement are completely different. The reading becomes a reference to scale and what is figure and what is ground; a shift from the figuration of space as experience contrasting to when you are engulfed within it. (This relates to the idea of the aerial perspective). The fractalisation of space from the aerial drawing-lines break up various spaces from infrastructure to the built form, both public and private; occurring from internal to external, and from room to room. Only then do we begin to register the fabric not as a graphic pattern but as a pulsating body which is fluctuating and shifting according to the subtle movements within its fragments.

We can make comparisons to painting and its relationship to the canvas and the engagement of the viewer, Benjamin states that 'part of what hindered painting is its reduction to literary, thus effacing any engagement with the medium'.[10] from his description of painting in the second third of the nineteenth century. Not only has it degenerated from the pictorial to the picturesque, but it functioned such, that within it, everything depends on the anecdote or the message. The painted picture occurs in blank, indeterminate space,

9 Deleuze, Gilles and Guattari, Felix. A Thousand Plateaux: Capitalism ans Schizophrenia. Minneapolis, University of Minnesota Press, 1988

10. Benjamin, Andrew, What is Abstraction?, Academy Editions, London, 1996. Pg 11

Figure 048

Figure 049

Figure 050

Figure 051

Figure 052

Figure 053

this conditions will produce wildly different results, so that long term behaviour of chaotic systems cannot be predicted. Some degree of non-linearity is necessary for chaotic behaviour, which is present in most real systems, such as in weather patterns and motion of planets about the Sun. (Chambers. Dictionary of Science and Technology);

(cy) Chaos is like a hit record with two sides (…). –The lyrics to the hit side go: By the laws of chaos, initial order can unravel into raw unpredictability. You can't predict far. –But the flip side goes: By the laws of chaos, things that look completely disordered may be predictable over the short term. You can predict short. (…) Both the long-term, unpredictable nature of high dimensional systems, and the short-term, predictable nature of low-dimensional systems, derive from the fact that 'chaos' is not the same thing as 'randomness'. "There is order in chaos" (…) (Kelly K., OC); P

(hy) Since anarchy-schizophrenia welcomes chance, a society tending in its direction possesses a nearly infinite degree of freedom. Its terms are not mutually exclusive in principle: the potentials they define can accommodate both molecularity and molarity, chaos and order, intrusion and closure, and each of these both in the form of virtual superposition and as actual coexistence (Massumi B., UCGS); P

(ur) This new 'complex' informational space is today often misnamed by the science that studies it as 'chaos'. What must interest us is this science's willingness to engage such concepts as disorder, instability, randomness, interactivity, irreducible complexity, and especially change as positive (and not merely romantic) terms. For here all systems are open systems; they are labile and suffused with temporality; they are sensitive and chaotic in the sense that they are creative and adaptive – they ceaselessly undergo change, produce novelty; they transform or transmit unactualized potentials to be actualized or not. (Kwinter S., AT);

Cocausality:
(ph);
();
(cy) A sweater manufacturer will try to rig a cultural mirror that encourages wild fluctuations in the hopes of selling many styles of sweaters, while a dishwasher manufacture will try to focus on reflections onto

Figure XXX
Emily Kingwareye, *Ceremony*

and happens to be on a square of canvas and inside a frame. It might just as well have breathed on air or formed out of plasma. It tries to be something you imagine rather than see, perhaps a bas-relief or simply descriptive.

If we shift from the Renaissance perspective view of space and depth; from looking at painting as figural image, and look at it in terms of material organisations and depth, then painting takes on various scales and complexities of operation. These include the depth of the material surface, the brush strokes, the variation of shades, and the complexity of its various connections. The painting is not read as a singular entity but as a series of invisible and visible dynamics operating within it, and aligning with, various resonating scales and strokes that form the figuration of the canvas and painting.

Ptolemy

The early mapmaking technique of Ptolemy, the geographer and cosmographer from the second century, gave rise to the global referencing system of longitude and latitude. Ptolemy's intention was to look at the globe of the Earth not in a scenographic way, but as a 'motionless globe through a point before the eyes which occurs at the intersection of that meridian and that parallel which divided respectively the longitude and latitude of the known Earth into two equal parts'. The intention was if the Earth was unfolded that the lines 'will exhibit the appearance of a straight line'. Ptolemy would establish connections between the motionless Earth and the transformative effects of the sky.

Ptolemy's map making system unfolds the Earth through the grid device of the longitude and latitude, with this unfolding the Earth is represented so that it appears as 'a curved stretch of land whose center of curvature lies at the north pole'[11]. This representation of the world for Ptolemy was not a mechanism of control or projection for a particular viewer, but the maps themselves were to be seen as a 'mathematical essence of the cosmos'. Ptolemy would paint directly onto the gridded picture plane, projecting an unfolding of the Earth's surface.

11 Claudius Ptolemy, The Geographer, Trans. and ed. E.L. Stevenson (New York: Dover Publications, 1991), pg43-45

Contemporary Earth mapping techniques still use the orthographic projection techniques that Ptolemy
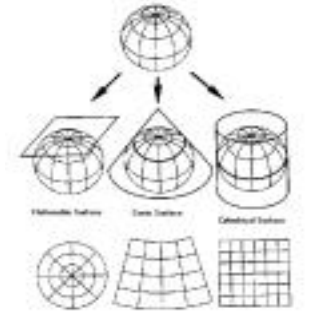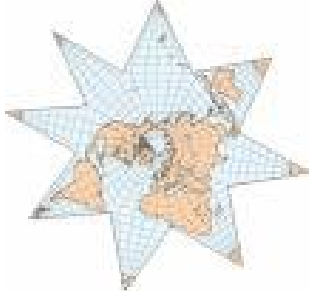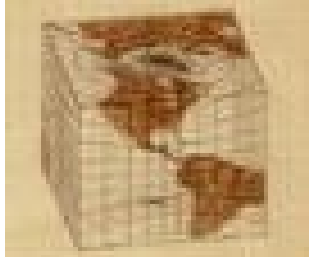

Figure 054

Figure 055
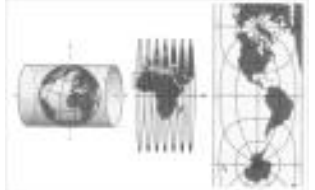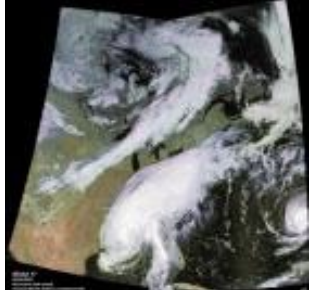

Figure 056

Figure 057

Figure 058

Figure 059

Figure 060

common denominators of only a few dishwasher images, since making varieties of sweaters is much cheaper than making varieties of dishwashers. The type of market is determined by quantity of feedback signals. (Kelly K., OC) (pg 72) P

(hy) Throughout our first version of structuration, determinacy arose from indeterminacy. Now we see that indeterminacy can arise from determinacy. That is the other half of the story: cocausality. One thing does not lead to another as a full cause to a simple effect. To begin with, there were two full causes (attractor states). Their line of cocausality then joined in cocausality with another causal line – constituted by chance. The supermolecular subject-group lies at a doubly cocausal crossroads of chance and determinacy. Off on a tangent: a singular in-between state of cocausal local-global self-organization, with no assignable destiny. (Massumi B., UGCS); (p62-63) P

(ur);

Co-development:

(ph);

(bio) A horse requires more than its own ancestors. A horse implies grass. Grass implies topsoil. Topsoil implies breakup of rocks, development of fungi, worms, beetles, composit-making bacteria, animal droppings – no end of other evolution and lineages besides that of the horse. (…) Development depends on co-developments. I mean that development can't usefully be thought of as a 'line', or even as a collection of open-ended lines. It operates as a web of interdependent codevelopments. (Jacobs J., NC); (p19) P

(cy);

(hy);

(ur) (…) since technical relationships are historically subordinated to social relationships of production, experience, and power, they tend to be molded in their structure and orientation by restructuring processes. On the other hand, they do have a specific logic that dominant social interests ignore only at the risk of spoiling their technological potential (…). Modes of development emerge from the interaction between scientific and technological discovery and the organizational integration of such discoveries in the processes of production (…). (Castells M., IC); (p11) P

Figure XXXI
Mappamundi, Ptolemy

Co-Existence:
(ph);
(sci)
(cy)
(hy);
(ur);

Co-evolution:
(ph);
(sci) In a coevolutionary arms race, when the Red Queen dominates, all species keep changing and changing their genotypes indefinitely in a never-ending race merely to sustain their fitness level. (Kauffmann S., HU);
(cy) A stochastic system of evolutionary change in which two or more species interact in such a way that changes in species A set the stage for the natural selection of changes in species B. Later changes in species B, in turn, set the stage for the selecting of more similar changes in species A. (Bateson G., MN);
(hy);
(ur);

Convergence
(ph);
(sci); Convergent and divergent relations define modal status of virtual relations. Following Leibniz, Deleuze calls these virtual relations compossibility and incompossibility: Two events are compossible when the series which are organized around their singularities extend in all directions (that's is, converge); they are incompossible when the series diverge in the vicinity of constitutive singularities. Convergence and divergence are entirely orginial relations which cover the rich domain of alogical compatibilities and incompatibility.
();
(cy);
(hy);
(ur);

Compensation:
(ph)
(phys) The problem of efficiency of heat engines, of the ratio between the work done and the heat that must be supplied to the system to produce the two mutually compensating processes, is the very point at which the concept of irreversible process was introduced into physics (Prigogine I., Stengers I., OOC);
(p107) P
(cy);
(hy);
(ur);
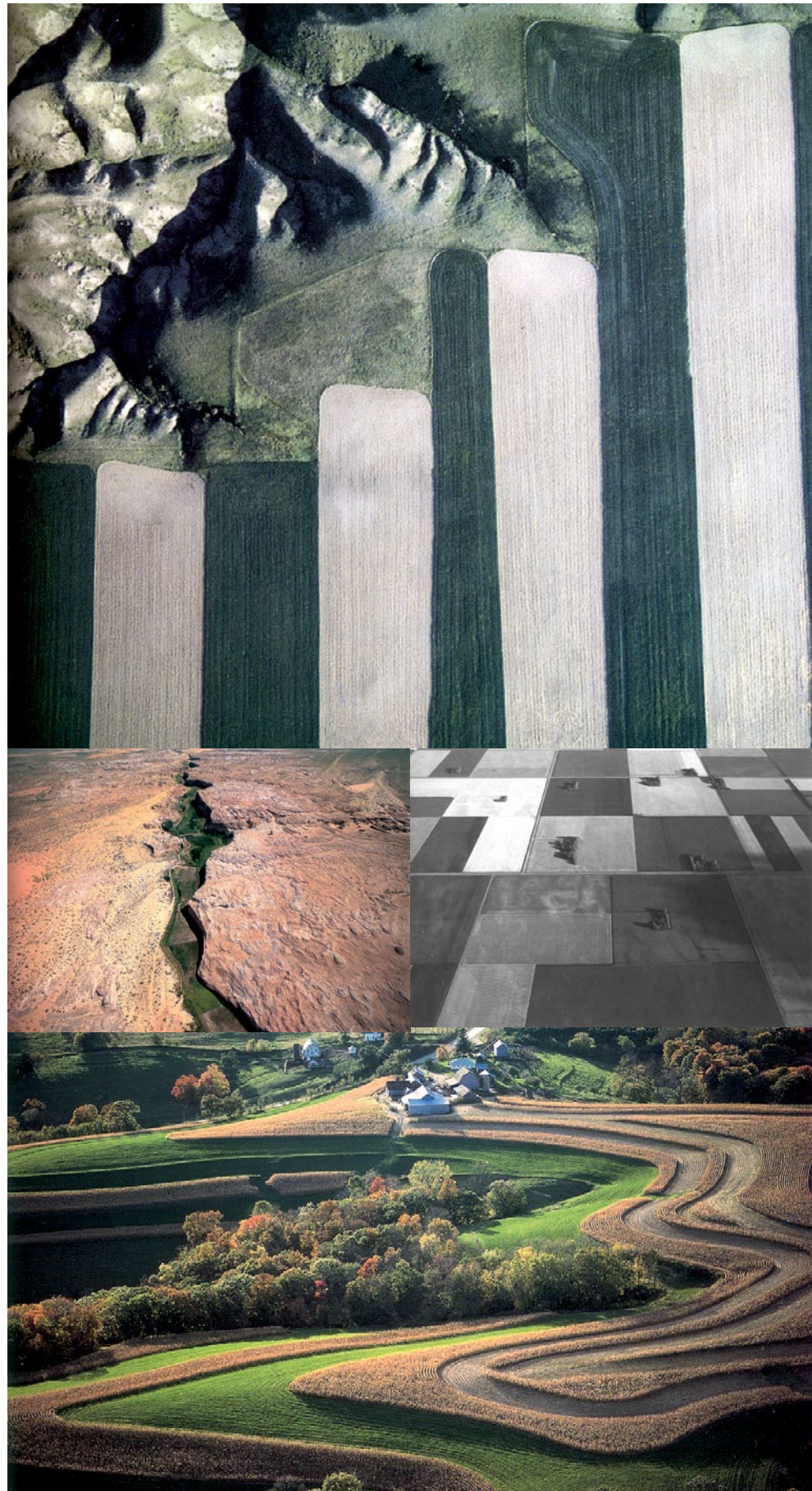
Figures XXXII
Images from James Corner's, *Taking Measures Across the American Landscape*
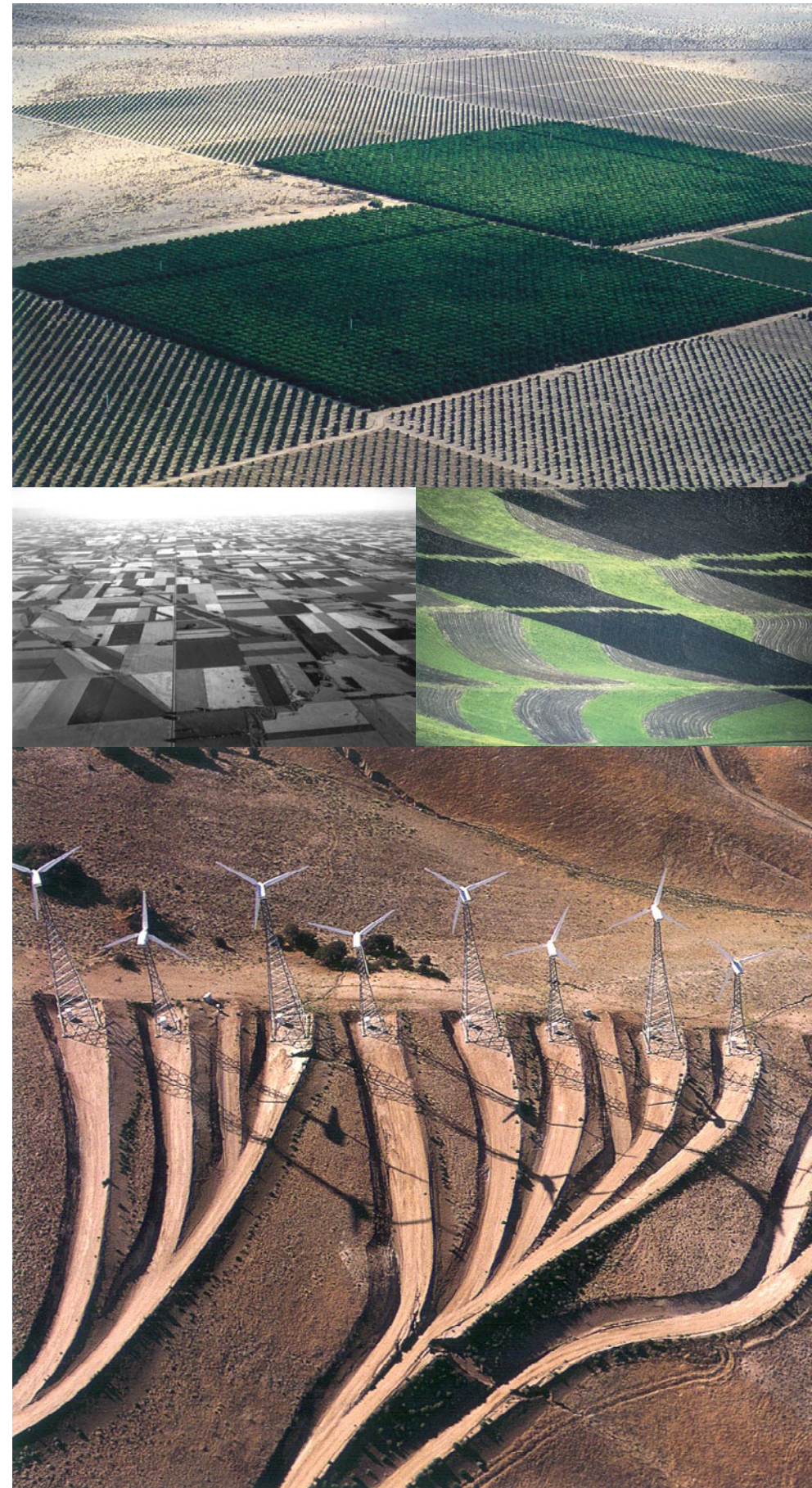
Figures XXXIII
Images from James Corner's, *Taking Measures Across the American Landscape*

Complexity:

(ph);

() (…) a giant cluster of connected elements will appear (…) it will be a giant cluster of lightbulbs, each of which is frozen into a fixed activity, 1 or 0. If this giant frozen component forms, the network of bulbs is in the ordered regime. If it does not form, the network is in the chaotic regime. Just between, just near this phase transition, just at the edge of chaos, the most complex behaviors can occur – orderly enough to ensure stability, yet full of flexibility and surprise. Indeed, this is what we mean by complexity. (Kauffmann S., HU);

(cy);

(hy);

(ur) (…) 'complexity' invokes nothing less than all that is within nature or the cultural world that is irreducible to any rigid or finite schema of intelligibility, either mathematical or phenomenological. Complexity, at the first level, always implies the presence within a given system of a surplus of variables whose interactions cannot be correlated or predicted ahead of time with any degree of certainty. (Kwinter S., AT);

Competition:

(ph);

();

(cy) Restriction on growth in a system made up of differentiated, self-reproducing individuals will evoke competitive behavior among these individuals, even if they are of basically amicable disposition. The rules Conway devised for his 'Life' game, for instance, do not contain any combative elements; but in spite of this, they create (…) a whole arsenal of weapons. (Eigen M., Winkler R., LG); (p217);

(hy);

(ur) ;

Consistency:

(ph);

();

(cy) (…) consistency is not a property of a formal system per se, but depends on the interpretation which is proposed for it.

(…) consistency of a formal system (…): that every theorem, when interpreted, becomes a true statement. We have given two ways of looking at consistency: the first says that a system-plus-interpretation is consistent with the external world if every theorem comes out true when interpreted;
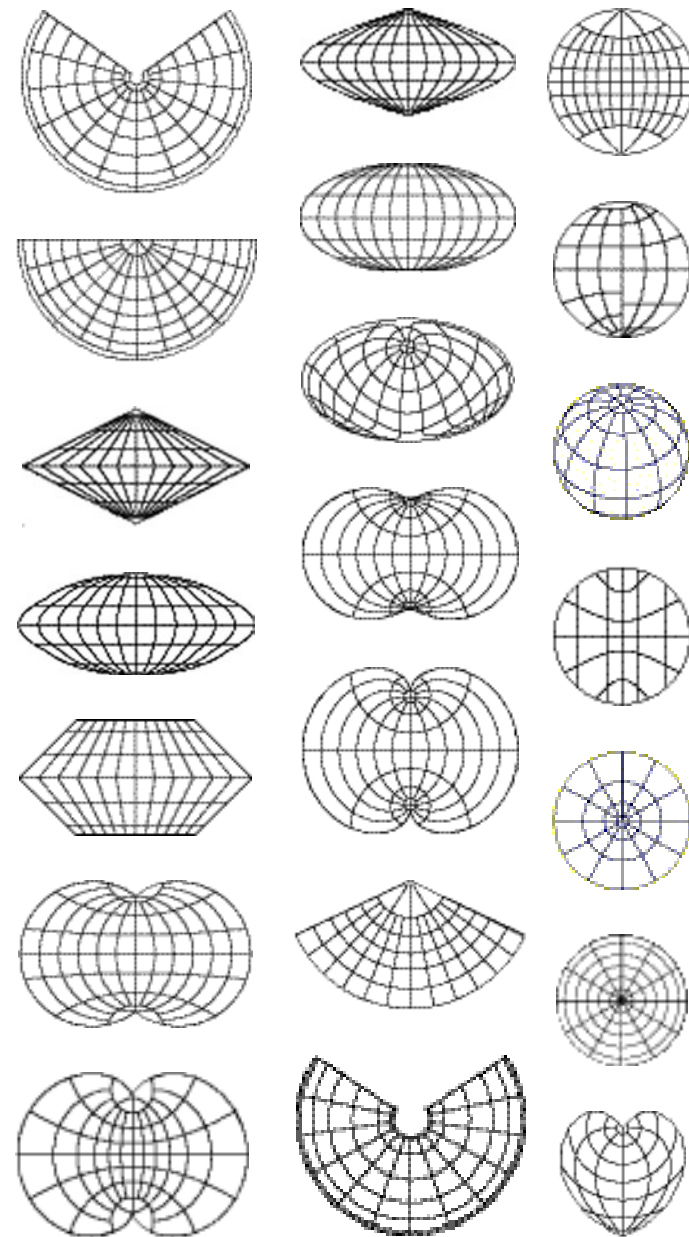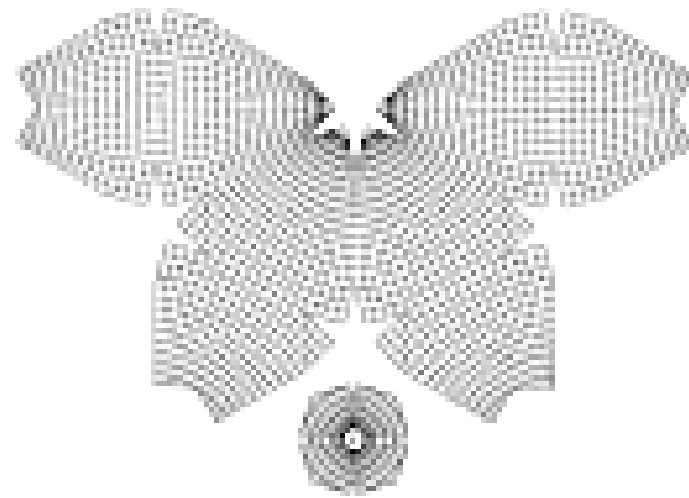
Figure XXXIV

developed. The projective methods are many and varied according to the information being mapped, with the desire for the least distortion - as displayed in the series of images in the following pages.

J.B. Harley highlights, in his paper 'Maps, Power and Knowledge', the appropriation of the Ptolemaic system of co-ordinate geometry by the Roman's in the 15th century, 'the grids laid out by the Roman agrimensores, made functional in centuriation were an expression of power rolled out relentlessly in all directions … homogenizing everything in its path'. Harley claims that the graphic nature of the map divorced the imperial ruler's 'arbitrary power that was easily divorced from the social responsibilities and consequences of its exercise'[12] … or at least not directly! The rolling out of the Roman coordinate system was also used in the early nineteenth century in the USGS (United States Geological Survey) which demarcated territories and states.

Mapping the surface - US Geological Survey

The USGS (United States Geological Survey) system[13] is a rectangular land survey of the United States which aligned itself to the universal coordinate system of longitude and latitude. The US system bases itself on subdividing through the rectangular system. This mapping was originally devised in 1812 and is still being used in the construction of contemporary maps.

The rectangular mapping technique varied in size according to various scales. The larger division lines are bounded to latitude and longitude, and the smaller sizes are proportionally divided within the larger as shown below.

This system of division maintained the relationship between the rectangular size of the map and the publication scales on which the map was printed. Scales of the map would also vary in terms of the information it contained. The smaller the scale of the map would be, for example, at 1:250,000 and would most likely be for 'state base maps and territorial scales'. This established a systematic connection through the horizontal and vertical grid system of size and scale.

12 Denis consgrove editor, iconography of landscape, j.b harley maps, knowledge , power, pg 282

13 USGS system

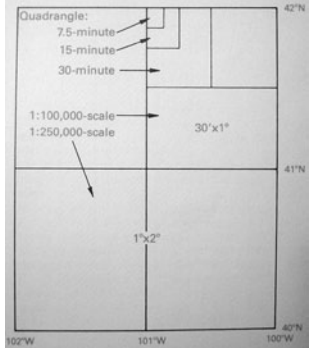
Figure 061

Figure 062

Figure 063

Figure 064

Figure 065

Figure 066

the second says that a system-plus-interpretation is internally consistent if all theorems come out mutually compatible when interpreted. Now there is a close relationship between these two types of consistency. In order to determine whether several statements are mutually compatible, you try to imagine a world in which all of them could be simultaneously true. Therefore, internal consistency depends upon consistency with the external world - only now, 'the external world' is allowed to be any imaginable world, instead of the one we live in. but this is an extremely vague, unsatisfactory conclusion. (…) it should be possible to establish different brands of consistency. For instance, the most lenient would be 'logical consistency', putting no restraints on things at all, except those of logic. More specifically, a system-plus-interpretation would be logically consistent just as long as no two of its theorems, when interpreted as statements, directly contradict each other. (Hofstadter D., GEB); (hy); (ur);

Context:
(ph);
();
(cy) (…) the meaning of a given type of action or sound changes relative to context (…). The whole matter of messages which make some other message intelligible by putting it in context must be considered, but in the absence of such metacommunicative messages, there is still the possibility that B will ascribe context to A's signal, being guided in this by genetic mechanisms. (…) Genes may perhaps influence an animal by determining how it will perceive and classify the context of its learning. But mammals, at least, are capable also of learning about context. (Bateson G., MN); (p115) P
or
It is an extraordinary capacity of content itself to undergo ceaseless and convulsive metamorphoses in its own right that ought to give the interpreter pause; and that inspires the kneejerk appeal to that not very meaningful thing called context (let alone 'contextual', 'contextualism', etc., which are often intended to mean something like social or sociological analysis, but which may prove to be poisoned gifts in the arsenal of the various Lefts who brandished them).(Jameson F., PSP) (Leach N., SPRA) (pg 259) P
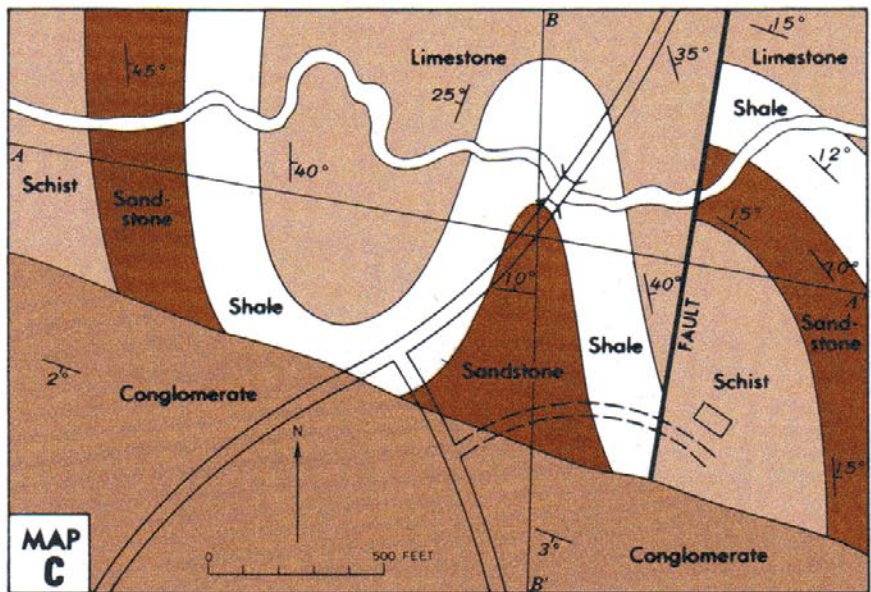
Base map

MAP A

Field map

MAP B
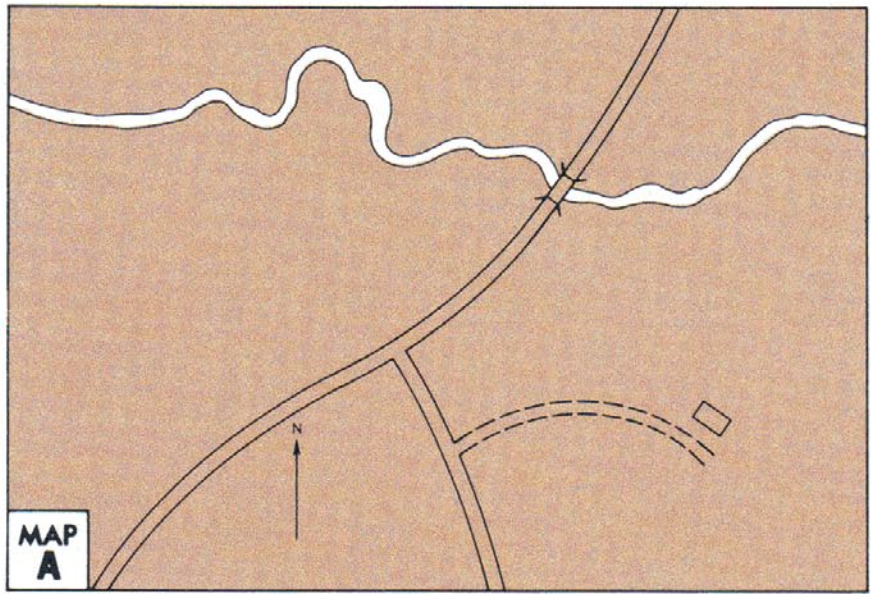
Completed map

MAP C
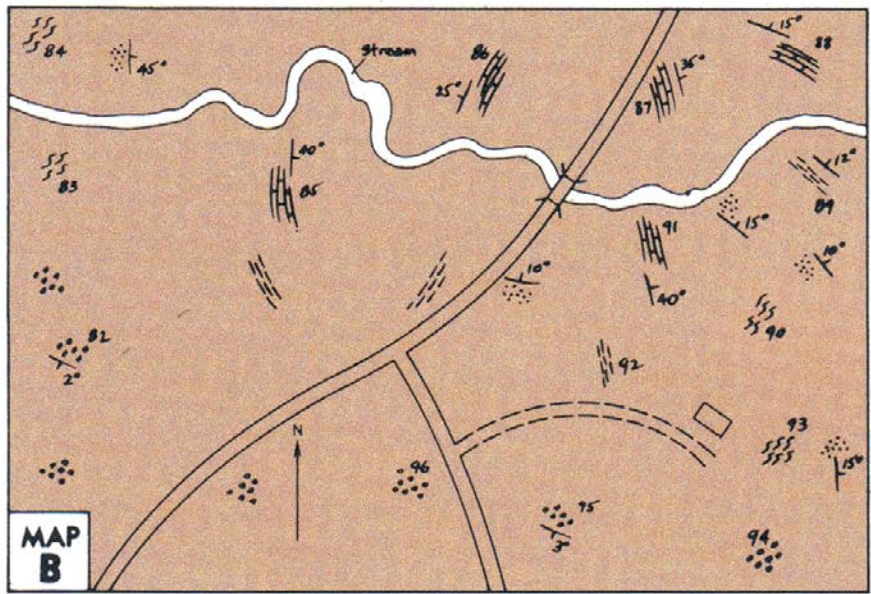
For different features mapping techniques would also vary. For example, when topography was mapped, either triangulations were used to construct the map, or in other cases, maps were constructed through points, and contour lines were then drawn. These points and triangulations were drawn in relationship to the universal gridded coordinate plane. The two systems were flattened into the same plane, forming a thick version of the picture plane, a shift from Ptolemy, where the gridded plane had not quite landed on the Earth but acted as the intermediary device between the Gods and the Earth.

The contour maps were always generalised because of the inability of the survey map to show every irregularity of the ground surface. In some cases relief shading was used to compensate for these inadequacies of the mapping system. The USGS system gives rise to the problem that change in the landscape is not represented where the gridded field is not a registration of figure and ground, but a registration of a figuration of the ground through symbols and notation.

Classification systems were also established in the USGS system to identify such features as boundaries (for example, state borders). These systems also considered invisible structures such as state or territory borders, extents of parks or national monuments. The classification system consisted of a naming and identification system which was established on indefinite, undetermined or disputed boundaries. Boundaries in some cases would follow topographic features or reflect the invisible structure of the universal coordinate system – the USGS system. The naming system itself would respond to a generic naming system through programmatic features or other features such as place-names having historical significance.

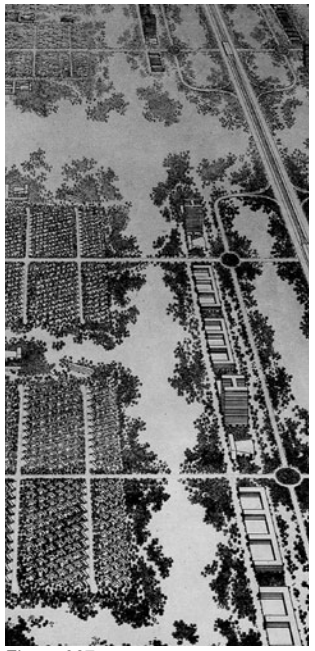Figure XXXV
USGS Steps in Geologic Mapping
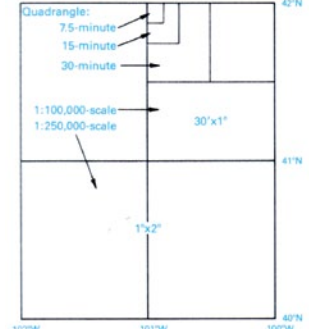

Figure 067

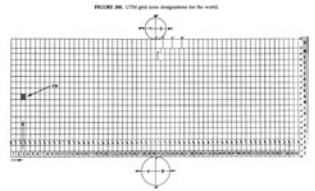Figure 068

Figure 069

Figure 070

Figure 071

(hy) 'Context' is an infinitely complex concertation of forces, the logical unity of which can only be conceived as one of movement: the direction in which a speech-driven body is impelled. (Massumi B., UGCS); P (ur)
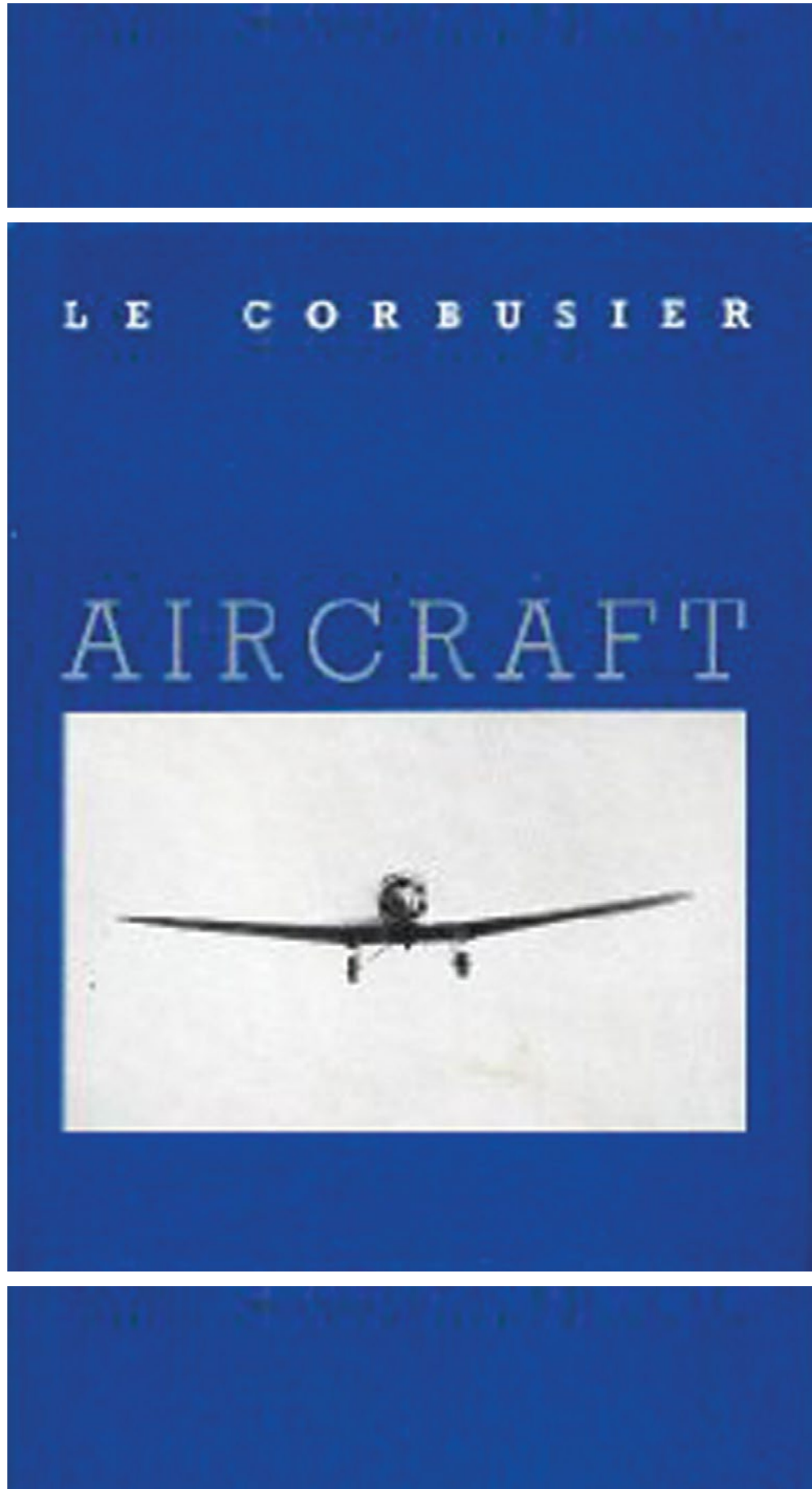
Contingency:
(ph);
();
(cy);
(hy);
(ur) (…) the very gesture that carries thought away from the 'event' and toward the 'thing' abstracts and spatializes time in the act of instrumentalizing it; it subjugates the contingency and volatility of time by reconstituting it external to phenomena as a finitude and a regularity: it becomes a technique of measurement embodied in economic axioms and algebraic laws. (Kwinter S., AT); (pg4)

Continuity:
(ph); The essential thing is the continuous progress indefinitely pursued, an invisible progress, on which each visible organism rides during the short interval of time given it to live. (…) the more we fix our attention on this continuity of life, the more we see that organic evolution resembles the evolution of a consciousness, in which the past presses against the present and causes the upspringing of a new form of consciousness, incommensurable with its antecedents.(Bergson H.,CE);(pg27)
();
(cy);
(hy);
(ur) (…) areas between an object and another are not empty spaces but rather continuing materials of differing intensities, which we reveal with visible lines which do not correspond to any photographic truth. This is way we do not have in our paintings objects and empty spaces but only a greater or lesser intensity and solidity of space. (Umberto Boccioni, Archivi del futurismo, in Kwinter S., AT);

Control:
(ph);
();
(cy) Yet as we unleash living forces into our created machines, we lose control of them. They acquire wildness and some of the

Figure XXXVI
Le Corbusier's *Aircraft*

14 Corbusier, Le, Aircraft, London, The studio publications, 1935

Production: Aerial View and Surface Affects

'The birds eye view.
The eye now sees in substance what the mind formerly could only subjectively conceive.
It is a new function added to our senses.
It is a new standard of measurement.
It is a new basis of sensation.'[11]

The discovery of the aerial subject by Felix Nadar in 1858 coincided with his hot air ballooning photographic expedition over Paris. Nadar's aerial photographs opened up potential ways of seeing in the urban field, from the bird's eye view. The aerial photograph unveiled an expansive view over an infinite landscape condition. The perspective view disappears into the surface of the earth. The gridded plane, which was invisible and vertical, becomes embedded into the horizontality of the Earth's surface. The human subject disappears and the reality of photographic event takes its place.

In Le Corbusier's publication[14], the aircraft acts as a prelude to how he will use the aerial view as a not only a technique of analysis for urban form but also a technique of transformation. The aerial view enhanced the dissolution of the figure into the expanded landscape field.

The aerial view for Hilberseimer becomes a registration in the shift of forces and understanding of the potential transformation of the city. The aerial view demonstrates the connection from the detailed condition and the connection to the overall projection of the field of the city itself. The figure of country versus town is not clearly visible; the figure becomes dissolved in the expansive field.
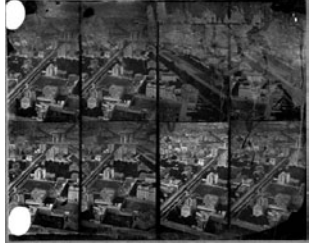

Figure 072

Figure 073

Figure 074

Figure 075

Figure 076

Figure 077

A Conversation about Representation:

A Conversation about the Map

surprises that the wild entails. This, then, is the dilemma all gods must accept: that they can no longer be completely sovereign over their finest creations. The world of the made will soon be like the world of the born: autonomous, adaptable, and creative but, consequently, out of control. (Kelly K., OC); P

(hy) If the parcelling out of territory – of territory of time – is envisioned (…) according to a strict regulation and not a chrono-political understanding, there will be nothing left but absolute control, an immediacy which will be the worst kind of concentration. (Virilio P., PW);

(ur) (…) the artist simply cannot exercise a precise formal control over the material. Instead the artist establishes the conditions within which the material will be deployed, and then proceeds to direct its flows. (Allen S., OF); (pg27)

Cooperation:

(ph);

();

(cy) (…) there are (…) games based on cooperation rather than rivalry. The Japanese royal family used to play a game called "kemari" (ke=kick, mari=ball), a kind of football in which all the players move around the playing field in a circle and try to kick the ball to each other in such a way that it never touches the ground. Each player concentrates all his energies on not being the one to let the ball drop. We might well wish that this were the game on which the rules of politics were modeled. (Eigen M., Winkler R., LG); (p17)

(hy);

(ur);

Correlation:

(ph);

(phys) (…) in the case of a nonlinear type of chemical reaction (…) long-range correlations appear. Particles separated by macroscopic distances become linked. Local events have repercussions throughout the whole system. (…) such long correlations appear at the precise point at transition from equilibrium to nonequilibrium. (…) the amplitudes of these long-range correlations are at first small, but increase with distance from equilibrium and may become infinite at the bifurcation points. (Prigogine I., Stengers I., OOC); (pg180) P

(cy);

(hy) The particles in one vortex

Figure XXXVII
Beach Mapping

1. Thompson, D'Arcy Wentworth, *On Growth and Form: the complete revised edition*, Dover Publications, New York, 1992.

2. Kwinter, Sanford, *Architectures of Time: Towards a Theory of the Event in Modernist Culture*, Cambridge Massachusetts, The MIT Press, 2001.

Conversation # One

A Converstaion about Representation:

A Conversation about the Map

"The waves of the sea, the little ripples on the shore, the sweeping curve of the sandy bay between headlands, the outline of the hills, the shape of the clouds, all these are so many riddles of form, so many problems of morphology."[1]

"Clearly, if time is real, then the principle of morphogenesis (novelty) must be sought in time, within a mobile and dynamic reality riddled with creative instabilities and discontinuities."[2]

"Make a map not a tracing".[3]

The scale and texture of the granules of sand - the movement of the wind, and water - the stakes plunged deeply into the ground - all these constitute the particularities of this beach landscape at this specific moment.

The repetitive beach acts are incredibly simple. They feel like a process of experimentation. A process I have undertaken ever since I was first introduced to the notion of an Australian beach as a child. The repetitive acts are ingrained. These are the strongly resonating images I languish for when I'm away from Australia for extended periods - the curvature of the coastline and its unimaginable forms - the endless foreshore with the smooth, fine-grained sand - the running back and forth with the waves - being buried in the depths of the sand with only my head, toes and fingers exposed. This is a morphological condition where time-form is the crystallisation of a passing present, where the future and the present are looping directly from one to the other. This form can only be understood in time.

Although, straightforward from the onset, I seem to return continually to this set of explorations, why? Because they continually reveal and clarify struggles I may have with understanding the world, with understanding the complexities of an urban context. How might I explore the possibilities of an emergent urban landscape? How might I
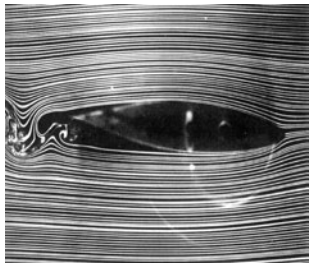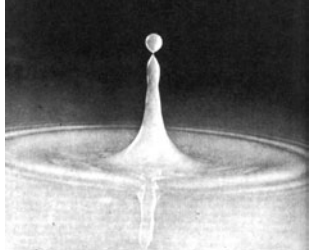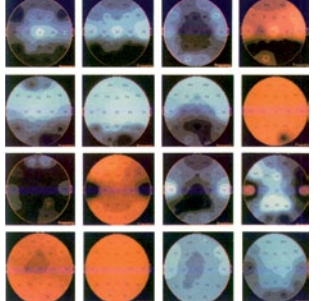

Figure 078

Figure 079

Figure 080

Figure 081

Figure 082

are correlated at a distance with the particles in all the others. The liquid is a correlated population of correlated populations – a supple of superindividual. Because the liquid is doubly correlated, any chance disturbance that might occur in one area will immediately be 'felt' everywhere. It will resonate throughout the liquid, affecting the correlations within and between every vortex. The disturbance's effect will be amplified instantaneously from the local to the global level. Any disturbance will be sensed separately by the individual nucleations and simultaneously, in access of them, by the superindividual as a whole. (Massumi B., UGCS); P (ur);

Critical Point:
(ph);
(); The critical point is this: When M>N, attaining and maintaining structurally hierarchical military command trees seem extremely difficult because the overwhelming majority of networks with regulatory connections than genes are rich in feedback loops. If some form of hierarchical regulation is often useful (…) then the existence of a large frozen components is almost certainly an essential requirement. (Kauffman S., OO); (pg501) (cy);
(hy) Order emerges out of chaos (…) only at certain critical points in the flow of matter and energy: when a critical point in the concentration of chemical is reached, the termite colony becomes a "nest-building" machine; when available food reaches a (minimum) critical value, the amoebas self-assemble into an organism; when critical points in the rate of reaction and diffusion are reached, molecules spontaneously come together to form a chemical clock; and at a critical point in speed, the random flow of a moving liquid gives way to the intricately ordered patterns of turbulence. Robotic, or machinic, history would stress the role of these thresholds (of speed, temperature, pressure, chemical concentration, electric charge) in the development of technology. Human artisans would be pictured as tapping into the resources of self-organising processes in order to create particular lineages of technology. (De Landa M., WAIM); (p7) P (ur);

Figure XXXVIII
Beach Mappings_Set 01

3. "… Make a map, not a tracing. The orchid does not reproduce the tracing of the wasp; it forms a map with the wasp, in a rhizome. What distinguishes the map from the tracing is that it is entirely oriented toward an experimentation in contact with the real. The map does not reproduce an unconscious closed contact with the real. The map does not reproduce an unconscious closed in upon itself; it constructs the unconscious. It fosters connections between fields, the removal of blockages on bodies without organs, the maximum opening of bodies without organs onto a plane of consistency. It is itself a part of the rhizome. The map is open and connectable in all ot is dimensions; it is detachable, reversible, susceptible to constant modification. It can be torn, reversed, adapted to any kind of mounting, reworked by an individual, group, or social formation. It can be drawn on a wall, conceived of as a work of art, constructed as a political action or as a meditation. Perhaps one of the most important characteristics of the rhizome is that it always has multiple entryways; in this sense, the burrow is an animal rhizome, and sometimes maintains a clear distinction between the line of flight as passageway and storage or living strata (cf. the muskrat). A map has multiple entryways, as opposed to the tracing, which always comes back "to the same." The map has to do with performance, whereas the tracing always involves an alleged "competence." Unlike psychoanalysis, pyschoanalytic competence (which confines every desire and statement to a genetic axis or overcoding structure, and makes infinite, monotonous tracings of the stages on that axis or the constituents of that structure), schizoanalysis rejects any idea of pretraced destiny, whatever name is given to it -- divine, anagogic, historical, economic, structural, hereditary, or syntagmatic... (pps. 7-13, translation by Brian Massumi). Deleuze & Guattari in A Thousand Plateaus: Capitalism and Schizophrenia [University of Minnesota Press, 1987

understand the materiality of the visible and invisible forces we might consider as environmental, social, political, economic acts and events?

The beach is where the ground seemingly ends, merges below the surface into a fluid state of existence. A ground which initially is a seemingly thin surface but slowly reveals itself as a thick, continuous, resonating surface. A ground where there are similarities in its condition as you survey the surface and how it performs; it is a ground that is uniquely different in every situation. It's a landscape in a continual state of flux and figuration.

I stand barefoot on the damp sand. The sand quickly separates my toes and surrounds them. At the same time I plunge stakes into the ground, timing the placement of each stake between waves. Then I hammer in from above the pieces of timber. I gauge the point where the stakes will not submerge any further on this continuously changing edge, this edge where water negotiates sand and sand negotiates water.

This set of beach studies maps the effects of the shifting landscape over time. The set maps the multiplicity of forces and systems at play in this landscape. Here the rhythmic water passes back and forth. Granules of sand become covered by water. Then they shift, scatter, reposition themselves in relationship to the still firmly planted stakes. And all the while the water passes back into the ocean or slowly drains deep into the thick sludge of the sand. The sand slowly dries in the breeze and shimmering sunlight, and for a slight moment what seems to be a pause, a map of what had just passed, emerges. The contours of sand congealed into peaks and troughs, registering the forces of information that have just passed. Ripples, ridges and creases resonate through the encounter.

I scuffle around, my eyes peeled on this small patch of sand. Quickly I reflect on what has emerged. As quickly I assess my possible actions in response.

Grabbing the handful of stakes lying flat nearby, I push them into the sand adjacent to the stakes already in position. My aim is to intensify the effects of the map which emerges from the ground. A map which registers and reveals these lines of distributing forces and natural systems at play
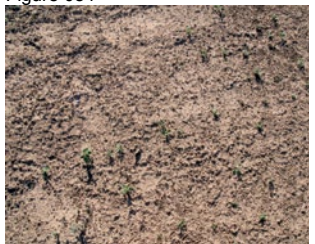

Figure 083

Figure 084

Figure 085

Figure 086
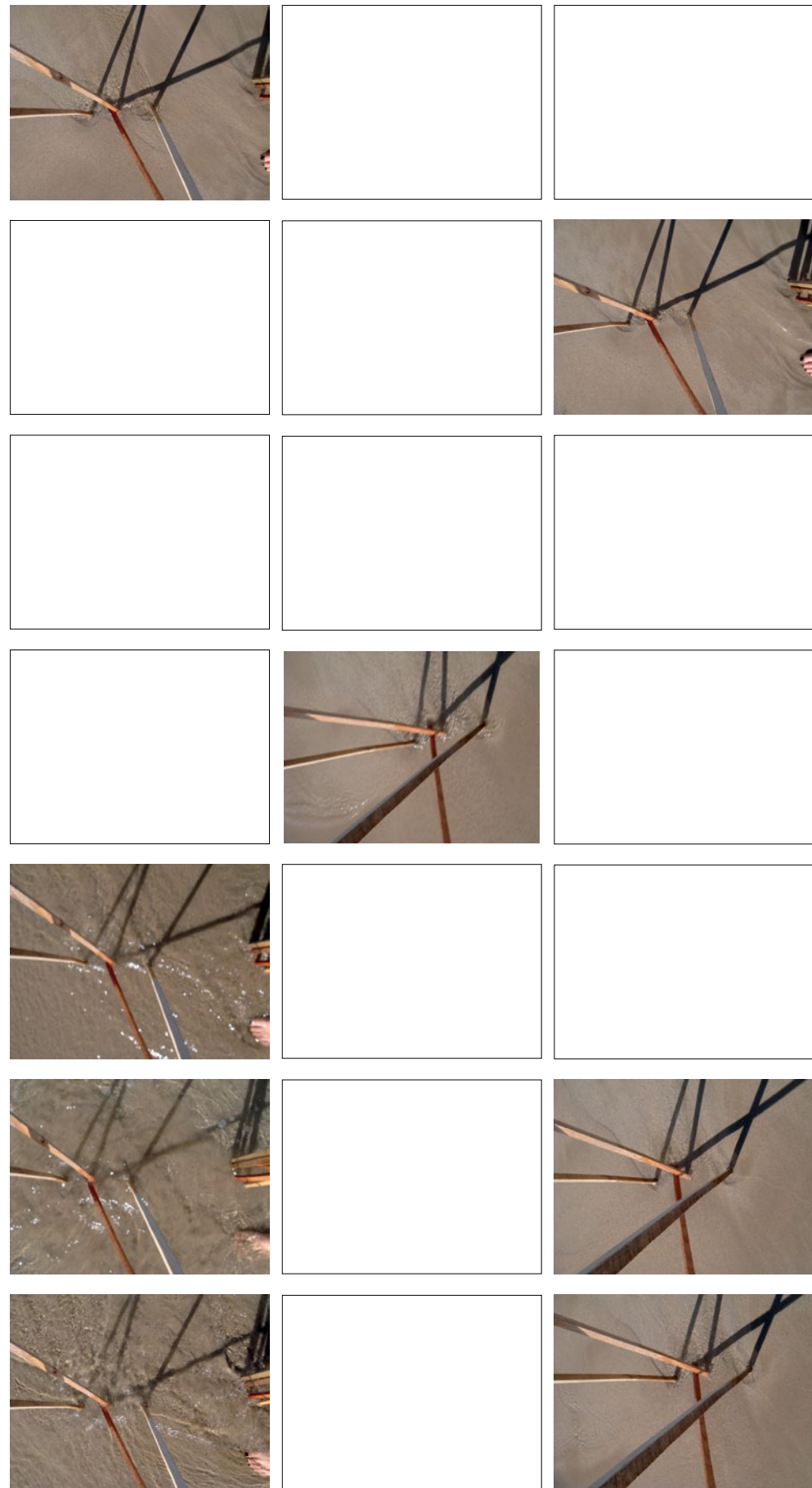

Figure 087

Figure 088

Figure 089

Figure XXXIX
Beach Mappings_Set 02

on the sand and water edge. The stakes cluster together piercing into the ground at various angles. My aim is to change the performance of this landscape. The stakes – the visible forces – can be considered an extension of the beach, since the beach itself could be considered an extension of the foreshore landscape. The stakes are implicated together with the beach they positioned within. The stakes have a reciprocal relationship – they construct the map which emerges. All too quickly another breaking wave crashes through the cluster of stakes. The wash of the wave swirls and gathers around the stakes, as if the stakes were magnets and the wash was attracted to them like iron filings. As the water flushes in the swirls of the wash shift unpredictably in multiple directions. As the wind picks up, blowing with greater vigour, the structure of the wash completely reconfigures.

Certain conclusions are made during the act of positioning. Rather than take a defensive position, trying to protect the form already generated, my aim was to work with the beach condition at play. I allowed the water and sand to continually reposition and compose themselves in a multiplicity of ways.

The aftermath begins to surface. Granules of sand settle once again. While peering closely at this small patch of sand, waiting, a new map of its effect materialises. The thickened ground reveals itself as a ground that travels deep into the earth and high into the sky. I continue to dance around this stage. I play with stakes to see what map emerges. I play until the effects and subtleties of change are so slight or unapparent to my peering view. An image of the world is constructed while standing above this act of positioning. What also becomes apparent during this process is how I, myself, am a part of this landscape. There are the moments when I actively participate. There are times when I just let things happen, but what is apparent is that my observations, the way I see the world, are what construct the world in that particular instance.

The map determines a tendency, and the potential (if not yet the intensity) for the repetition and variation of the expressive event and surface, which ascends by degrees from the real to the virtual. It's all a question of emergence. Order and structure are imbued in the matters of the thickened ground!
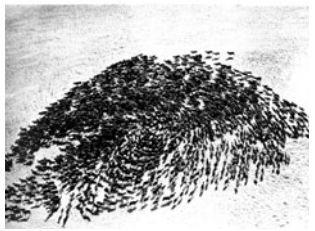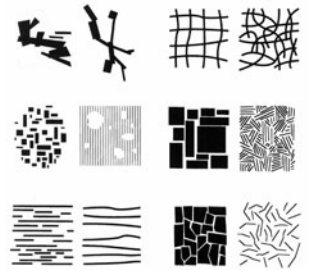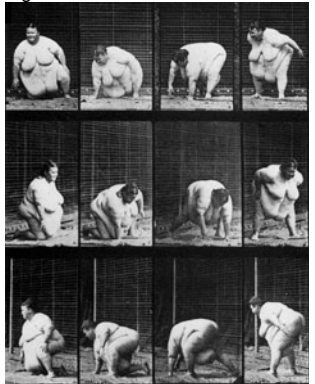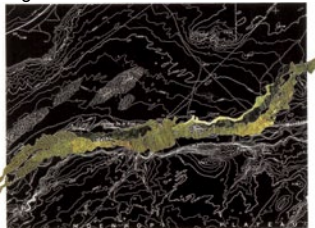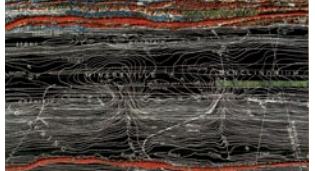

Figure 090

Figure 091

Figure 092

Figure 093

Figure 094

Figure 095

Cybernetics:

(ph);

();

(cy) (…) the study of control and communication in machines and living beings. (Wiener N., GG); (pgVII)

(hy);

(ur); Information theory and cybernetics(arguably the most important intellectual products of the second world war, dwarfing even atomic energy in its global social importance) marks the emergence of a new organizing center (the principle of systems-based 'control') for both the modernization process and for the pathways of American urban evolution. (Koolhaas R., M) (pg605)(?)s

Cycle:

(ph);

() A population that had been stable would alternate between different levels every other year. A population that had been alternating on a two-year cycle would now vary on the third and fourth years, thus switching to period four. (…) If you were following an animal population governed by (…) nonlinear equations, you would think the changes from year to year were absolutely random, as though blown about by environmental noise. Yet in the middle of this complexity, stable cycles suddenly return. Even though the parameter is rising, meaning that nonlinearity is driving the system harder and harder, a window will suddenly appear with a regular period: an odd period, like 3 or 7. The pattern of changing population repeats itself on a three-year or seven-year cycle. (Gleick J., C); (pg 72-73) P

(cy);

(hy); (…) every disease has its own autonomous life, independent of the endless correlations we suggest. The correlations with economic crises, trade exchanges and the abnormal interchange during times of war would at most be only minor accidents in a history linked with other factors: rodents, parasites, bacilli, viruses, or some form merchandise, whether in store or circulation. Their histories would be cyclical, however, with a beginning, recurrences, surprise outbreaks, and sometimes and end. (Braudel F., CML); (pg51)

(ur);

Figure XL
Beach Mappings_Set 03

Figure XLI
Beach Mappings_Set 03

A Converstaion about Representation:

A Conversation about the Expressive Surface
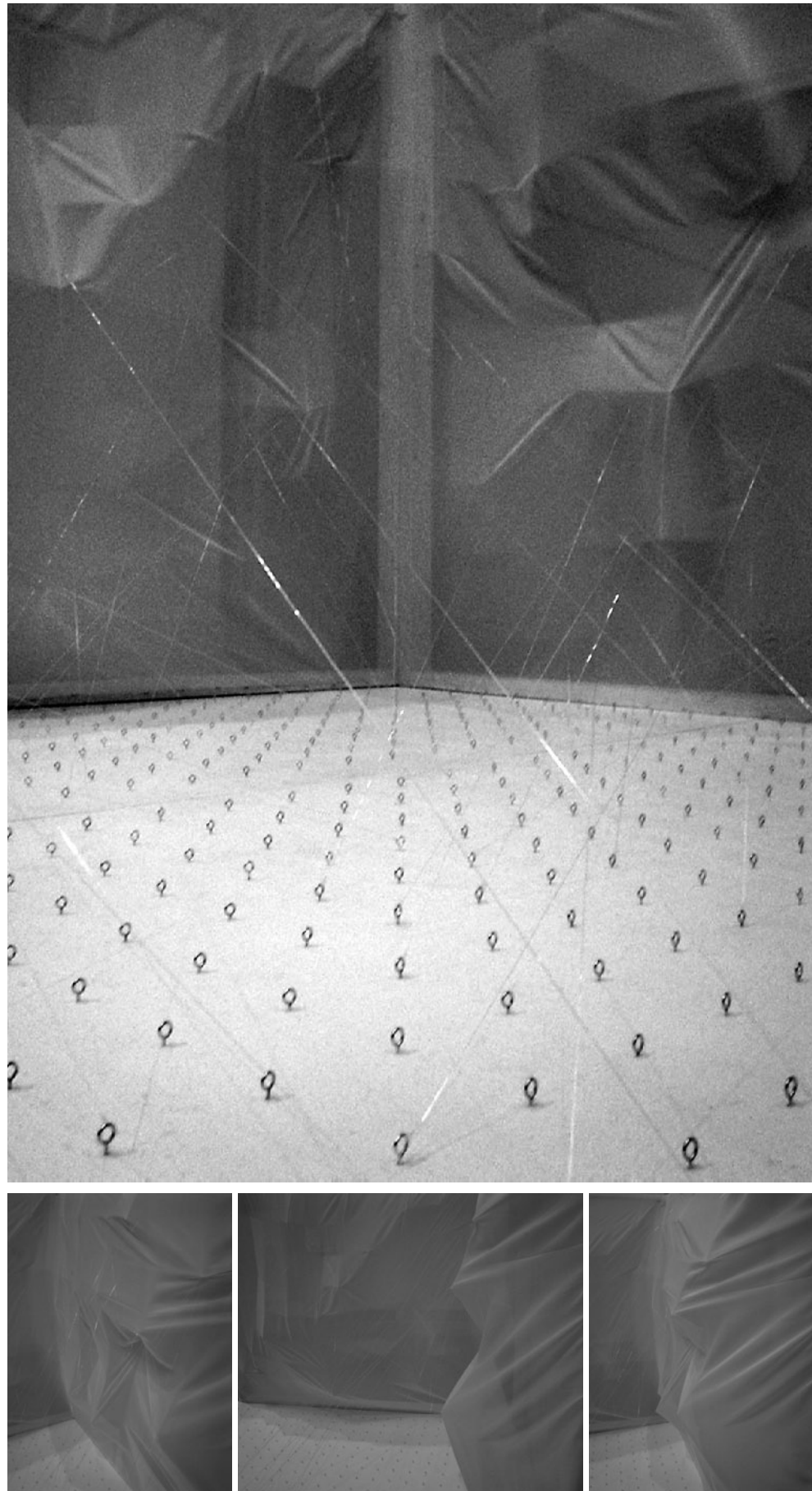
Decision making:

(ph);

();

(cy);

(hy) The difference between self-organized and planned cities is not primarily one of form, but of the decision-making processes behind the genesis and subsequent development of that form. That is, the crucial distinction is between centralized and decentralized decision making in urban development (…). A similar distinction between centralized and decentralized decision making must be made with respect to the social institutions that determine how energy flows through a city (…). On the one hand there are bureaucracies, hierarchical structures with conscious goals and overt control mechanisms. On the other, there are peasant and small-town markets, self organized structures that arise spontaneously out of the activities of many individuals, whose interests only partially overlap. (De Landa M., TYNH); P

(ur)

Defence:

(ph);

();

(cy);

(hy) The essence of defense lies in parrying the attack. This in turn implies waiting, which for us is the main feature of defense and also its chief advantage. Since defense in war cannot simply consist of passive endurance, waiting will not be absolute either, but only relative. In terms of space, it relates to the country, the theater of operations, or the position; in terms of time, to the war, the campaign, or the battle. (…) once the enemy has attacked, any active and therefore more or less offensive move made by the defender does not invalidate the concept of defense, for its salient feature and chief advantage, waiting, has been established. (Von Clausewitz C., OW) (p379);

(ur);

Density:

(ph);

(phys) (…) the exact initial conditions of a macroscopic system are never known. Nevertheless, nothing prevents us from representing this system by an 'ensemble' of points – namely, the points corresponding to the various dynamic states compatible with the information we

Conversation **One**

A Conversation about Representation:

A Conversation about the Expressive Surface

'…landscape is a system where a point of change is distributed smoothly across a surface so that its influence cannot be localized at any discrete point…The slow undulations that are built into any landscape surface as hills and valleys do not mobilize space through action but instead through implied virtual motion… The landscape can initiate movements across itself without literally moving. The inflections of a landscape present context of gradient slopes, which are enfolded.' [1]

A Conversation about the Epigenetic Surface:
Questions about Form

Mathematical Transformations vs the Vector Field

The intricate field of fine translucent filaments is tethered to various points on the surface of the fabric. The field of eyelets and the field of points where the filaments are threaded through the surface of the fabric exert and apply forces. The term force is used to describe the iteration of effects, with both quantitative and qualitative characteristics. These repetitive patterns on the expressive surface are of interactions between forces colliding in an unknown manner. A force is the set of invisible, untouchable conditions that have characteristics of a feedback loop with the potential to renew, amplify and self-perpetuate its conditions, according to which certain effects, repetitively appear. Only the effects of forces are visible and operate in a multitude of directions. This is what we map on the surface of the fabric.

These forces consequently question the grid of eyelets distanced apart in a perfect 100mm x 100mm x, y formation on the horizontal plane of the standard-cut timber sheet. The fabric's surface twists and cranks in various awkward directions; a battle of wills is at play between the field of points on the fabric and that of the rigid horizontal plane.
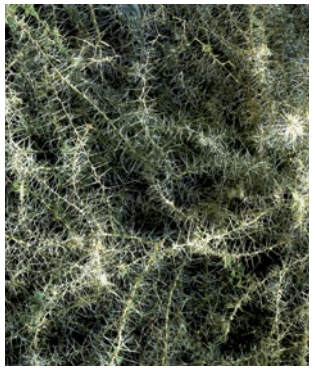

Figure 096

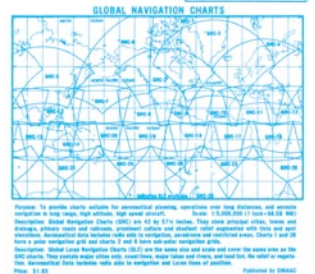

Figure 097

Figure 098

Figure 099

have concerning the system. Each region of phase space may contain an infinite number of representative points, the density of which measures the probability of actually finding the system in this region. (Prigogine I., Stengers I., OOC); p.247 P (cy);

(hy);Given its dry-land area of 150 million square kilometers the present average density of the world, with its 3.3 thousand million human beings, is 22 inhabitants to one square kilometre. (…) Suppose we then calculate the actual area covered nowadays by the most populated regions. (…) 190 inhabitants or more per square kilometre). (…) Man leaves the globe nine-tenths empty, often by force of circumstances, but also through neglect and because history, a succession of interminable efforts, has decided otherwise. 'Men did not spread evenly over the world' (…) 'they originally gathered in the manner of ants'. (Braudel F., CML) (pg24) (?)

(ur); Manhattanism is the one urbanistic ideology that has fed, from its conception, on the splendors and miseries of the metropolitian condition hyperdensity - without once losing faith in he basis for a desirable modern culture. Manhatten's architecture is a paradigm for exploitation of congestion. (Koolhaas R.,DNY); (pg7) P

Desire:
(ph);(…) 'manifestation'. It concerns the relation of the proposition to the person who speaks and expresses himself. Manifestation therefore is presented as a statement of desires and beliefs which are causal inferences, not associations. Desire is the internal causality of an image with respect to the existence of the object or the corresponding state of affairs. (Deleuze G., LS); (pg 12) P ();

(cy);
(hy);(…) discourse may (…) be the place for a phantasmatic representation, an element of symbolization, a form of the forbidden, an instrument of derived satisfaction.(…) the discourses on wealth, on language, on nature on madness, on life and death, and many others, perhaps that are much more abstract, may occupy very specific positions in relation to desire (…) the analysis of this authority must show that neither the relation of discourse to desire, nor the processes of its appropriation, nor its role among non-discursive practices, is extrinsic
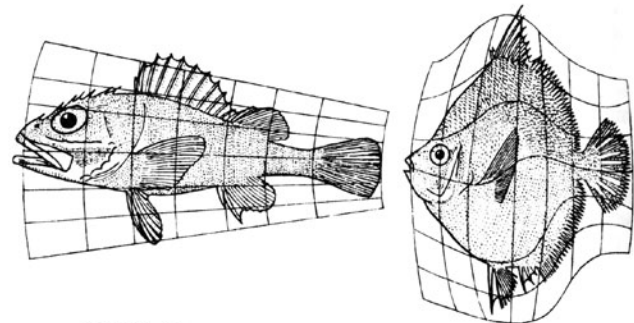

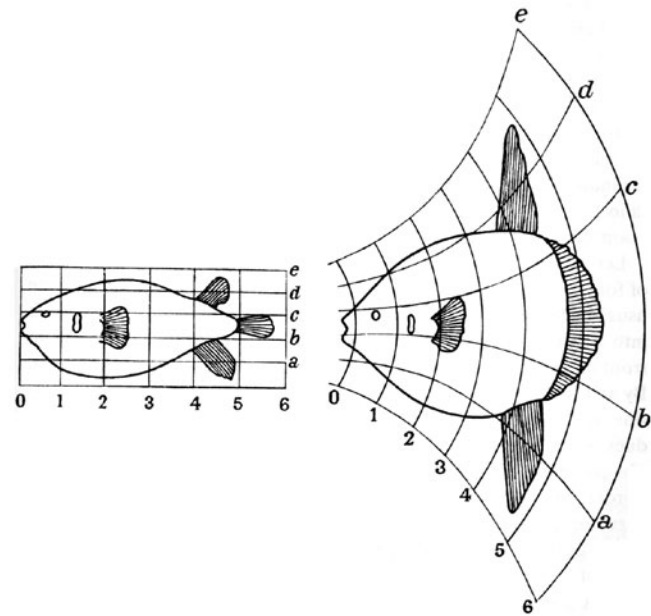Fig. 152. *Scorpaena* sp.

Fig. 153. *Antigonia capros*.

Fig. 155. *Orthagoriscus*.

Figure XLIV
Deformation of a Fish 1

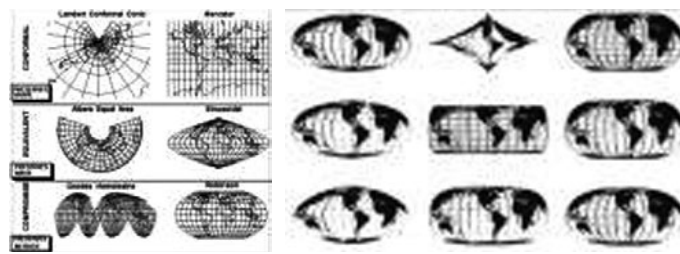Figure XLV
Deformation of a Fish 2

Figure XLVI
Mapping the Earth 1

Figure XLVII
Mapping the Earth 2

Figure XLVIII
Mapping the Earth 3

2.   (' … between 1910 and 1930, … the universe of astronomy took a new appearance, undergoing a veritable transfiguration no less radical than that which transformed the ptolemic universe into that of Galileo at the end of the seventeeth century. Pg13 jaques merleu-ponty, cosmologie du XXe siecle (paris, 1965) (Bergson theory of matter and modern cosmology)

The conflict is between the elasticity and structure of the fabric and its material properties, versus the proportionally distributed steel eyelets on the two 1200mm x 2400mm timber sheets. With each threading of the line and its anchor on both the fabric and through the eyelets, there is a desire for a surface with its slow undulations of hills and valleys not to assemble space through change; but instead through virtual motion. The transformation implied through the complex and ever changing relationships is inherent within this thickened surface. A conflict exists between the order and operations of the Cartesian eyelet-grid and that of the Euclidean conditions of the surface. The fabric has tendencies wanting to form a range of points according to the forces and flow moving across and through the fabric. Whereas with the two dimensional plane driven by a rigid x,y coordinate system, the only desire which exists within these constraints is to duplicate and continually repeat these limits, inherently invariant and static. In his famous book On Growth and Form (1917) the morphologist D.W.Thompson examines biological processes from a mathematical and physical perspective. He exemplifies the opportunities for transformation, but also the inherent presence of the grid and the limits associated with it. Thompson's Cartesian transformations and the related deformation of form, transform an x, y grid into including a curvature of the 2 dimensional line by making geometry more compliant to the matter described. The deformation of the fish from one particular species to another is registered through the grid. This projects the grid through and onto a plane enabling the translation of form, and in particular the roundness of the line and the particularities of a species - its form.

Although the outer figure transforms similarly to modes of projection deployed when mapping the earth[2] and its translation from the spherical earth to the flat map, the inherent conflict and resistance that emerges is that the transformation is determined by the characteristics of the grid. The grid provides its own restraints purely by the fact that it's a Cartesian and geometric condition where scale and deformation are universal conditions, where transformations are determined by the internal logics of the material related to the geometric mathematical condition being explored, and that of the discipline it is associated with. The internal forces or material characteristics of the skin of the species of fish do not register here nor are they
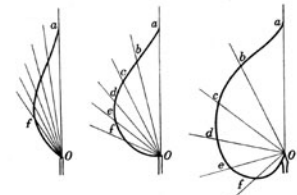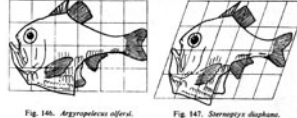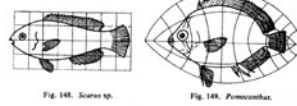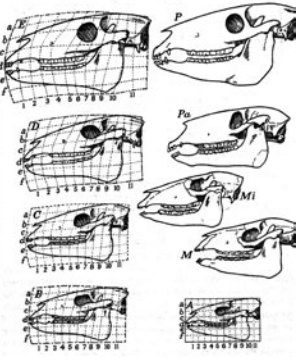

Figure 100

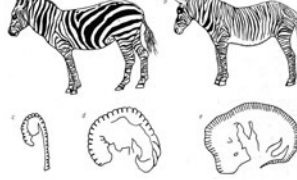
Figure 101
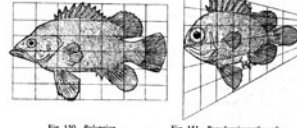
Figure 102

Figure 103

Figure 104

Figure 105

to its unity, its characterization, and laws of its formation.(Foucault M., AK) (pg68) P (ur);

Determinacy:
(ph);
();
(cy);
(hy) The human body as supermolecule has no determinate boundaries. It is the in-between of biological bodies, as infolded in memory. It lies at the crossroads of two causal lines. One goes from determinacy (genetics: the biological memory constituting the in-between of bodies of different generations) to indeterminacy (a contractive threshold state culminating a social encounter across the generational divide); the other from indeterminacy (the appearance of the mother's face above the crib is uncaused as far as the baby is concerned: a gift of the gods) to determinacy (habit: lived memory, interbody action folded into the fabric of everyday life). (Massumi B., UGCS); P
(ur);

Determination:
(ph); Indifference has two aspects: the undifferentiated abyss, the black nothingness, the indeterminate animal in which everything is dissolved - but also the white nothingness, the once more calm surface upon which float unconnected determinations like scattered members: (…) The indeterminate is completely indifferent, but such floating determinations are no less indifferent to each other.(…) Difference is the state in which one can speak of determination as such. The difference 'between' two things is only empirical, and the corresponding determinations are only extrinsic. However, instead of something distinguished from something else, imagine something which distinguishes itself. (Deleuze G., DR); (pg28) P
();
(cy);
(hy);
(ur) In its artificial duration, determination should find, on the one hand, the means to persist as an informative field (…). On the other hand, it should process material through mediators whose cause-effect relation is only indirectly controllable: to control the input of information (…), and construct
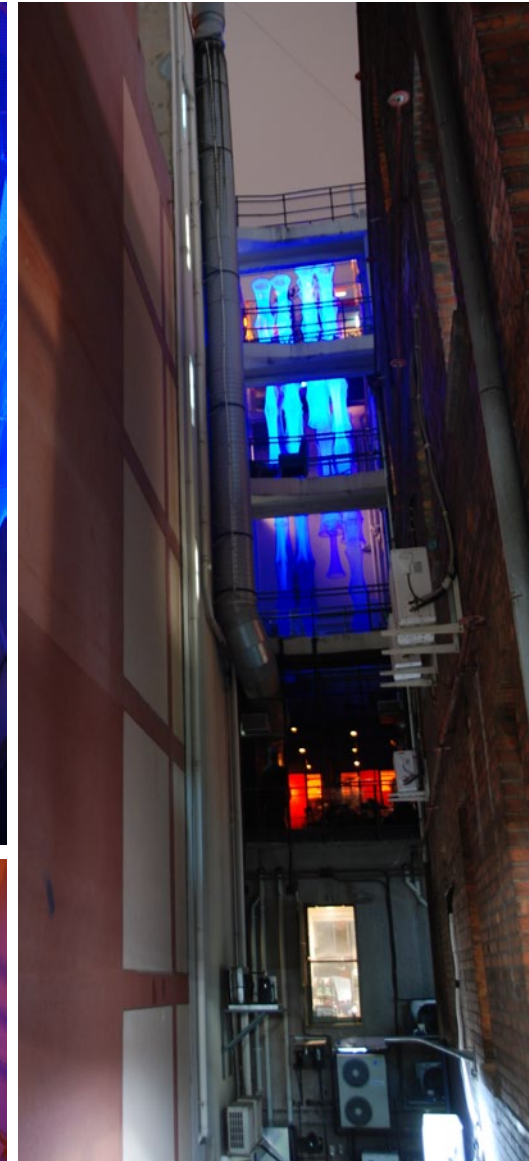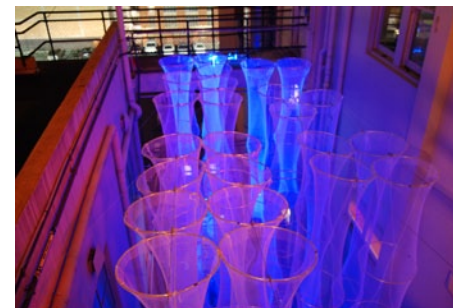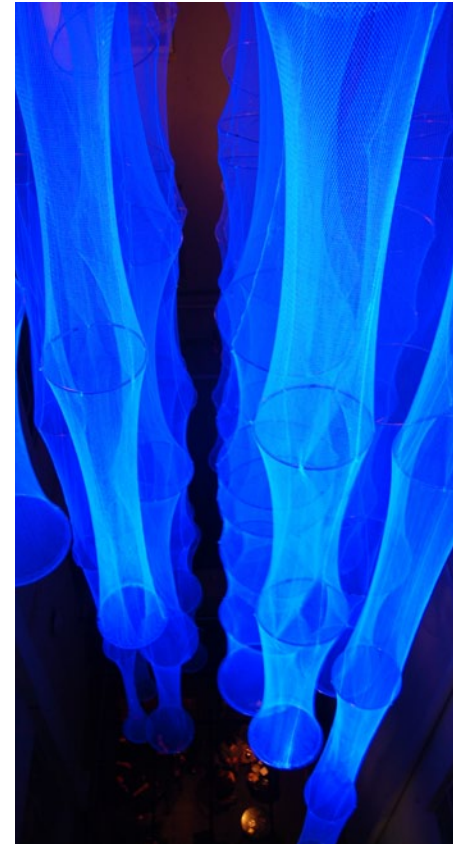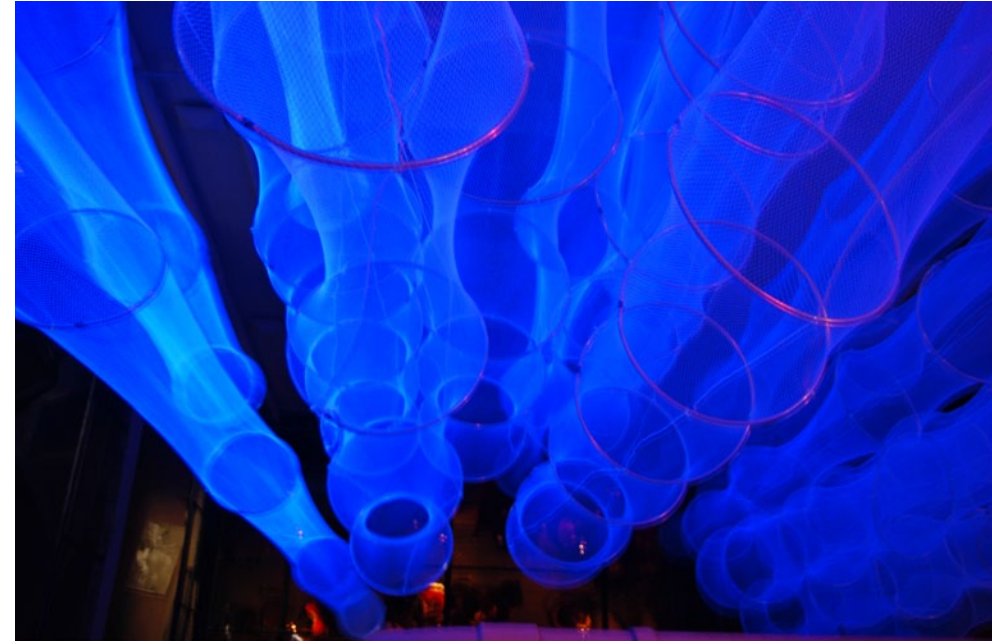

Figure L
Transformative Surface
State of Design Festival Melbourne
2009

the machine that will process it, to define its behaviour, and its type of cause-effect relationship. It should also procure a resistant dominion, a field of matter with potentiality, that scans the limits and impossibilities of programmatic impulses, and that forces deflection that trigger and contain the modes of differentiation. Finally it should produce regimes of behaviour that return non-linear effects to the programmatic impulses that we would like to describe as 'desired by matter' (…). Determination manifests itself as a material evolution through the material organization of the object rather than before or after it. (Najle C., F); (pg12) P

Determinism:
(ph) ;
(sc) The fact that a dynamic system is governed by a deterministic law, even though in practice our ignorance of the initial state precludes any possibility of deterministic predictions, allows the 'objective truth' of the system (…) to be distinguished from empirical limitations due to our ignorance. In the context of classical dynamics, a deterministic description may be unattainable in practice; nevertheless, it stands as a limit that defines a series of increasingly accurate descriptions. (Prigogine I., Stengers I., OOC); P
(cy);
(hy);
(ur);

Deterritorialisation:
(ph) 01. The function of deterritorialization: D is the movement by which 'one' leaves the territory. It is the operation of the line of flight. There are very different cases. D may be overlaid by a compensatory reterritorialization obstructing the line of flight: D is then said to be negative. Anything can serve as a reterritorialization, (…). Another case is when D becomes positive – in other words, when it prevails over the reterritorialization, which plays only a secondary role-(…). D is absolute when (…) it connects the lines of flight, raises them to the power of an abstract vital line, or draws a plane of consistency. Now what complicates everything is that this absolute D necessarily proceeds by a relative D, precisely because it is not transcendent. There are thus at least four forms of D that confront and combine, and must

relevant in this mode of production. A shift in the way we consider the grid is required. The broader question which emerges is how can the flow of forces both internal and external produce a grid as an emergent condition of the surface, transforming the grid from an applied condition which causes conflicting conditions to an embedded an devolving structure which reconfigures and remakes itself in relationship to the surface? For the grid to emerge, the entire space (systems at play) must be transformed along with it.

Indeterminacy

The various forces and complex systems at play, enable various figures to emerge from the processes and behaviors of the surface. The surface cannot be reduced to a single, general or universal condition, as it is the result of a multitude of complex interactions within a range of systems. These complexities cannot be reduced to clearly defined territories, composed parts, ideal geometries or proportional logics of a single fixed rigid entity. New categories and concepts for the landscape as a whole need to be considered. The body or landscape surface, its unpredictable effects and fluctuating conditions, cannot be measured with absolute precision or reduced to singular mathematical statements. This landscape is composed through a bottom-up process of continual differentiation and resonance. As Edmund Husserl describes in his publication, Origins of Geometry, this topological surface is an 'an exact yet rigorous', description of form. This 'vagueness' enables alternative models of the grid to emerge as a set of random points. They emerge from a process of unfolding, of differentiation, and of a quest for information that is not purely quantifiable. These cannot be directly translated from logical systems of traditional geometrical/formal structures.

Therefore the emergence of random points that undergo continuous transformations construct regions which self-vibrate as singularities within an assemblage of connections that have a diagrammatic function of the thickened surface.

3. *Emergence* Johnson page 19

Matter and context

Every action of this thickened expressive surface is the analysis and action of the world it exists within. The pull, the force exuded by the multitude of tethered points and the surface itself, are its complementary extremities. The ripples, its peaks and troughs form on the stretched surface, and are identified as the expressive surface.

The surface clearly expresses the forces, other than being a transducer, as a means for organising forces and systems, and manifests rhythms and flows of energy. It is a dynamical and morphological event where the convergence, breaking-up and bifurcation of flows occur.

Matter in this case is not a homogenous entity but contains infinite sets of singularities with very particular characteristics that emerge under specific conditions.

The Vector Field and Complex Systems

A system would define the most elemental form of complex behaviour: a system with multiple agents dynamically interacting in multiple ways, following local rules and oblivious to any higher-level instructions. But it wouldn't truly be considered emergent until those local interactions resulted in some kind of discernible macro behavior.' [3]

The lines are predominantly invisible unless exposed intermittently by the sunlight that moves through the space and projects onto the structure at various times of the day; or at moments when the epigenetic landscape repositions itself against a sudden movement; or nudge from people passing by; or the slow release and stretching of the fibers in the fabric. Change and its reformation are inherent in this structure, whether it is in its material qualities or the formation and expression of the landscape. Each line is a system and force within itself.

Each system is made of a multitude of other systems, which continually question and influence each other; seeping and linking across the field of influence to formulate the assemblage of complex systems that defines the transformative landscape which is continually remade. The form which is produced by the interplay of forces is
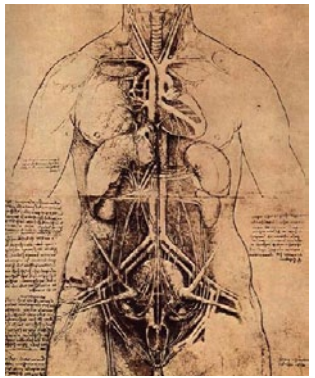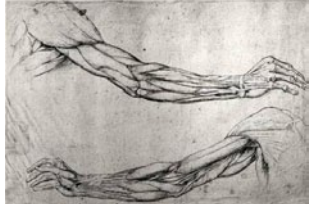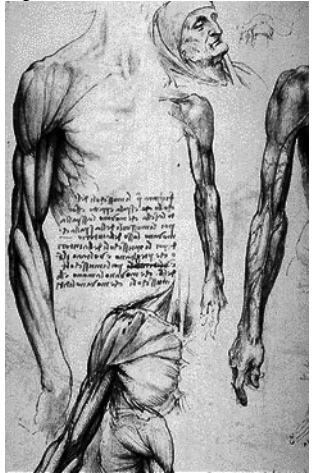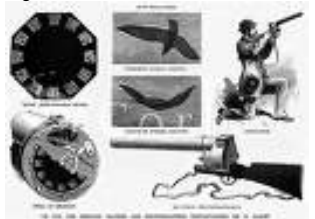

Figure 106

Figure 107

Figure 108

Figure 109

Figure 110

be distinguished from one another following concrete rules. (Deleuze G., Guattari F., TP); P

02. The current capitalist mode of power could be called control: neither coding nor codification, neither regularization nor regulation, but the immanently encompassing modulation of both. The power of control is predicated on decoding (the rendering immanent of signs as vectors or indeterminate potential) and detritorialization (the drawing off of the event from its general-particular spaces of expression and, in this case, its consignment to a distributed, intervallic space of its own). The power of control is decoding and detritorialisation, delivered (ready for catalysis, into a potentialization - and - containment in a new space; ready for recoding/recodification and reterritorialization).

();
(cy);
(hy); Every great war has a powerful deterritorializing effect: the mobilization of troops and supplies, families broken, entire regions leveled. The film [*Vendemiaire* by Louis Feuillade] presents an image of society apparently meant to insert itself into that disjointed situation to help induce a unifying reterritorialization in a new moral order. (Massumi B.,UGCS); (pg109) P
(ur); To disentangle the pact between organic bodies and exact geometric language that underlies architecture's static spatial types is a monumental task. Any attempt to loosen this alliance must simultaneously deterritorialize the autonomy of whole organisms and replace the exactitude of rigid geometry with more pliant systems of description (Lynn G., FBB); (pg 40) P

Development:
(ph);
(eco) Development depends on co-development. I mean that development can't usefully be thought of as a line, or even as a collection of open-ended lines. It operates as a web of interdependent codevelopments. No co-development web, no development. (Jacobs J., NC); (pg19) P
(cy);
(hy);
(ur) It is complex, interacting system of technology and organizational processes, underlying economic
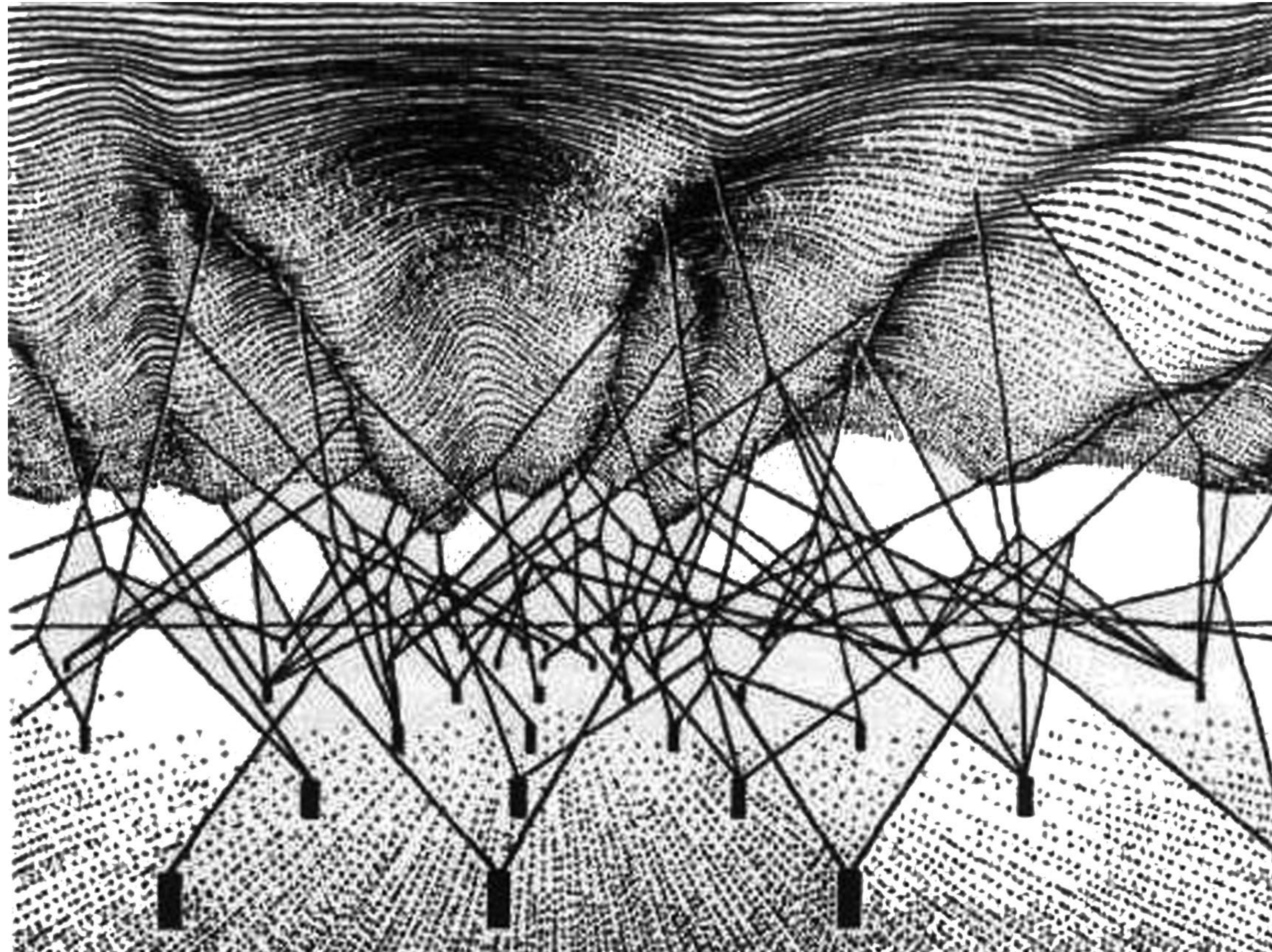

Figure LI
Epigenetic Landscape

growth and social change, that we call a mode of development. It is not the product of new technologies, nor are the new technologies a mechanical response to the demands of the new organizational system. It is the convergence between the two processes that changes the technical relationships of production, giving rise to a new mode of development. (Castells M., IC); (p17) P

Diagram:
(ph) The nonformal function, the diagram, is not an inexpressive metalanguage lacking in syntax, but an expressivity-movement always bearing a foreign tongue within each language (…) A diagram has neither substance nor form, neither content nor expression (…) there are no regimes of signs on the diagrammatic level, or on the plane of consistency, because form of expression is no longer really distinct from form of content. The diagram knows only traits and cutting edges that are still elements of content insofar as they are material and of expression insofar as they are functional, but which draw one another along, form relay, and meld in a shared deterritorialization (…) (the diagram) does not function to represent, even something real, but rather construct a real that is yet to come, a new type of reality. Thus when it constitutes points of creation and potentiality it does not stand out of history but is instead 'prior to' history (...). (Deleuze G., Guattari F., TP); (pg141-142) P
();
(cy);
(hy) What a diagram diagrams is a dynamic interrelation of relations. The dynamism occurs twice: once as genesis in a state of things (…), and again in ideality (…). The diagram combines a past (…) and the future of that past (…), but it skips over its own genesis – the present of the content – expression encounter constitutive of thought (…). (Massumi B., UGCS); (p16) P
(ur)

Difference:
(ph) (…) the vital difference can only be experienced and thought of as internal difference; it is only in this sense that the 'tendency to change' is not accidental, and that the variations themselves find an internal cause in that tendency. (Deleuze G., B); (P99) P
();

a by-product, a map of the emergent and evolutionary figures of one or many other systems changing over time.

For the French mathematician Rene Thom, the founder of catastrophe theory, it was a means of describing the transformation of form in nature; the understanding of topological properties and its behavior and geometrical figure-changing over time. Fundamentally, Thom's interest lies in the four-dimensional world of extended material structures in time and in real space.

The filaments are tethered not only to random points on the overhead surface, but to points on the other filaments as well, and to pegs in the lower surface representing only semi-stabilised forms. Thus multiplying exponentially the nonlinear or indeterminate flows that occur through the set of complex systems at play. The tension contained within the surface of the fabric and the forces in the field of points, are reliant on each other. When transformations occur in the surface, no matter how small or insignificant it may appear, they have a resonating affect across the entire body of the surface.

The epigenetic landscape,[4] and the complex relief, are features of a surface which sit tenuously in the presence of its own transformation and are in a state of continual change. The surface itself is predominantly an expression of the complex network of forces and interactions that are underlying its transformations.

How can the understanding of sensation and resonance facilitate the emergence of time not purely as 'contracted quantity'; rather, it allowing us to perceive time beyond the singular or binary opposites, beyond the duality of the homogeneous quantity and heterogeneous quality and to pass from one to other in a continuous movement[5]"   Can time be realized and articulated as complexities, making operation and magnitude inseparable.

How can flow of movement and its topology, define an unclaimed space, shifting the categorical definitions of landscape to differentiated qualities of becoming?

Sensation is the direct registration of the potential. It is a state in which action, perception and thought are so intensely and performatively mixed, that their in-mixing

4. When the word "Epigenetic Landscape" was invented by C. H. Waddington in 1942, He used it as a conceptual model of how genes might interact with their surroundings to produce a particular type and structure.

5. ibid. pg 74

falls out-of-itself. Where the expressive surface is working as one, its potential and actual limits are sensation, one in-folding-out and the other in-folding-in.

Gesture: The Embedded Diagram

The expressive surface is an exploration of what lies beneath surface, with the sand model (the map) exploring the construction of the surface itself.

Expression is always collective. The collective is established as an existing set of conditions which are determined and constituted collectively. The exchange of information and its responsiveness is applicable to the collective. The collective surface/landscape attributes or properties are treated mutually by the various constituents of any particular assemblage at play.

Every action of this thickened expressive surface is the analysis and action of the world it exists within. The pull and the force exuded by the multitude of tethered points and the surface itself, are complementary extremities. The ripples, its peaks and troughs form on the stretched surface and is identified as the expressive surface.

The surface clearly expresses the forces, other than being a transducer, as a means for organising forces and systems, but it also manifests rhythms and flows of energy. It is a dynamical and morphological event where the convergence, breaking-up and bifurcation of flows occurs.
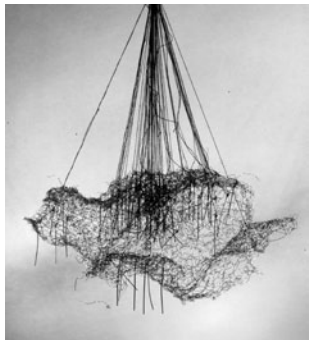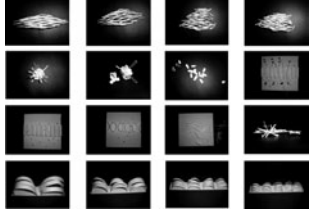

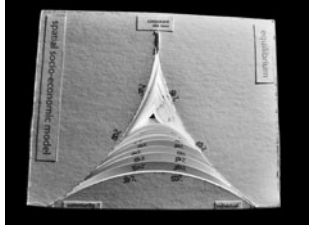Figure 111

Figure 112

Figure 113

Figure 114

Figure 115

Figure 116

Figure 117

Conversation **Two**

A Conversation about Landscape:

A Conversation about the States of Change

(cy);

(hy);

(ur) Material difference can only be produced as a material derivation of an internal process of actualization. It is only in this way that the tendency to change isn't accidental but immanent to internal tendencies of a machine that consistently produces change. (Najle C., F); (pg12) P

Differentiation:

(ph) Duration is differentiated according to the obstacles it meets in matter, according to the materiality through which it passes, according to the kind of extension that it contracts. But differentiation does not merely have an external cause. Duration is differentiated within itself through an internal explosive force; it is only affirmed and prolonged (…). Why is differentiation an 'actualization'? Because it presupposes a unity, a virtual primordial totality that is dissociated according to the lines of differentiation, but that still shows its subsisting unity and totality in each line. Thus, when life is divided into plant and animal, when the animal is divided into instinct and intelligence, each side of division, each ramification, carries the whole with it. From a certain perspective it is like an accompanying nebulosity, testifying to its undivided origin. And there is a halo of instinct in intelligence, a nebula of intelligence in instinct, a hint of the animate in plants, and of the vegetable in animals. Differentiation is always the actualization of a virtuality that persists across its actual divergent lines. (Deleuze G., B); (p94-95) P

();

(cy);

(hy);

(ur) Bodies emerge through processes of differentiation, yielding varying degrees of unity based on specific affiliations and mutations. By beginning with bodily matter the possibility for singular bodies is not to preclude, but rather, bodies are sedimented, aggregated, unified and stratified through differential forces and the continual fusion of matter. (Lynn G., FBB);:

Differential Prototype:

(ph);

();

(cy);

(hy);

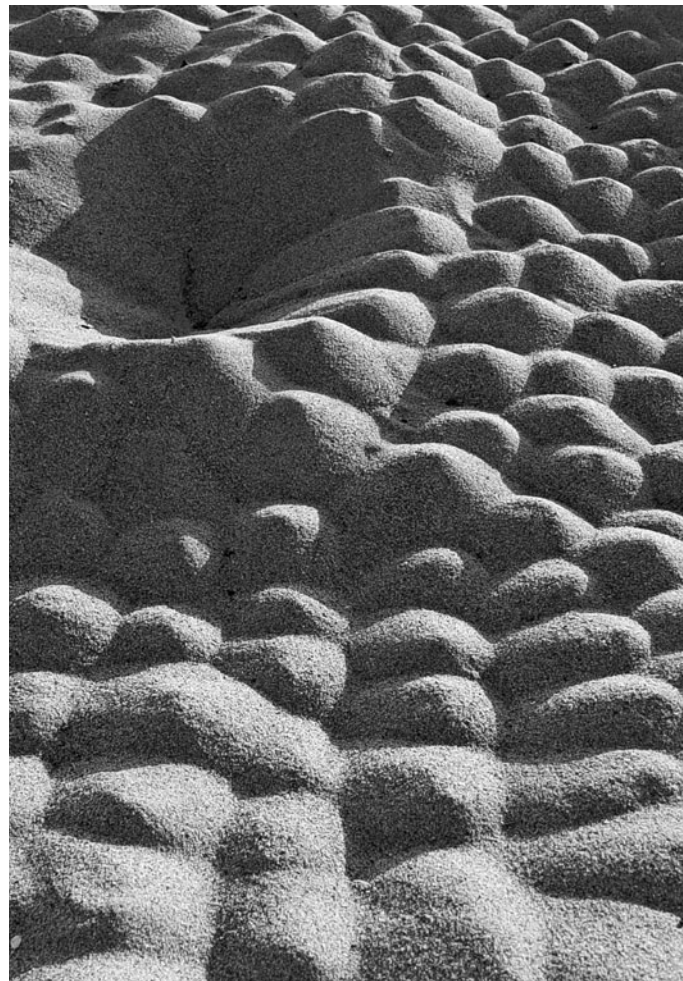(ur); a prototype that is sufficiently robust to accommodate contingency,

Figure LII
States of Change Design
Studio, Study Tour

Conversation Two

A Conversation about Landscape:

A Conversation about the States of Change

Emergence (Fields of ……):

(ph); "Implicit" form is a bundling of potential functions, an infolding or contraction of potential interactions (intension). The playing out of those potentials requires an unfolding in three-dimensional space and linear time–extensions as an actualisation; an actualisation as expression. It is an expression where fade-out occurs. The limits of the field of emergence are in its actual expression. Implicit form may be thought of as effective presence of the sum total of a thing's interactions, minus the thing. It is a thing's rationality autonomised as a dimension of the real. This autonomisation of relation is the condition under which " higher" functions feedback. Emergence, once again, is a two-sided coin: one side in the virtual (the autonomy of relation), and the other in the actual (functional limitation). (Miasma B.; Parables of the virtual, p.35)

(cy); The one bat was copied by the dozens until the animators had a mob. Then each bat was instructed to move about on its own on the screen following only a few simple rules encoded into an algorithm: don't bump into another bat, keep up with your neighbours, and don't stray too far away. (…) So realistic is the flocking of Reynolds's simple algorithms that biologists have (…) concluded that the flocking behaviour of real birds and fish must emerge from a similar set of simple rules. (Kelly K.; Out of Control, pp.10-11)

(ur); (…) apparently irregular behaviours result from the combination of elements that are in and of themselves repetitive and regular; but the Moiré effect is not random. They shift abruptly in scale, and repeat according to complex mathematical rules. (…) there is an uncanny coexistence of a regular field and emergent figure. (Allen S.; Object to Field, p.28)

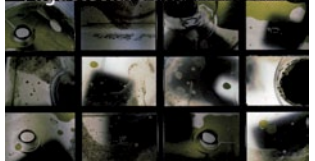Figure 118

Algaetecture and Nonsterile
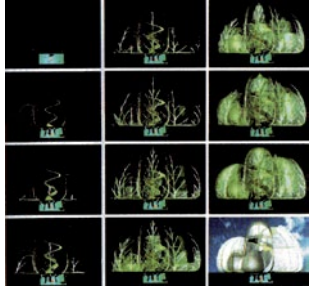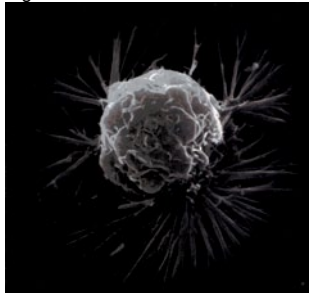

Figure 119

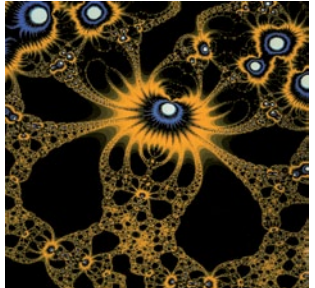Figure 120

Figure 121

Figure 122

Figure 123

and that is consistent enough to do so without collapsing into a merely accidental and localized series of operations. (check bibliography)

Digital:
(ph);
();
(cy) A signal is digital if there is discontinuity between it and alternative signals from which it must be distinguished. Yes and no are examples of digital signals. In contrast, when a magnitude or quantity in the signal is used to represent a continuously variable quantity in the referent, the signal is said to be analogic. (Bateson G., MN);
(hy);
(ur);

Disorder:
(ph) The question (…) is to know why there is order, and not disorder, in things. But the question has meaning only if we suppose that disorder, understood as an absence of order, is possible, or imaginable, or conceivable. Now, it is only order that is real; but, as order can take two forms, and as the presence of the one may be said to consist in the absence of the other, we speak of disorder whenever we have before us that one of the two orders for which we are not looking. The idea of disorder is then entirely practical. It corresponds to the disappointment of a certain expectation, and it does not denote the absence of all order, but only the presence of that order which does not offer us actual interest (Bergson H., CE); (p274)
(phys) (…) collisions introduce correlations. From the perspective of velocities, the result of collisions is randomization; therefore we can describe this process as a transition from order to disorder, but the appearance of correlations in the opposite direction, toward the transition from disorder to order. (Prigogine I., Stengers I., OOC); (pg250) P
(cy);
(hy);
(ur);

Divergence:
(ph) After we have followed the lines of divergence beyond the turn, these lines must intersect again, not at the point from which we started,

This next conversation is a prelude to the questions: 'what is landscape?'; 'what does it do?'; and 'what does it produce?' These questions are not meant to demand an answer. They are intended to stimulate an awareness of how we go about seeing and describing the landscape. The conversation is less about passive pastoralism, or picturesque ideals from previous landscape formations, but more about the potential of landscape, both as a practice and as a concept.

It is an attempt to consider the observer as an active extension and maker of the field of connections which become landscape; thus speculating on how we might consider landscape more as a device which has the ability to formulate connections, rather than demand a fixed position. The set of dynamic connections that are the landscape are not themselves intended to produce a conclusive answer, but are intended to produce a sense of realisation and understanding for a particular moment in time.

Landscape as an operative and productive condition has a number of sub-concepts, the three under focus are: complex systems, scales of operation, and the production of territories and regions. These sub-categories are particularly pertinent since the objective is not to present landscape as an object but as a productive condition where its operative traits have an ongoing affect. This conversation considers the term landscape as a verb, and as an action which produces ongoing affects in time. Landscape does this in several ways: firstly, through the constructed medium it is temporarily positioned within; secondly, because it subsequently focuses on the form and material which make the landscape and its operations effective at a multitude of scales; and thirdly, through the formation of territories and how they might produce a new scope of landscapes within a contemporary urban field. The landscape, then, has the ability to shape the world in its physical, experiential and mimetic characteristicsy.

Multiple threads of thought are woven into the sets of information that form the argument: the material of text, the project work, and the references to various disciplinary areas.

TIn early 2000 a group of 24 students and 3 staff

undertook a study tour visiting 9 major cities around the world, including Melbourne1. The group travelled for five and a half weeks around the world visiting Tokyo, London, Barcelona, Venice, Paris, Amsterdam, New York and Los Angeles. When visiting each city studies were conducted to identify unique events that characterised the inherent structure and behaviour of each city. The question which was put to the students was how might they see the world as an interconnected whole, where a city's structure is seen in its simplest sense as the unity of parts, and that the connection between entities is what makes up a city.

These dynamic patterns and structures were considered both as a noun and verb; 'form', and 'to form', as coexisting and interchangeable entities. The underlying structure of a city was to be considered as a dynamic pattern of interacting forces, in which the forces were to be considered as a multiplicity of events occurring at a multitude of scales and times. Events, as a moment of change, were considered and interrogated as the catalyst which constructed the entities that produce a city.

The aim of this research was to develop new devices that respond in time, scale and form. The devices were intended to respond in natural and ecological landscapes and in the built urban landscape where dominant forces drive the qualitative conditions of time and change. In shaping time and change, the dominant forces shape form, and influence how we form the various systems, or fragmentary bodies, that emerge in the urban landscape.

The aim of this work was to develop new devices that respond in time, scale and form. The devices were intended to respond in natural and ecological landscapes and in the built urban landscape where dominant forces drive the qualitative conditions of time and change. In shaping time and change, the dominant forces shape form, and influence how we form the various systems, or fragmentary bodies, that emerge in the urban landscape.

This consequently brought the disciplinary boundaries of landscape, urbanism and architecture into question. It acknowledged the city as a pre-existing, self-regulating phenomenon which attempts to shift and question the boundaries and processes from within a discipline, into

1 The States of Change exhibition and publication presented a series of connections and responses for how Melbourne & the eight cities visited can identify with the complexities inherent in the cities visited, and how they can adapt over time and through the lense of water and urban events.
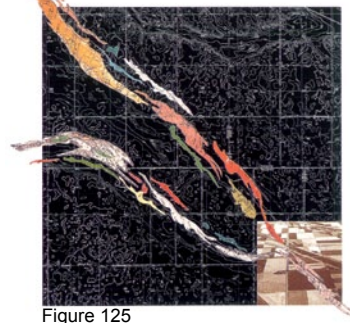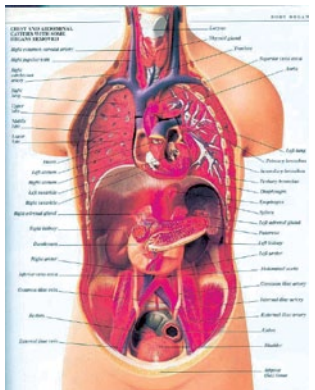
Figure 124

Figure 125

Figure 126

Figure 127

Figure 128

but rather at a virtual point. (…) the expression "beyond the decisive turn" has two meanings: First it denotes the moment when the lines, setting out from an uncertain common point given in experience, diverge increasingly according to the difference in kind. Then, it denotes another moment when these lines converge again to give us this time the virtual image or the distinct reason of the common point. (…) starting from the perception-recollection composite, we divide this composite into two divergent and expanded directions which correspond to a true difference in kind between soul and body, spirit and matter. But we can only reach the solution to the problem by narrowing: When we attain the original point at which the two divergent directions converge again, the precise point at which recollection inserts itself into perception, the virtual point that is like the reflection and the reason of the departure point. (…) Each line defines a probability. But it is a qualitative probabilism, lines of fact being qualitatively distinct. In their divergence, in the disarticulation of the real that they brought about according to the differences in kind, they already constituted a superior empiricism, capable of stating problems and of going beyond experience toward concrete conditions. (Deleuze G., B); (p28-30) P

();
(cy);
(hy);
(ur)

Diversions:

(ph);
();
(cy);
(hy) the term "diversion" in ordinary usage means an attack on enemy territory that draws off the enemy's forces from the main objective. Only where this, rather than the capture of the point attacked, is the chief intention, is a diversion a distinct operation. Otherwise it remains the ordinary attack.

In such a diversion there must, of course, be an objective to attack. Only the value of this objective can induce the enemy to dispatch troops for its protection. Besides, if the operation fails as a diversion, the objective will serve as a compensation for the effort expended on capturing it. (Von Clausewitz C., OW);
(ur);

arrival date :	26 august 2306
hotel:	stayokay hostel amsterdam vondelpark zanpad 5 +31 (0)20 5898993
departure date	06 september 7.20
flight:	British Airways
no of days :	10 days

arrival date :	23 august 2200
hotel:	hotel ajiel 237, rue de la convention 75015 Paris +33 1 55763131
departure date :	26th august 18.55
Train:	Thalys
no of days :	03 days

arrival date :	20 august TBC
hotel:	foresteria valdese castello 5170 venezia +39(0)41 5286797
departure date :	23 august 2020
flight:	ryanair 4985
no of days :	03 days

arrival date :	17 august 2155
hotel:	hotel continental calle la rambla no 138 piso 2a +34 933027360
departure date :	20 august 16.45
flight:	easy jet
no of days :	03 days

arrival date :	14 august 1715
hotel:	goodenoughclub mecklenburgh square london +44 020 78378831
departure date :	17 august
flight:	easyjet 2269
no of days :	03 days

arrival date :	10 august 1855
hotel:	sadachiyo 2-20-1Asakusa, Taito-Ku Tokyo 111-0032 +81(0)3 3842 6431
departure date :	14 august 1310
flight	One World
no of days :	04 days

amsterdam	
	12-21 degrees C 17.1 degrees C average

paris	
	15-24 degrees C 18.1 degrees C average

venice	
	18-27 degrees C 22.9 degrees C average

barcelona	
	18-28 degrees C 24.1 degrees C average

london	
	13-21 degrees C 18.5 degrees C average

tokyo, japan	
	22-30 degrees C 26.5 degrees C average

states of change

CITIES STUDY TOUR 2005

schedule

landscape architecture program
rmit university

new york	
	20-28 degrees C 22.7 degrees C average

los angeles	
	18-28 degrees C 20.4 degrees C average

melbourne	
	10.6 degrees C average

arrival date :	06 september 1115
hotel:	hostelling international 891 amsterdam ave new york +1(212) 9322300
departure date:	09 september 1920
flight:	one world alliance
no of days :	03 days

arrival date :	09 september 2210
hotel:	orbit hotel 7950 melrose ave, west hollywood +1(323)655-1510
departure date:	15 september 2340
flight:	one world alliance
no of days :	06 days

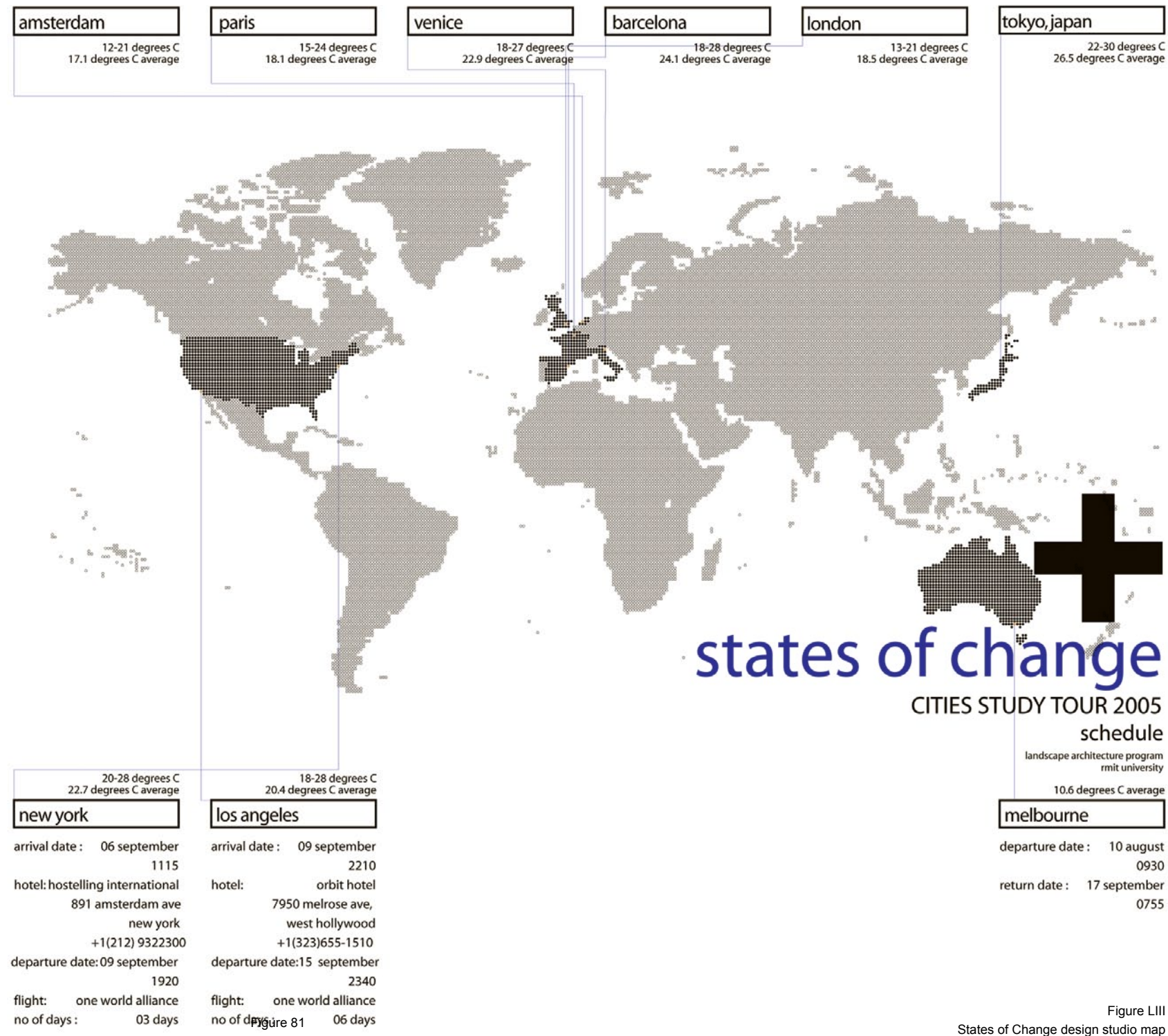| departure date :	10 august 0930
return date :	17 september 0755

Figure LIII
States of Change design studio map
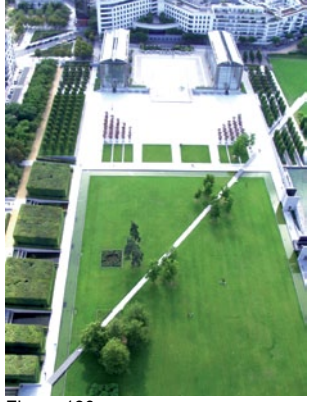
Figure 81

Figure 129

Figure 130

Figure 131

Figure 132

Figure 133

Figure 134

Duration:

(ph) Our duration is not merely one instant replacing another; if it were, there would never be anything but the present – no prolonging of the past into the actual, no evolution, no concrete duration. Duration is the continuous progress of the past which gnaws into the future and which swells as it advances. (Bergson H., CE); p.4

or

(…) Throughout the whole philosophy of Ideas there is a certain conception of duration, as also of the relation of time and eternity. He who installs in becoming sees in duration the very life of things, the fundamental reality. The forms, which the mind isolates and stores up in concepts, are then only snapshots of the changing reality. They are moments gathered along the course of time; and, just because we have cut the thread that binds them to time, they no longer endure. They tend to withdraw into their own definition, that is to say into the artificial reconstruction and symbolical expression which is their intellectual equivalent. They enter into eternity if you will; but what is eternal in them is just what is unreal. On the contrary, if we treat becoming by the cinematographical method, the Forms are no longer snapshots taken of the change, they are its constitutive elements, they represent all that is positive in Becoming. (H. Bergson., CE, p 317)

(bio) When it comes to understanding duration itself, science is powerless. What is needed is intuition, a "direct vision of the mind". "Pure change, real duration, is something spiritual. Intuition is what attains the spirit, duration, pure change.(Prigogine I & Stengers I.,OO) (pg92)

(cy);

(hy) Trans politics is the beginning of the disappearance of politics in the dwindling of the last commodity: duration. Democracy, consultation, the basis of politics, requires time. Duration is the proper of man; he is inscribed within it. (Virilio P., PW);

(ur)

Dynamic:

(ph);

();

(cy);

(hy);

(ur) All depended on the ability to apprehend multiple dynamic trajectories in space-time as distinct
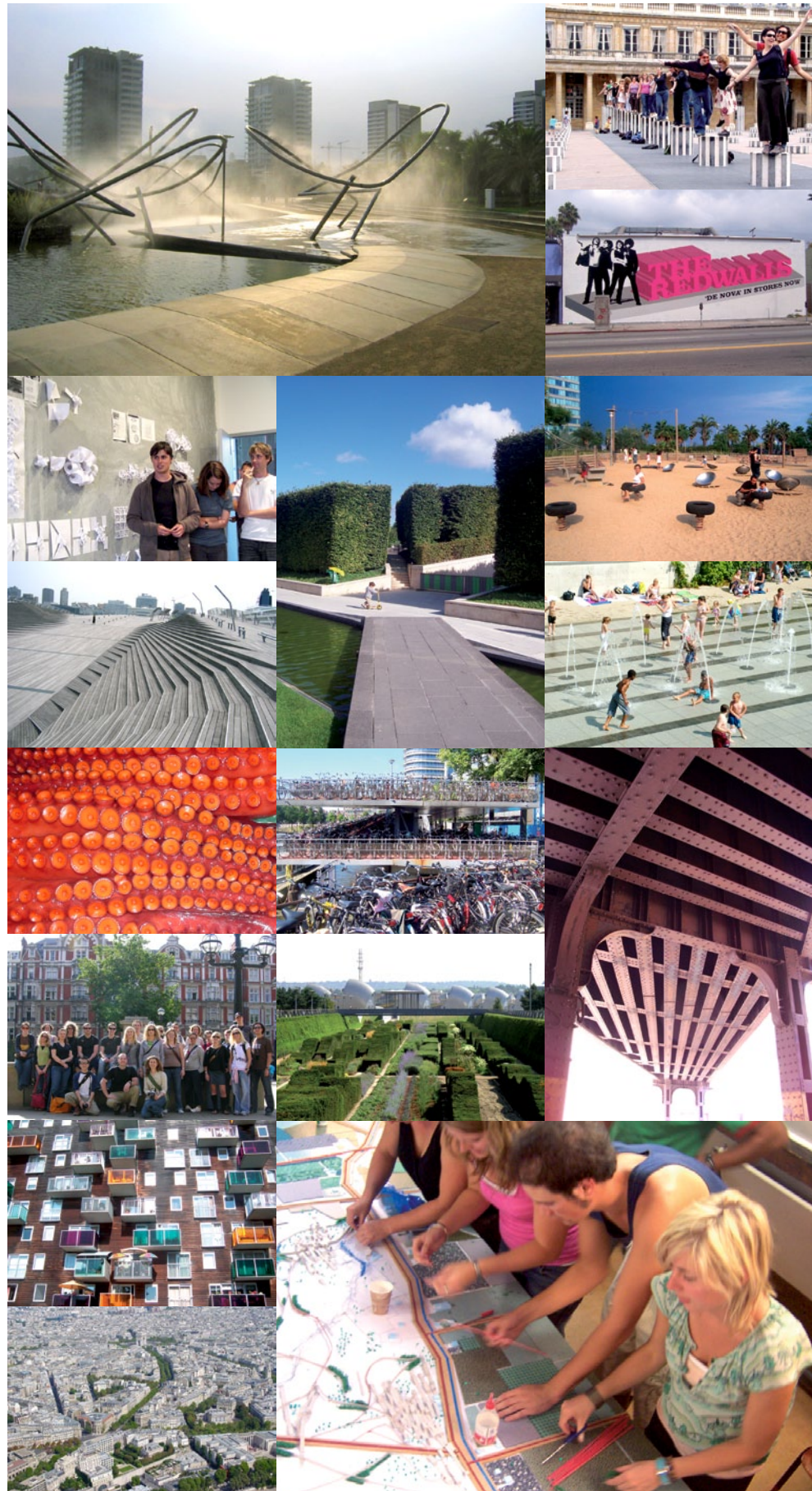
Figure LIV
States of Change design studio

stratifications in a single organic ensemble. (Kwinter S., FB);

Ecosystem:
(ph);
(); In coevolution, organisms adapt under selection via a metadynamics where each organism myopically alters the structure of its fitness landscape and the extent to which that landscape is deformed by the adaptive moves of other organisms, such that, as if by an invisible hand, the entire ecosystem coevolves to a poised state at the edge of chaos. (Kauffman.,OO)
(cy);
(hy) (...) cities and towns may themselves be considered ecosystems, at least to the extent that biomass circulates through them to feed their inhabitants.
(…) The main characteristics of an urban ecosystem is its homogeneity: human beings shorten all food chains in the web, eliminate most intermediaries and focus all biomass on themselves (…).
The same held true with respect to animals. Several domesticated species (pigs, cattle, goats) may be considered biomass converters, which aid the process of shortening and redirecting food chain. (…) together, humans and their "extended family" of domesticates (…), transformed a heterogeneous meshwork of species (a temperate forest) into a homogeneous hierarchy, since all biomass now flowed toward a single point at the top. In a sense, a complex food web was replaced by a simplified food pyramid, at least in those areas where urbanization had triumphed. (De Landa M., TYNH); P (ur);

Efficiency:
(ph);
()
(cy) Optimisation and efficiency die hard. In the past, better tools made our work more efficient. So economist reasonably expected that the coming information age would be awash in superior productivity. (…) but, surprisingly, the technology of computers and networks have not yet led to measurable increase in productivity (…).
To measure efficiency you need a uniform output. But uniform output is becoming rarer in an economy that emphasises smaller production runs, total customisation, personalized "feelgoods" and creative innovation.

Figure LV
States of Change, study model,
Claire Martin + Robyn Barlow

a field of relationships where overlaps occur and new possibilities can emerge.

This consequently brought the disciplinary boundaries of landscape, urbanism and architecture into question. It acknowledged the city as a pre-existing, self-regulating phenomenon which attempts to shift and question the boundaries and processes from within a discipline, into a field of relationships where overlaps occur and new possibilities can emerge.

"Science is essentially concerned with causal relations; and causal relations cannot be expressed unless there is change." Conrad H. Waddington, 'The Character of Biological Form' (1968).

Emergence is an event where complex systems and associated patterns emerge from a surface, evolving and transforming according to the intrinsic way systems operate individually and as a collective. These patterns are ones that we observe, whether they be the patterns that exist in nature (such as those that materialize in the sand), or the patterns we observe in the evolution of urban form. A multitude of factors influence their form and behaviour and the emergence of an urban form: such factors as force, scale, time, order, hierarchy and the relationships between other systems and the system itself.

In Robert Smithson's Glue Pour One and Two, he makes visible the notion of entropy as a horizontal state. The trickling of the sticky glue down the side of the hill emphasis the various states of viscosity for the material; the fluid but sticky substance gradually slows down as it dries and adheres itself to the granulated face of the hill, becoming solid in the process and eventually becomes a prosthesis to the earth mound. The registrations of these phases of change are seen in the ripples and patterns on the upper crust of the glue surface. The thickened surface dries more quickly on the top compared to the congealed layers underneath; the geological layers of the glue documenting the states of transformation at variable times. Change is not predictable, and in this case it is haphazard in form, rate and affect. Relationships and characteristics can be speculated upon, but the end-figure of the glue-pour is unpredictable; the flowing glue is didactic in its measure of disorder within the system of the pour.
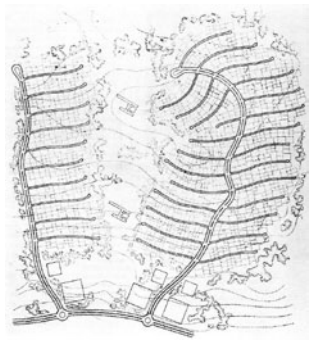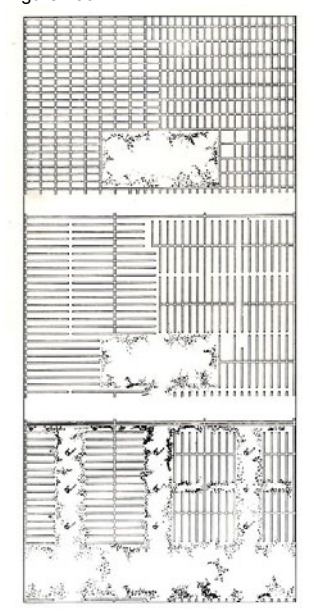

Figure 135
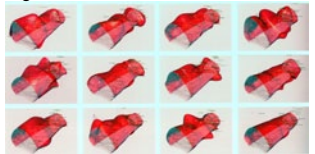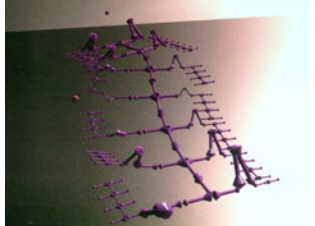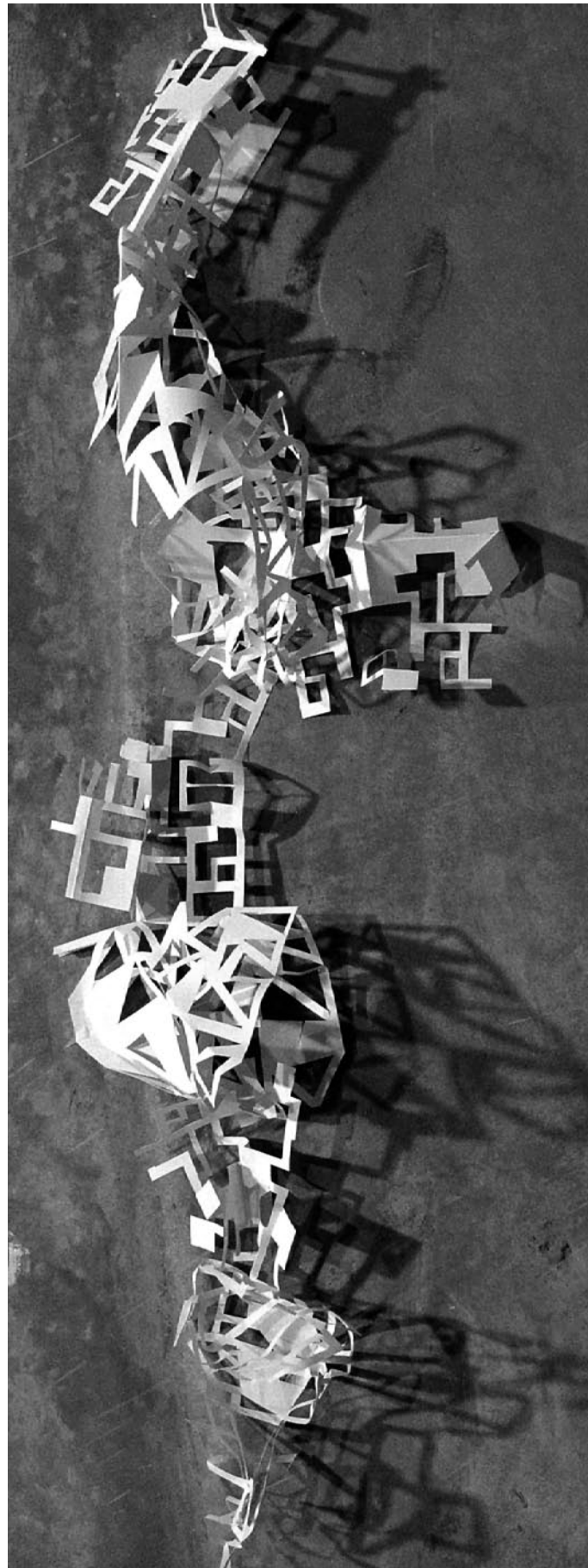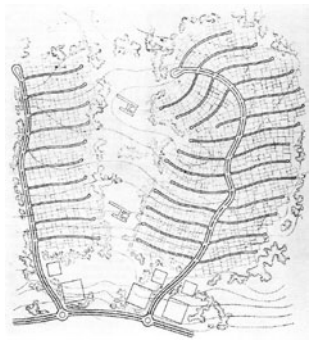

Figure 136

Figure 137

Figure 138

Figure 139

Ecosystem:
(ph);
(); In coevolution, organisms adapt under selection via a metadynamics where each organism myopically alters the structure of its fitness landscape and the extent to which that landscape is deformed by the adaptive moves of other organisms, such that, as if by an invisible hand, the entire ecosystem coevolves to a poised state at the edge of chaos. (Kauffman.,OO)
(cy);
(hy) (...) cities and towns may themselves be considered ecosystems, at least to the extent that biomass circulates through them to feed their inhabitants.
(…) The main characteristics of an urban ecosystem is its homogeneity: human beings shorten all food chains in the web, eliminate most intermediaries and focus all biomass on themselves (…).
The same held true with respect to animals. Several domesticated species (pigs, cattle, goats) may be considered biomass converters, which aid the process of shortening and redirecting food chain. (…) together, humans and their "extended family" of domesticates (…), transformed a heterogeneous meshwork of species (a temperate forest) into a homogeneous hierarchy, since all biomass now flowed toward a single point at the top. In a sense, a complex food web was replaced by a simplified food pyramid, at least in those areas where urbanization had triumphed. (De Landa M., TYNH); P (ur);

Efficiency:
(ph);
()
(cy) Optimisation and efficiency die hard. In the past, better tools made our work more efficient. So economist reasonably expected that the coming information age would be awash in superior productivity. (…) but, surprisingly, the technology of computers and networks have not yet led to measurable increase in productivity (…).
To measure efficiency you need a uniform output. But uniform output is becoming rarer in an economy that emphasises smaller production runs, total customisation, personalized "feelgoods" and creative innovation.

stratifications in a single organic ensemble. (Kwinter S., FB);

Figure LV
States of Change, study model,
Claire Martin + Robyn Barlow

a field of relationships where overlaps occur and new possibilities can emerge.

This consequently brought the disciplinary boundaries of landscape, urbanism and architecture into question. It acknowledged the city as a pre-existing, self-regulating phenomenon which attempts to shift and question the boundaries and processes from within a discipline, into a field of relationships where overlaps occur and new possibilities can emerge.

"Science is essentially concerned with causal relations; and causal relations cannot be expressed unless there is change." Conrad H. Waddington, 'The Character of Biological Form' (1968).

Emergence is an event where complex systems and associated patterns emerge from a surface, evolving and transforming according to the intrinsic way systems operate individually and as a collective. These patterns are ones that we observe, whether they be the patterns that exist in nature (such as those that materialize in the sand), or the patterns we observe in the evolution of urban form. A multitude of factors influence their form and behaviour and the emergence of an urban form: such factors as force, scale, time, order, hierarchy and the relationships between other systems and the system itself.

In Robert Smithson's Glue Pour One and Two, he makes visible the notion of entropy as a horizontal state. The trickling of the sticky glue down the side of the hill emphasis the various states of viscosity for the material; the fluid but sticky substance gradually slows down as it dries and adheres itself to the granulated face of the hill, becoming solid in the process and eventually becomes a prosthesis to the earth mound. The registrations of these phases of change are seen in the ripples and patterns on the upper crust of the glue surface. The thickened surface dries more quickly on the top compared to the congealed layers underneath; the geological layers of the glue documenting the states of transformation at variable times. Change is not predictable, and in this case it is haphazard in form, rate and affect. Relationships and characteristics can be speculated upon, but the end-figure of the glue-pour is unpredictable; the flowing glue is didactic in its measure of disorder within the system of the pour.
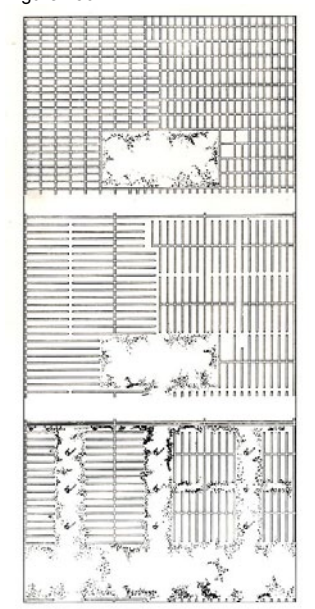

Figure 135
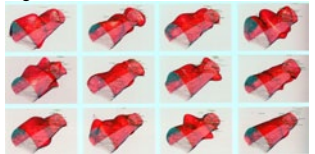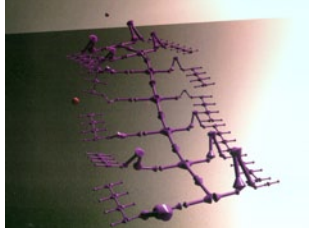

Figure 136

Figure 137

Figure 138

Figure 139

Less and less is uniform. (Kelly K., NRNE); P

(hy);

(ur); The university of aesthetically acceptable buildings must possess an analytical and logical type of mind; have a knowledge of all the elements of a building and of its purpose and function; posses a lively imagination and a cultivated inherent sense of form, proportion, appropriateness and color; possess a spirit of creation, adventure, independence, determination and bravery, and also, a large measure of humanistic instincts and ordinary common sense. The businessmen have to argee: Manhattenism is the only program where efficiency intersects with the sublime. (Koolhass R., DY) (pg 145) P

Emergence (Fields of ……):

(ph); "Implicit" from is a bundling of potential functions, an infolding or contraction of potential interactions (intension). The playing out of those potentials requires an unfolding in three-dimensional space and linear time - extensions as actualization; actualization as expression. It is an expression that fade-out occurs. The limits of the field of emergence are in its actual expression. Implicit form maybe thought of as effective presence of the sum total of a thing's interactions minus the thing. It is a thing's rationality autonomized as dimension of the real. This autonomization of relation is the condition under which " higher" functions feedback. Emergence, once again, is a two-sided coin: one side in the virtual (the autonomy of relation), the other in the actual (functional limitation). (Massumi, B parables of the virtual pg 35) ();

(cy) The one bat was copied by the dozens until the animators had a mob. Then each bat was instructed to move about on its own on the screen following only a few simple rules encoded into an algorithm: don't bump into another bat, keep up with your neighbours, and don't stray too far away. (…) So realistic is the flocking of Reynolds's simple algorithms that biologists have (…) concluded that the flocking behaviour of real birds and fish must emerge from a similar set of simple rules. (Kelly K., OC); (p10-11) P

(hy)

(ur) (…) apparently irregular behaviours result from the combination of elements that are

Figure LVI
Over Pour & Urban Form
by Robert Smithson

Robert Smithson's Glue Pour One and Two; states of change made visible.

Pattern and structure can be seen as interrelated and interdependent entities that emerge and evolve from a multitude of forces. Some are inherently visible and instant; others are invisible and at times incredibly extensive, and not relative to a linear chronological understanding of time, 2 let alone a biological/cyclical understanding of time. A non-linear and non-stable state of conception of time is required where feedback or strongly reciprocated interaction between systems is required. Time as a relative scaler and measurable device is transformed. Time is transformed, from an external technique and reference, to matter which is imbued with time and technique. Matter and its material qualitative and quantitative conditions, dictate and encode the potential for pattern to emerge. Transformations in these patterns occur continuously through the forces at play in the subject. These transformations define and redefine a shifting hierarchy and respond to a rhythmic order within the complex systems at play.

Pattern (in this case, including structure) should be understood as a network of relationships of elements, or as the production of a particular form. The framework we set up to examine structure is the way in which we develop the notion of a system.

Complex systems draw attention to the influences between various scientific fields such as biology, economics, physics and computer science. Various systems may exhibit different patterns of behaviour, although from the outside they may appear the same or very similar. The interconnections between the continuous, yet discrete, disciplinary fields require an investigation that unearths modes of translation between systems.

The interrelation between the continuous and discrete field of various systems exhibiting different patterns of behaviour, which externally may appear the same or particularly close. These require investigation, into methods of translation between systems, and into overt similarity of traits existing between systems. Such an investigation may reveal traits that tell of a deep sameness
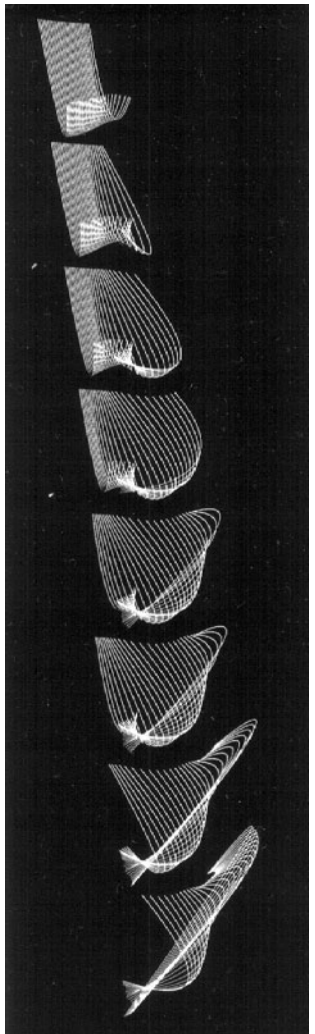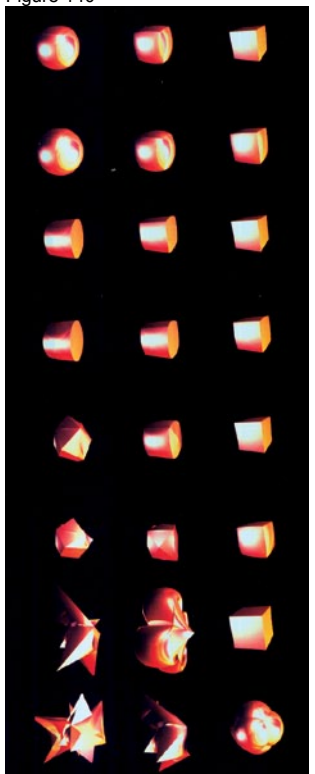

Figure 140

Figure 141

in and of themselves repetitive and regular. But moire' effect are not random. They shift abruptly in scale, and repeat according to complex mathematical rules. (…) there is an uncanny coexistence of a regular field and emergent figure. (Allen S., OF); (pg28) P

Emotion:
(ph) what is it that appears in the interval between intelligence and society (in the same way as the recollection-image appeared in the cerebral interval appropiate to intelligence)? (…) what appears in the intervals is emotion. (…) only emotion differs in nature from both intelligence and instinct, from both intelligent individual egoism and quasi-instinctive social pressure. Obviously no one denies that egoism produces emotions; and even more so social pressure, with all the fantasies of the story-telling function. But in both these cases, emotion is always connected to a representation on which it is supposed to depend. We are then placed in a composite of emotion and of representation, without noticing that it is potential (en puissance), the nature of emotion as pure element. The latter in fact precedes all representation, itself generating new ideas. (Deleuze G., B);
();
(cy);
(hy);
(ur);

Engagement:
(ph);
();
(cy);
(hy) Engagements mean fighting. The object of fighting is the destruction or defeat of the enemy. The enemy in the individual engagement is simply the opposing fighting force.
(…) the concept of engagement lies at the root of all strategic action, since strategy is the use of force, the heart of which, in turn, is the engagement. So in the field of strategy we can reduce all military activity to the unitary concept of the single engagement, and concern ourselves exclusively with its purposes (…).
In the engagement, the lost of morale has proved the mayor decisive factor. Once the outcome has been determined, the lost continues to increase, and reaches its peak only at the end of the action (…). (Von Clausewitz C., OW);
(ur);

Figure LVII
Glue Pour
by Robert Smithson

that exists in the construct of systems.

On the Line

The urban landscape in the centre of Ho Chin Minh, Vietnam experiences flash floods, approximately every month, blurring the boundary between land and water. This consequently anticipates different modes of occupation which are ingrained in the everyday consciousness of the city's inhabitants. This reality requires different modes of seeing, mapping and speculating within this landscape. Mapping this landscape is not about mapping as a means of defining fixed territories, but mapping with the objectives of working with the behaviors of fluctuating territories

With this series of maps, the objective was to survey the shore and coastline in an attempt to capture the point of differentiation between land and water; a surveying on the line with cartographic intention. The hand-eye repeatedly traces this line of passage in an attempt to capture the fluctuating curvature of the line where clearly the merging of two incredibly different material behaviours occurs; seemingly on this discrete line at the surface of the merging of water and earth. A line emerges but it is not singular and precise. The line is fractured, blurred, pixelated, and tremoring. Each point which makes up the line is now deeply ingrained into the material, from which it has emerged, as its extension or second limb. The material itself responds, where the bleeding line seeps into its thick fibres forcing the materiality of the line to fold in onto itself, producing another coastline in the process. There is a propensity which emerges in this work where, through the projection of the map onto the surface of the material, a responsiveness is acknowledged. This is unlike a projection of the grid onto a plane of paper which pretends to have no effect on the object it contains. This projection of water on earth transforms and continues to transform the map; it is a projection of the map, through the ever changing landscape of the flood plain.

At one moment you think aspects of life are fixed, concrete and never changing, but surprisingly looking again, closely this time, change is happening continuously. Can you see there are lines everywhere, bending according to the variable trajectories of this landscape? Nothing will remain still. The flow of water, the shifting and settling soil, and

Figure 142

Figure 143

Figure 144

Figure 145

Figure 146

Entropy:

(ph);Entropy, for example, partakes of a transcendental illusion in that, although a factor involved in extensions and explication, it nevertheless remains implicated in intensity, simply because it makes possible the general movement of the implicated undergoing explications. (Pearson KA.,GL) (pg75)

(phys) (…) its variation can be written as the sum of two terms – the term d_eS, linked to the exchanges between the system and the rest of the world, and a production term, d_iS , resulting from irreversible phenomena inside the system. This term is always positive except at thermodynamic equilibrium, when it becomes zero. For isolated systems ($d_eS=0$), the equilibrium state corresponds to a state of maximum entropy. (Prigogine I., Stengers I., OOC); (p131)

(cy) The degree to which relations between the components of any aggregate are mixed up. Unsorted, undifferentiated, unpredictable, and random (q.v.). The opposite is negentropy, the degree of ordering or sorting or predictability in an aggregate. In physics, certain sorts of ordering are related to quantity of available energy. (Bateson G., MN);

Equilibrium:

(ph)

(che) Chemical equilibrium is (…) a typical example of an "attractor" state. Whatever its initial chemical composition, the system spontaneously reaches this final stage, where the forward and reverse reactions compensate one another statistically so that there is no longer any overall variation in the concentrations. (Prigogine I., Stengers I., OOC); p.133 ;

(cy); This means that in a population of a given size, birth and death will vary to maintain that size. Even the slightest change in the population size, whether growth or decline, will influence either the birth or death rate or both at once in such a way that the change will be compensated for. A stable population is thus a self-regulating one. (Eigen. M & Winkler. R)

(hy) We must avoid the error of comparing cities to organisms, especially when the metaphor is meant to imply (as it has in the past) that both exist in a state of internal equilibrium, or homeostasasis. Rather, urban centers and living creatures must be seen as different dynamical systems operating far
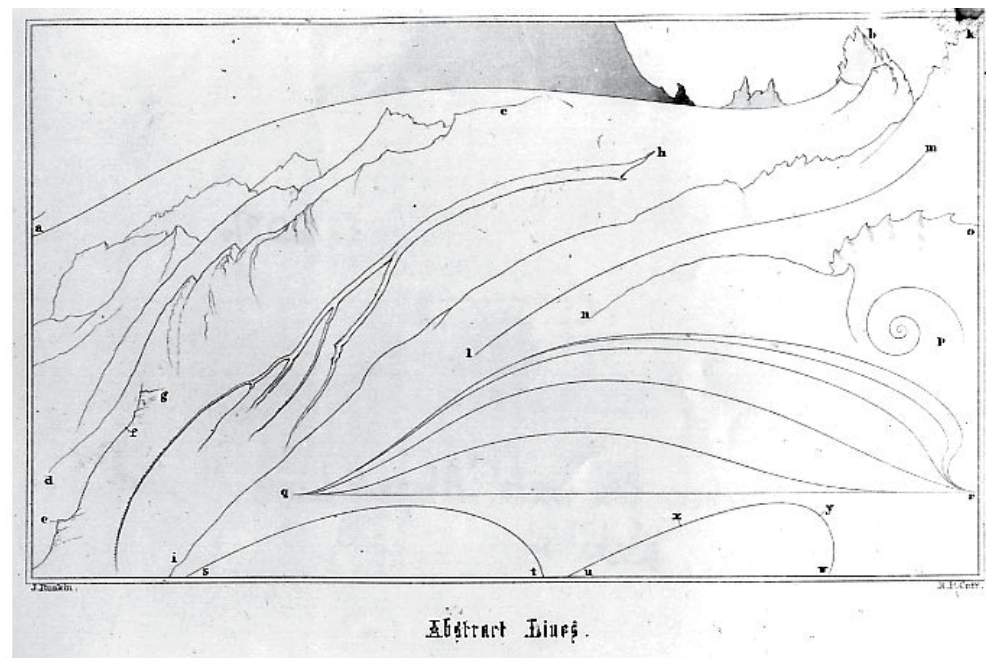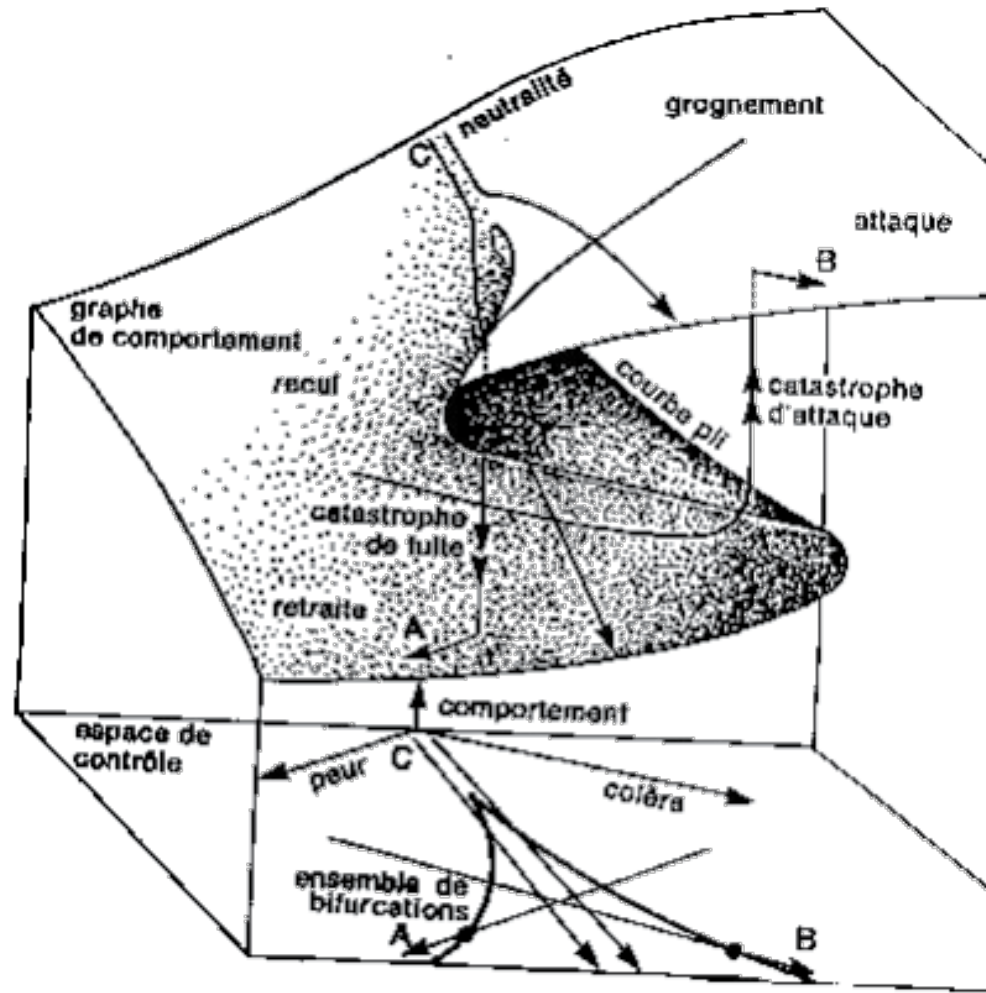
Abstract Lines.

people occupying space will escape the clutches of the naked eye when attempting to capture the dynamics and transformations of this landscape as they occur. These flurrying lines of change within this landscape, attempt to capture the affects of what will happen. These lines become an expression of the history of an event that once was. There is beauty in these lines.

We can draw connections back to John Ruskin's 'Line of nature', or to the drawn lines of the veil or breast in Cranach's Three Graces which draw a thread back to the point of bifurcation between different equilibria identified in Rene Thom's catastrophe theory. This point of change or point of bifurcation allows for new morphological types to emerge. These types are unpredictable but not incomprehensible. This point of change is the point of instability which allows the unexpected to emerge. These self-organising systems, although unpredictable, have particular tendencies, rhythms and limits in the materiality/matter associated with the particularities of each system.

Referring back to Darcy Thompson's quote: "The waves of the sea, the little ripples on the shore, the sweeping curve of the sandy bay between headlands, the outline of the hills, the shape of the clouds, all these are so many riddles of form, so many problems of morphology" . The problem of viewing the ocean, the shore, the sandy bay, headlands, hills and clouds as a problem of form suggests that the landscape is a series of discrete objects within a body of space, where form evolves as an isolated occurrence driven purely by its internal dynamics. Although when we consider the quote by Thompson and assume that the waves of the sea are from the little ripples on the shore, and that the little ripples are from the sandy bay; what is suggested is that these singularities are connected, influencing and forming each other. Each evolves according to its own internal information but consequently operates as a set of systems directly related to 'form'. Rene Thom in his manifesto 'Structural stability and morphogenesis: an outline of a general theory of models, addresses' this in his exploration of quantum and relativity theories, specifically exploring the ideas of morphogenesis. This idea of morphogenesis is often associated with biological processes that cause organisms to develop their forms and the event often associated with the sudden shift or change in 'form'.

2. Thompson, D'Arcy Wentworth, On Growth and Form: the complete revised edition, Dover Publications, New York, 1992.pg.36

Figure LVIII
Catastrophy Theory Diagram

Figure LIX
Abstract Lines, Ruskin

Figure 147

from equilibrium, that is, traversed by more or less intense flows of matter-energy that provoke their unique metamorphoses. (De Landa M., TYNH); P

(ur) Aerial dogfighting, more than anything else, is like space-time arbitrage: one must exploit discrepancies that appear between parallel flows (the twisting vectors of adversarial aircraft). But these flows are so far from equilibrium –so stretched- that the critical discrepancies must be snatched from any dimension that is not already totally strained to the max. (Kwinter S., FB);

Evolution:

(ph) (…) evolution theory (…) consists above all in establishing relations of ideal kinship, and in maintaining that whatever there is this relation of, so to speak, logical affiliation between forms, there is also a relation of chronological succession between the species in which these forms are materialized. (…) an evolution somewhere would still have to be supposed, whether in a creative Though in which the ideas of the different species are generated by each other exactly as transformism holds that species themselves are generated on the earth; or in a plan of vital organization immanent in nature, which gradually works itself out, in which the relations of logical and chronological affiliation between pure forms are just those which transformism presents as relations of real affiliation between living individuals; or, finally, in some unknown cause of life, which develops its effects as if they generated one another. Evolution would then simply have been transposed, made to pass from the visible to the invisible. (Bergson H., CE); (p25)

(bio) Evolution proceeds in two major modes. In the first, phyletic transformation, an entire population changes from one state to another. If all evolutionary change occurred in this mode, life would not persist for long. Phyletic evolution yields no increase in diversity, only a transformation of one thing into another. Since extinction (by extirpation, not by evolution into something else) is so common, a biota with no mechanism for increasing diversity would soon be wiped out. The second mode, speciation, replenishes the earth. New species branch off from a persisting parental stock. (Jay Gould

Darcy Thompson's problem of viewing form through the dynamics of a shifting and connected plane (whether it is the waves of the seas, or the ripples of the shore) suggests how we might understand the forces and relationships that formalise and thereby evoke the operational dynamics of a landscape. Doing so, we might then put forth a new idea about the internal conditions of a system and the forces of a system, where the inherent structures of a landscape are not formed by finite rigid, physical properties, but instead by a set of singularities, that are shifting and reforming the surface similar to the operations of Conrad Waddington's epigenetic landscape. In such a landscape, a set of interactive forces are at play, colliding with one another to form a repetitious surface of differentiating patterns.

Waves… ripples… shore.. all of these actions constitute a series of lines that have the ability to shift and respond to forces that are not visible, such as wind, current and temperature. On the other hand visible lines, such as the tide coming in and out, with variant forces revealing the affect of these acts of nature on the formation of this line, reveal how landscapes created by these once invisible forces, operate.

In embracing these operations, the line could be considered as a dynamic and formless phenomenon, which is neither subject nor object, but is made up of variously formed materials which are inherently different in force, time and repetition. The line as a piece of string, having a material quality which is specific to the formation of the string, provides a useful analogy to such a concept. Whether it is the microscopic view of the string vibrating, or the string models utilised to explore the various connections between territories at a regional scale. Each example is an abstraction, but a medium of connecting one isolated object or system to each other.

Field Conditions

'… Relax. Concentrate. Dispel every other thought. Let your world fade.' Pages, which initially seem to unfold, turn back on themselves creating redundancies that seem random and thus obscure rather than disclose patterns of
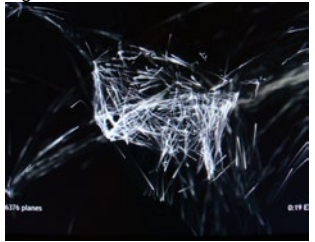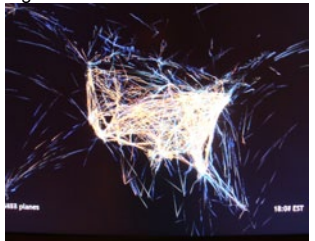

Figure 148

Figure 149

Figure 150

Figure 151

Figure 152

Figure 153

Figure 154

Existing Condition:
(ph);
();
(cy);
(hy);
(ur) Architectural speculation must programmatically refocus on descovering [new] potential in existing conditions, on aligning, and finding articulation for, the inevitable transformations and forces of modernization (Kwinter S., FB);

Expansion:
(ph);
(eco). Expansion depends on capturing and using transient energy. The more different means a system possesses for recapturing, using, and passing around energy before its discharge from the system, the larger are the cumulative consequences of the energy it receives. (Jacobs J., NC); (p47) P
(cy);
(hy);
(ur);

Extensive:
(ph);
(sci). Extensive properties include not only such metric properties as length, area and volume, but also quantities such as amount of energy or entropy. They are defined as properties which are intrinsically divisible: if we divide a volume of matter into two equal halves we end up with two volumes, each half the extent of the original one. (delanda, m ., intensive science virtual philosophy); (pg26)
(cy);
(hy);
(ur);

meaning. "Here is page 31 again, page 32….. and then what comes next? Page 17 all over again, a third time!" As frames, enframes, frames, the narrative seems to unravel into sentences, words, morphemes, phonemes" and the "flow of information" is "shaken by redundancies and noises" until it is finally "degraded into swirling entropy".[3]

Children play against and in conjunction with the sporadic spurts of water flowing from the fountains contained within the space. The direction of the water and the fluctuations of the fountains; the switching on and off, according to its pre-recorded sequence, begins to dictate the choreography of
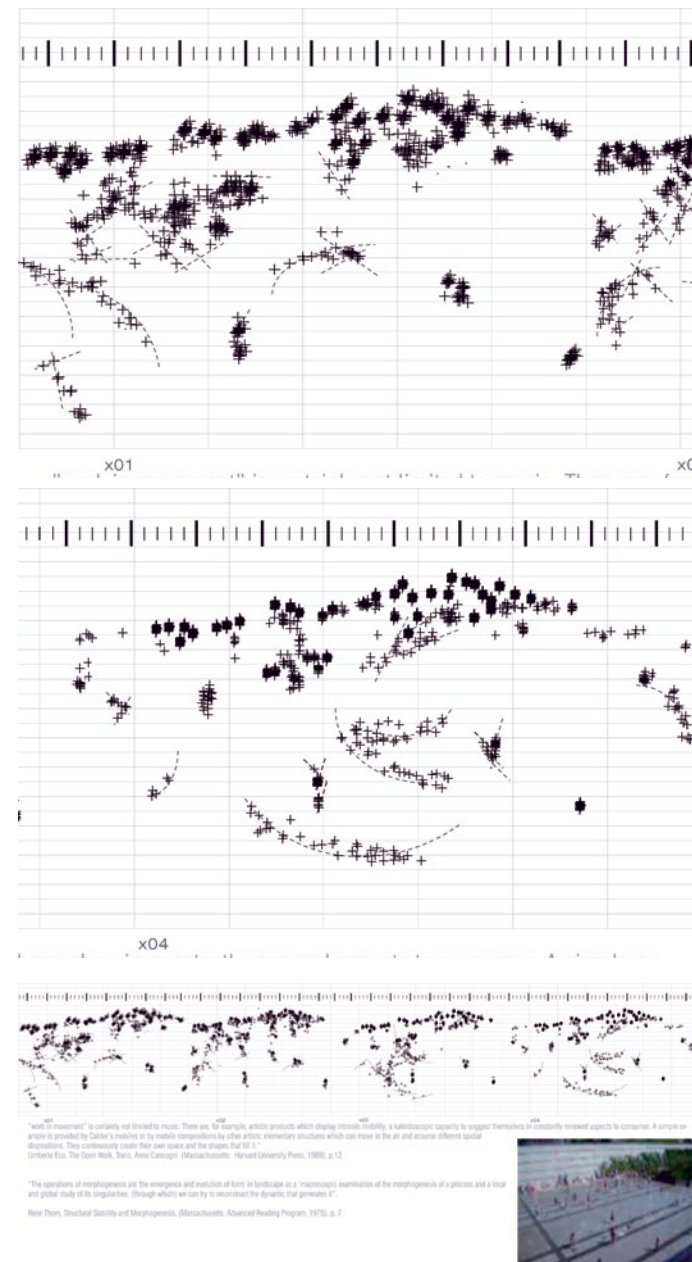
Figure LXII
Beach Mappings

the children in this space; back and forth, left and right, up and down. Are the tendencies of the flock, manoeuvring around in multiple directions, reconfiguring its overall form and extent like a flock of birds oscillating from the inside and outside, implicating the overall zone of occupation, while at the same time defining its structure in the process of its formation?

The structure and the occupants are an extension of each other in motion and as animated form. The rules are defined through the local condition; any variation in the environment is accommodated fluidly through continuous adjustment. Each reconfiguration of the group is different; similarities exist, not as a fixed outcome but as patterns of behaviour motivated by unpredictable desires, a complex system in itself. The visual flows and interactions highlight how certain aspects of the space function. The flows are connected through other systems and operations which are at play, although they are not as visible. A different eye-of-observation is required to capture those flows which are invisible. In the sequence of images one continually seeks to find the patterns and limits to the field. The field emerges from the attributes which define space and matter, and the relationship and system at play.

Understanding the urban landscape as a dynamic field means accepting it as being in a state of continual flux and change. Aesthetic processes flow through the urban field and are carried by bodies of people that influence the form of urban space and organisation. Such phenomena are defined by simple local conditions and are, in fact, relatively indifferent to the overall form and extent of the city. The urban field is understood as dynamic, and characterised by forces rather than forms. For designers, urban questions in design have most commonly been asked about large-scale form or fabric. Form may instead be considered as patterns of organisation, influenced by resonating specific forces addressing a multitude of scales: from global to local.

3 Mark Taylor, the Moment Of Complexity: Emerging Network Culture pg 111

Figure 155
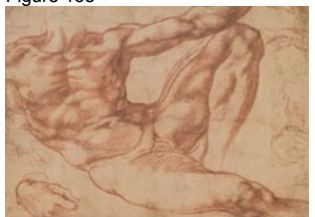

Figure 156

Figure 157

Figure 158

Figure 159

Field:
(ph);
();
(cy);
(hy);
(ur) Field conditions treats constraints as opportunity and moves away from Modernistic ethic – and aesthetic – of transgression. (…) a field condition would be any formal or spatial matrix capable of unifying diverse elements while respecting the identity of each. Field configurations are loosely bounded aggregates characterised by porosity and local interconnectivity. (…) Field conditions are bottom-up phenomena: defined not by overarching geometrical schemas but by intricate local connections. (Allen S., OF); (pg24) P

Field of Information:
(ph);
();
(cy);
(hy);
(ur);a collection of surveys, samples, statistics, and regulated observations of sets of dynamic systems that traverse the area in question.(AA Files No42)

Field of Opportunity:
(ph);
();
(cy);
(hy);
(ur); the progressive construction of a dynamic plane of performance(in the form of a diagram), in which diverse logics of transformation- rhythms, cycles and tendencies – coexist. (check bibliography)

Finalism:
(ph) (…) The confusion of space and time, the assimilation of time into space, make us think that the whole is given, even if only in principle, even if only in the eyes of God. And this is the mistake that is common to mechanism and finalism. The former assumes that everything is calculable in terms of a state; the latter, that everything is determinated in terms of a programm (…). (Deleuze G., B);
();
(cy);
(hy);
(ur);

Fitness:
(ph);
(sci) (…) natural selection would

Figure LXIII
States of Change, New York sequence

Figure LXIV
States of Change, London sequence

ever sift out of the fitter from the less fit, ceaselessly screening, such that, down the eons, adapted forms would accumulate useful variations and proliferate. Later biologist, by the fourth decade of the twentieth century, would invent the image of an adaptive landscape whose peaks represent the highly fit forms, and see evolution as the struggle of populations of organisms driven by mutation, recombination, and selection, to climb toward those high peaks. (Kauffmann S., HU);
(cy);
(hy);
(ur);

Flexibility:
(ph);
();
(cy) (…) Flexibility may be defined as uncommitted potentiality for change (…).
I assume that any biological system (e.g., the ecological environment, the human civilization, and the system which is to be the combination of this two) is describable in terms of interlinked variables such that for any given variable there is an upper and a lower threshold of tolerance (…). It is asserted above that the overall flexibility of a system depends upon keeping many of its variables on the middle of their tolerable limits. But there is a partial converse of this generalization: (…) the variable which does not change its value becomes ipso facto hard programmed. Indeed, this way of stating the genesis of hard-programmed variables is only another way of describing habit formation. (…)
From all of this it follows that to maintain the flexibility of a given variable, either that flexibility must be exercised, or the encroaching variables must be directly controlled. (Bateson, G., SEM);
(hy);
(ur);

Flow of matter and energy:
(ph);
();
(cy);
(hy) ;
(ur) By manipulating the focus, viscosity, direction, and "fibrosity" of this material flows, complex natural or artificial reactions take place, and from this, the "new" and the unexpected suddenly become possible. (Kwinter S., FB);
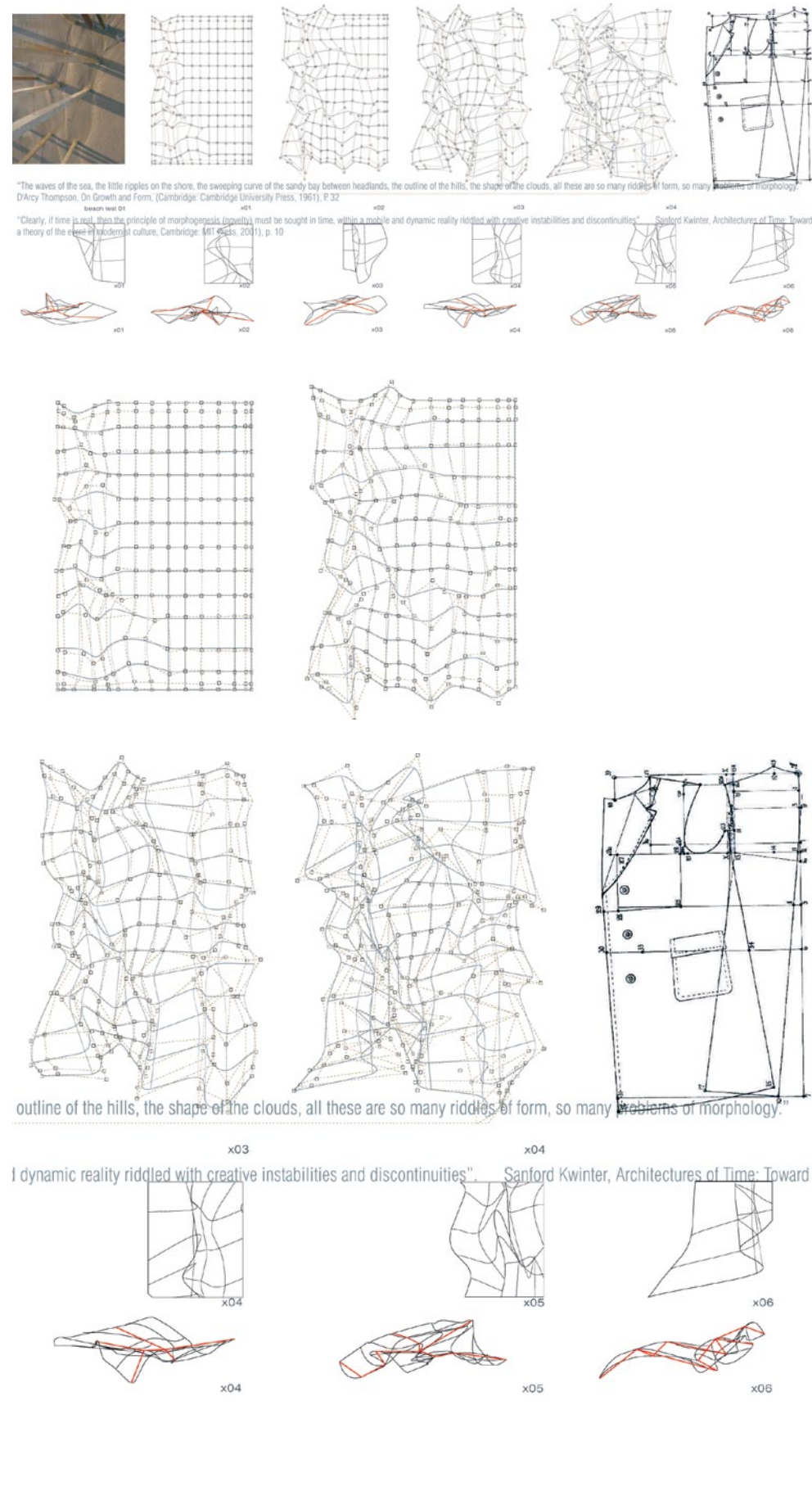
Figure LXV
Beach Mappings

Grid

The comparison of two sizes or two multiplicities requires, in every case, that they both be analysed according to a common unit; so that comparison effected according to measurement is reducible, and again in every case, to arithmetical relations of equality to the calculable form of identity and difference.

'Order, on the other hand, is established without reference to an exterior unit: I can recognise in, effect, what the order is that exists between a and b without considering anything apart from those two outer terms'; one cannot know the order of things ' in their isolated nature', simplest, one can progress inevitably to the most complex things of all. Where as comparison of measurement requires a division to begin from, then the application of a common unit, here, comparison and order are one and the same thing: comparison by means of order is a simple act which enables us to pass from one term to another, then to a third, etc., by means of absolutely uninterrupted movement'.[4]

'writing has nothing to do with signifying, but with land-surveying and mapmaking, even countries yet to come.'[5]

Aggregates of material have structures which are defined by the thin layer of disorder which is located between one set of systems and another, or between one cell and the next, where slippages and variations are supported. Many characteristics of the form which emerges (in this case from the various paper models completed as a part of the States Of Change Study Tour attempt to capture the organisational patterns and dynamics of an urban landscape. These share similar features to that which we may understand and observe in nature, similarities in structure to that of crystalline aggregates and foam-structures. Often in some of the emerging discourses (such as in the emerging technologies program, or the landscape urbanism program at the Architectural Association in London) the scientific aspect of the structure becomes the dominant characteristic of the ambition of the design proposal; where a mimicking of form occurs. Questions which emerge are within the urban landscape rather than mimicking these structures. How do we begin to understand the natural structures and associated forms at play so an emergent grid can surface which is of the
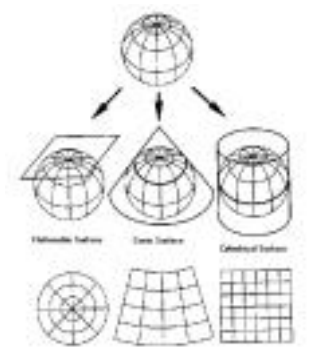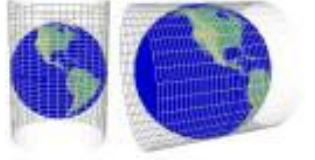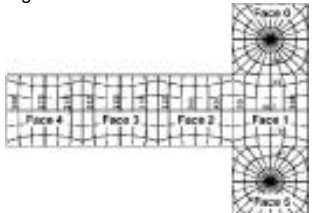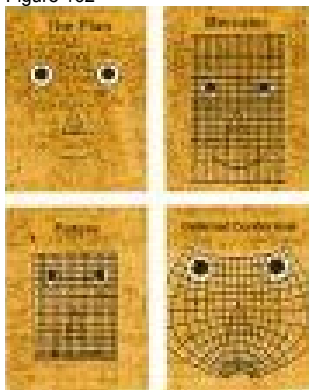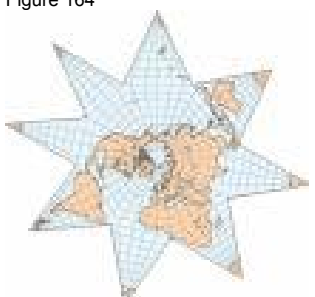

Figure 160

Figure 161

Figure 162

Figure 163

Figure 164

Figure 165

Flows of power:

(ph);

();

(cy);

(hy) ;

(ur) The flows of power generates the power of flows, whose material reality imposes itself as a natural phenomenon that cannot be controlled or predicted, only accepted and managed. This is the real significance of the current restructuring process, implemented on the basis of new information technologies, and materially expressed in the separation between functional flows and historically determined places as two disjoined spheres of the human existence. People live in places, power rules through flows. (Castells M., IC) (p495 CR);

Fluctuation:

(ph);

(phys) (…) whatever the evolution peculiar to the system, it will ultimately lead to one of the microscopic states corresponding to the macroscopic state of disorder and maximum symmetry, since these macroscopic states correspond to the overwhelming majority of possible microscopic states. Once this state has been reached, the system will move only short distances from the state, and for short periods of time. In other words, the system will merely fluctuate around the attractor state. (Prigogine I., Stengers I., OOC); (p.124) P

(cy);

(hy);

(ur);

Fluid:

(ph);

();

(cy);

(hy);

(ur);Cities are, in fact, unfathomably complex information-processing machines that metabolize (…) fluid systems that metabolize and inflect every other flow (linguistic, financial, sartorial, libidinal) that moves through them. And it is by this process of inflection- and is is one of the terms I want to associate with the concept of pastorialism- inflection and deformation- a continual release of new deviational movements, shapes and surfaces(…) (Kwinter. S.,PP) (pg27)

Figure LXV
Paper Study Models, States of Change Design Studio
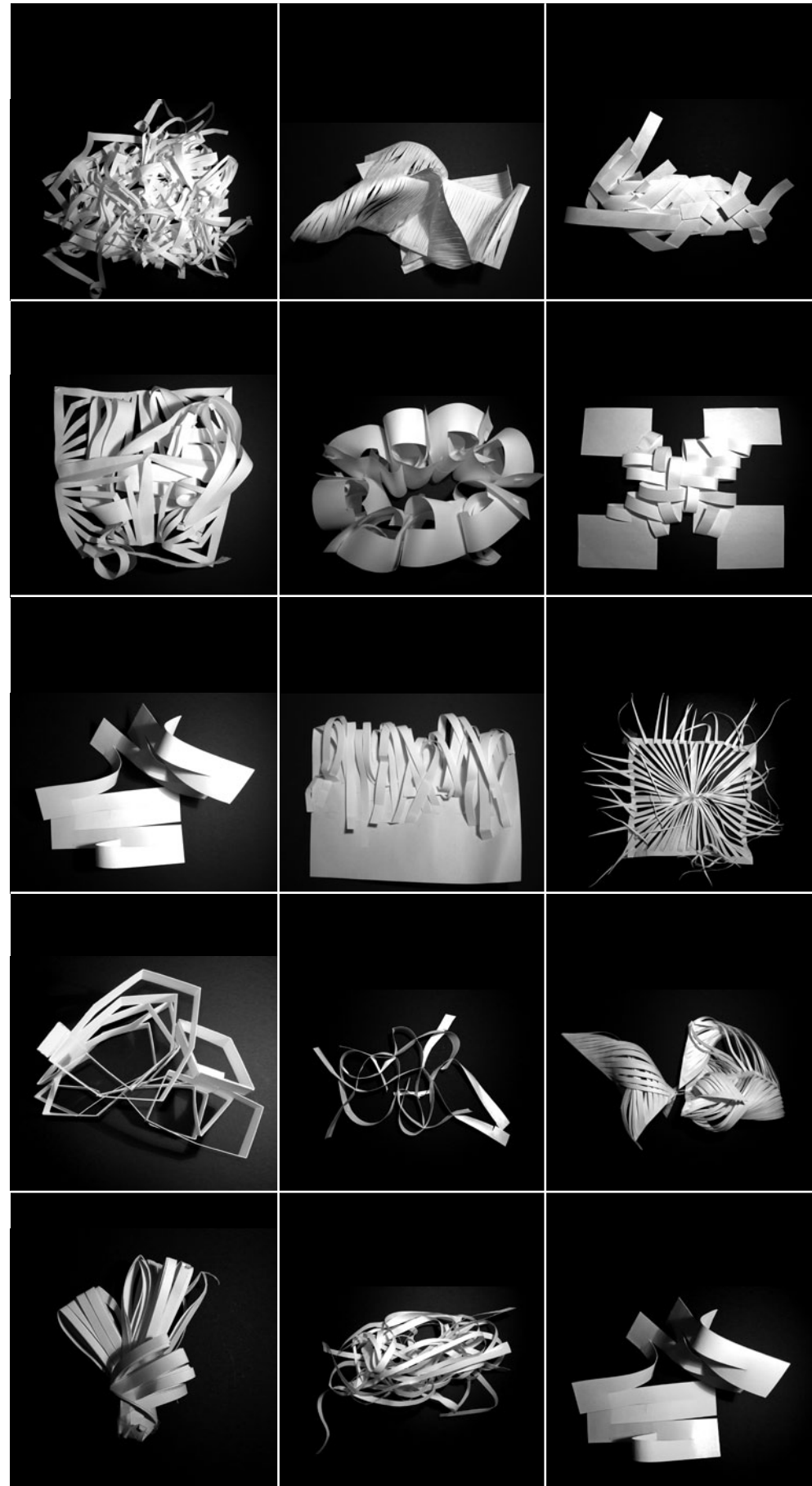
Figure LXVI
Paper Study Models, States of Change Design Studio

Folding:
(ph);
();
(cy);
(hy);
(ur) Folding became the method by which the surface of a large homogeneous volume could be differentiated while remaining continuous. (Lynn G., FBB);

Force:
(ph);
()
(cy);
(hy);
(ur);Force-lines can now be seen as the abstract units that articulate the object's relation to its consistent field. And as we have already seen this relation is one of immanence, or at least of a becoming – immanent. (Kwinter S., AT) (pg68)

Form:
(ph); The form, then, of any portion of matter, whether it be living or dead, and the changes of form which are apparent in its movements and in its growth, may in all cases alike be described as due to the action of force.(…) the form of an object is a diagram of forces, in this sense, at least, that from it we can judge or deduce the forces that are acting or have acted upon it: in this strict and particular sense, it is a diagram(…) (Thompson D.,OGF) (11)
(cy); Form is a product of order in time and space, but it can also manifest itself simply by dividing things into different classes. Something is perceived as a unified shape only when it is more than the sum of its parts. (Eigen. M & Winkler. R) (pg 69)
(hy) Synergistic combinations, whether of human origin or not, become the raw material for further mixtures. This is how the population of structures inhabiting our planet has acquired its nt rich variety, as the entry of novel materials into the mix triggers wild proliferations of new forms. (De Landa M., TYNH);
(ur) Form can be shaped by the collaboration between an envelope and the active context in which it is situated. While physical form can be defined in terms of static coordinates, the virtual force of the environment in which it is designed contributes to its shape. The particular form of a hull stores multiple vectors of motion and flow from the space in which it was designed. (Lynn G., AF); P
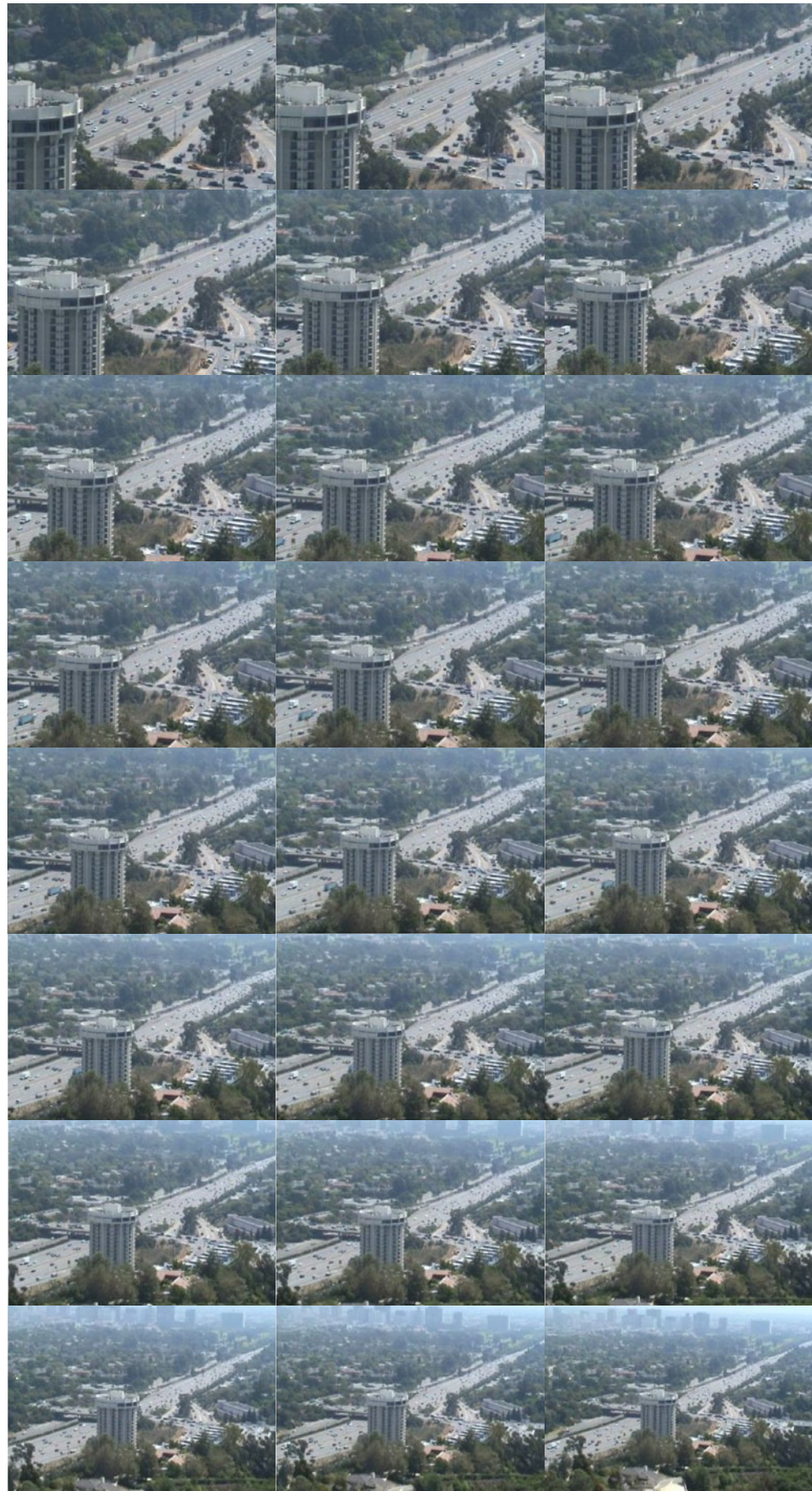
Figure LXVII
States of Change, Los Angeles sequence

complexity of the matter from where it emerges and operates within? The aim is to avoid replicating an overlay of geometries onto an infinite landscape-field similar to the approaches that were undertaken by the modernists in configuring the city. The ambition is to shift landscape from being a green artifice which is overlaid onto an urban form, to being the plane from which urban form emerges

The paper studies were a response to each of the cities visited on the tour, and an examination and abstraction of the inherent morphology of a city. The sheet of paper was the plane for drawing out the eidetic content, and its capacity to contain the content and express the ideas of the urban landscape, through the thinness of the single surface.

Paper, commonly introduced as a flat, thin sheet of white matter, (depending on its grade, texture and smoothness) varies in its performance. The paper studies consist of a multitude of models that explore techniques of fold, twist, roll and cut; each unique in its morphology, traits and behaviour. The same paper was used in each case, but through the operations conducted on the sheet itself, with the responsiveness of the various manipulations on the paper, each performance outcome varies. Each sheet of paper has a multitude of possibilities of how it is formed, operates and responds. Its operations and emergent forms are a prosthetic to the surface; acting as a host, by virtue of its compatibility with the code which prescribes it and its structure, and for the dynamism of the prosthetic to emerge, and to evolve and adapt over time. The prothesis is not just a flaccid artifice, but is operational. It is prescribed by the relational geometric structure which emerges from its reading and making.

The Cartesian structure as a visual structure, does "not map a space of a room or a landscape or a group of figures of a painting. Indeed, if its maps anything it maps the surface itself. It is a transfer in which nothing changes place.

Capturing the dynamics of an urban landscape, the complex systems and forces at play that influence and transform the urban form become problematic in the way in which we see the world and its representation! In seeing the urban landscape beyond a photograph, or in a trace of

4 Michel Foucault, The Order Of Things.

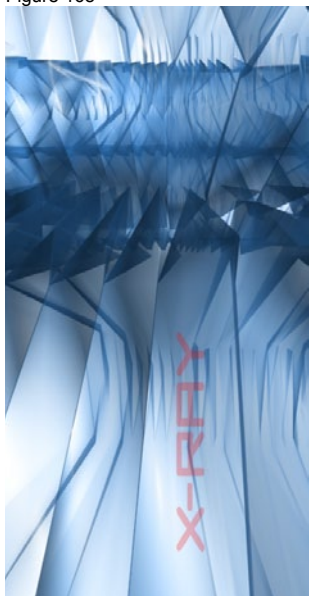5 Deleuze, On the line, page 5
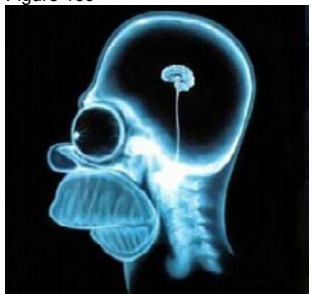

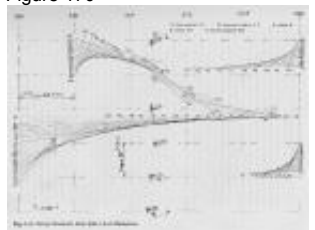Figure 166

Figure 167

Figure 168

Figure 169

Figure 170

Figure 171

Formal:

(ph);

(sci); From this point of view, we say that a system of forms in evolution constitutes a formalizable process if there is a formal system p (in the sense a formal logic) satisfying the following conditions:

1. each state A of the phenomenological process under consideration can be parameterized by a set of propositions a of formal system p.

2. if, in the course of time, state a is transformed into state b, then b can be parameterized by a set b of p such that b can be deduced from a in p. In other words , there is a bijective map h from some or all of the propositions of p onto the set of forms appearing globally in the process and the inverse of this map transforms temporal into logical succession.

Such a model is not necessarily deterministic, for a set a of premises of p can, in general, imply a large number of formally different conclusions, and so the model is not entirely satisfactory for, being indeterministic, it does not allow prediction. (Thom R., SSM) (pg3)

The appearance of formal dynamics seem specifically characteristic of biological phenomena, but there exists at least a suggestion of formal dynamics in certain phenomena of inert matter; the models that we describe allow us, perhaps, to imagine how formal dynamics (charged with significance) can appear from undifferentiated classical dynamics, and thus partially to fill the irritating gap between energy and information which, thermodynamically, separates the inert from the living world. (Thom R., SSM) (pg 139)

();

(cy);

(hy);

(ur);

Fractal:

(ph);

() The claim was that the degree of irregularity remains constant over different scales. Mandelbrot decided he needed a name for his shapes his dimensions and his geometry. (…) He came across the adjective fractus, from the verb frangere, to break. The resonance of the main English cognates- fracture and fraction- seemed appropriate. Mandelbrot created the word(…) fractal. In the minds eye, a fractal is
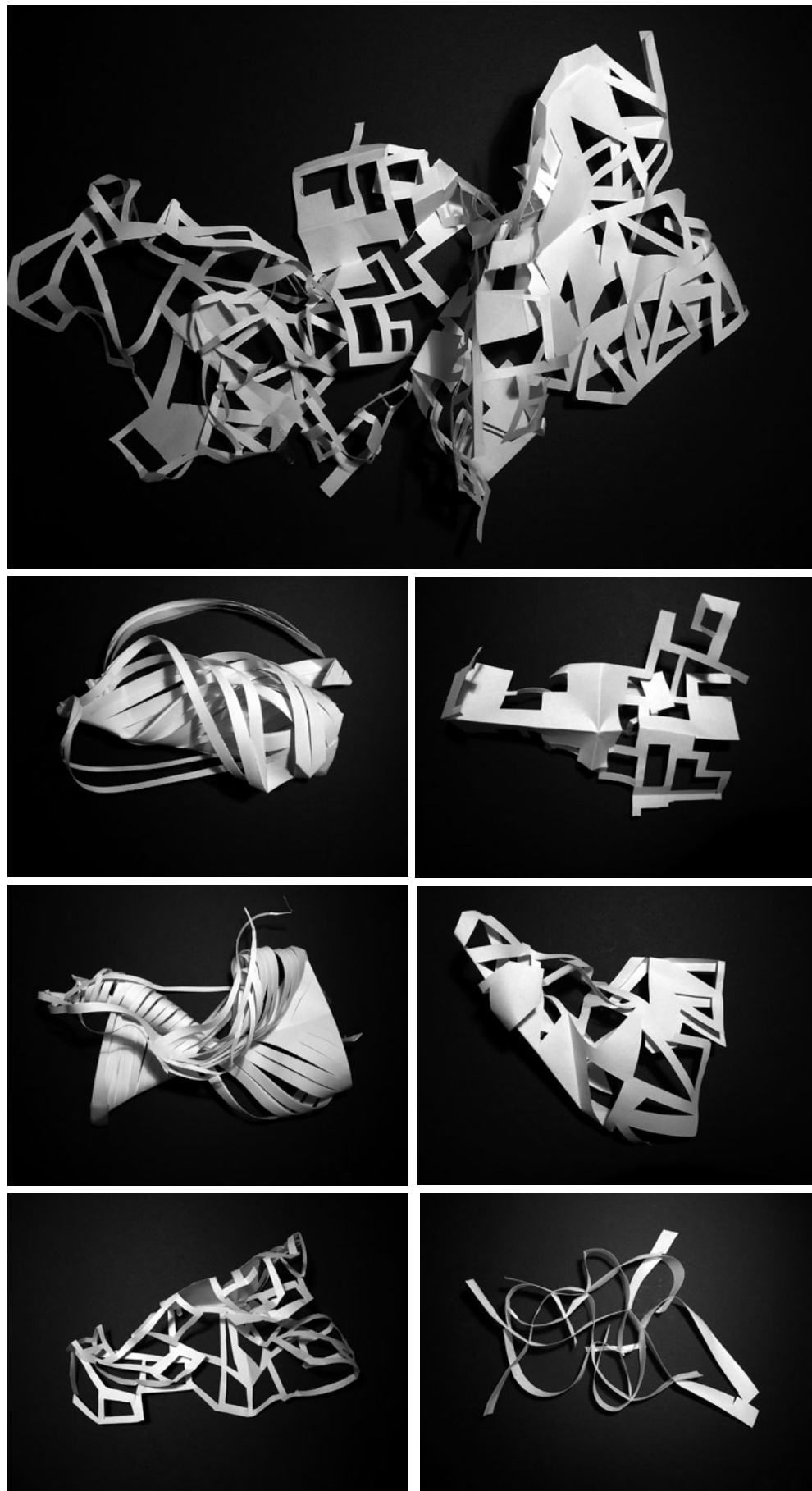
Figure LXVIII
States of Change
Paper City study Models

the intensity that flows through an event, questions arise concerning the relationship between man and nature, and of figure and ground.

Stan Allen suggests that architects and planners need to recognise the limits of their ability to order the city, and that they need to learn from the complex self-regulating orders already present in the field of the city. With a growing recognition of the 'urban field', objects tend to lose their traditional form and design process, moving from the one to the many, and from 'objects' to 'fields'.

How can we consider the grid as the point of contradiction which is continually shifting? How can we assess it as an emerging event that comes into being from a series of resultant forces, some visible and operating across different scales which allow the grid to be considered as a dynamic, temporal and formal condition? We can do so if we put forth the possibility of seeing the notion of the grid as an 'operative diagram' that continually resonates and reforms, similar to Rene Thom's observation of the waves of the sea, or the ripples on the shore!

How can the gridded picture plane shift from being an intermediary device of duplication? Can the gridded picture-plane transform from a rigid mechanism into a surface which registers the forces and effects present on the surface of the Earth? A picture-plane which transforms from a rigid device that registers nothing other than itself to a plane registering a multitude of sensations, and where landscape becomes a mechanism of transformation within an urban field.

The classical grid system does not, strictly speaking, limit one to static models of form, but it does limit one to linear models of movement or change. A linear model is one in which the state of a system at a given moment can be expressed in the very same terms (in number and relation of parameters) as any of its earlier or later states. The differential calculus of Newton is precisely such a model, describing flows on the plane.

Differential equations are mechanisms that generate a set of continuous numerical values that, when fed into Euclidean space, appear as linear movement. But if the standard calculus can successfully model the evolution of
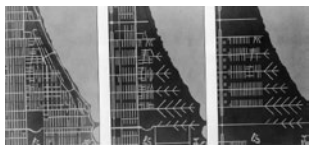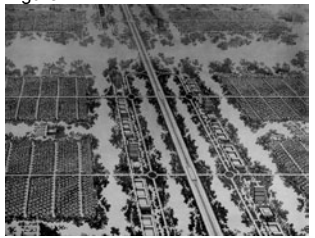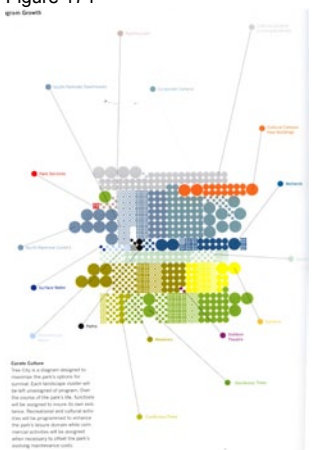
Figure 172

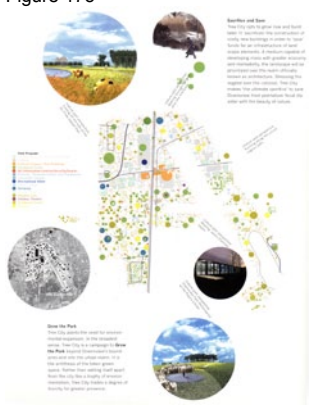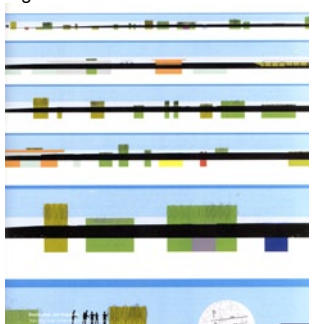Figure 173

Figure 174

Figure 175

Figure 176

Figure 177

a way of seeing infinity.(Gleick J., C) (pg98)

(cy);

(hy) In non-Euclidean geometry, a fractal is a figure with a fractional number of dimensions; for example, something between a point and a line, a line and a plane, or a line and a volume. (…) Start with a straight line, measure it into thirds…, build an equilateral triangle with the middle segment as its base, remove the base segment, repeat the process on the resulting four segments, repeat the process on the resulting sixteen segments, and so on to infinity. Now start with an equilater triangle and perform the same operation on all three sides simultaneously. What you end up with looks like a snowflake. But the apparent interiority of the figure is misleading. The outline is endlessly dividing and is therefore infinitely riddled with proliferating fissures. The figure can nevertheless be assigned a precise value: it has 1.261859 dimensions. It is a specific figure that can be accurately described (…). (Massumi B., UGCS); (p21)

(ur); A fractal object is complicated because it contains the principle and rule of its being at every point; it contains an infinity of stages or cycles, and, instead of occupying new unitary dimensions, it inhabits the infinitely variable space between dimensions(…) (Kwinter S.,AT) (pg130)

Frame:
(ph);
();
(cy) (…) in set-theoretical diagrams, the larger universe within which the smaller sets are drawn is itself enclosed in a frame. This double framing is, we believe, not merely a matter of "frames within frames" but an indication that mental processes resemble logic in needing an outer frame to delimit the ground against which the figures are to be perceived. This need is often unsatisfied, as when we see a piece of sculpture in a junk shop window, but this is uncomfortable. We suggest that the need for this outer limit to the ground is related to a preference for avoiding the paradoxes of abstraction. When a logical class or set of items is defined (…) it is necessary to delimit the set of items which are to be excluded (…). (Bateson G., SEC);
(hy);
(ur);
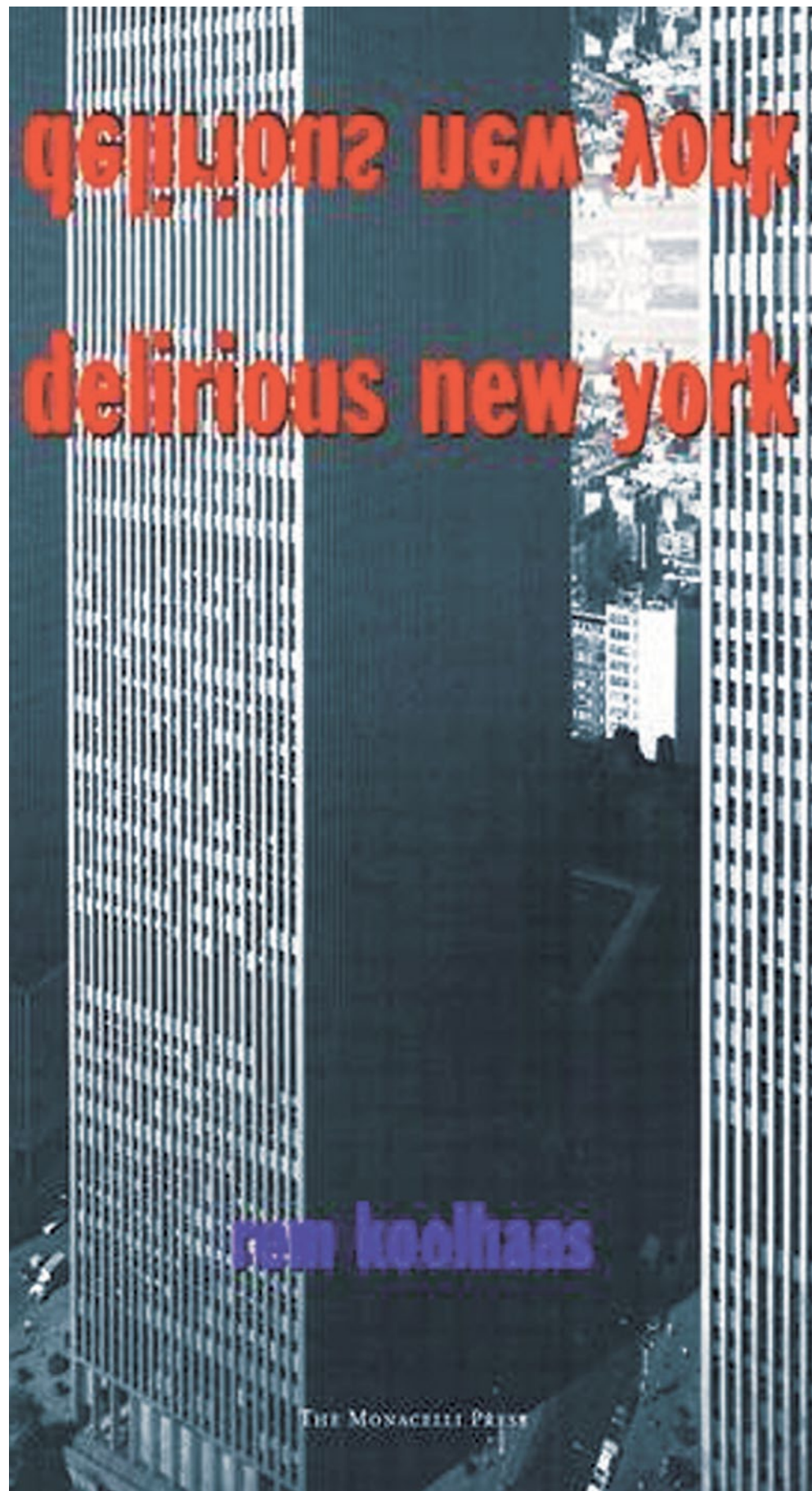
Figure LXIX
Delirious New York
by Rem Koolhaas

successive states of a system, it can do so only (insofar as it plots the movements of a body within that system) and never the changes or transformations that the system itself undergoes.

When we compare the use of the grid in Rowe's work to that of Koolhaas', the grid for Rowe operates as a symbolic form, whereas for Koolhaas the grid shifts from a pure form to a problem of form, where the grid serves as a multiplicity of different concepts of architectural and metropolitan spaces.

However Koolhaas' Manhattan grid is a problem of the formal, where the grid denies the influence of the Hudson River and its inability to deal with edges of Manhattan Island, especially its west-side. The grid, and its inability to deal with the difference of the edge, is similar to its inability to deal with difference in topography, where it simply rolls over the landscape like a Persian carpet sweeping under what ever comes its way.

"The grid above all is a conceptual speculation. The grid makes the history of architecture and all the systems of articulation and differentiation that have guided the design of traditional cities. The grid makes the history of architecture and all previous lessons of urbanism irrelevant It forces Manhattan's builders to develop a new system of formal values, to invent strategies for the distinction of one block from another."[6]

Solid: Geological layers (time)

Time
Time can be reconsidered as not purely a linear and quantitative measure, but as a non-linear experience, where time is an emerging spatial experience, where quantity and quality are inseparable, extremely site-specific, and cannot be relocated and experienced elsewhere. Time is not controlled by image-making, but as a phenomenon of emerging structures, continually transforming into, and recreating a multiplicity of specific moments.

Time is an emerging phenomenon relative to a particular event, or a series of moments that affect each other. These
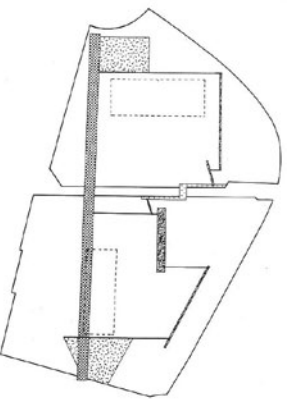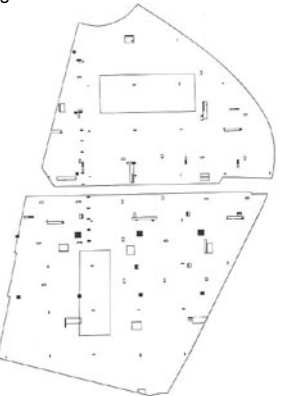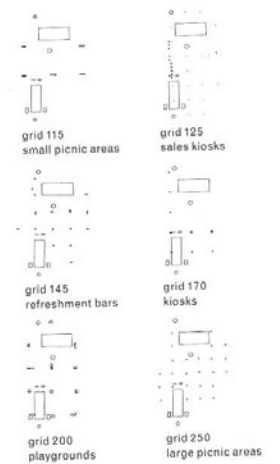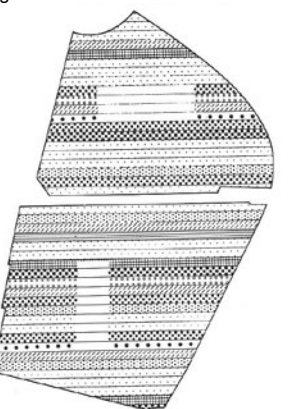

Figure 178

Figure 179

Figure 180

Figure 181

Function:
(ph);
();
(cy);
(hy);
(ur) Its own temporality converts the functional determination of form into a creative impulse , a movement or a bunch of tendencies. The temporal component of Function makes it behave as pure information, as matter in a virtual state (…). Function is inscribed in a function-matter vector, converting it into an immanent and non-rationalizable state. It becomes Memory, a history of diverse and coexistent times, information of conflicting behaviours, lines of virtual difference. (Najle C., F); P

Game:
(ph);
(sci) The underlying issue in game theory is this: a game consists in a set of payoff to each of a set of player. Each player has a set of "strategies" to choose from. The payoff from each strategy depends on the strategies chosen by the other players. If each player acts for his or her own selfish advantage, what kind of coordinated action will emerge? Game theory attempts to look in precise ways at invisible hands coordinating the action of independent agents. (Kauffmann S., HU);
(cy) First, we must distinguish between the abstract concept of a game, and the individual plays of that game. The game is simply the totality of the rules which describes it. Every particular instance at which the game is played – in a particular way – from beginning to end, is a play.
Second, the corresponding distinction should be made for the moves, which are the component elements of the game. A move is the occasion of a choice between various alternatives, to be made either by one of the players, or by some device subject to chance, under conditions precisely prescribed by the rules of the game (…).
Finally, the rules of the game should not be confused with the strategies of the players (…). Each player selects his strategy – i.e. the general principles governing his choise – freely. While any particular strategy may be good or bad (…) it is in player discretion to use or reject it. The rules of the game, however, are absolute commands. If there are ever infringed, then the whole transaction by definition ceases to be the game described by those rules.

Figure LXX
Acts of Drawing

Figure LXXI
Acts of Drawing
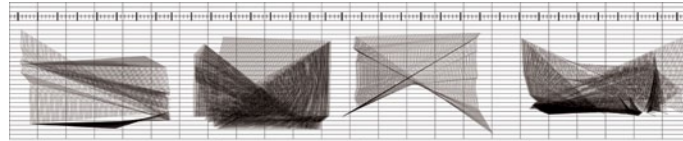
Figure LXXII
Man Walking, A.Giacometti

Figure LXXIII
Malevich

Figure LXXIV
Dance Steps

Figure LXXV
Acts of Caligraphy

Figure LXXVI
Picturing Time 1
Rosalea Monacella

Figure LXXVII
Man Walking Motion Study
E.J.Marey

Figure LXXVIII
Man Walking Motion Study
E.J.Marey

Figure LXXIX
Picturing Time 2
Rosalea Monacella

Figure LXXX
Man Walking Motion Study
E.J.Marey

Figure LXXXI
Man Walking Motion Study
E.J.Marey

6 Rem Koolhass, Delirious New York

7 Deleauze, Gilles, In the Fold

"The valley section is a longitudinal section that follows a river from its source in the mountains to its broad entrance to the sea. It combines physical conditions-represented in the drawing by plants- with so- called natural or basic occupations-represented by tools- and includes various types of settlement that refer to social organisation arising from the natural occupations best adapted to their environments. Silhouettes of a city, towns, villages and individual houses represent these social organisations."

Walter, Volker M., Biopolis: Patrick Geddes and the City Life, The MIT Press. Cambridge, Massachusetts, 2002

Walter, Volker M., Biopolis: Patrick Geddes and the City Life, The MIT Press. Cambridge, Massachusetts, 2002pg 80

A Concept of Christopher Alexander a series of subsets that have no overlapping points. They function as separate independent sets

" The state makes the town resonate with the countryside. It operates by stratification; in other words, it forms a vertical, hierarchized aggregate that spans the horizontal lines in a dimension of depth. In retaining given elements, it necessarily cuts off their relations with other elements, which become exterior; it inhibits, slows down or controls those relations. If the state has a circuit of its own, it is internal circuit dependent primarily upon resonance; it is a cone of recurrence that isolates itself from the remainder of the network, even if in order to do so it must exert even stricter controls over its relations with that remainder. The question is not to find out whether what is retained is natural or artificial (borders) because in any event there is deterritorilization. But in this case deterritorilisation is a result of the territory itself being taken as an object, as a material to stratify, to make resonate. Thus the central power of the state is hierachical and constitutes a civil service sector; the center is not the middle but on top because the only way it can recombine what it isolates is through subordination. Of course, there is a multiplicity of States no less than towns, but it is not the same type of multiplicity: there are as many States as there are vertical

resonances evolve into another understanding of space that continually change, beyond our control, beyond our experience and beyond our ability to articulate; continually unfolding into variable states of existence. In 'the fold' by Deleuze, space and development are considered as the result of time being redefined as an inseparable, qualitative and quantitative resonance of matter. Time becomes space, where time is dynamic, emerging and redefining itself continuously. With the 'fold' a fluctuation or deviation from a norm replaces the permanence of a law, when the object assumes its place in a continuum of variation. The object acquires a new status when it no longer refers to a spatial conception of moulding, but to a 'temporal modulation' or a 'continuous variation of matter."7

An event is an unfolding state of 'being', and an accumulation of variable time. This is a shift, from the notion of an event as singular and objectified, to one that is a complex set of relationships, continually evolving and existing in variable states. The event comprising self-organisation and indeterminacy are clearly imbricated with one another, where indeterminacy and self-organisation are actions that describe the specific qualitative understanding of an event.

The city can be perceived as a controlled environment, and as matter that is in a continual state of flux, unfolding and differentiating continuously. It is influenced by cultural, historical, physical, political and environmental conditions that transform the actuality of the urban fabric. Johnson suggests: 'A city is a kind of pattern-amplifying machine: its neighbourhoods are a way of measuring and expressing the repeated behaviour in larger collectives - capturing information about group behaviour, and sharing that information with the group. Because those patterns are fed back to the community, small shifts in behaviour can quickly escalate into larger movements…You don't need regulations and city planners deliberately creating these structures. All you need are thousands of individuals and a few simple rules of interaction.' 5. A city can be seen as a living-machine, not to be mistaken for a linear cause-and-effect, but as a 'machinic' organisation where the state of the urban fabric is continually evolving at multiple scales and differentiated by site-specific occurrences.
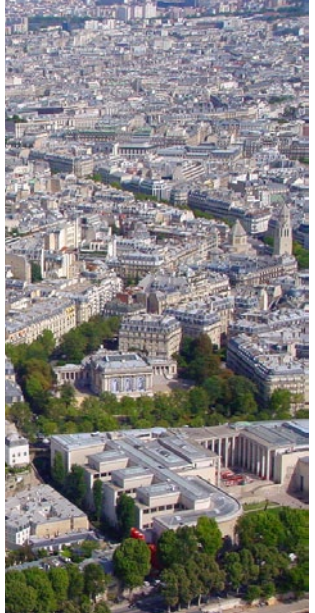
Figure 182

Figure 183

Figure 184

Figure 185

(Von Neuman J., Morgenstern O., TGEB); (p.49)
(hy);
(ur);

Genetic:
(ph);
(); The genome is the totality of genetic "information" in an organism or more commonly, the totality of genetic "information" in an organism or, more commonly, the totality of genetic information in all the chromosomes in the nucleus of a cell. Conventionally, the genome refers only to the nucleic acid that "codes" for something, and not to dynamic, multipart structures and processes that constitute functional, reproducing cells and organisms. (…) Much of the history of genetics since the 1950's is the history of consolidation and elaboration of the equation of "gene=information" in the context of master-molecule metaphors. I consider this representational practice for thinking about genetics to constitute a kind of artifical- life research itself, where the paradigmatic habitat for life- the program- bears no necessary relationship to messy, thick organisms.(Gronon W., UG) (Haraway D.J., UDVC) P
(cy) Strictly, the science of genetics deals with all aspects of the heredity and variation of organisms and with the processes of growth and differentiation within the organism. (Bateson G., MN)
(hy);
(ur);

Geometrical Factor:
(ph);
();
(cy)
(hy) The extent to which geometry, or form and pattern in the deployment of forces in war, can become a dominant principle is shown in the art of fortification, in which geometry applies to almost everything, large or small (…). Geometry forms the basics of tactics in the narrowed sense-the theory of moving troops. In field fortification and in the theory of entrenched positions and their attack, the lines and an angles of geometry rule like judges who will decide the contest(…). Nevertheless geometry cannot govern tactics as it governs siege warfare: when troops face one another everything is more mobile (…). (Von Clausewitz C., OW);

Examples in biology or physics, such as a swarm of bees, or entropy in classic thermodynamics offer notions of self-organisation. These analogies for indeterminacy and self-organisation can consequently be framed as mechanisms for dealing with transformation in urban-nature.

Ilya Prigogine, the Nobel Prize winner for his work on thermodynamics of non-equilibrium systems, discovered 'environments where the laws of entropy are temporarily overcome, and higher-level order may spontaneously emerge out of chaos,' 4 shifting the perception of cause-and-effect to a non-linear understanding of systems. This is an understanding of the way our surrounding environment operates beyond the failed modernist order and third world perception of chaos. We move to an understanding that there is, within a higher order of chaos, an indeterminate organisation recognised through repetition and modes of differentiation.

Stan Allen suggests that in urbanism, an event is an 'intuition of a shift from object to field in recent theoretical and visual practices. In its most complex manifestation, this concept refers to mathematical field theory, to non-linear dynamics and computer simulations of evolutionary change. It parallels a shift in recent technologies from analogue object to digital field…The infrastructural elements of the modern city, by their nature linked together in open-ended networks, offer another example of field conditions in the urban context.' 6

Understanding the city as a dynamic field means accepting it as being in a state of continual flux and change. Aesthetic processes flow through the urban field and are carried by bodies of people which influence the form of urban space and organisation. Such a phenomenon is defined by simple local conditions and is, in fact, relatively indifferent to the overall form and extent of the city. The urban field is understood as dynamic, and is characterised by forces rather than forms.

'Instead, let us imagine an infinitely small piece of elastic, contracted, if that were possible, to a mathematical point. Let us draw it out gradually in such a way as to bring out of the point a line which will grow progressively longer. Let us fix our attention not on the line as line, but on the action which traces it. Let us consider that this action, in

cross sections in a dimension of depth, each separated off from the others, whereas the town is inseperable from the horizontal network of towns. Each state is a global (not local) integration, a redundancy of resonance (not frequency), an operation of the stratification of the territory (not of the polarization of the milieu)

Deleuze, Gilles & Guattari, felix, "City/State" in Fechner, Michel & Kwinter ,Sanford (ed.), Zone 1/2: The Contemporary City, Zone Books: New York, 1987 pg 196

Alexander, Christopher, "A city is not a tree" in Fechner, Michel & Kwinter ,Sanford (ed.), Zone 1/2: The Contemporary City, Zone Books: New York, 1987 pg 149

Hilberseimer, Ludwig, "New Regional Patterns: Industries and gardens, workshops and farms", Chicago: Poole Brothers Inc, 1949.

Alexander, Christopher, "A city is not a tree" in Fechner, Michel & Kwinter ,Sanford (ed.), Zone 1/2: The Contemporary City, Zone Books: New York, 1987 pg 196

Complex systems are not just complicated systems. A snowflake is complicated, but the rules for generating it are simple. The structure of a snowflake, moreover, persists unchanged, and crystalline, from the first moment of its existence until it melts, while complex systems change over time. It is true that a turbulent river rushing through the narrow channel of rapids changes over time too, but it changes chaotically. The kind of change characteristic of complex systems lies somewhere between the pure order of crystalline snowflakes and the disorder of chaotic and turbulent flow. So identified, complex systems are systems that have a large number of components that can interact simultaneously in a sufficiently rich number of parallel ways so that the system sows spontaneous self-organisation and produces global emergent structures.

Dephew ,David and Weber ,Bruce, Darwinism Evolving: Systems Dynamics and the Genealogy of Natural Selection, Cambridge, Massachusetts: The MIT Press, 1995. g 437
Eames, Ray & Charles, Powers

of Ten: about the relative size of things in the universe, Scientific American Library. New York, 1982.pg 5

"Internal laws of functioning, and that their chronology unfolds in accordance with a time that refers in the first place to their own particular coherence…. The human being no longer has a history: or rather, since he speaks, works, and lives, he finds himself interwoven in his own being with histories that are neither subordinate to him or homogeneous with him. By fragmentation of the space over which classical knowledge extended in its continuity, by folding over each separated domain upon its own development, the men who appears at the beginning of the nineteenth century is dehistoricized."

Massumi, Brian, "The Evolutionary Alchemy of Reason" in Stelarc, ed. Marquard Smith (Cambridge, Massachusetts: The MIT Press, 2005.) pg 130

Massumi, Brian, "The Evolutionary Alchemy of Reason" in Stelarc, ed. Marquard Smith (Cambridge, Massachusetts: The MIT Press, 2005.) pg 147

Wall, Alex, "Programming the urban surface" in Corner, James(ed.), Recovering landscape: essays in contemporary landscape architecture. Princeton Architectural Press. New York, 1999.pg233

.. the paradox, the negative utopia, SUPERSTUDJO in 1968 has produced an architectural model for total urbanization: The Continuous Monument as the last term in a series of architectures that have signed the planet since the linear cities of the Russian utopians of the 20th century. Pg 69

Gas: Complexity (order)

" The comparison of two sizes or two multiplicities require, in any case, that they both be analysed according to a common unit; so that comparison effected according to measurement is reducible, in every case, to arithmetical relations of equality to the calculable form of identity and difference.

"Order, on the other hand, is established without reference to

spite of its duration, is indivisible if one supposes that it goes on without stopping; that, if we intercalate a stop in it, we make two actions of it instead of one and that each of these actions will then be the indivisible of which we speak; that it is not the moving act itself which is never indivisible, but the motionless line it lays down beneath it like a track in space. Let us take our mind off the space subtending the movement and concentrate solely on the movement itself, on the act of tension or extension, in short, on pure mobility. This time we shall have a more exact image of our development in duration.' 7

Time is imbued with duration: time which is neither successive nor chronological. Time can be considered as not purely a linear and quantitative measure, but a non-linear experience, where time is an emerging spatial experience, where quantity and quality are inseparable, extremely site-specific, and cannot be relocated and experienced elsewhere. Time is not controlled by image-making, but is a producer of a multitude of images, a phenomenon of variable emerging structures with a variety of connections, continually transforming into, and recreating, a multiplicity of specific moments.

Time is an emerging phenomenon relative to a particular event, a flowing of experience where time produces the immediate awareness of these flows.
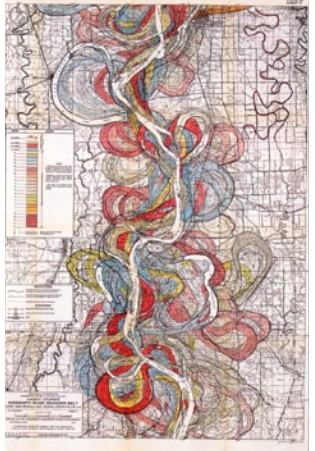

Figure 186

Figure 187

Figure 188

Figure 189

(ur);If geometrical descriptions in the Euclidean system were reducible to actual objects(point ,line and plane) or aggregates and derivations thereof, the Cartesian system permitted "all surfaces (to) appear, in principle on equal footing, without any arbitrary preference for linear structures.(Kwinter S., AT) (pg58)

Grid:
(ph);
();
(cy);
(hy);
(ur) The grid is given as a convenient starting point, not as an overarching ideal. Over time, the accumulation of small variations establishes a counter principle to the universal geometry of the grid. (…) Local variations of topography or history are smoothly accommodated within the overall order (…) Organization and structure display almost infinite variety within patterns that are publicly legible and institutionally manageable. Variation and repetition – individual and collective – are held in delicate balance. (Allen S., OF); (pg27-28) P

Growth:
(ph);
(); In the great majority of cases, when we consider an organism in part or whole, when we look (for instance) at our own hand or foot, or contemplate an insect or worm, we have no reason(…) to consider one part of the existing structure as older than another; (…) the newer particles have been merged and commingled among the old; the outline, such as it is, is due to forces which for the most part are still at work to shape it, and which in shaping it have shaped it as a whole. (Thompson D.,OGF)
(cy) The fact of growth adds another order of complexity to the problems of bigness in living things. Will growth alter the proportions of the organism? These problems of the limitation of growth are met in very different ways by different creatures (...).
Among some higher animals, growth is controlled. The creature reaches a size or age or stage at which growth simply stops (i.e., is stopped by chemical or other messages within the organization of the creature). The cells, under control, cease to grow and divide. When controls no longer operate (by failure to generate the message or failure to receive it), the result is cancer. (...). (Bateson G., MN);
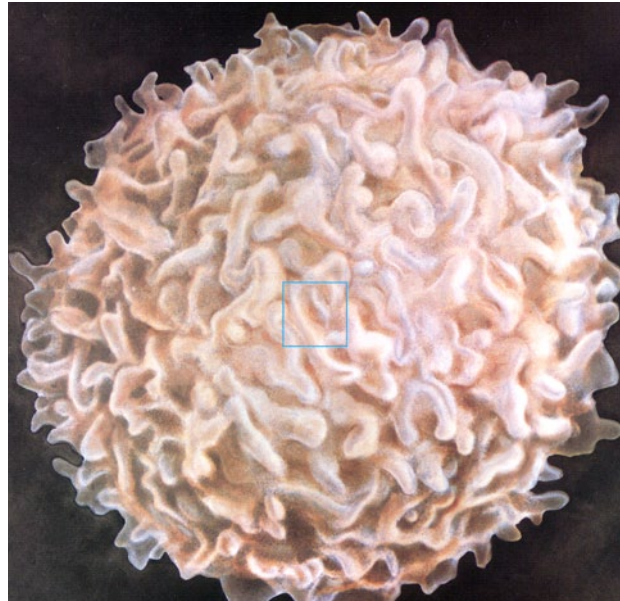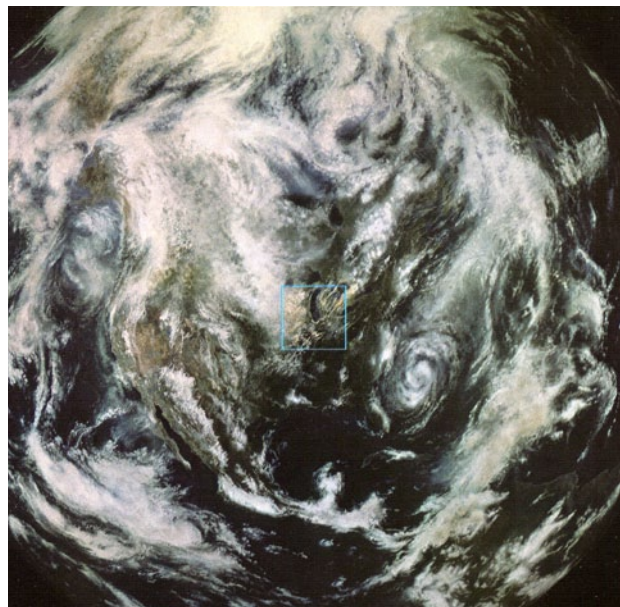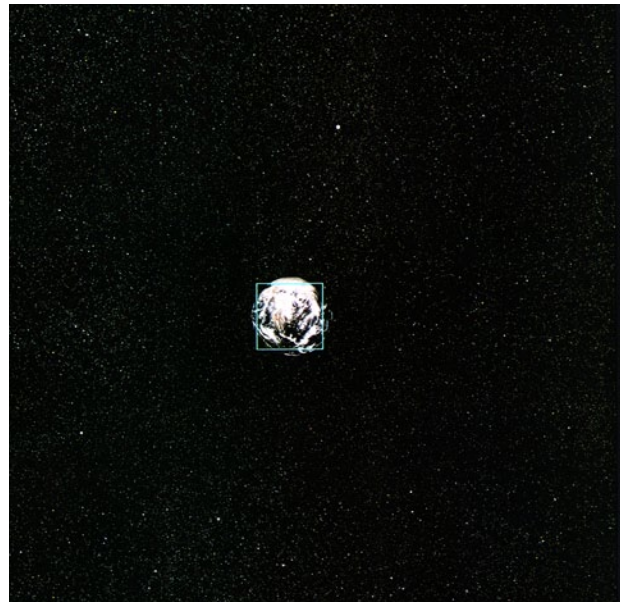
an exterior unit: I can recognize in, effect, what the order is that exists between a and b without considering anything apart from those two outer terms'; one cannot know the order of things ' in their isolated nature', simplest, one can progress inevitably to the most complex things of all. Where as comparison of measurement requires a division to begin from, then the application of a common unit, here, comparison and order are one and the same thing: comparison by means of order is a simple act which enables us to pass from one term to another, then to a third, etc., by means of absolutely uninterrupted movement. "
Michel Foucault, The Order Of Things

"writing has nothing to do with signifying, but with land-surveying and mapmaking, even countries yet to come."
Deleuze, On the line
massive change by bruce mau

"Internal laws of functioning, and that their chronology unfolds in accordance with a time that refers in the first place to their own particular coherence…. The human being no longer has a history: or rather, since he speaks, works, and lives, he finds himself interwoven in his own being with histories that are neither subordinate to him or homogeneous with him. By fragmentation of the space over which classical knowledge extended in its continuity, by folding over each separated domain upon its own development, the men who appears at the beginning of the nineteenth century is dehistoricized."

Massumi, Brian, "The Evolutionary Alchemy of Reason" in Stelarc, ed. Marquard Smith (Cambridge, Massachusetts: The MIT Press, 2005.) pg 130

Massumi, Brian, "The Evolutionary Alchemy of Reason" in Stelarc, ed. Marquard Smith (Cambridge, Massachusetts: The MIT Press, 2005.) pg 147

Wall, Alex, "Programming the urban surface" in Corner, James(ed.), Recovering landscape: essays in contemporary landscape architecture. Princeton Architectural Press. New York, 1999.pg233

Liquid: Systems (scale)

The film begins with a view of a man and woman picnicking in a park, which settles on a one-metre-square overhead image of the man reclining on a blanket. The viewpoint, accompanied by expository voiceover by Philip Morrison, then slowly zooms-out to a view ten metres across (or 10^1 m in scientific notation). The zoom-out continues (at a rate of one power of ten per 10 seconds), to a view of 100 metres (10^2 m), then 1 kilometer (10^3 m), and so on, increasing the perspective—the picnic is revealed to be taking place in Burnham Park, near Soldier Field on Chicago's lakefront—and continuing to zoom-out to a field of view of 1024 metres, or the size of the observable universe. The camera then zooms-back in at a rate of a power of ten per 2 seconds to the picnic, and then slows back down to its original rate into the man's hand, to views of negative powers of ten—10^{-1} m (10 centimetres), and so forth—until the camera comes to quarks in a proton of a carbon atom at 10^{-16} metre.

The physical outcomes that we experience are resonances of multiple events in time; therefore, what we actually experience are the after-effects of the past event in time. Analogies of the after-effects of many natural phenomena, such as earthquakes, tsunamis, the butterfly effect, etc., enable the reconsideration of the city as an operative system.

Figure LXXXIII
Powers of Ten, Ray + Charles Eames

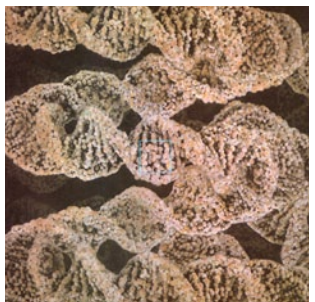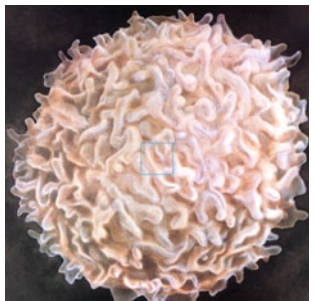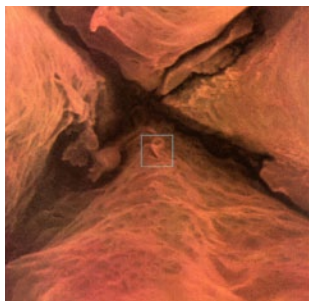7 The Creative Mind: An Introduction to Metaphysics, pages 164 to 165.

Figure 190

Conversation Two

A Conversation about Landscape:

A Conversation about the Water Reservoir

(hy);

(ur) In the same way that many organisations change or grow as a result of their own eccentricities, the production of spatial commodities is fuelled by mistakes and risks within the inevitable anarchy and unpredictability of the market place. (…) They are (…) not necessarily small and discrete like wild cards, since, they often have the power to shift the rules of a larger game. Eccentricities are often amplified within an organisation so that an effective intervention may not involve comprehensive control but partial or tactical adjustment.

(…) (Generic spatial production, for instance, amplifies small adjustments by way of its own banality. When a small desire meets large volumes of consumers, or a dumb component is multiplied within a banal or repetitive environment, it has the power to gradually reconstitute an organisation.) (K. Easterling, p4)

Hierarchy:

(ph);

()

(cy) Hierarchy and organization are specially effective at concentrating the interactions between specific individuals. A bureaucracy is structured so that people specialize, and so that people working on related tasks are grouped together. The organizational practice increases the frecuency of interactions, (…). Moreover, when an issue requires coordination between different branches of the organization, the hierarchical structure allows the issue to be referred to policy makers at higher levels who frequently deal with each other on just such issue (…). (Axelrod R., EC);

(hy);

(ur);

Homogeneity:

(ph) The more regular the intersection, the tighter the striation, the more homogeneous the space tends to become; it is for this reason that from the beginning homogeneity did not seem to us to be a characteristic of smooth space, but on the contrary, the extreme result of striation, or the limit-form of a space striated everywhere and in all directions. If the smooth and the homogeneous seem to communicate, it is only because when the striated attains its ideal of perfect homogeneity, it is apt to reimpart smooth space, by

Figure LXXXIV
States of Wetness

1 Lake Eildon is located as one of the reservoirs for the Murray-darling basin system which spans over nearly three states on the east coast of Australia. Lake Eildon has a dual function; to service the irrigation needs of nearby horticultural production areas along and a tourist destination with annual inundation of tourist's house boats and water sports located within the reservoir.

Conversation **Two**

A Conversation about Landscape:

A conversation about the Water Reservoir

Landscape

The reservoir

"In making Landscape, … landscape not as scenery but as the spaces and systems we inhabit, a system our own lives depend upon. In other words, there was no need to return to a landscape that had never been far from anything but our thoughts: it was the thoughts that had to change. The landscape is now thought of as ubiquitous - as the environment, a landscape that includes the microcosmic as well as the macrocosmic, economies as well as ecologies, the cultural as an extension of the natural, our bodies as natural systems that patterns our thoughts, and our thoughts as structured around metaphors drawn from nature."
Boundaries by Maya lLn

Lake Eildon[1], as of Monday 19th February, 2007, sat at 9.2 % water capacity; this exposed the implicit redundancies for the reservoir under its current mode of occupation. It was speculated that If the lake continued to evaporate at its current rate the lake would be empty by the end of the summer!

What are the possible alternatives for this lake? What temporary measures can be employed to enable it to continue to service its current users?

This hydrological basin at the scale of the larger system scale consists of a multitude of rivers, streams and catchments that are interconnected, and which influence and force change upon on the assembly of parts and on the whole itself.

This greater system is visible on the Earths crust but embedded deep into the matter that constitutes not only
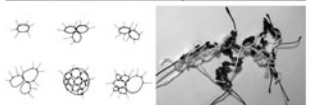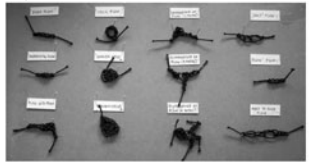

Figure 192

Figure 193

Figure 194

Figure 195
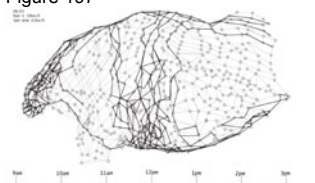

Figure 196

Figure 197

Figure 198

a movement that superposes itself upon that of the homogeneous but remains entirely different from it. (Deleuze Guattari F., TP); (p488) P ();
(cy);
(hy) (…) The new system first created a model of a particular weapon, and then the model served as a standard to be exactly replicated. But enforcing this standard, to ensure the homogeneity of the product, requires a transfer –from the military to the factory- of the discipline and surveillance methods that had been used to maintain order in barracks and camps for over two centuries. In short, the American system transformed manufacturing from an open process based on flexible skills into a closed process based on fixed routines (enforceable through discipline and constant inspection) (…). (De Landa M., TYNH); P (ur);

Homology:
(ph);
();
(cy) A formal resemblance between two organisms such that the relations between certain parts of A are similar to the relations between corresponding parts of B. such formal resemblance is considered to be evidence of evolutionary relatedness. (Bateson G., MN);
(hy);
(ur);

Idea:
(ph) The word eidos, which we translate here by "Idea", has, in fact, this threefold meaning. It denotes (1) the quality, (2) the form or essence, (3) the end or design (in the sense of intention) of the act being performed, that is to say, at bottom, the design (in the sense of drawing) of the act supposed accomplished. These three aspects are those of the adjective, substantive and verb, and correspond to the three essential categories of language. After the explanation we have given above, we might, and perhaps we ought to, translate eidos by "view" or rather by "moment". For eidos is the stable view taken of the instability of things: the quality, which is a moment of becoming; the form, which is a moment of evolution; the essence, which is the mean form above and below which the other forms are arranged as alteration of the mean; finally, the intention or mental design which presides over the action being accomplished, and

the Earth's crust but forms and organises the system itself. It Both systems (the geological systems of the Earths crust and the hydrological system) are continually eroding and reforming under the influences and forces that are at play in the atmosphere; two systems coagulating within a multitude of systems. One thickening and slowing down at a slower rate, for rocks, soil, mud, and the other at speed of flow equivalent to water.

This conversation about the reservoir it will have a focus on the self-regulating order and transformation of matter but also on information producing patterns which are dynamic and capable of self-replication and catalysis in the thickening surface of the reservoir. The conversation about the reservoir will pivot around three points, those of matter, context and emergent order.

2 Manual De Landa makes reference to the term matter-energy in a Thousand Years of Nonlinear History as symbiotic terms which gives rise to divergent structures in the universe captured in the geological, biological and linguistic.

Matter : the ground – seepage, structure and open systems

Matter-energy[2]; everything in the universe is essentially made up of two things, matter and energy. When we consider the air we breathe and the ground we stand on, these physical things which surround us are what we can describe as matter. Matter itself can be broken down into a range of scales and fundamental concepts. The reduction of matter into particles, particles to atoms and molecules, atoms to elements; elements cannot be broken down any further as the knowledge systems associated to the understanding of defines one of its limits at elemental properties

Its other association to matter is energy, where energy is the ability to cause change or do work. There are two main forms of energy: potential and kinetic. Potential energy is energy that is stored, while kinetic energy is energy in use.

Ground….. it may refer to the surface as Matter

n. 1. The land surface
2. earth or soil
As territory
3. (pl))The land around a dwelling house or other building
4. (sometimes pl.) an area of land given over to a particular surface
5. land having a particular characteristic: high ground
6. matter for consideration or debate
7. a position or viewpoint

The reservoir and its vast surface extending beyond the capabilities of one's view although its initial perceptions are that this extended surface is empty, barren from all activity, Life!

On close inspection there is activity happening in this vessel of the reservoir. The rough, grainy and bumpy surface of the earth which another ground, one that was once covered with water continually seeping through but now when you passing through one area to another
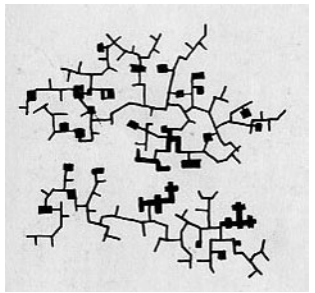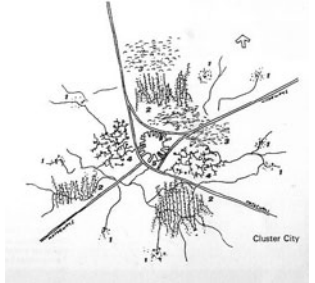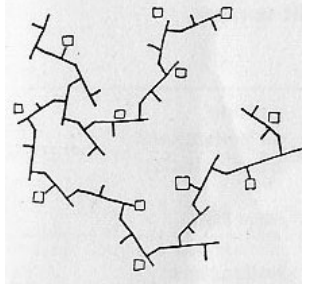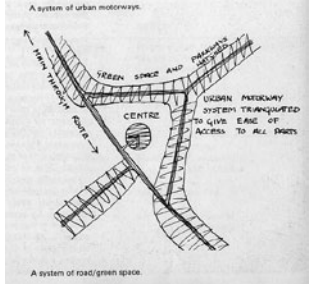

Figure 199

Figure 200

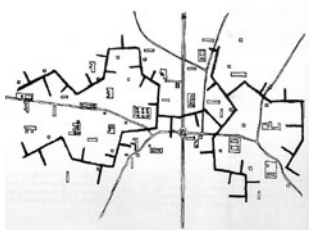
Figure 201

Figure 202

Figure 203

Figure 204

which is nothing else, we said, than the material design, traced out and contemplated beforehand, of the action accomplished. (Bergson H., CE); (p103)

();

(cy) (…) the smallest unit of mental process is a difference or distinction or news of a difference. What is called an idea in popular speech seems to be a complex aggregate of such units. But popular speech will hesitate to call, say, the bilateral symmetry of a frog or the message of a single neural impulse an idea. (Bateson G., MN);

(hy);

(ur);

Ideality:

(ph);

(sci) The point in using idealizations in science is that they help capture the main issues. Later one must show that the issues so captured are not altered by removing the idealizations. (Kauffmann S., HU);

(cy);

(hy);

(ur) Most modern architecture draws its form, not from the topological world of fluid materiality, but from the rigid metaworld of ideality, of hubristic (naïve) machinism, and of dead geometry. (Kwinter S., FB);

Indeterminacy:

(ph)

();

(cy);

(hy) For, in the Music of Changes, the note-to-note procedure, the method, is the function of chance operations. At each small structural division in the Music of Changes, at the beginning, for example, and again at the fourth and ninth measures and so on, chance operations determined stability or change of tempo. Thus, by introducing the action of method into the body of the structure, and these two opposed in terms of order and freedom, that structure became indeterminate: it was not possible to know the total time-length of the piece until the final chance operation, the last toss of coins affecting the rate of tempo, had made been. Being indeterminate, though still present, it became apparent that structure was not necessary, even though it had certain uses. (Cage J., S.); (pg20)

(ur);Its "design" should therefore be the proposal of a method that combines architectural specificity with programmatic indeterminacy.

Figure LXXXV
State of Wetness 02

(…) we see this scheme not simply as a design but mostly as a tactical proposal to derive maximum benefit from the implantation on the site of a number of activities(…) The underlying principle of programmatic indeterminacy as a basis of the formal concept allows any shift, modification, replacement, or substitution to occur without damaging the initial hypothesis. (Koolhaas R., SMLXL) (pg 921) P

Information:

(ph);Information theory takes as its point of departure a homogeneous set of ready-made signifyig messages that are already functioning as elements in biunivocal relationships, or the elements of which are biunivocal organized between messages.(…) the picking of a combination depends on a certain number of subjective binary choices that increase proportionally to the number of elements. But the problem is that all of this biunivocalization and binarization(..) which assumes the deployment of a wall or screen, the installation of a central computing hole without which no message would be discernible and no choice could be implemented. The black hole/white wall system must already have griddled all of space and outlined its aboresence or dichotomies for those of signifier and subjectification even to be conceivable. (Deleuze G & Guattari F.,TP) (pg179) P
()
(cy); Any difference that makes a difference. (Bateson G., MN);
(…) all information is a message, that is to say, finite sequence of letters taken from an alphabet, but this is only one of the possible aspects of information; any geometric form whatsoever can be the carrier of information, and in the set of geometric forms carrying information of the same type the topological complexity of the form is the quantitative measure of the information. (Thom R.,SSM) (pg145)
(hy) ;
(ur) As in other evolving processes, within the project's internal evolution differentiated diagrammatic levels mutually interfere with transversal information. In this process of incrementing complexity, change is produced accidentally by crossing information, as if things are the linear result of the information to which they submit themselves. Nor is the end fixed beforehand, as if the material effect could explain the interference
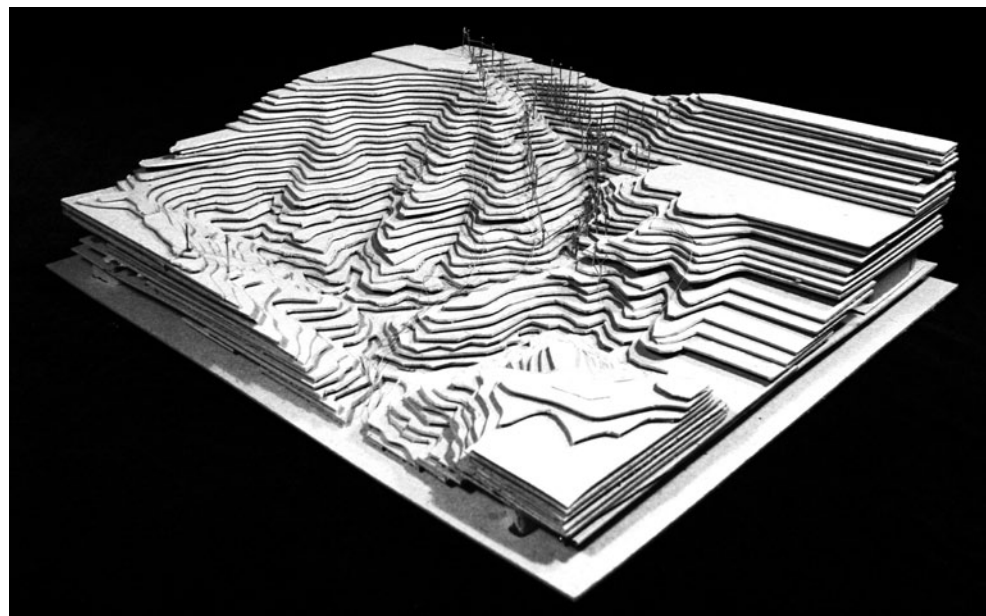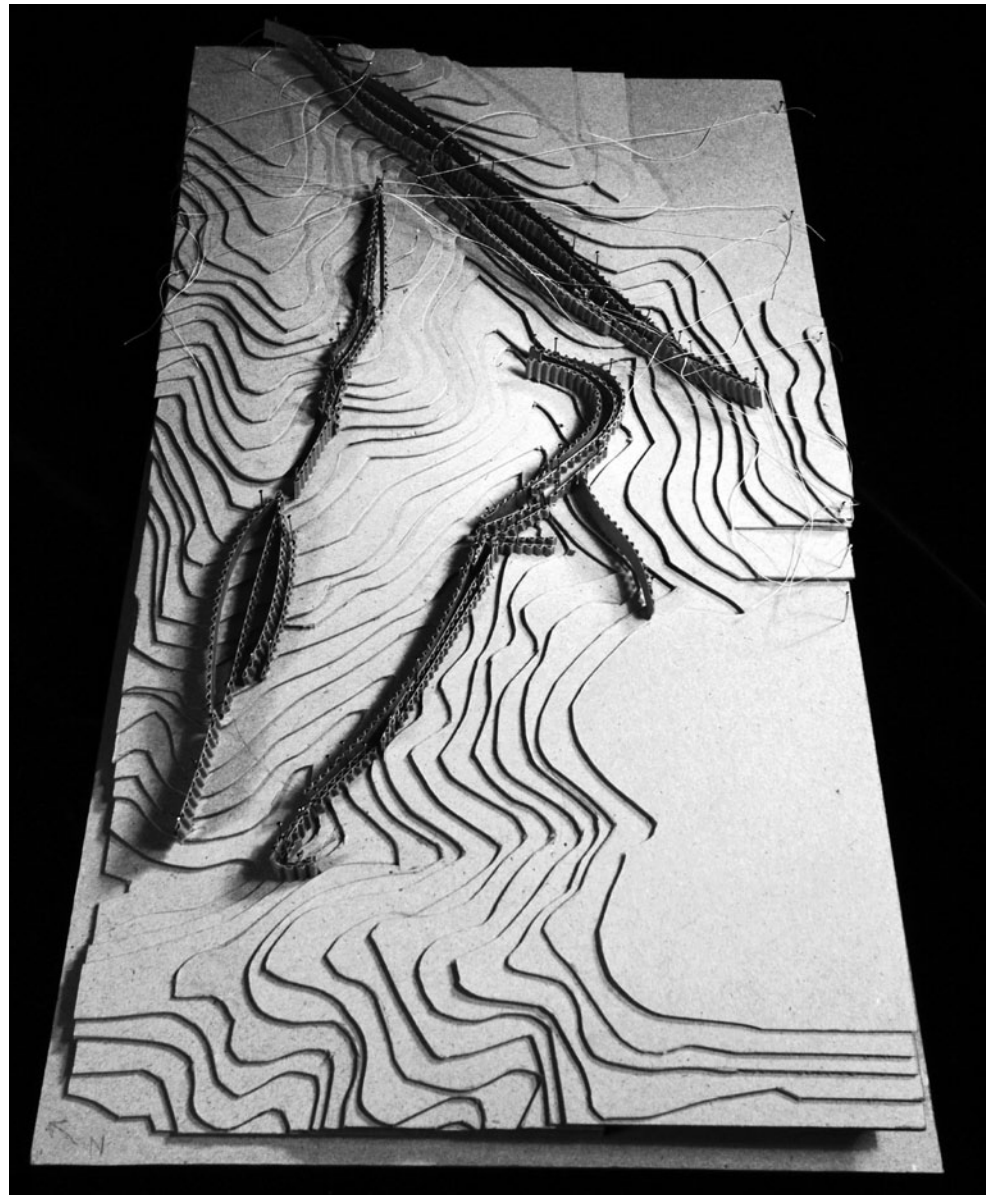
Figure LXXXVI
Study Models, Thickened
Ground Design Studio

where water still remains in its sludge of sticky mud which absorbs anything that tries to move through it. The reservoir's new ground, as the surface of the Earth, is very much fluctuating. Its characteristics and traits change over short and long periods, just as the temperature and wind vary.

The affects of change might be temporary or only registered and a micro scale that of pattern and effect as I walk on the soil versus the larger transformation such the drying up of the reservoir itself; all are a register in this case, although the ground is very much the direct engagement with the context at play.

The deep brown sedimentary soil, cracked and drying to expose the depths of what further lies beneath, has exposed and continues to expose what exists as its layering of the thickening ground; a ground of continual redundancies and opportunities in its remaking.

The ability for these flows of matter-energy to switch from one stable to state to another, have structures which emerge out of these flows. Whether through the examples, of the drying earth's crust, curling and stratifying into layers which have the potential to determine the order of organisation or other continual matters of flow. These imbricated patterns of nature with structure are the determining factors which order the potentiality of what can emerge in its past preset and future occupations. Once a container of water brings life to other life forms from its embedded structure in the thickened ground that was and is the reservoir; dormant ecologies revived, new modes of occupation emerge; wind sailing, fish farming, camping, animal habitats etc. Form and order become pattern, interference, iteration, rhythm, something created and only understood in time; through its transformations.

Figure 205

Figure 206

Figure 207

Figure 208

of information. Information doesn't explain effect, and the effect is not explicable according to its own final external common sense. (Najle C., F); (pg14) P

Information Sets:
(ph);
();
(cy);
(hy);
(ur)

Information technologies:
(ph);
();
(cy);
(hy);
(ur) (...) information technologies are not in themselves the source of organizational logic that is transforming the social meaning of space: they are, however, the fundamental instrument that allows this logic to embody itself in historical actuality. Information technologies could be used, and can be used, in the pursuit of different social and functional goals, because what they offer, fundamentally, is flexibility (…). The supersession of places by the network of information flows expressed the disarticulation of place-based societies and cultures from the organizations of power and production that continue to dominate society without submitting to its control. In the end, even democracies become powerless confronted with the ability (…) of information to be transferred secretly (…). And of cultural messages to be marketed, packaged and recorded (…). (Castells M., IC) (p495 CR)

Inflection/(point of inflection):
(ph); « It is weightless; even the vectors of concavity still have nothing to do with a vector of gravity since the axes of the curve tat they are determining oscillate around it. Thus inflection is the pure Event of the line or of the point, the virtual, ideality par excellence. It will take place following the axes of the coordinates, but for now it is yet in the world: it is the World itself rather its beginning, as klee used to say, «a site of cosmogenesis,» « a nondimensional point» « between dimensions.» « (deleuze G., F) (pg 15)
();
(cy);
(hy);
(ur); We will retain two types of

Context

The shift from the picturesque to the pastoral landscape is a shift of landscape representation to explore, as Alex Wall suggests, "the term landscape no longer refers to prospects of pastoral innocence but rather invokes the functioning matrix of connective tissues organized not only objects and spaces but also the dynamic processes and events that moves through them"

When we consider context in relationship to the reservoir it produces contestation in it's imagining, in its capturing and in its understanding. Context implies a whole set of conditions from which construct and idea of site suitable to the specific scheme or mode occupation. Context is not an image that can pin point and captured but context in the notion of the reservoir are a set of influences, direction and forces.

The studio titled thickened ground explored the concept of landscape as having the ability to engulf the idea of time into its technique rather than to consider time as an empowering of technique. The design studio explored the concept of landscape which would exist beyond the eye of the surveyor demarcating territories or omnipresent colonial descriptions. This landscape includes an undulating terrain in variable states of wetness that erodes in the wind, reassembling itself in various states and locations. The reservoir operates as fluctuating border between land and water, between vessel and the contained, between urban and rural. This fluctuating condition is evident in its state of being whether it is with the evaporation of water which rapidly dissipated in the summer of 2007/2008 or when just standing in the basin being encircled by dust continually being removed off the crust of the surface. This landscape demands a different way of seeing and a different mode of representation, in this context of the transformation from the visible and invisible, the formal and informal states of existence.

The studio explored the possibility to utilise and develop notions of indeterminacy and self-organisation in a fabric that facilitates the urban landscape to emerge as a set of systems operating under dynamic, temporal and fluctuating conditions. It is an attempt to construct a set of

circumstances that enables us to discover how the nature of the urban landscape can be transformed into a formless, dynamic and complex condition, where the indeterminate nature of landscape is offered as a replacement model of order. It suggests a shift from an ordered and rigid identification of landscape, to a set of systems that emerge from an existing context, allowing access to a new form and orders to the landscape whether urban or rural.

The studio itself operated as a research laboratory where ideas were tested and information shared among participants. The studio promoted a rigorous and collective approach, which investigated and contributed to exploring a new practice and conceptual ideas, which interrogates and questions aspects of other disciplines such as science, engineering.

The studio explored digital and model-making techniques and questioned how these techniques can become specific to site and the methodologies undertaken to produce this alternative model of order. An order which has the ambition of defining the landscape and its emergent forms. The various explorative tools utilised in the studio were that of digital and physical modelling techniques where the material of the model was continually interrogated.

Land-Scape

According to the Compact edition of the Oxford Dictionary the term landscape was first introduced as a technical term of painters*
1.A picture representing natural inland scenery, as distinguished from a sea picture, a portrait etc
2.A view or prospect from natural inland scenery, such as can be taken in a glance from one point of view
3.In a generalised Sense: inland natural history
4.A view, prospect of something, the object of ones gaze

In comparison to the definition of landscape from a gardening perspective:
1.The action or occupation of laying out or cultivating a garden note: gardening was probably on of the first arts that succeeded to that of building houses.
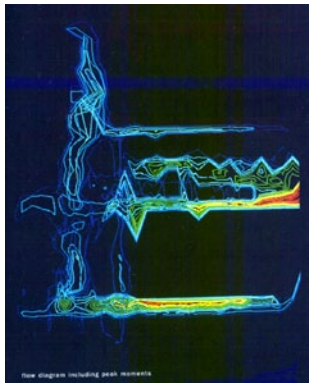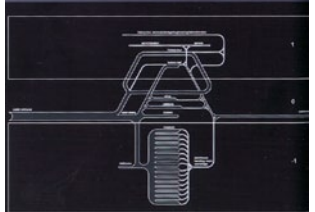*2.Ground laid as gardens*
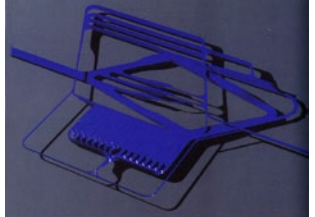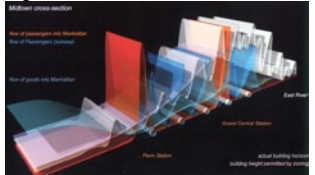

Figure 209

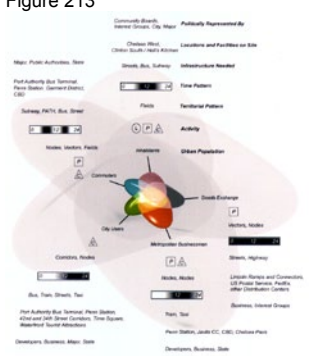Figure 210

Figure 211

Figure 212

Figure 213

Figure 214

singularity. On one hand there are the extrema, the maximum and minimum of a given curve. And on the other there are those singular points that, in relation to the extrema, figure as in-betweens. These are known as points of inflection…… The point of inflection, however, designates a pure event of curvature where the tangent crosses the curve; yet this event does not depend in any way on the orientation of the axes, which is why it can be said that inflection is an intrinsic singularity. (cache B, Earth Moves: The furnishing territories, pg 16)

Initial conditions:
(ph);
()
(cy) Thermodynamics would not be the marvelous and logically consistent discipline it is if it had indulged in speculations on the universe. The strength of its argumentation derives from the very fact that it deals with isolated systems whose initial conditions and boundary values can be controlled and reproduces. Thermodynamics is therefore a science there is more readily applicable to systems that can be studied in the laboratory than to the universe. (Eigen M., Winkler R., LG); (p151)
(hy);
(ur);

Instability:
(ph);
() Instability arises in two senses. First, small changes in the construction of the system may dramatically alter the behavior of the system. Such systems are called structurally unstable. In addiction, small changes in initial conditions, the butterfly effect, can sharply change subsequent behavior. Conversely, stable dynamical systems can be stable in both senses. Small changes in construction may typically lead to small changes in behavior. The system is structurally stable. And small changes in initial conditions can lead to small changes in behavior. The butterfly is asleep. (Kauffmann S., HU); (p187)
(cy) The difference between stability and instability can be illustrated by the example of a vote of not confidence and its consequences in a parliament. The government party may manage to garner enough votes in its favor to stay in power. In this case the composition of the

Figure LXXXVII
Vietnam Mappings 01
Rosalea Monacella

parliament will change little, if at all. In other words, the situation can be stabilized. Or the opposition may receive the majority of the votes. In that case, the parliament has to be dissolved and a new one elected. The external structure and function of the parliament as a democratic institution remains unchanged even though its internal structure, expressed in its individual membership, may change considerably. (Eigen M., Winkler R., LG); (p161);

(hy);

(ur);

Intensity:

(ph);

();

(cy);

(hy);

(ur) The monuments of the past, including the skyscraper (…) stood out from the fabric of the city as a privileged vertical moment. The new institutions of the city will perhaps occur at moments of intensity, linked to the wider network of the urban field, and marked not by demarcating lines but by thickened surfaces. (Allen S., OF); (pg28) P

or

The shortcoming of 19th century thermodynamics, to overlook the role of intensity differences in morphogenesis, to concentrate on the equilibrium form that only emerges only once the original difference has been cancelled, has today been repaired in the latest version of this branch of physics, appropriately labelled "far-from-equilibrium thermodynamics". (…) The systems studied in this new discipline are continuously traversed by a strong flow of energy and matter, a flow which does not allow difference in intensity to be cancelled, that is a flow which maintains these differences and keeps them from cancelling themselves. It is only in these far from equilibrium conditions that the full variety of immanent topological forms appears (steady state, cyclic, or chaotic attractors). It is only in this zone of intensity that difference driven morphogenesis comes into its own and that matter becomes an active material agent, one that does not need form to impose itself from the outside. (M. de Landa Deleuze, Diagrams and the Genesis of Form in ANY 23, p31/32)

(Neither meshworks nor strata occur in pure form, and more often than not we are confronted with mixtures and hybrids of the two. Beyond

Figure LXXXVIII
Vietnam Mappings 02
Rosalea Monacella

that self-organising diagrammatic processes participate in the creation of strata, and sorted homogenised elements can sometimes function as intercalary elements. Hence it is better to picture the dichotomy as a continuum, characterised at one end by the most hierarchical, stratified structures and at the other end by pure, intense matter at its limit of destratification, that is the plane of consistency. (M. de Landa Deleuze, Diagrams and the Genesis of Form in ANY 23, p33))

Interaction:
(ph);
();
(cy) This prolonged interaction allows patterns of cooperation which are based on reciprocity (…) this increased rate of interaction would therefore be reflected in an increase in w, the importance of the next move relative to the current move. (…) It is important to appreciate that the discount parameter w, is based on the relative importance of one move and the next, not one time period and the next. Therefore, if the player regard a payoff two years from now as worth only half as much as an equal payoff today, one way to promote cooperation would be to make their interactions more frequent (…) (Axelrod R., EC);
(hy);
(ur) Extremes activities involve the mobilization of every interacting part in a field, so that every moment of every part instantaneously changes the conditions of the unfolding of the whole. (Kwinter S., FB);

Invasion:
(ph);
();
(cy);
(hy) Almost all we wish to say about invasion consist in a definition of the term (…). The French are always writing about guerre d'invasion. What they understand by it is any attack that penetrates deep into enemy territory, and they would like if possible to establish its meaning as the opposite of a routine attack-that is, one that merely nibbles at a frontier. That, however, is unscientific linguistic confusion. Whether an attack will halt at the frontier or penetrate into the heart of the enemy's territory, whether its main concern is to seize the enemy's fortresses or to seek out the core of enemy resistance and pursue it relentlessly, is not a matter
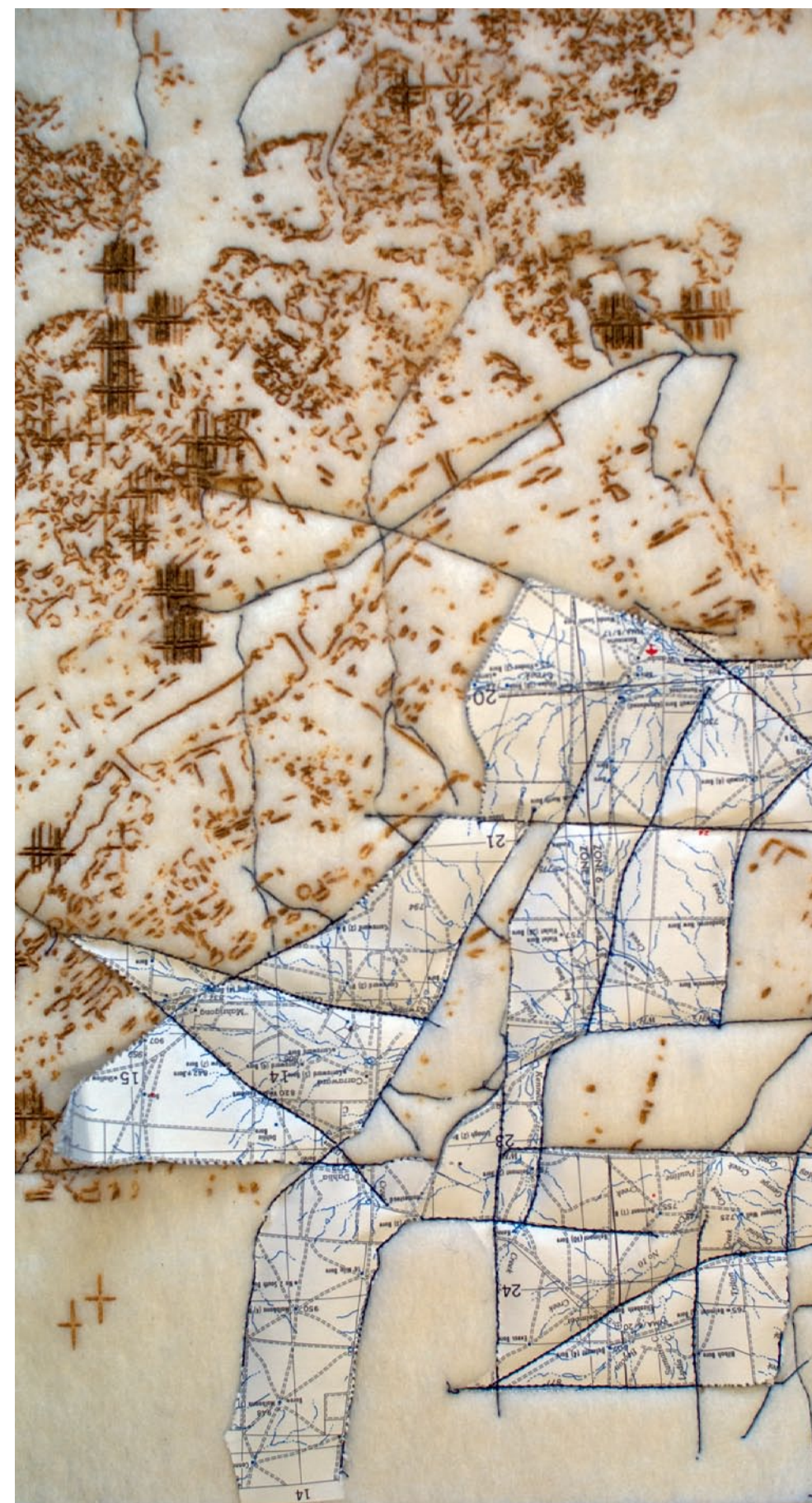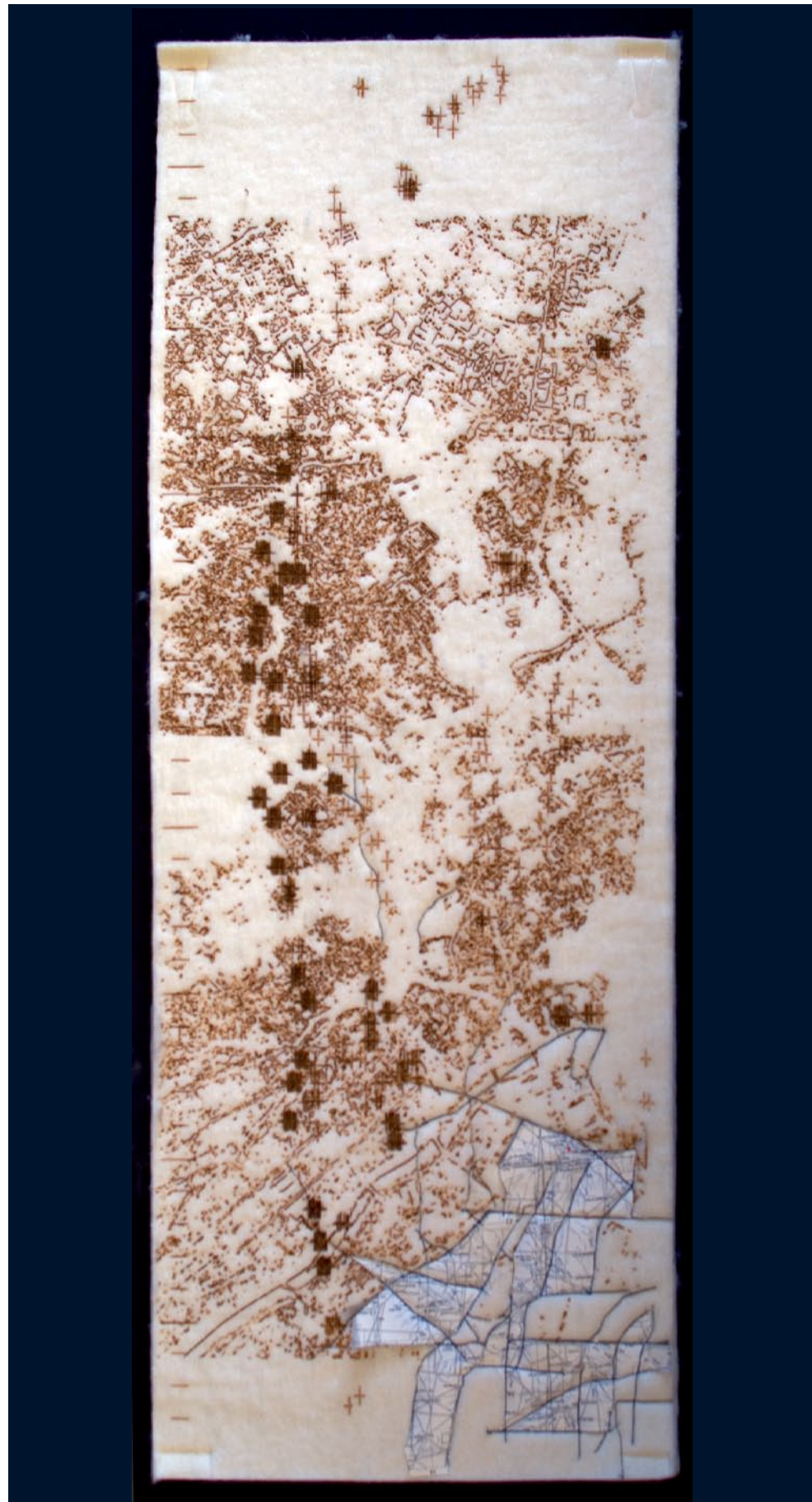
Figure LXXXIX
Vietnam Mappings 03
Rosalea Monacella

that depends on form: it depends on circumstances. Theory, at least, permits no other answer. In some it may be more methodical and even more prudent to penetrate some distance rather than stay close to the frontier, but usually this is nothing but the successful outcome of a vigorous attack, and so cannot be distinguished from it in any way. (Von Clausewitz C., OW);
(ur);

Irreversibility:
(ph);
();
(cy);
(hy);
(ur) (…) the irreversibility principle (or the nonsimmetry of space-time) introduced by the science of thermodynamics (and statistical mechanics) and by the theory of evolution did not represent a mere part of physics, but rather referred to a broader field of labile phenomena into which the world of physic fits itself as but a single component. (Kwinter S., AT); (pgVIII)

Learning process:
(ph);
();
(cy) The word "learning", undoubtedly denotes change of some kind. To say what kind of change is a delicate matter. (…) Change denotes process (…) if now we accept the overall notion that all learning (other than zero learning) is in some degree stochastic (i.e. contains components of "trial and error", it follows that an ordering of the processes of learning can be built upon an hierarchical classification of the types of error which are to be corrected in the various learning processes. Zero learning will then be the label for the immediate base of all those acts (simple and complex) which are not subject to correction. Learning I will be an appropriate label for the revision of choice within an unchanged set of alternatives; Learning II will be the label for the revision of the set from which the choice is to be made; and so one. (Bateson G., SEM);
(hy)
(ur);

Liminal condition:
(ph);
();
(cy);
(hy);
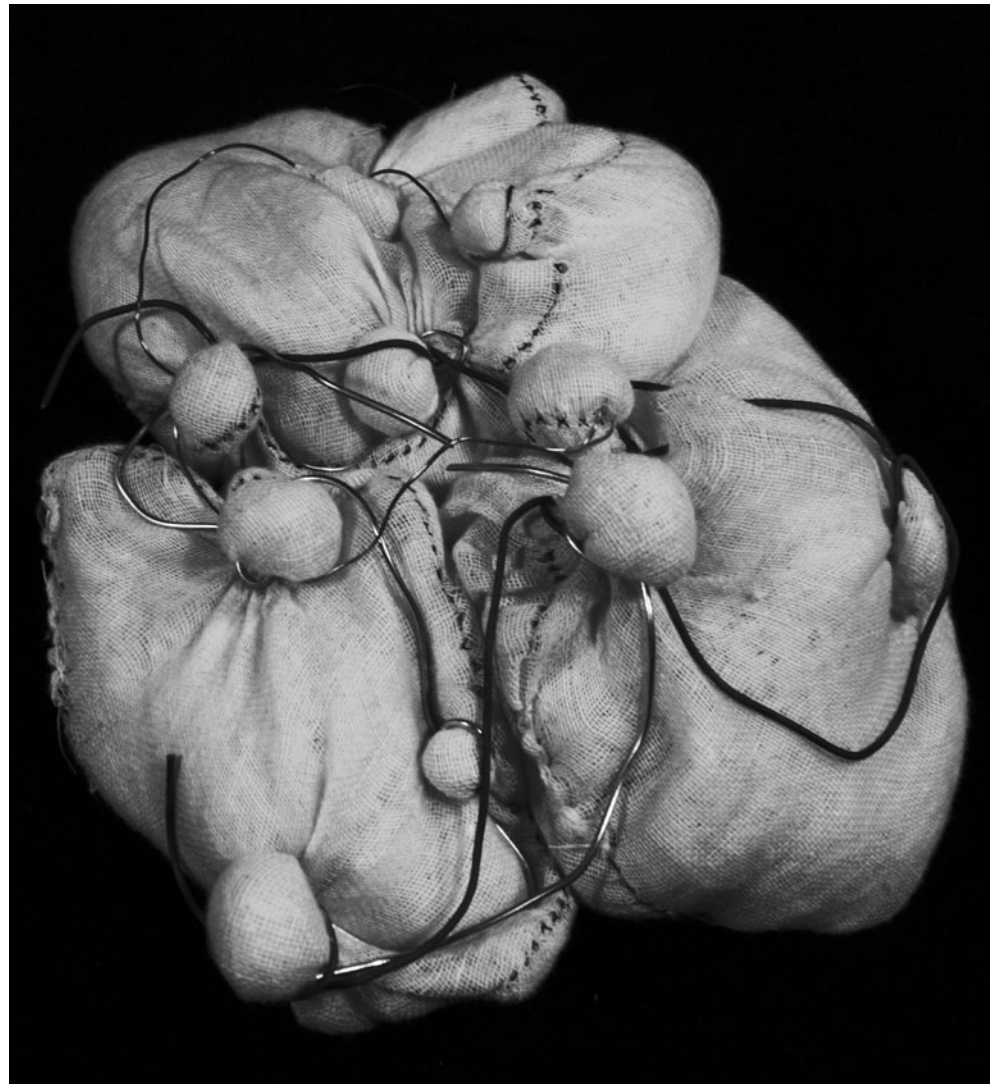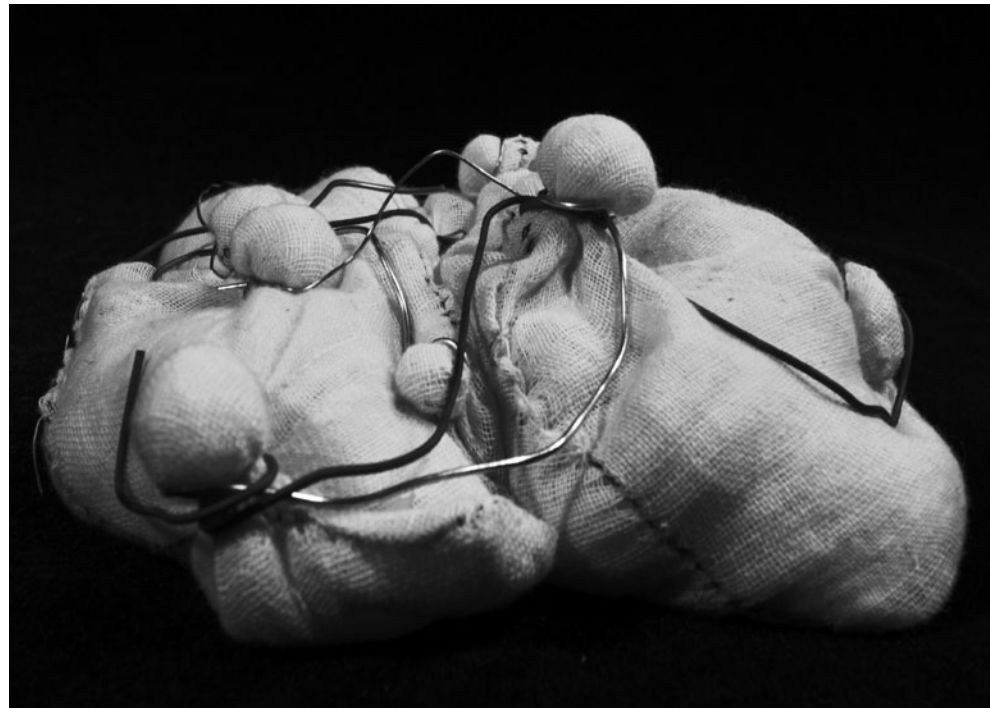
The gaze and overlook in comparison to the overlay and projection of territory as an understanding of the definition of landscape.

Some consider the landscape's role in the states of change of our cities as a grafting of green onto the decaying, disused, redundant or soon to be developed spaces, but reducing landscape to a greening post-morten solution can be considered as a missed opportunity for dealing with the complexities that are faced in the contemporary city.

Can we consider the role of landscape with inherent qualities of production in its dynamic and formal morphological potentials as an opportunity of not just a graft or application as a surficial condition but one of influential and deterministic possibilities for the future dynamic city, where the outcome is predetermined but a range of a changing relationships is?

Figure XC
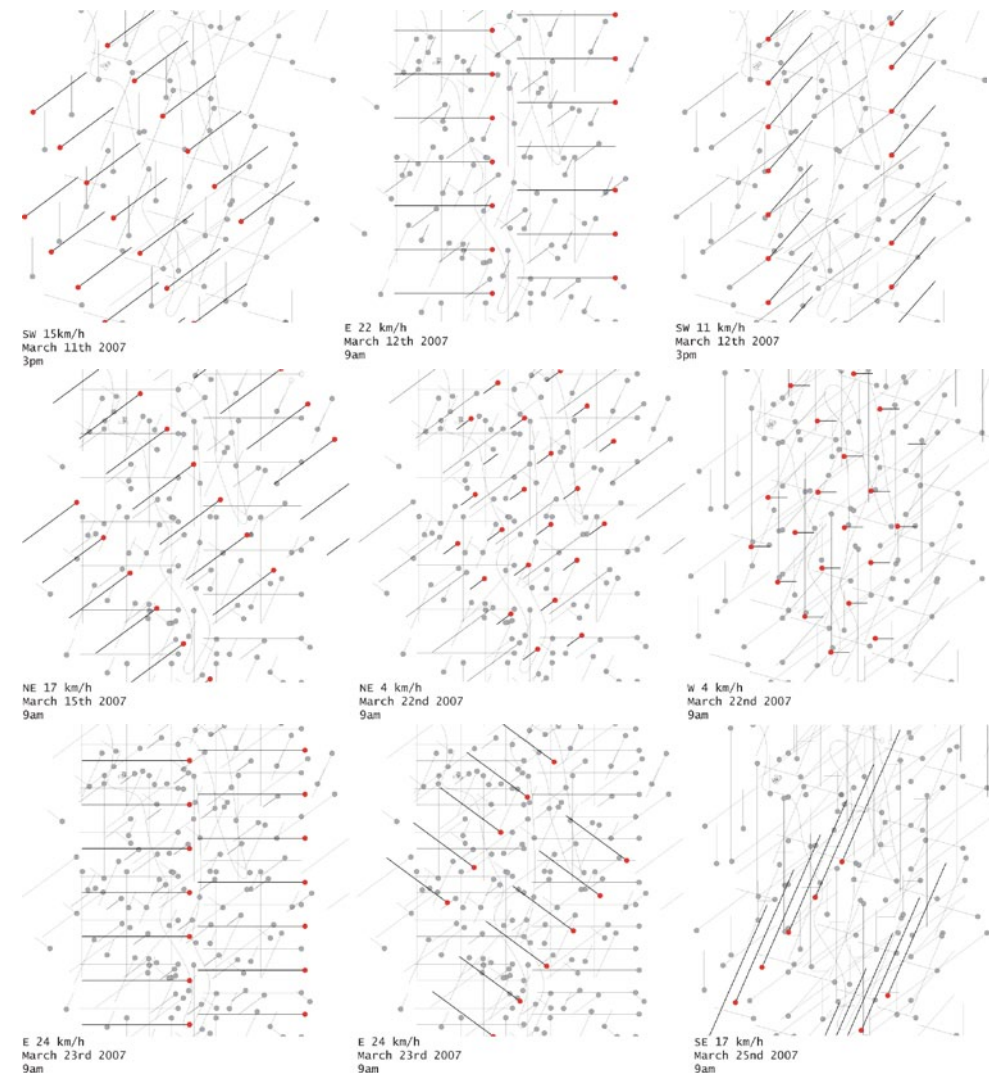Study Model, Thickened Ground Design Studio, Jason Flaherty

Figure 215

Figure 216

Figure 217

Figure 218
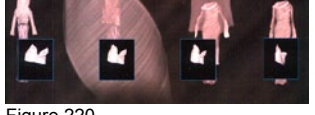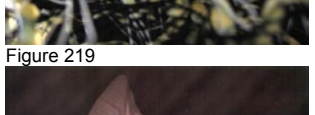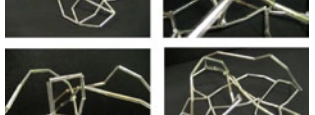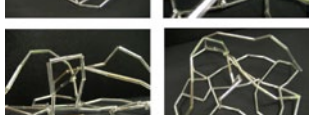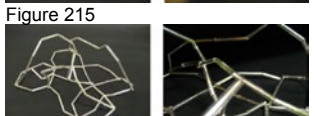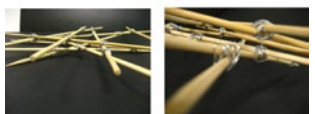
Figure 219

Figure 220

(ur) The liminal condition is a communicative interface where rational information processing (i.e. planning) breaks down under the weight of too many, and too quickly shifting, variables, where it then gives way to spontaneous material intelligences (…), to the archaic way of proceeding by feel and by flow and by following the grain of the worldunfolding – to the process of becoming material oneself. (Kwinter S., FB);

Line:
(ph) (…) If we return to a very general sense of the word "line", we see that there are not just two kinds of lines but three. First, a relatively supple line of interlaced codes and territories; that is why we started with so-called primitive segmentary, in which the social space is constituted by territorial and lineal segmentations. Second, a rigid line, which brings about a dualist organization of segments, a concentricity of circles in resonance, and generalized overcoding; here, the social space implies the State apparatus. (…) Third, one or several lines of flight, marked by quanta and defined by decoding and deterritorialization (…). (Deleuze G., Guattari F., TP); (pg222)
();
(cy);
(hy);
(ur); The world-substance (multiplicity), now animated, describes a field of vectors of differing qualities and intensities . If the formula " interpretation of planes" adequately expressed the principle of continuity within the object field, it is no longer adequate to express vectorial quantities in an active field of speed and celerity. Only line can express variation or difference in a field of force; line conceived qua line, as vector and not delimitor of form. (kwinter S., AT) (pg 66)

Linear
(ph);
();
(cy) (cy) Linear is a technical term in mathematics describing a relationship between variables such that when they are plotted against each other on orthogonal Cartesian coordinates, the result will be a straight line. Lineal describes a relation among a series of cause or arguments such that the sequence does not come back to the starting point. The opposite of linear

Indexing the Landscape

The sensitive readings and analyses of existing conditions and their capacity to incorporate further external information.

"We do not measure things through a real order, we calibrate our sense to produce orderings".

Figure XCI
Thickened Ground Design
Studio, Michaela Prescott

Figure XCII
Thickened Ground Design
Studio, Michaela Prescott

SW 15km/h
March 11th 2007
3pm

E 22 km/h
March 12th 2007
9am

SW 11 km/h
March 12th 2007
3pm

NE 17 km/h
March 15th 2007
9am

NE 4 km/h
March 22nd 2007
9am

W 4 km/h
March 22nd 2007
9am

E 24 km/h
March 23rd 2007
9am

E 24 km/h
March 23rd 2007
9am

SE 17 km/h
March 25nd 2007
9am

Figure 221

Figure 222

Figure 223
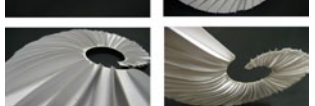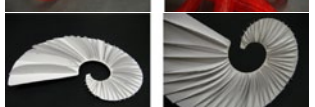
Figure 224
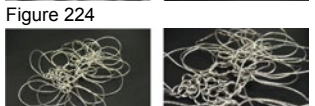
Figure 225

Figure 226

is nonlinear. The opposite of lineal is recursive. (Bateson G., MN);

(hy) There is one final aspect of meshwork dynamics I must examine (…). We may wonder why (…) it seems so hard to think about the structures that populate the world in any but hierachical terms. One possible answer is that stratified structures involve the simplest form of causal relationships, simple arrows going from cause to effect (…) western thought has been dominated by notions of linear (nonreciprocal) causality for twenty-five hundred years. It was not until World War II that the work of Norman Wiener (and engineers involved in developing radar systems) gave rise to the study of negative feedback and whit it the beginning of nonlinear thinking. (De Landa M., TYNH); P

(ur);

Loop:

(ph);

();

(cy);

(hy) (…) if the system under study tends to oscillate between two extremes, like a driven pendulum, its trajectory in phase space will form a closed loop: a closed trajectory represents a system that goes through a series of states (the different position of a pendulum) over and over again. A pendulum that is given a push and then allowed to come to rest appears in phase portraits as a spiral, winding down as the pendulum comes to a rest. (…) Attractors do not have to be points; they can also be lines. For instance, an attractor with a shape of a closed loop (called a "periodic attractor" or "limit cycle") will force all trajectories passing near it to "wrap around it", that is, to enter into an oscillating state, like a pendulum. If the phase portrait of a given physical system has one of these attractor embedded in it, we know that no matter how we manipulate the behavior of the system, it will tend to return to an oscillation between two extremes. (De Landa M., WAIM); (p234-235) P

(ur);

Machine:

(ph) There is no question (…) of establishing a dual opposition between the two type of multiplicities, molecular machines and molar machines; that would be no better than the dualism between the One and the multiple. (…) There are not two multiplicities or two machines; one

Sensitive Systems

The aim is to develop different landscape logics of transformation which can accommodate the unpredictable future of Lake Eildon. The developed models will be responsive and robust. When these models are realised on the site they will transform not only themselves but the site at many scales and times.
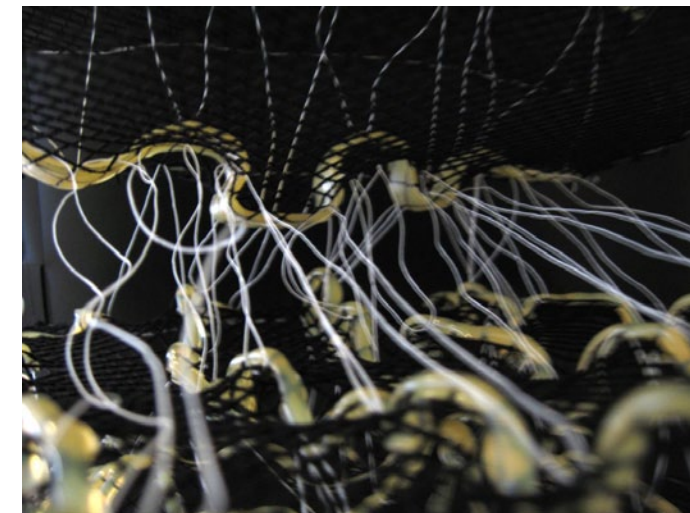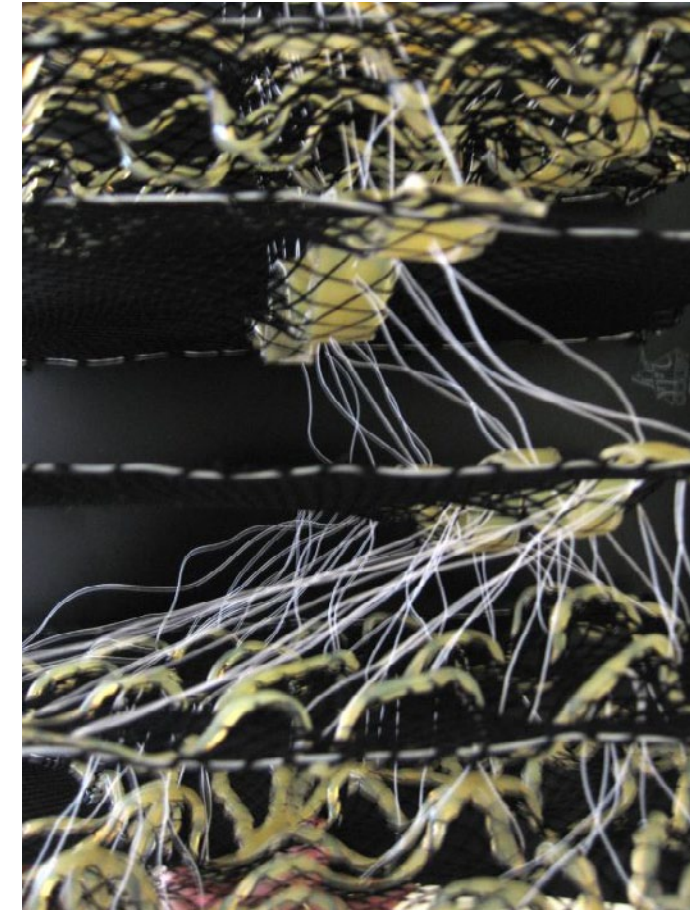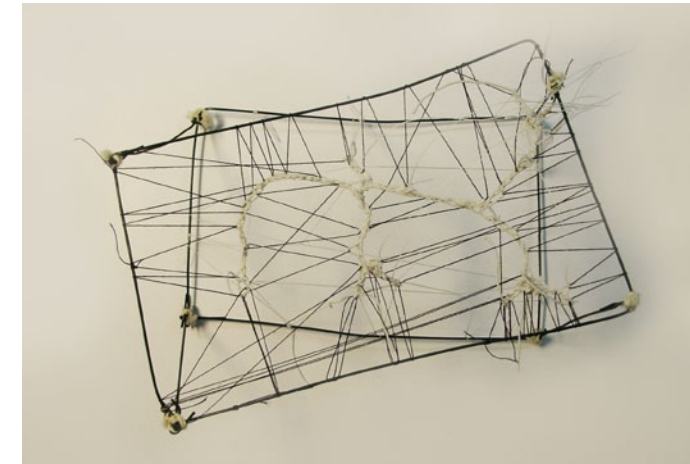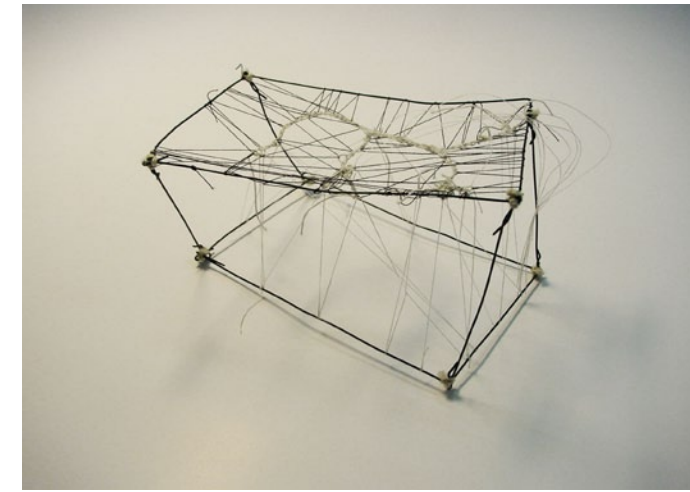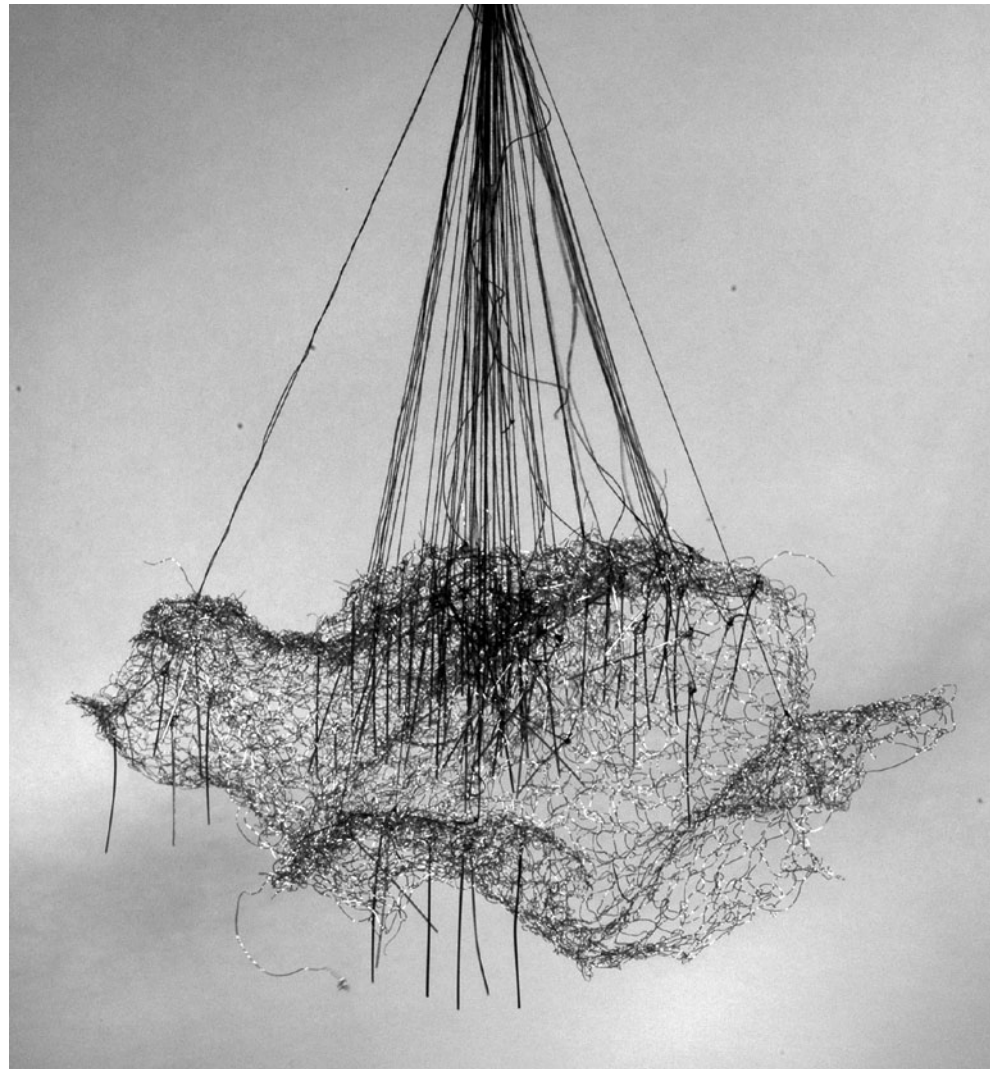

Figure XCIII
Study Model, Thickened Ground Design Studio, Sarah Borg

Figure XCIV
Study Model, Thickened Ground Design Studio, Greg Afflick

Figure XCV
Study Model, Thickened Ground Design Studio, Greg Afflick

and the same machinic assemblage produces and distributes the whole, in other words, the set of statements corresponding to the "complex". (…) We can no longer even speak of distinct machines, only of types of interpenetrating multiplicities that at any given moment form a single machinic assemblage (…).(Deleuze G., Guattari F., TP); (pg34-36) P ();

(cy) For us, a machine is a device for converting incoming messages into outgoing messages. A message, from this point of view, is a sequence of quantities that represent signals in the message. (…) A machine transforms a number a such input messages into a number of output messages, each output message at any moment depending on the input messages up to this moment. As the engineer would say in his jargon, a machine is a multiple-input, multiple output transducer. (Wiener N., GG);

(hy);The central surveillance tower of the Panopticon had already placed from human eye at the center of the machine, while at the same time devaluing any specific set of eyes: any pair would do, as long as the panopticon worked as designed. Machine vision promises to remove humans from this secondary position, to get them completely out of the loop. (pg204) Or

(…) in the case of war games. The events on a computer screen may also become elements in strategy to get humans out of the loop, to shorten the chain of command. This seems to be the direction where machine vision and machine translation are going.(De Landa M.,WAIM) (pg194) P
(ur);

Machinic behaviour:

(ph) (The central nervous system…) represent a whole behavioural-biological "machinics", a whole molecular engineering that should help increase our understanding of the nature of problems of consistency(…) this implies three things. First, that there is no beginning from which a linear sequence would derive, but rather densifications, intensification, reinforcements, injections, showerings (…) second, and this is not a contradiction, there must be an arrangement of intervals, a distribution of inequalities, such that it is sometimes necessary to make hole in order to consolidate. Third, there is a superposition of disparate rhythms, an articulation

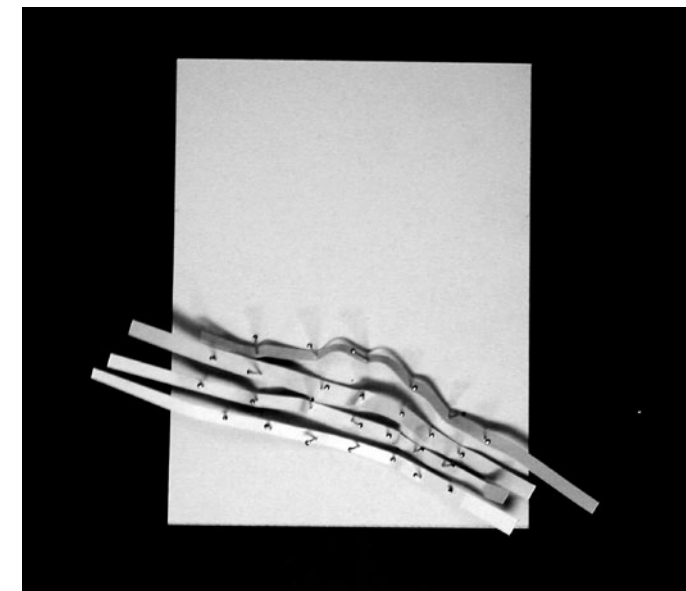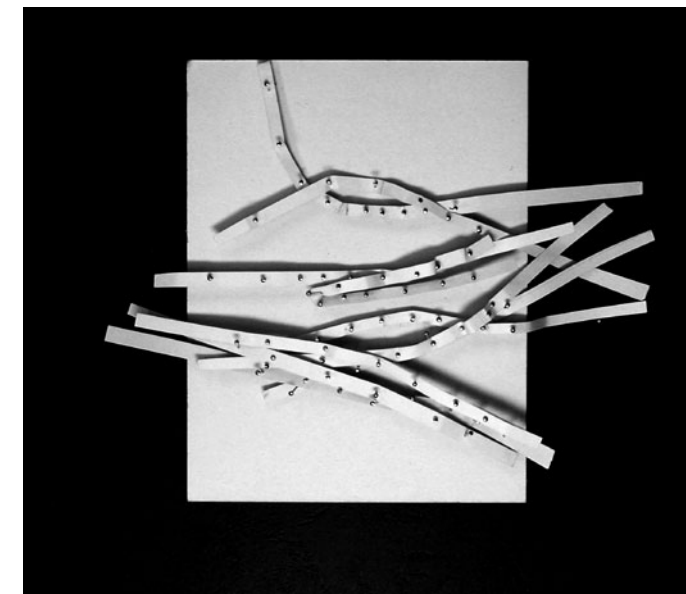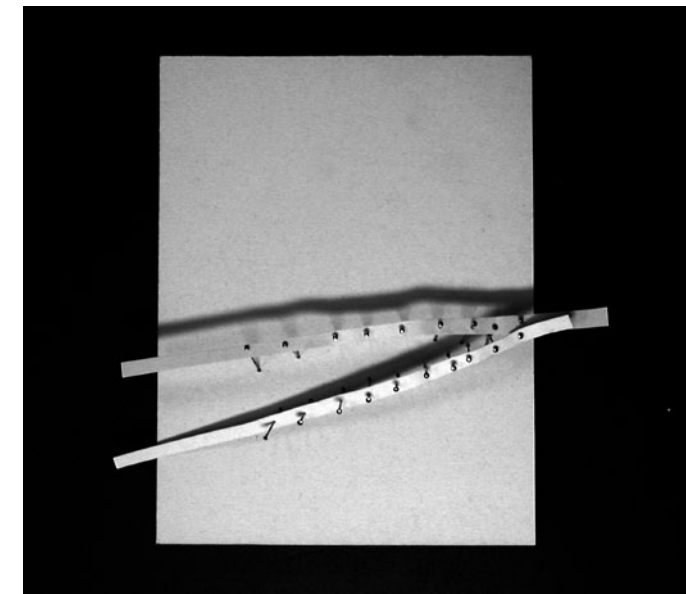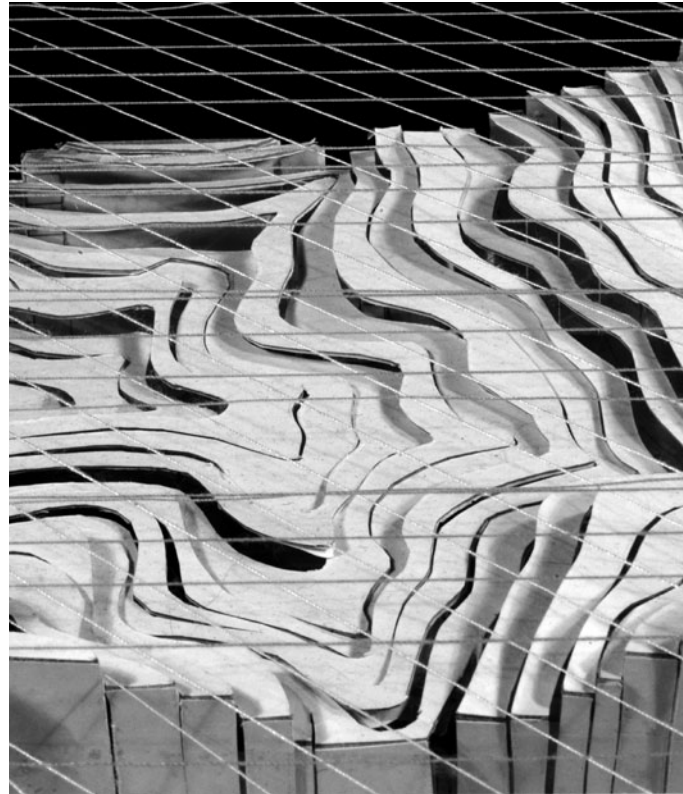Figure XCVI
Study Model, Thickened Ground Design Studio, Katie Cudal

Figure XCVII
Study Model, Thickened Ground Design Studio, Ryan Baragwanath

Figure XCVIII
Study Model, Thickened Ground Design Studio, Michaela Prescott

from within of an interrhythmicity, with no imposition of meter or cadence (…). (Consistency) is the act that produces consolidated aggregates, of succession as well as of coexistence, by means of the three factors just mentioned: intercalated elements, intervals, and articulations of superposition (…). (Deleuze G., Guattari F., TP); (pg328) P

();
(cy);
(hy);
(ur);

Machinic phylum:
(ph) We always get back to this definition: the machinic phylum is materiality, natural or artificial, and both simultaneously ; it is matter in movement, in flux, in variation, matter as conveyor of singularities and traits of expression" (Deleuze G., Guattari F., TP);(pg409) P

();
(cy);

(hy) There are (…) two different meanings of the term "machinic phylum" – in its more general sense, it refers to any process in which order emerges out of chaos as a result of its nonlinear dynamics: rivers and tsunamis in the hydrosphere, wind patterns and storm systems in the atmosphere and so on.

All these processes depend on critical points it the rate of flow of matter and energy (…). The term refers to any population (of atoms, molecules, cells, insects) whose global dynamics are governed by singularities (bifurcations and attractors); in another sense, it refers to the integration of a collection of elements into an assemblage that is more than the sum of its parts, that is, on that displays global properties not possessed by its individual components. (De Landa M., WAIM); (p20) P
(ur);

Maneuver:
(ph);
();

(cy)(…) manoeuvre is (…) a planned series of two or more moves where the depth gain effect of the whole series is taken into account, rather than simply the individual moves. (…) Both moves and manoeuvres thus have foresight about future moves. (…) in describing moves and manoeuvres we are describing the degree to which a process is governed by forethought.(Hiller B.,

Site: Jerusalem Creek - Macro

■ Lake Eildon at Full Capacity
■ Lake Eildon at 10% Capacity
— Existing Road Infrastructures
— Original River Course
↗ Existing Launching Infrastructures

Turbulence caused by the collision of wind currents with the surface of the landscape.

Large areas allow for wind speed to increase and gusts may occur

The interference of topography, vegetation and large objects can cause calm patches to occur near the perimetre of the lake

The existing fixed boat ramps provide entry and exit points into the lake. They extend to given points.

Actualisation of the Systematic Landscape

The aim is to establish a symbiotic relationship between the proposed alternative models & the sensitive, propositional readings of the site.
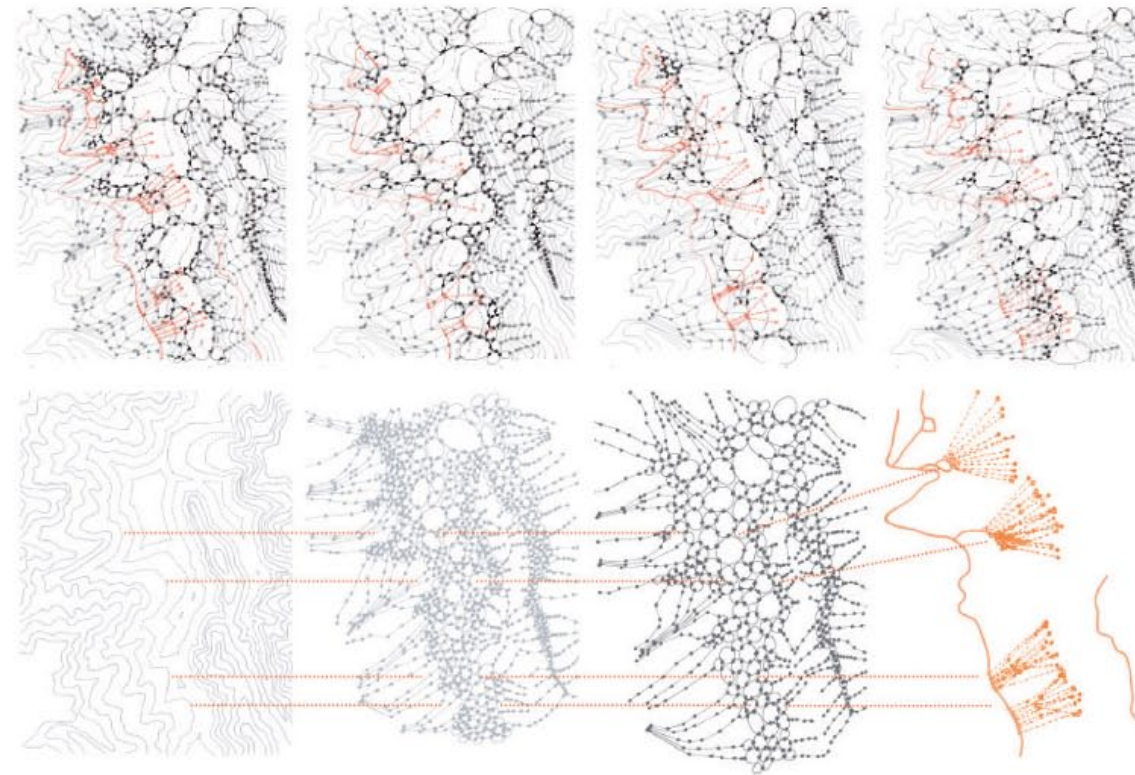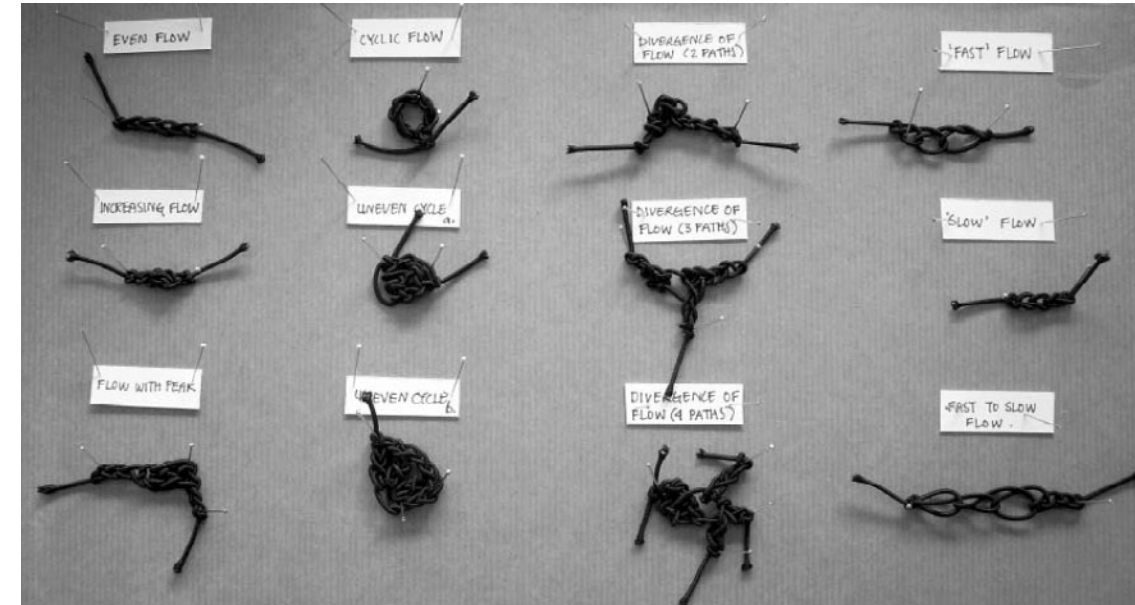
Figure XCIX
Thickened Ground Design Studio,
Michaela Prescott

SM) (pg306) P
(hy) A strategic maneuver comprises two pair of opposites (…) outflanking the enemy or to operating on interior lines; the second, of concentrating one's forces or of extending them over numerous posts.(…) we are (…) certain that no rules of any kind exist for maneuver, and no method or general principle can determine the value of the action; rather, superior application, precision, order, discipline, and fear will find the means to achieve palpable advantage in the most singular and minute circumstances. It is on these qualities that victory in this type of contest largely depends. (Von Clausewitz C., OW) (p542);
(ur);

Map:
(ph) What distinguishes the map from the tracing is that it is entirely oriented towards an experimentation in contact with the real. The map does not reproduces an unconscious closed in upon itself; it constructs the unconscious. It fosters connections between fields, the removal of blockages on bodies without organs, the maximum opening of bodies without organs onto a plane of consistency. (…) the map is open and connectable in all of its dimensions; it is detachable, reversible, susceptible to constant modification. (…) a map has multiple entryways, as opposed to the tracing, wich always comes back "to the same". The map has to do with performance, whereas the tracing always involve an alleged "competence". (Deleuze G., Guattari F., TP); (pg12) P
();
(cy);
(hy);
(ur) (…) the perpetual becoming of Boccioni's force-lines, and Sant'Elia's ever differentiating field of pressure and flows: none of these configurations, however, resembles a map in a traditional sense. They are rather what I call procedural maps, made up not of "global" representations, which tend to reduce entire multiplicities to static and finite schemas, but of protocols of formulas for negotiating local situations and their fluctuating conditions. To construct such a procedural map it is necessary, first, to abandon the following two principles: (I) the epistemological prejudice that gives priority to the visual, spatial logic of simultaneity – the "image" of traditional cartography;

Figure C
Study Model, Thickened Ground Design Studio, Ryan Baragwanath

Figure CI
Study Model, Thickened Ground Design Studio, Ryan Baragwanath

Figure CII
Study Model, Thickened Ground Design Studio, Ryan Baragwanath

Figure CIII
Study Model, Thickened Ground Design Studio, Michaela Prescott

Figure CIV
Study Model, Thickened Ground Design Studio, Michaela Prescott

Figure CV
Study Model, Thickened Ground Design Studio, Michaela Prescott

and (2) the illusory exteriority of the subject vis-à-vis the map and the reality mapped. Here again it is the insertion of the dimension of time into the field that establishes a relation of continuity between subject and object, figure and ground, observer and event. (Kwinter S., AT); (pg98);

Material:
(ph);
(bio) (…) To represent all the correlated quantities we should have to construct not only a diagram of moment but also a diagram of elastic deflection and its so-called 'curvature'; and the engineer would want to know something more about the material of the ligamentous tension-member – its flexibility, its modulus of elasticity in direct tension; its elastic limit, and its safe working stress.
In various ways our structural problem is beset by 'limiting conditions'. Not only must rigidity be associated with flexibility, but also stability must be ensured in various position and attitudes (…). (D'Arcy T., OGF); (p261)
(cy);
(hy);
(ur) Materiality is but a continuous production of properties vigorously yet compliantly seeking to integrate new complexes, alloys, and alliances. (Kwinter S., FB);

Matrix:
(ph);
();
(cy) Within limits, human beings are able to adapt their strategies to the needs of changing situations and to regulate their social orders. In what way can these different strategies affect the size of populations? If we pit "life" and "death" against each other and view their context from the perspective of game theory, we can set up a pay-off matrix that will be enable us to see what possible fates might overtake a population. (…) This is not, of course, a pay-off matrix in the strict sense of the term. The matrix cannot explicitly define possible gains and losses because this life and death game is not finite, zero-sum game, nor are its strategies strictly quantitative – that is, the result of possible strategies will bring cannot be predicted in numerical terms. (Eigen M., Winkler R., LG); (p27);
(hy);

Figure CVI
Study Model, Thickened Ground Design Studio, Ryan Baragwanath

My research explores the landscape as an event and consequently how we may use landscape techniques to reorganise the urban fabric. More specifically it looks at the nature of the institutionalisation of the consumptive organisation, and how to suggest a more temporal and adaptable system, which can infiltrate the urban and rural condition and suggest a deterritorialised condition, which is differentiated qualitatively rather than by specific boundaries and typologies. The research is perhaps a moment in my research, presented here today as a point of discussion for my ongoing work!

"The planet has been overwhelmingly rural for thousands of years, and predominantly rural for centuries. At the Beginning of the 21st century, we are poised at the urban/ rural equinox, with half the world population urban/ half rural. BY 2002, the United Nations predicts that over 60% of the human race will be living in urbanized areas, many of which are in a state of disarray and disorder, if not decay and dysfunction."

A quote from the urban design department at the university of Michigan.

How do we consider the urban as landscape equivalent to the rural, the productive - as a transformable indeterminate set of systems?

The Productive landscape: as a fluctuating terrain. Investigating aspects of the pastoral and the political.

The pastoral scape inundated with diversity and temporality consists of a finitude of fields that expand and transform according to the objective of its seeding or qualitative site conditions, adapting and evolving according to the irregular seasonal effects. The radiant sun and the intermittent periods of seasonal rain, tilling of the soil and the subsequent harvest of produce are factors of a system that temporally form the infrastructure of the pliant terrain

The pastoral or suggested analogy of a productive landscape is in a continual state of flux according to, but not only from the routine of the everyday, but through the element of event where the unpredictability of Mother Nature forms the indeterminate landscape of change.
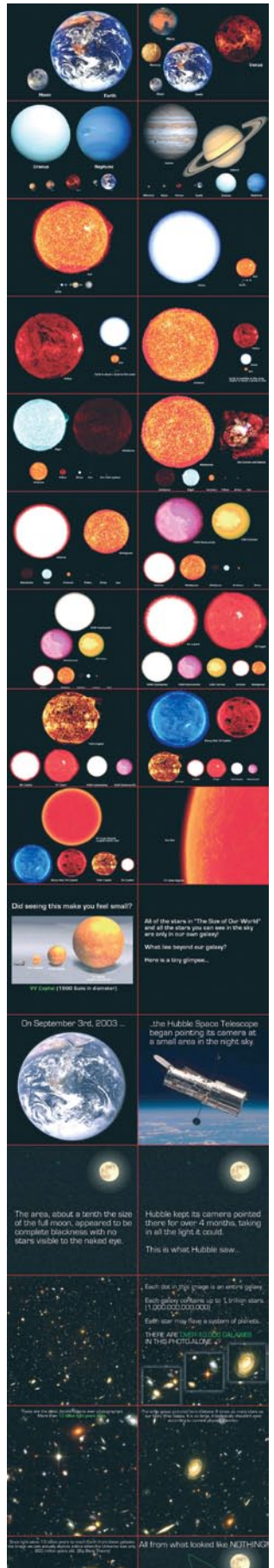

Figure 227

(ur) Las Vegas is not a city, but the calculus that makes the others possible, it is the matrix itself, the pure idea of a transient civilization where everyone is an extra, and everything was made just for you (Koolhaas R,. M); (pg15)

Matter:

(ph) Matter (…) is an aggregate of "images". And by "images" we mean a certain existence, which is more than that which the idealist calls a representation, but less than that which the realist calls a thing – an existence placed halfway between the "thing" and the "representation" (Bergson H., MM);
or
Let us consider the degrees of expansion (détente) and of contraction (of duration), all of which coexist with one another: At the limit of expansion (détente), we have matter. While undoubtedly, matter is not yet space it is already extensity. A duration that is infinitely slackened and relaxed (…). (Deleuze G., B);
();
(cy);
(hy);
(ur);

Mechanical:

(ph):
();
(cy) The overlap of the mechanical and the lifelike increases year by year. Part of this bionic convergence is a matter of words. The meanings of "mechanical" and "life" are both stretching until all complicated things can be perceived as machines, and all self-sustaining machines can be perceived as alive. (Kelly K., OC); P
(hy);
(ur)

Mechanism:

(ph) The adaptations to environment is the necessary condition of evolution we do not question for a moment. It is quiet evident that a specie would disappear, should if fail to bend to the conditions of existence which are imposed to it. But it is one thing to recognise that outer circumstances are forces evolution must reckon with, another to claim that they are the directing causes of evolution. This latter theory is that of mechanism. It excludes absolutely the hypothesis of an original impetus, (…). (Bergson H., CE)
();
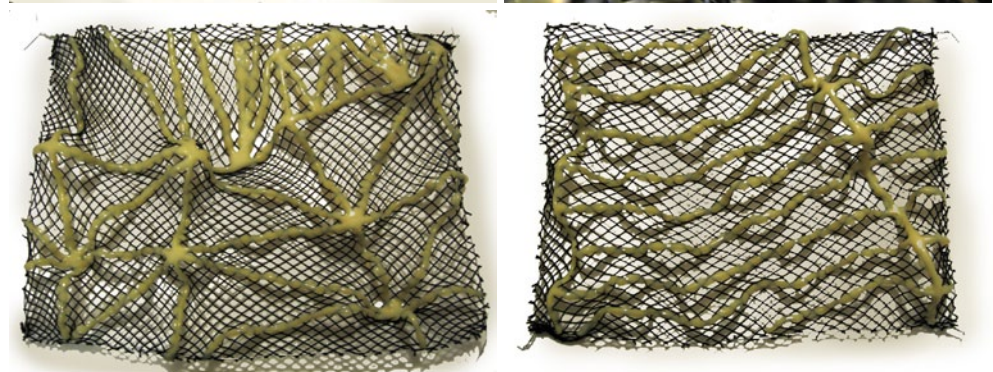
The pastoral landscape serves as a habitable organisation, accommodating the needs of the consumer for a particular period or season. As an experience, it could be considered as a more performative individual event, where the agricultural terrain and the qualitative aspects of the visual, the tactile, the acoustic, the cognitive are provided by the temporal terrain, ever changing in all of its sensory and perceptive capacities. The pastoral landscape has the ability to serve as a common ground for a multiplicity of events to coexist!

A shift from landscape as " object appearances" to process of formation, dynamics of occupancy, and the poetics of becoming … thus the role of the "designer- architect landscape architect "is less to picture or represent these activities than is to facilitate, instigate, and diversify their effects in time.." as suggested by James corner

As a consequence, what would change if we considered the institutionalised urban fabric in unpredicatble time, in a similar fashion to the pastoral landscape, or as Henri Bergson suggests as a perpetual becoming, which makes and remakes itself but is never something made? Time may have been considered at this period of modernist thought and at the rebirth of the institution, as a device for management, measure and mastery. A period of control, finitude and regularity! But time never as temporal and continually becoming!

My intention was to explore the shift of landscape from the pictorial to the operative and how landscape can be perceived as a productive device in the contemporary metropolis ….. again a shift from a device of humanising the terrain to a organisational or more explicitly a mode of operation.

Inform ness

The productive landscape suggests, not a new form of landscape or the idealistic picturesque condition, but a landscape that is a complex organisation, in a continual state of flux and re-configuration. It is a 'matrix of connective tissues'[2] which is transformed by movement in time and the processes of qualitative and quantitative variables

Figure CVII
Study Model, Thickened Ground Design Studio, Greg Afflick

Figure CVIII
Study Model, Thickened Ground Design Studio, Greg Afflick

Figure CIX
Study Model, Thickened Ground Design Studio, Greg Afflick

Figure CX
Study Model, Thickened Ground Design Studio, Greg Afflick

Figure CXI
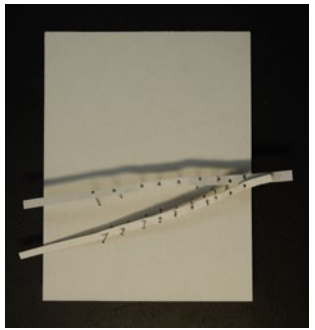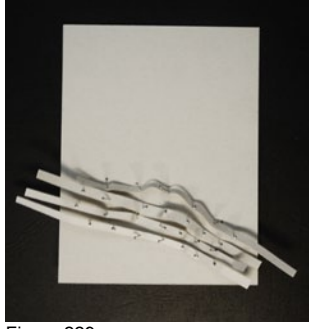Study Model, Thickened Ground Design Studio, Greg Afflick
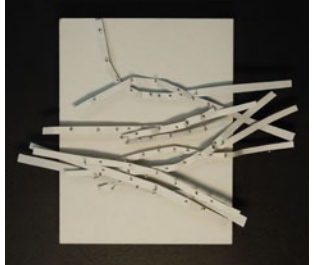

Figure 228

Figure 229

Figure 230

Figure 231

Figure 232

Figure 233

associated to place - that of the given. It is a shifting of landscape from the picturesque to the operative!

Unlike the English picturesque, which acts like a portrait of a landscape duplicating the qualities of a perfect picture or idealistic condition, they are rather original artworks in their own right. Every feature of the painting work would have been repeated in the garden, especially the vague and partial concealment of the chief objects, buildings, and the varied arrangement of water. The designer copies order by making a picture of that order rather than operating within it producing simulations of landscape painting, a simulation of natural order. This is similar to the concept of the city used by modernist architects such as Le Corbusier.

The productive landscape can refer to a multiplicity of sites whether they are located in the urban or rural. The urban tissue suggested by Alex Wall, prescribes a dynamic urban system where the internal and external are merged and striated to accommodate transformable components of the urban field such as "buildings, roads, utilities, open spaces, neighbourhoods, and natural habitats"[3]. The agricultural terrain although formally incomparable, is a continually evolving event space, where the single horizontal surface of the agricultural terrain is set temporally through the tilling of the earth- field, which consequently forms the organisation of the forthcoming harvest and the placement of infrastructure for the given season. The productive agricultural surface, which is inherent with a multiplicity of activity and unpredictability, suggests a new form of organisation for the urban.

The ruralised condition of the productive landscape may not be that which only exists as representation, but a land that is cultivated, and subsequently dynamic. As James Corner suggests 'the activities of gardening, just as agricultural fields derive their form from the logistics of farming, and cities from the flows, processes, and forces of urbanization'.

It encases a set of systems and modes that are not concerned with the formal composition of the whole, but the qualitative difference of agriculture and that of the terrain. The concern is in the redistribution of a field by means of adjustments and interventions, which may join

3 Alex Wall, "Programming the Urban Surface" in Recovering Landscapes: Essays in Contemporary Landscape Architecture, edited by James Corner (New York: Princeton Architectural Press, 1999): p 23

the materiality of the cultivated surface in purposeful, yet not entirely predictable way, thus enabling the formation of new modes of dynamic organisations.

The productive landscape has no need for representation or the production of a single image since it is an organisation that is in the process of continually becoming through its temporal parameters. The shift from the picturesque to the operative, or that of the pastoral or agricultural territory, is in a state of immanence of the indeterminable state of the harvest.

Transform-ness from Discipline and Control to Indeterminate

I will compare the modernist urban condition to the institution, its compartmentalisation and process of organising the body as a complete and cured machine. My intention to posit the urban as an operable disorganised body as suggested in the quote of Jules Cotard 1891.

All through the period of modernist thought, landscape was considered as something other than a plan or vestige. Landscape in the contemporary city performed as a source of respite from the claustrophobic urban density and harshness, as demonstrated in examples such as Central Park, New York. The encasement of the city's green lungs by rigidity and order and the placement of these parks in a densified state was considered as a device for easing the logic of an inflexible geometry, and the urban vision of the architect or planner. In this manner, landscape was a token to the architecture, it enabled architecture to territorialise the land, 'reducing the city to a natural phenomenon' and that of the urban picturesque.

The rationality and desire for representation of the urban as nature can be observed in Le Corbusier's utopian desire of Ville Radieuse where a field of homogeneous high-rise buildings (a series of unite' de habitation) were distributed repeatedly as singular entities in an uninterrupted stretch of order in an idyllic picturesque setting. In this utopian proposal the qualitative demonstrated how, the two conditions have become nullified, resulting in a vastness of indistinguishable monotony. Architecture, the plan, a

Figure 234

Figure 235

Figure 236

Figure 237

Figure 238

Figure 239
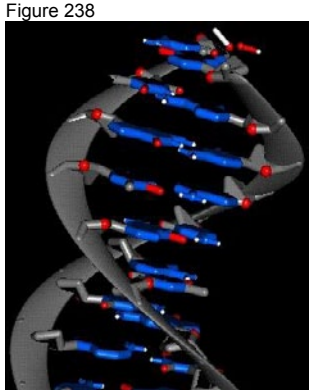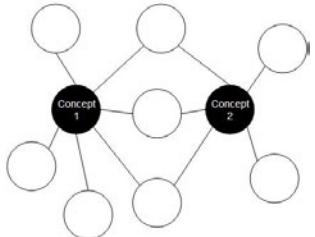
OC);

(hy);

(ur) Architectural experiments in capturing motion have involved the superimposition of simultaneous instances. The superimposition of a sequence of frames produces memory in the form of spatio-temporal simultaneity. (Lynn G., AF); P

Model:

(ph);

();

(cy);

(hy);

(ur) Hence the study of these field combinations would be a study of models that work in the zone between figure and abstraction, models that refigure the conventional opposition between figure and abstraction, or systems of organisation capable of producing vortexes, peaks and protuberances out of individual elements that are themselves regular or repetitive. (Allen S., OF);

Motion: (provisional definition)

(ph) We attribute to the motion the divisibility of the space, which it traverses, forgetting that it is quite possible to divide an object, but not an act. (Bergson H., TFW);

();

(cy);

(hy);

(ur);Absolute motion is a dynamic law grounded in an object. The plastic construction of the object will here concern itself with the motion an object has within it, be it as rest or in movement. I am making the distinction between rest and movement, however, only to make myself clear, for in fact there is no such thing as rest; there is only motion, rest being merely relative, a matter of appearance. (Kwinter S., AT) (pg62)

Movement:

(ph);

();

(cy);

(hy) Movement paralyzes. Movement kills motion. Speed pushes us into a paradoxical space in which all the terms are inverted. (…) A motor-handicap: a man in a car piloted by a driver is motor-handicapped. (Virilio P., PW);

(ur);
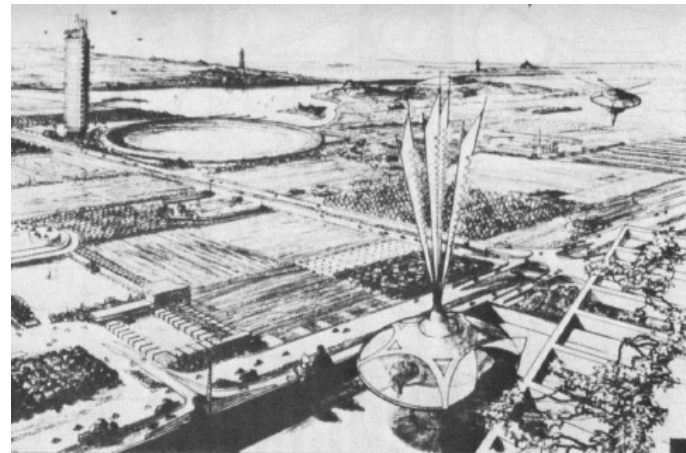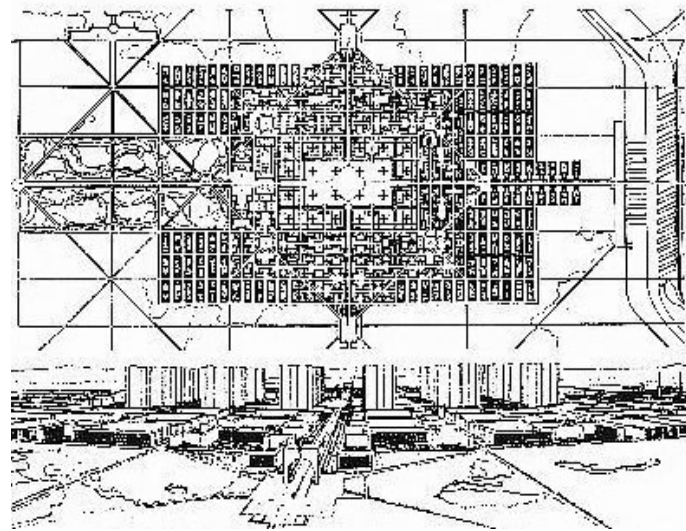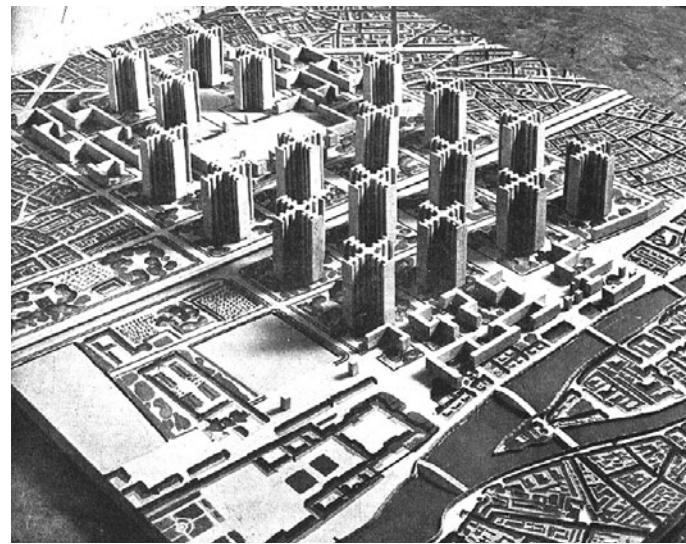
Figure CXII
Le Corbusier

Figure CXIII
Ville Contemporaire, Le Corbusier

Figure CXIV
Le Corbusier

Figure CXV
Broadacre City,
Frank Lloyd Wright

generator of order "arranges organs in order, thus creating organism or organisms. BIOLOGY! The great new word in architecture and planning"[5], leaving no possibility for haphazard formations

Again in the 'anti-urban ideology' of Jefferson and Frank Lloyd Wright explicitly proposes, or at least desires a democratic utopian vision. Frank Lloyd Wright's Broadacre City a vision of anti urbanity constructs its own codes of control and time. The domestic rural romanticism of the anti-capitalist nature externalises organisation and attempts to construct a series of relationships for development, which were to be controlled and organised under the guise of the architect…. " the mother who gave birth to the institution". Broadacre and its infinite network of roadways provided the citizen with democratic freedom of choice under the guise of the noble architect. The perception of freedom and infinite expansion and travel was a device of control; wide-open roads carefully constructed in lateral and longitudinal directions to which programmatic activities stemmed.

As a consequence, the urban is rigid in its order compartmentalises activities of the everyday. We can consider the division and compartmentalisation of the urban similar to the institution of the hospital, prison, asylum etc comparing Bicetre, the hospital of Paul Bru situated in the idyllic rural condition where " they compartmentalised and anaesthetised the danger in souls of other men... More like a densely populated and independent province than a hospital on the outskirts of Paris, its perimeter wall measures almost a mile. Within this enceinte are a proliferation of courts, wards and cells, each assigned to a given grading of human frailty or deviance…. the classification multiply in a vain attempt to impose some meaningful segregation onto a variegated populace"[6]. For democracy to truly exist it needs to exist in all aspects of society, including its execution in the urban fabric.

The Lunatic Asylum of Samuel Tuke where Tuke regarded the asylum as less an escape from the world than a process- a process that would inevitably lead to a cure of mental disorder. His plan was divided into its parts accordingly. It was split into two mirror image sections one half destined for male inmates, the other for females. Each half is then further subdivided to accommodate the various remedial stages of lunacy from the uncontrollable and refractory,

5 Charles Jencks, "Le Corbusier and the Tragic View Of Architecture", London Penguin Books, 1987. p 123

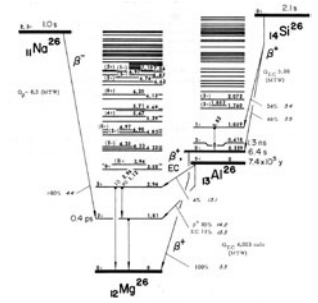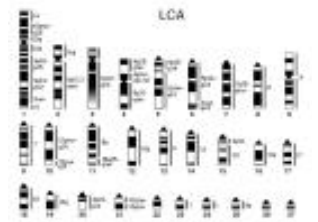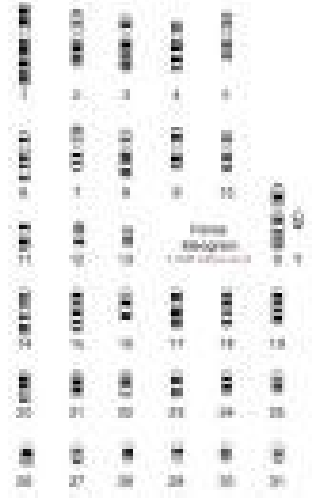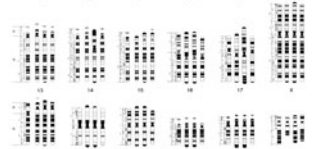6 Robin Evans, "Translation from Drawing to Building and Other Essays" London Architectural Association Publications, 1997. p 48.
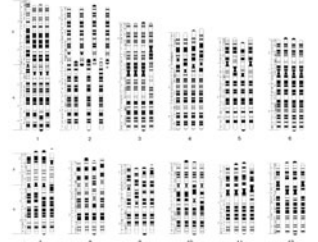

Figure 240

Figure 241

Figure 242

Figure 243

Figure 244

Multiplicity:

(ph); The other type of multiplicity appears in pure duration: it is an internal multiplicity of succession, of fusion, of organization, of heterogeneity, of qualitative discrimination, or of difference in kind; it is virtual and continuous multiplicity that cannot be reduced to numbers. (Deleuze G., B)(pg38)
();
(cy);
(hy);
(ur) ;Because splines are vectorial flows through sequences of points they are by definition continuous multiplicities rather than discrete entities. A multiplicity is a collection of components that is neither reducible to a single entity nor to a collection of multiple entities. A multiplicity is neither one nor many, but a continuous assemblage of heterogeneous singularities that exhibits both collective qualities of continuity and local qualities of heterogeneity.(Lynn G., AF) (pg23)
Multiplicity describes both the assembly of a provisional group from disparate elements – which is less than the whole – and the already less-than- whole nature of those elements that are allied with the group.(…) Wuthin the body of a single planarian is a very specific constellation of possibilities for the proliferation of a multiplicity of bodies. The limits of this development is determined both bythe internal structure of the animal and by the lines of development imposed from the outside. (Lynn., FBB) (pg44) P

Mutation:

(ph) (…) the theory of mutations (…) asserts that at a given moment, after a long period, the entire species is beset with the tendency to change. The tendency to change, therefore, is not accidental. True, the change itself would be accidental, since the mutation works (…) in different directions in the different representatives of the species. (Bergson H., CE); (p85)
(sci) Collectively autocatalytic sets presumably evolved, and contemporary organisms do evolve, by mutations that permanently change the functional connections among the molecular species in the system. Will such permanent mutational changes cause an autocatalytic system to collapse capacity to catalyse its own reproduction? Will minor mutational variations typically cause catastrophic changes? In
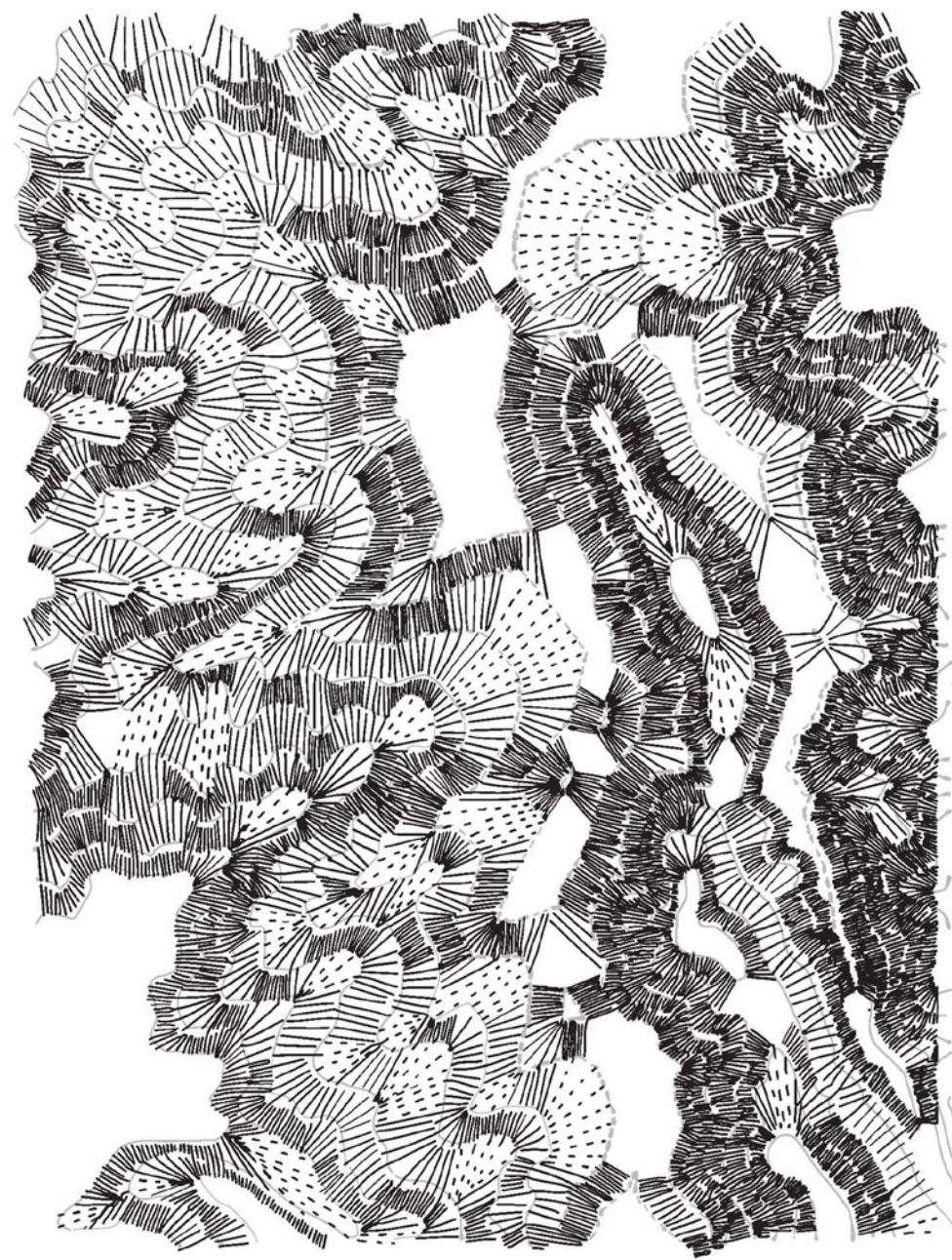
SCALE IN METRES 20 40 80   160 200

Greater than 1:7
1:7-1:10
Less than 1:10

Figure CXVI
Study Model, Thickened
Ground Design Studio,
Michaela Prescott

through the amenable but as yet unredeemed, to those on the way to sure, and ending with the convalescent class, almost ready to re-enter the world of sanity. Each class has its own circumscribed domain of sleeping cells, day rooms, exercise yards and refectories. The point of this judicious separation of the stages of madness was not some simple administrative rationalisation, but was in itself, to facilitate recovery."

The order and processes of the asylum can be compared to the order of the institutionalised order of the Benedictine monks where "for the first time, a periodic system of bells was used to punctuate the day – seven bells corresponding to the seven canonical "hours" or devotional periods- contributing immeasurably to the already staggering discipline and regimentation of monastic life – one notes the incipient mathematization of the day and the body's temporal activities (meals and sleeping schedules in addition to the devotional activities), reinscribed by a complex system of spatial organization that includes the monastery walls, the distribution of cells, common rooms, meditation yards , and so on. These latter are, after all, the medium and vehicle through which the action of the bell and the intervals its scoops out of the continuum of duration are made to penetrate into, and reorganise, the bodies they seize. "[7]

The homogeneous nature of the modernist city desired regularity and order rather than the chaotic characteristics of a disorganised body of knowledge. Landscape during the 20th century was still perceived as a form of decoration, the notion of temporality in landscape was still to be discovered and explored as a tool to transform the perception of the master plan to an urban organisation, which can never be perceived as complete, but an urban surface that is in a continual state of flux. The temporality of the productive landscape suggests that the urban exists in a continual state of transformation, a solution to the modernist obsession with institutionalisation and compartmentalisation. This suggests that the dialogue between architecture and landscape can be a stratification of the external and internal, hence a shift from the modernist notion of internal to the external.

7 Kwinter, Sanford, Architectures ofTime, Towards the Theory of an Event in Moderernist Culture, Cambridge Massachusetts, The MIT Press, 2001, page17
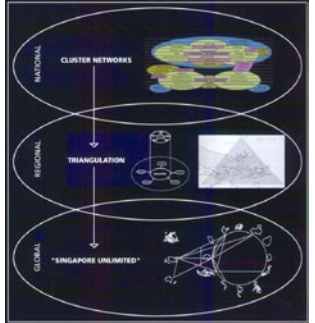

Figure 245

Figure 246
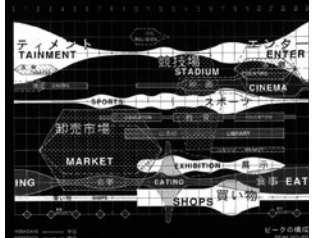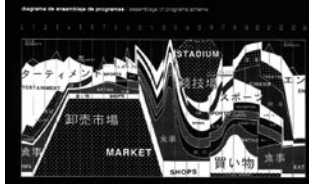

Figure 247

Figure 248

Figure 249

Figure 250

the language of Boolean networks, another way to perturb a network is to permanently "mutate" its wiring diagram, changing the inputs or the Boolean function governing when a bulb is on or off. (Kauffmann S., HU);

(cy); Most mutations are attributed to chemical modifications in the DNA sequence in nucleotides, due to errors in the duplication process of DNA (…) Even if life is a tissues of catastrophes, as is often said, we must take into account that these catastrophes are constrained by global stability of the process and are not the more-or-less hazardous game of a mad molecular combination. (Thom R., SSM) (pg280) (hy);

(ur);(…)this new mutant scale of architecture is in fact that within such a building, the distances between one component and another, between one programmatic entity and another, also become so enormous that there is an autonomy or independence of spatial elements. (Koolhaas R.,CS) (pg16)

Nature:
(ph);
();
(cy) Nature has all along yielded her flesh to humans. First, we took nature's material as food, fibers, and shelter. Than we learned to extract raw materials from her biosphere to create our own new synthetic materials. Now Bios is yielding us to her mind – we are taking her logic. (Kelly K., OC);
(hy);
(ur);

Negative Feedback:
(ph);
();
(cy);
(hy) The classic example of negative feedback is the thermostat. A thermostat consist of at least two elements: a sensor, which detects changes in ambient temperature, and, an effector, a device capable of changing the ambient temperature. (…) whenever the sensor detects a change beyond a certain threshold it causes the effector to modify the surrounding temperature in the opposite direction. The cause-and-effect relation, however, is not linear (from sensor to effector) since the moment the effector causes a change in the surrounding temperature it thereby affects the

Formless-ness

This final component of this paper suggests the urban as a formless and dynamic system, an assemblage described by the productive landscape.

"We will call an assemblage every constellation of singularities and traits deducted from the flow – selected, organized, stratified – in such a way as to converge (consistency) artificially and naturally; an assemblage in this sense, is a veritable invention. Assemblages may group themselves into extremely vast constellations constituting " cultures," or even "ages" within these constellations, the assemblages still differentiate the phyla or the flow dividing it into so many different phylas, of a given order, on a given level, and introducing selective discontinuities in the ideal continuity of matter - movement. The assemblage cut the phylum up into distinct, differentiated lineages, at the same time as the machinic phylum cuts across them all. Taking leave of one to pick up again in another, or making them coexist."[8]

The productive landscape does not attempt to define or identify, but endeavours to establish a mode of operation, which has the ability to operate or infiltrate into the indistinguishable rural/urban condition, it acts like the 'connective tissue' suggested by Alex Wall, linking and seeping into the existing urban fabric. It suggests the move from the city and suburb, to something defined largely by what it is not - not an exterior or interior, defined not by its quantitative attributes, but by that of its qualitative attributes!

The nature of the city-urban has then become transformed into a formless, dynamic and complex condition where the productive nature of landscape is offered as a replacement model of order. This then may suggest a shift from architecture to landscape on the grounds that it allows access to a new form of urban. The productive landscape operates as an ordering device organising and supporting an extensive range of permanent and temporal activities via the plan, section and in the horizontality of the surface. The contemporary metropolis is then engaged through new modes of organisation that function across

8 Gilles Deleuze & Felix Guattari, " A thousand plateaus Capitalism and Schizophrenia" Minneapolis University of Minnesota Press, 1987. p 406.

scales from the micro to the macro, and the landscape to the built as a coherent set of systems.

Areas such as, Melbourne's Docklands, Footscray, Yarraville, Seddon, and Maribyrnong, which are in close proximity to city, form a terrain of derelict compartmentalised states that are amidst a changing topographical surface area of immense potential. The seeding and leakage of agricultural terrains through this existing fabric could, encourage the slow, fast or sporadic renewal of the nullified condition, transforming it into a more productive state for occupation, initially by more temporal productive programming which will then consequently transform into more consumptive, distributive, communicative, collective (etc) programming, described by flows and processes.

The deployment of a set of systems, which vary qualitative and quantitative characteristics via a series of temporal and permanent programmes, enable the formation of a dynamic organisation - urban landscape/surface. The productive landscape serves as an abstract machine for some of these conditions, as it has the potential to process information from the social, political, cultural and aesthticised, to a broader perception of architecture beyond the purity of the building envelope to an organisational regime with infinite possibilities.

The productive landscape grafts together new forms of strategic and multi-programmatic organisations, which allow the transformation of the urban to a connective tissue that is in a continual state of becoming. This attempts to address the political, social, cultural and the aesthticised, and invariably combines and operates in the public and private, the micro and macro, the landscape and the built, establishing a new co-existive territory based on the dynamic nature of the productive landscape. An urban landscape, which is productive, dynamic and temporal!
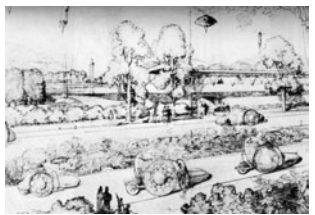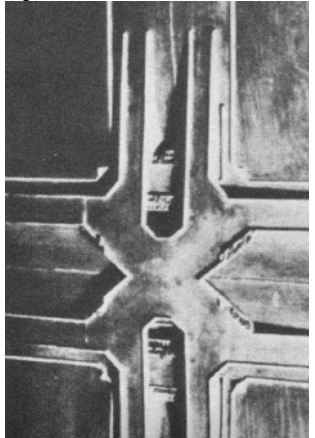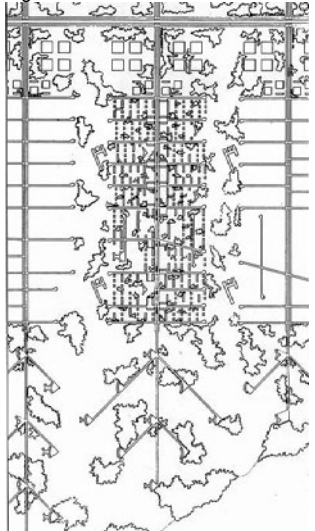

Figure 251

Figure 252

Figure 253

Figure 254

Figure 255

subsequent behaviour of the sensor. In short, the causal relation does not form a straight arrow but folds back on itself, forming a closed loop. The overall result of this circular causality is that ambient temperature is maintained at a given level. (De Landa M., TYNH); P (ur);

Network System:

(ph);
();
(cy); Now imagine a whole network of these self- propelling loops. Given a supply of food molecules, the network will be able to constantly re-create itself. Like the metabolic networks that inhabit every living cell, it will be alive.(…) an autocatalytic system- a self maintaing and self – reproducing metabolism(…). (Kauffman S.,HU) (pg49)
(hy) (…) Long-distance trade, which has since Antiquity dealt with prestige goods, is the province of cities outside the Central Place system, cities that act as gateways to faraway trading circuits, as well as nodes in a network not directly constrained by distance. (…).
Instead of a hierarchy of towns, long distance trading centers formed a meshwork, an interlocking system of complementary economic functions. This is not to imply, however, that all the nodes in the meshwork were of equal importance. Certain economic functions (especially those giving rise to innovations) formed a privileged core within a given network, while others (e.g., routine production tasks) characterized its peripheral zones. (…) .Core cities tended to replace one another in this role, as the intensity of exchange in a given trade route varied over time, or as erst-while luxury goods (pepper, sugar) became everyday necessities (…).
(De Landa M, TYNH); P
(ur) Logistic of context is a loosely defined working framework. It suggests a network of relations capable of accommodating difference, yet robust enough to incorporate change without destroying its internal coherence. (Allen S., OF); (pg30) P

Nonequilibrium:

(ph);
(phys) (…) Nonequilibrium as a source of order. (…) At equilibrium molecules behave as essentially independent entities; they ignore

Examination of Repton's Red Books
Appendix to Conversation about Landscape

The concept of landscape itself has a number of sub-concepts. I will focus on only two: territory and scales of operation. These subcategories are particularly pertinent since the objective is not to present landscape in a subjective manner but as a productive condition where its implications have an ongoing affect, where it isn't limited to a categorisation or incorrectly construed as a purely repetitive technique of representation, but where it can be conceptualised as an action which produces ongoing affects in the medium it is temporarily positioned within. Subsequently we can define a multitude of scales and territories and consider how we might begin to think and produce new notions of landscape.

There is nothing new about the Red Books of Humphrey Repton that I can reveal to you. There isn't a depth I can reach into and pull some inherent content for you. Rather, to look at the illustrations, read through the manuscripts and to then write about it is a bit like trying to use the manuscript as a tool to make us think. And within this context produce thinking from which new landscapes can be produced.

Before I go ahead and engage directly with the manuscripts, I would briefly like to revisit 'what is landscape' as understood by many schools of thought and how unavoidably it has influenced contemporary culture and practices understanding of landscape. Historically, the term landscape was understood in a subjective manner, the term was conceived as fairly fixed in content. The examination was quite often then focused on uncovering the content of its illustrations and text, in a subjective manner; the landscape and its objects such as trees, creeks, pathways, manors and rolling hills etc. This form of analysis was concerned with how certain things in the landscape may represent something deep and eventually become a formulaic mechanism of reproduction. We could assume that this form of analysis was concerned with metaphors. So through a subjective and metaphorical analysis of territories in English landscapes just as the landscapes Humphrey Repton, landscapes would become harmonious and gentrified if we got rid of all the signs attributed to the rural and wild open spaces in which
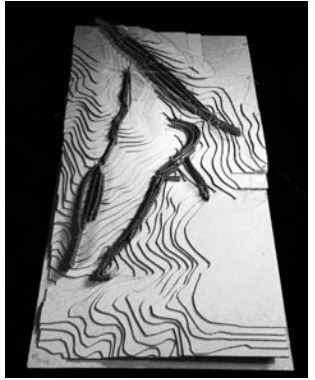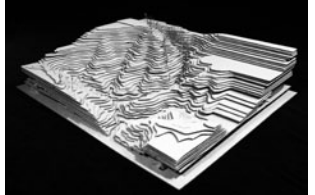

Figure 256

Figure 257

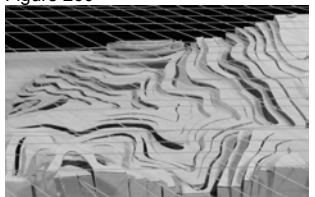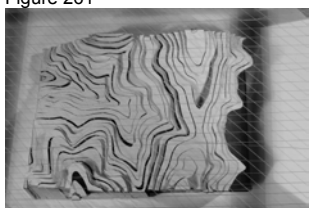
Figure 258

Figure 259

Figure 260

Figure 261

Figure 262

one another. (…) Though each of them may be as complex as we like, they ignore one another. However nonequilibrium wakes them up and introduces a coherence quite foreign to equilibrium. (Prigogine I., Stengers I., OOC); (pg180-181) P
(cy);
(hy);
(ur);

Non-linearity:
(ph);
();
(cy) (…) linear circuits: (…) circuits for which the addition of inputs as series in the time corresponds to the addition of the corresponding outputs. (…) For these, the appropriate input on which to test the circuit is a trigonometrically oscillating input potential that can be varied in frequency and can be determined in phase and amplitude. The output will then also be a sequence of oscillations of the same frequency, and by comparing it with the input in amplitude and phase, the circuit or transducer can be completely characterized.
If a circuit is nonlinear, if for example, it contains rectifiers or voltage limiters or other similar devices, the trigonometric input is not an adequate test input. In this case a trigonometric input will not in general produce a trigonometric output. Moreover, strictly speaking, there are no linear circuits, but only circuits with a better or worse approach to linearity. (Wiener N., GG) ;
(hy) Attractors and bifurcations are features of any system in which the dynamics are not only far from equilibrium but also nonlinear, that is, in which there are strong mutual interactions (or feedback) between components. (De Landa M., TYNH); P(

Number:
(ph);
();
(cy) Numbers are the product of counting. Quantities are the product of measurement. This mean that numbers can conceivably be accurate because there is a discontinuity between each integer and the next. Between two and three, there is a jump. (...). you can have exactly three tomatoes. (Bateson G., MN);
(hy);
(ur);

Figure CXVII
CNC Study Models,
Transformative Shanghai
Design Studio
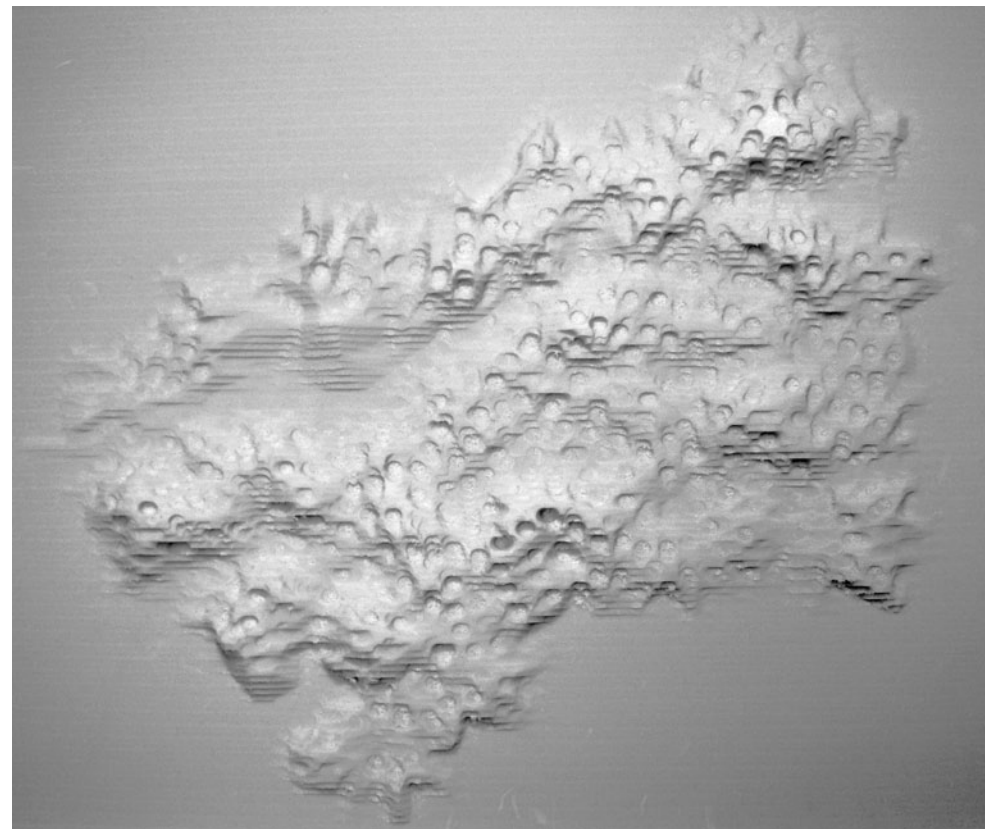
they clearly determined and defined each space through specific objects and fixed stable and clearly defined territories

Production

Humphrey Repton was self proclaimed 'landscape gardener', from the late 1700's to the early1800's, in England. His most influential publication was a series of volumes called the "Red Books". The series of manuscripts acted as a manual for landscape gardening, Repton created these manuscripts for his clients as a way of defining how the transformation of the estates will be undertaken. The slim volumes bound in red leather contain his proposals for change of the estates outlined in neat copperplate handwriting and embellished with maps, plans, drawings and water-colours to illustrate his ideas.

With the initial examination of the Humphrey Repton's manuscripts what becomes automatically intriguing about the volumes other than the multilayered before and after paintings which are distributed throughout, is the meticulously assigned taxonomic device used to classify each element within the 'Red Books' (for eg. footpaths, views, water etc). Repton identifies these as the elements that will eventually transform the original views into the desired compositional landscape. The examination of Humphrey Repton's Red Books (in particular, Volume Two and Volume Three) reveals his descriptive classifications, such as the avenue, the terrace, water approach, and ornamental gardening. Each item is classified in an objective manner, as the elemental components of a compositional system which are meant to be followed in a linear and categorical way. The items were to be conceived as the elemental components of 'one great plan'. Repton divided each category/addition to his landscape into three steps: its description, application and the pictorial product, which in each case is illustrated as a before and after.

Instead of just reiterating the mechanics associated with the following contents in each volume of Repton's Red Books I will write about some of the moments where a ' meaning' of landscape is produced.

The following list is a reference to what is contained within each volume of the manuscripts.
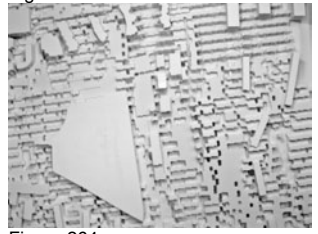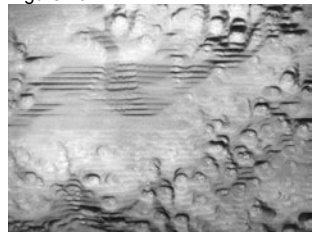

Figure 263

Figure 264
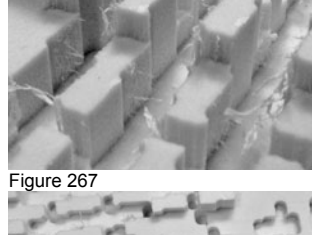

Figure 265

Figure 266

Figure 267

Figure 268

Ontogeny:

(ph);

() Through some mysterious evolutionary creativity, the new creatures of the Cambrian – and Homo sapiens much more recently – began life as a single cell, the zygote, the fruit of parental union. Somehow that single cell knew to give rise to a complete structure, an organized whole, an organism. If the swarm of stars in a spiral galaxy, clustered swirling in the high blackness of space, astonishes us with the wonder of the order generated by mutually gravitating masses, think with equal wonder at our own ontogeny. How in the world can a single cell, merely some tens of thousand of kinds of molecules locked in one another's embrace, know how to create the intricacies of a human infant? No one knows. (Kauffmann S., HU); (pg93)

(cy) The process of development of the individual; embryology plus whatever changes environment and habit may impose. (Bateson G., MN);

(hy);

(ur)

Open System:

(ph);

()

(cy)

(hy);

(ur)(…) all systems are open systems; they are liable and suffused with temporality; they are sensitive and chaotic in the sense that they are creative and adaptive- they ceaselessly undergo change, produce novelty; they transform or transmit unactualized potentials to a new milieu, in turn giving rise to a whole new series of potentials to be actualized or not. Open systems are thus open not only to the "outside," but to wild becoming itself- the outside of all outsides.(Kwinter S.,AT) (pg 48)

Operative:

(ph);

()

(cy) (image) Pygmalion made the statue of Galatea in the image of his ideal beloved, but after the gods brought it to life, it became an image of his beloved in a much more real sense. It was no longer merely a pictorial image but an operative image. (...) operative images, which perform the functions of their original, may or may not bear a pictorial likeness to it. Whether they do or
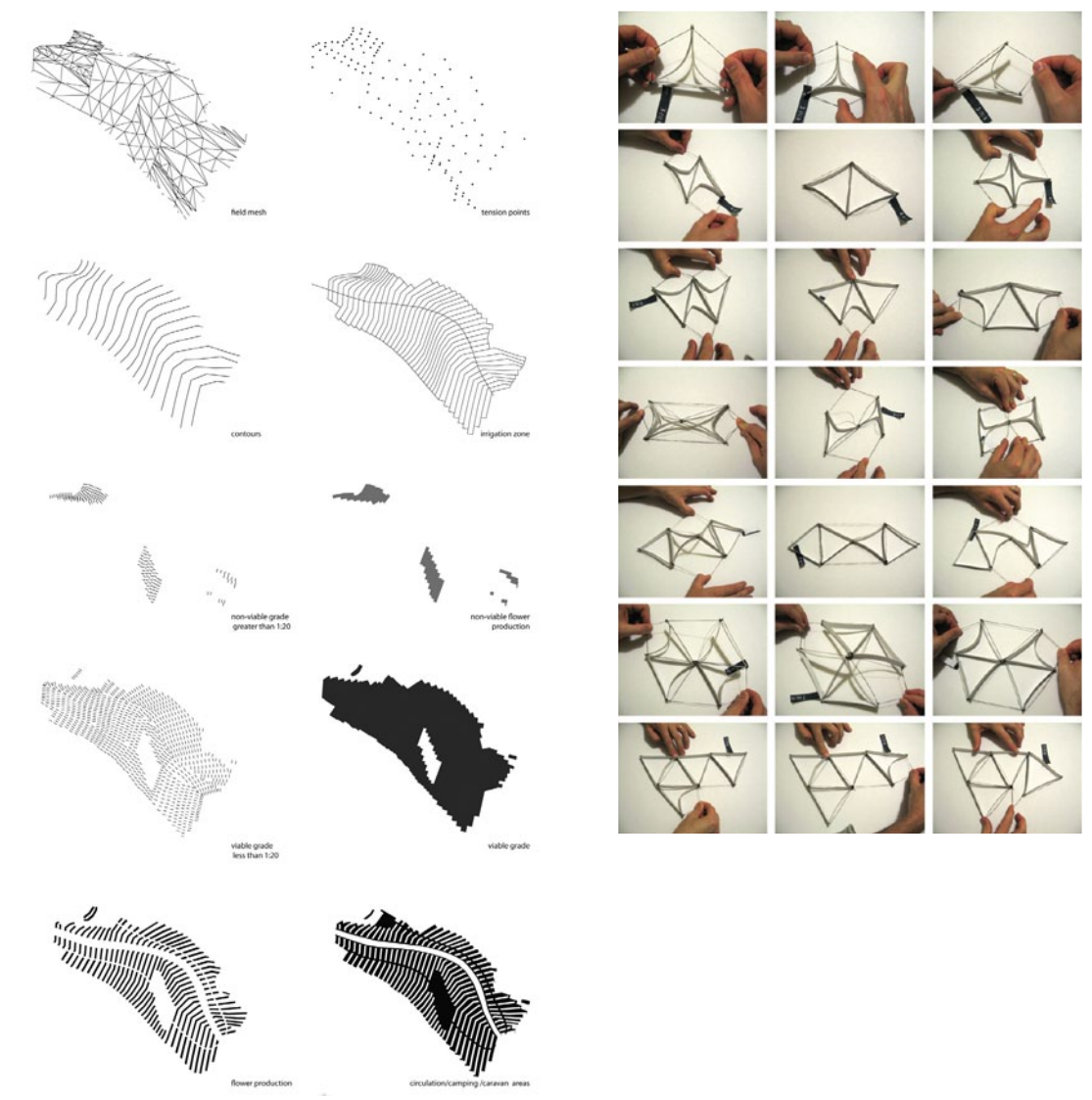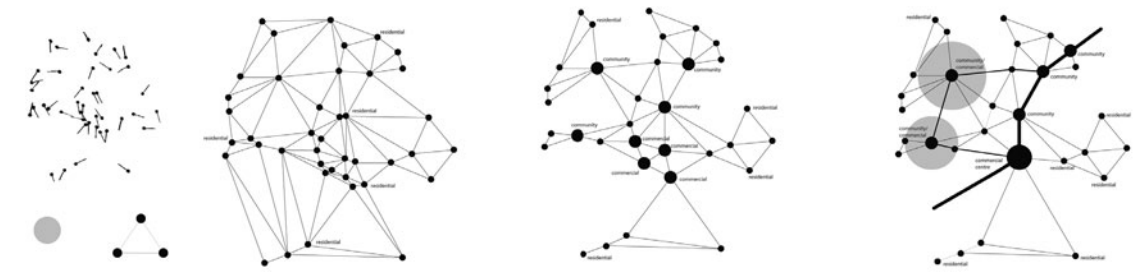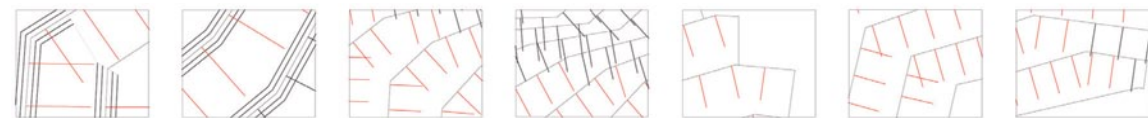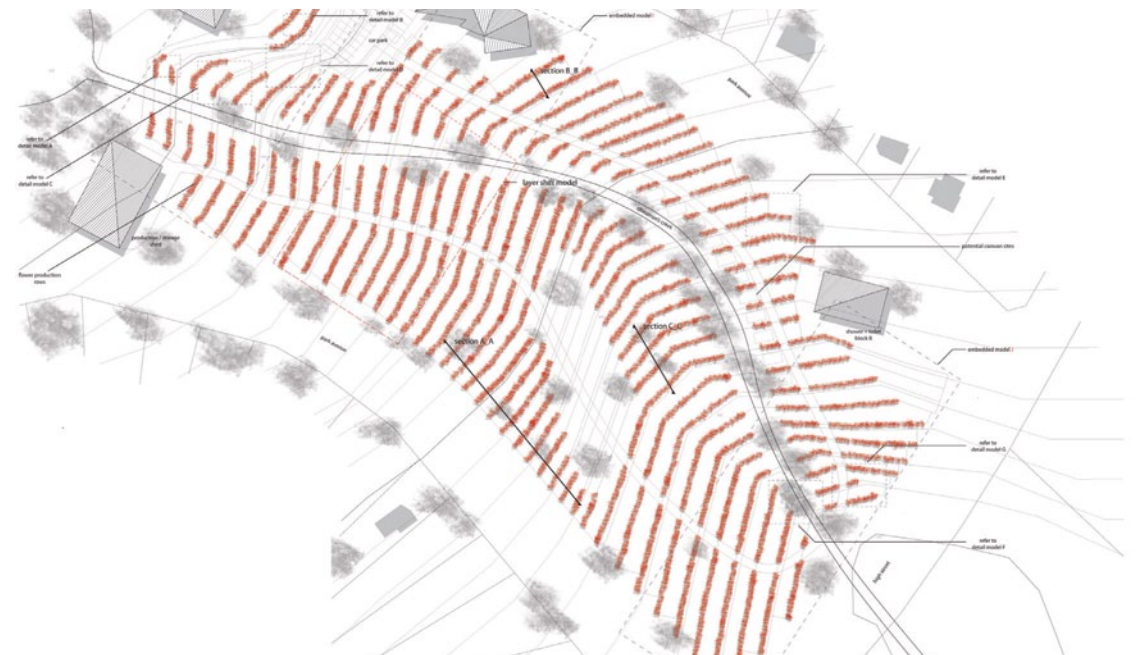
Figure CXVIII
Thickened Ground Design
Studio, Greg Afflick

not, they may replace the original in its action, and this is a much deeper similarity. (Wiener N., GG);

(hy);

(ur);a system of rules that regulates the behaviour of a series of global and local systems assuring interdependence, collaboration, and co-development between material conditions and the immaterial processes and logics within which they participate. (Najle C., AA files No 42) (pg 47)

Opportunistic:

(ph);

();

(cy) Seeking opportunities is no longer wisdom relevant only to the long cycles of economic progress. As the economy speeds up, so that an "internet year" seems to pass in one months, the principles of long term growth begin to govern the day-to-day economy. The dynamics of growth become the dynamics of short-term competitive advantages.

In both the short and long term, our ability to solve social and economic problems will be limited primarily to our lack of imagination in the seizing opportunities, rather than trying to optimise solutions.

(…) Opportunities demand flexibility, exploration, guesswork, curiosity, and many other qualities humans excel at (…). (Kelly K., NRNE);

(hy);

(ur);

Order:

(ph);

(phys) In far-from-equilibrium conditions we may have transformation from disorder, from thermal chaos, into order. New dynamic states of matter may originate, states that reflect the interaction of a given system with its surrounding. (Prigogine I., Stengers I., OOC); p.12

(cy); For the mathematician, the concept of order derives from the idea of definite ordering or arrangement. The physicist, on the other hand, sees "order" more as a contrast to 'disorder'. Ordered states of matter may include alternatives that are not comparable in any quantitative sense.(Eigen M. & Winkler R., LOTG) (pg131)

(hy);

(ur) Architecture and planning, in a desperate attempt to survive, have simply opposed their idea of order to chaos: planning versus uncontrolled
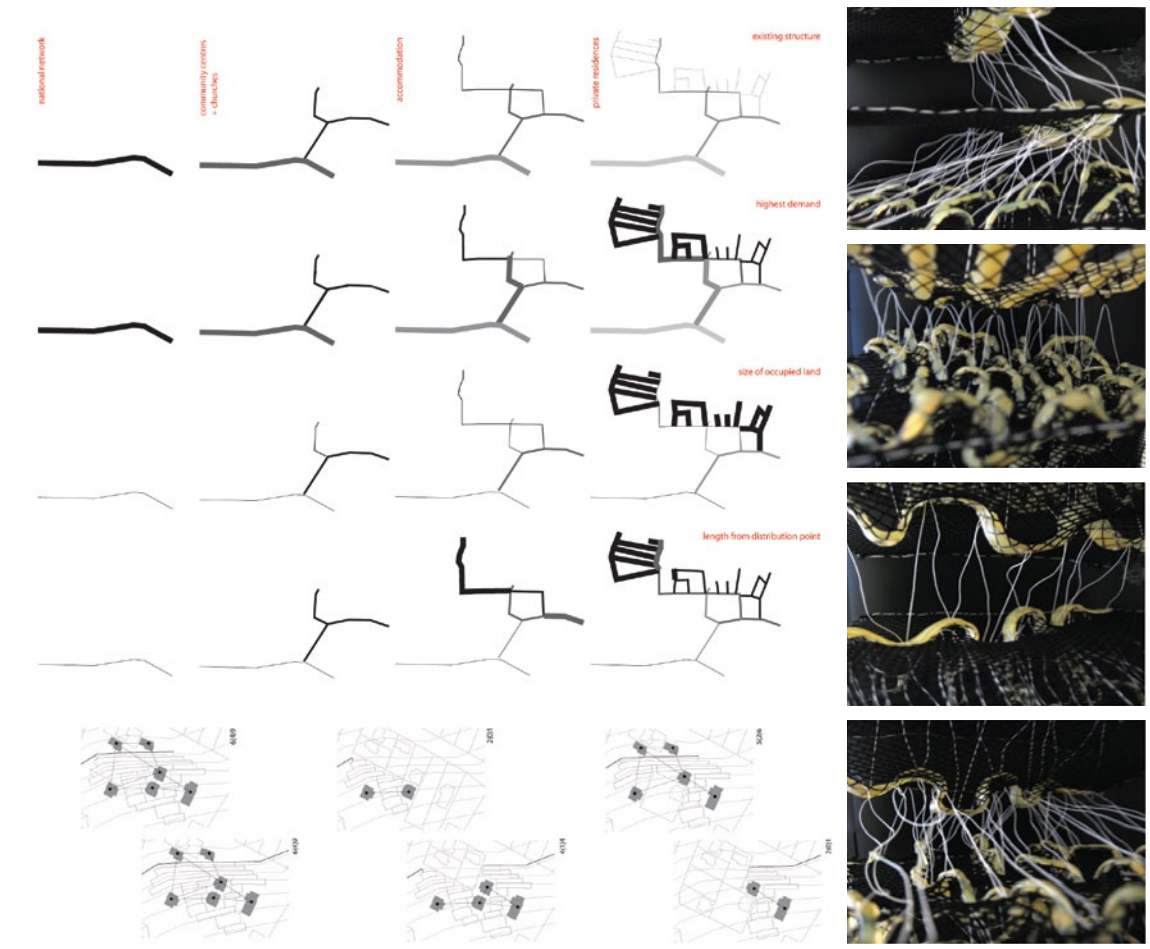
Figure CXIX
Thickened Ground Design
Studio, Greg Afflick

growth. But this is a kind of zero-sum thinking, in which architecture can only be diminished in the measure to which it relinquishes control over the uncontrollable. We thrive in cities precisely because they are places of the unexpected, products of a complex order emerging over time. Logistics of context suggest the need to recognise the limits of architecture's ability to order the city, and at the same time, to learn from the complex self-regulating orders already present in the city. (Allen S., OF); (pg30) P

Ordinance

(ph);

(sci); ordinal construction does not imply a supposed same unit but only… an irreducible notion of distance- the distance implicated in the depth of an intensive spatium (ordered distances). Identical unity is not presupposed by ordination; on the contrary, this belongs to cardinal number…. We should not, therefore, believe the cardinal number results analytically from ordinal , or from the final terms of finite ordinal series. … In fact, ordinal number becomes cardinal only by extenstion, to the ectent of distances (are) developed and equalized in an extensity established by natural number. We should therefore say that, from the outset the concept of number is synthetic. (delanda M,.

();

(cy);

(hy);

(ur);

Organic:

(ph);

();

(cy) Two concrete trends are happening: (1) Humanmade things are behaving more lifelike, and (2) Life is becoming more engineered. The apparent veil between the organic and the manufactured has crumpled to reveal that the two really are, and have always been, of one being. (Kelly K., OC);

(hy)

(ur) The terms organic, organism and organization can be used interchangeably to the extent that they all delimit things which are whole, that is, containing both a rigid external boundary "to which nothing can be added or subtracted without jeopardizing the balance of the composition" (…). Where the

Figure CXX
Before + After 01
Repton

If we examine the manuscripts what becomes evident is that each volume is fundamentally different; elements are different from one volume to the next, the contents are not necessarily repeated in an identical or formulaic manner, therefore potentially producing different compositional effects. Volume I; a house situated between a village and the sea with various other compositional elements such a temple, plantations etc, Volume II; a house in a park with ornamental gardens and farm etc, Volume II; a house with water and an avenue of trees etc. What becomes the connective device between these volumes is the similarities in what they produce, an estate with a house and the examination of difference within the contents. What this consequently produces is a singular fixed condition where the uncovering of 'what landscape is' only occurs in a subjective manner. Therefore the meaning of landscape occurs is in a singular fixed stable state suggesting that its meaning is also potentially subjective rather than productive.

Pictorial Effects

Although, the contents of each volume may be different, the effect produced in each of the pictorial perspectives becomes intriguing. In each scenario the pictorial view becomes the connective device between content. The singular perspective view is revealed as the ordering device for each of the compositions, controlled by the proportional geometric structure of the perspective, connections are produced in a repetitive formulaic manner. Rather than discussing the content of each pictorial painting I will focus on the pictorial perspective itself and how the content of the perspective produces a meaning of landscape.

When bringing to light the content of the pictorial perspective, the following elements become important: the view, the picture plane, and scale. My interests are in how these three key operations question the concept 'landscape', and what they consequently produce.

By examining Repton's "Red Books" it is evident through his written and pictorial dialogue that his focus is on the 'visual and visibility'.We can make comparisons and see similar ambitions to Leon Battista Alberti's in 'On Painting'
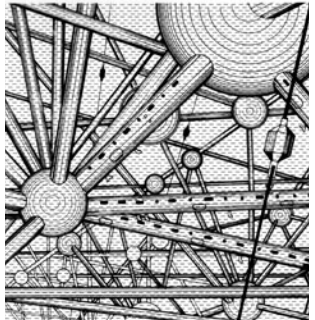

Figure 269

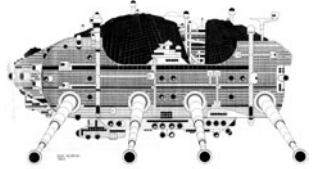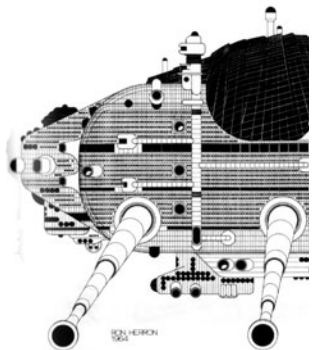Figure 270

Figure 271

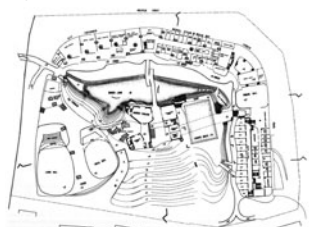Figure 272

Figure 273

Figure 274

Figure 275

organic is internally consistent, the inorganic is internally discontinuous and capable of a multiplicity of unforeseen connections. (Lynn G., FBB);

Organization:
(ph);
()
(cy); "Organizations are open systems that need careful management to satisfy and balance internal needs to adapt to environmental circumstances."(…) "There is no one best way of organizing. The appropiate form depends on the kind of task or environment with which one is dealing." (Morgan G., IO)(pg 49) P
(hy);
(ur)

Output:
(ph);
();
(cy) The output of a transducer excited by a given input message is a message that depends at the same time on the input message and on the transducer itself. Under the most usual circumstances, a transducer is a mode of transforming messages, and our attention is drawn to the output message as a transformation of the input message. However there are circumstances, and these chiefly arise when the input message carries a minimum of information, when we may conceive the information of the output message as arising chiefly from the transducer itself. No input message may be conceived as containing less information than the random flow of electrons constituting the shot effect. Thus the output of a transducer stimulated by a random shot effect may be conceived as a message embodying the action of a transducer. (Wiener N., GG);
(hy);
(ur);

Pattern:
(ph);
();
(cy) It is impossible, in principle, to explain any pattern by invoking a single quantity. But note that a ratio between two quantities is already the beginning of a pattern. In other words, quantity and pattern are of different logical type and do not readily fit together in the same thinking. What appears to be a genesis of pattern by quantity arises where the pattern

where he clearly states that the painter is only concerned with the things a painter can see: "no one would deny that the painter has nothing to do with things that are not visible. The painter is concerned solely with representing what can be seen".[7] Repton also clearly identifies with these ambitions in his writings but more evidently in his paintings, in the paintings he constructs what can be seen from the view, within the view and what is to be viewed. The view in most cases was to be experienced through the many windows of the main house. It was constructed with scientific precision from a determined height; at eye level and a determined vantage point; the deepest point of the view.

The view for Repton has a subjective aim. It was to have a repetitive sequence in an attempt to represent the truth of what is viewed. The pictorial perspective depicts the depth and spatiality of a scene at eye-level from a certain vantage point, an accurate perspective structure, with carefully observed and applied shading, texture and colour, which attempts to imitate a particular scene. We can see both the role that the view plays, and the importance of the objects that he clearly classifies in the painting, coming together to produce a singular view. The view itself can only be experienced from a singular vantage point in a fixed state of existence.

What I have found captivating about Repton's paintings is that the majority of the paintings are physically constructed in layers. Small portions of the paintings are duplicated with fine adjustments, the before as one layer and the after as the top layer, a clear representation of cause and effect of transformation in the content. This transformation is achieved through the invisible picture plane of the pictorial perspective.

The picture plane in Repton's case is where the transformation of the view occurs, bounded by the proportional structure of the paintings frame which contains and determines the limits of the pictorial effect.

The picture plane is the invisible gridded surface between the view and the viewer from which the subtraction and addition of objects within the pictorial view occur. The intent was to transform the rural landscape into a tamed country estate that compositionally had the correct subjective

6 Note: I have excluded volume 4 since the volume acts as explanatory notes to the previous volumes. printed in 1976

7 Leon Battista Alberti, "On painting", pg 43

components that would classify the landscape as such. The transformation was undertaken through the picture plane where the depth of field was continuous, to how far the eye could see and that the picture was from the singular view, singular projection point, the end point of pyramidal structure that was initial discovered in the renaissance period to allow for duplication and depth within the image. The pictorial perspective of the picturesque operated primarily eye level and in the distant field the intermediate scale was not considered. Territories were defined and controlled via the picture plane and from the singular point of view within the infinite field of the perspective view.

Scale

The construction of the pictorial perspective in the early nineteenth century focused on the singular view determined within an infinite field, The grided picture plane acted as a device for addition and subtraction of the subject and object observed. The picture plane becomes a surface where the infinite spatial field is projected. The addition and subtraction and the landscape effects are clearly demonstrated in the works of Repton.

When making comparisons with the various pictorial illustrations, little changes other than the subject in the view. The distance of the most distant point in the view remains the same, the colours and light are the same, as is its scale. The way the painting is detailed is the same. Although not initially evident or illustrated, the work is the underlying structure which remains invisible. This seems to be the key construction and site of implementation for Repton: it evidently remains the same. Within the distant view there may be rolling hills which then give way to a plantation in the distance. There are two distinctly different scales in operation: the scale of the house, and that of the nation. There is no scale between these two that acts a connective device. Again, the transformation occurs within what is subjective, rather than the content of the object that consequently constructs the transformative pictorial effect.

When examining the pictorial paintings we see how they act as a network which ties all of the manuscripts' components together. Hedges are inserted, fences are removed, small scaled trees are placed. The components are knitted
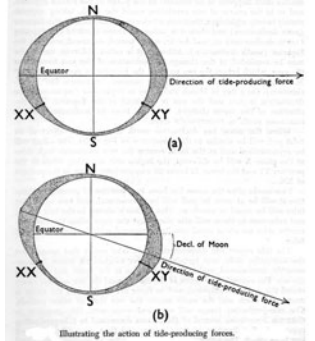

Figure 276

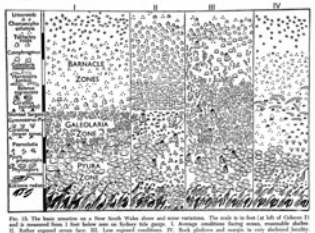Figure 277

Figure 278

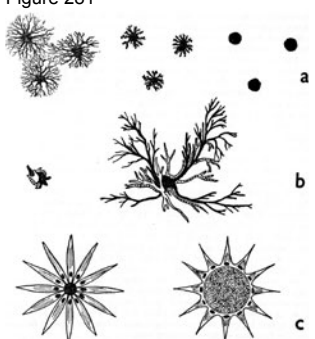Figure 279

Figure 280

Figure 281

Figure 282

was latent before the quantity had impact on the system. the familiar case is that of tension which will break a chain at the weakest link. Under change of a quantity, tension, a latent difference is made manifest (...).

there is a strong tendency in explanatory prose to invoke quanties of tension, energy and whatnot to explain the genesis of pattern (...). from the point of view of any agent who imposes a quantitative change, any change of pattern which may occur will be unpredictable or divergent. (Bateson G., MN); (hy);

(ur) The flock is clearly a field phenomenon, defined by precise and simple local conditions (…). A small flock and a large flock display fundamentally the same structure. Over many iterations, patterns emerge. Without repeating exactly, flock behaviour tends toward roughly similar configurations, not a fixed type, but as a cumulative result of localised behaviour patterns. (Allen S., OF); (pg29) P

Perception:
(ph); The bodies we perceive are, so to speak, cut out of the stuff of nature by our perception, and the scissors follow, in some way, the marking of lines along which action might be taken.(Bergson ., CE) (pg12)
()
(cy) All recognition programs are invariably modeled on what we know about perception in various modalities, such as hearing and sight. (…) in any modality, perception consist of many layers of processing, from the most primitive or "syntactic" levels, to the most abstract or "semantic" levels. The zeroing-in on the semantic category to which a given raw stimulus belongs is carried out not by a purely bottom-up (stimulus-driven) or purely top-down (category-driven) scheme, but rather by a mixture of them, in which hypotheses at various levels trigger the creation of new hypotheses or undermine the existence of already-existing hypotheses at other level. This process of sprouting and pruning hypotheses is a highly parallel one, in which all the levels compete simultaneously for attention, like billboards or radio commercials or advertisements in the subway.
Yet out of this seemingly anarchic chaos comes an integrated decision, in which the various levels gradually come to some kind of self-reinforcing
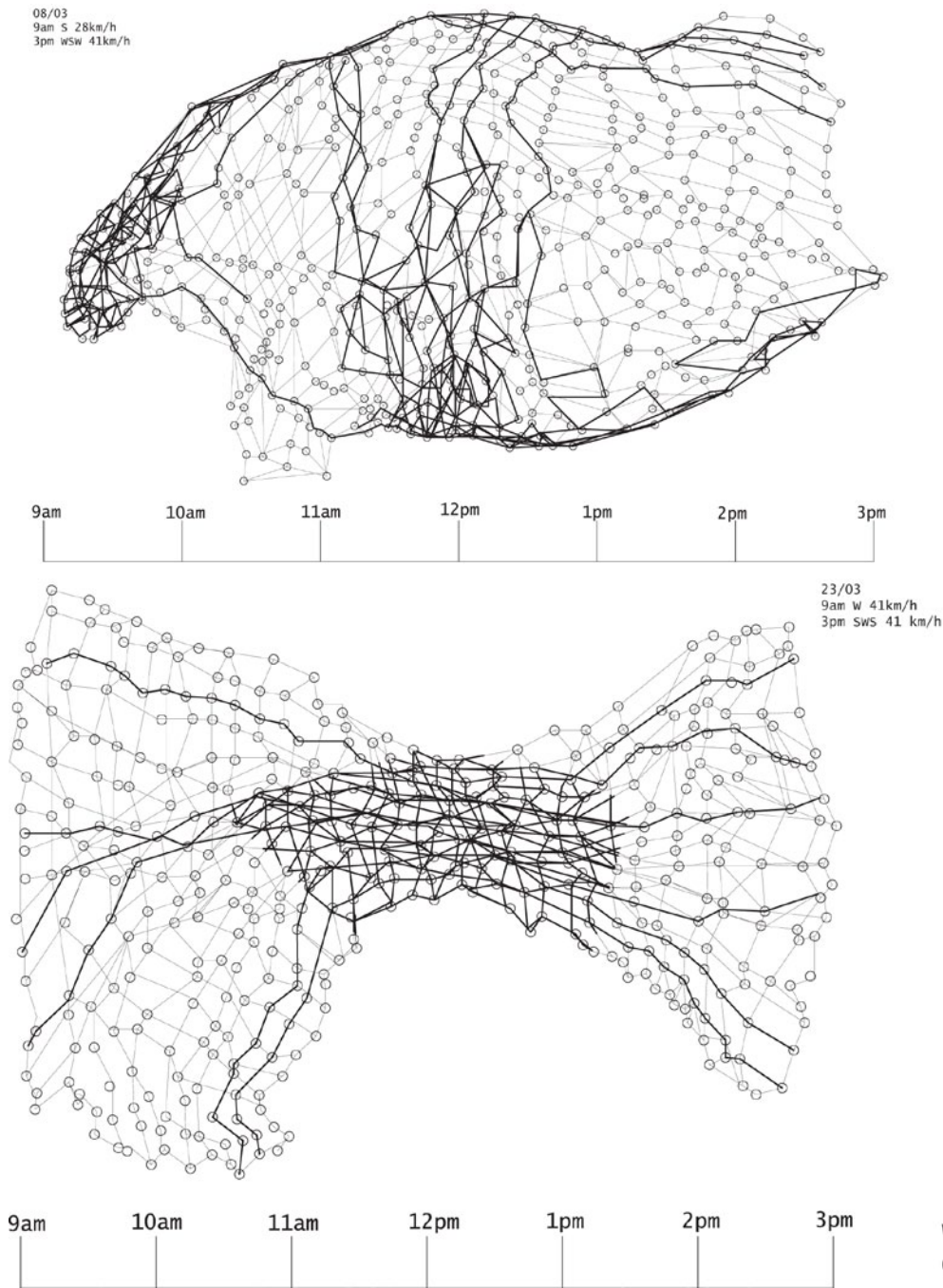
Figure CXXI
Thickened Ground Design
Studio, Lynda Atonovski

together through the limits of the painting. The meaning of landscape is formed through the acts of subtraction and addition of particular objects which produced clearly defined territories that act independently of each other.

Landscape Territories

The drawings of Humphrey Repton focused on the construction of the near and distant object with its subject determined by the focal point or singular view. This determined that the territory was social hierarchy from an aristocratic point of view which tamed the landscape through a picturesque beauty. Repton discusses the nature of landscape and how to evaluate it through beauty. This gives him the opportunity to justify his manoeuvres of the picturesque painting and how to evaluate and determine the landscape.

That notions of beauty were reserved for gentleman, since he believed that there were only the select few that understood true principles of taste.

In Repton's Third Volume he clearly states and demarcates the notion of farm and park, with the objective that the two should not be blurred and that a clear categorical division should be made and maintained.

"There being no other word in our language by which I can distinguish it, I always use the word park for that portion of lawn or feeling ground which joins to the house, whatever may be its extent, or whether it be fed by deer or sheep, or cattle.

After the removal of courtyards, and kitchen garden walls, from the front of the house, the true substitute for the ancient magnificence destroyed, is, the more cheerful landscape of modern park scenery; and tho' its boundary ought in no case to be conspicuous, yet its actual dimensions should bear some proportion to the command of property by which the mansion is supported. If the yeoman with two or three hundred pounds per annum, presumes to destroy his farm by making what is called a ferme orne', he will absurdly sacrifice his income to his pleasure; but the country gentlemen with as many thousands, can only ornament his place by separating the idea of farm and park; they are
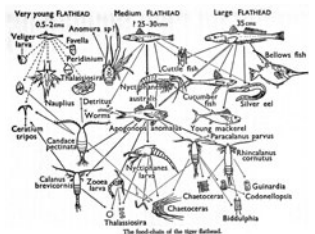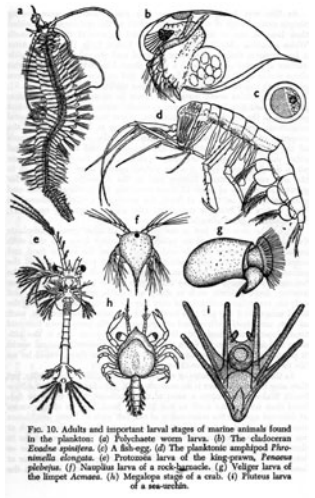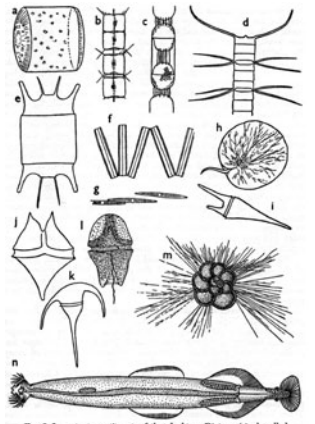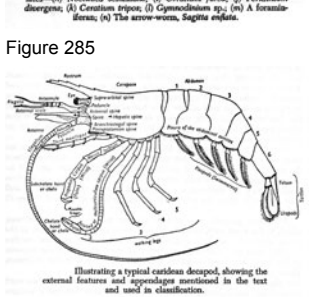
Figure 283

Figure 284

Figure 285

Figure 286

agreement (…). (Hofstadter D., MT); (p85-86) P

(hy) (…) machine perception is now possible only when the class of objects a machine must identify is artificially reduced to form a simple universe. The extension of this technology to more realistic environments will imply solving all the central issues in Artificial Intelligence at once: learning from experience, acquiring "common sense" to disregard useless details, being capable of planning problem-solving strategies at many levels of complexity (De Landa M., WAIM); (p202) P
(ur)

Phenocopy:
(ph);
()
(cy) A phenotype that shares certain characteristics with other phenotypes in which these characteristics are brought about by genetic factors. In the phenocopy, these characteristics are brought about by somatic change under environmental pressure. (Bateson G., MN);
(hy);
(ur);

Phenotype:
(ph);
()
(cy) The aggregate of propositions making up the description of a real organism; the appearance and characteristic of a real organism. (Bateson G., MN);
(hy);
(ur);

Plan:
(ph); Nature is more and better than a plan in course of realisation. A plan is a term assigned to a labour: it closes the future, whose form it indicates. Before the evolution of life, on the contrary, the portals of the future remain wide open. It is a creation that goes on for ever in virtue of an initial movement. This movement constitutes the unity of the organised world – a prolific unity, of an infinite richness, superior to any that the intellect could dream of, for the intellect is only one of its aspects or products. (Bergson H., CE); (pp 104/105)
()
(cy);
(hy);
(ur);

Figure CXXI-i
Before + After 02
Repton

so totally incongruous as not to admit of any union but at the expense either of beauty or profit.

From Repton's inherent classification system and the network of relationship he established through the finely calculated pictorial views, what remains evident is the clear objective in all of his actions and descriptions is the clearly defined domain. There are no ambiguous definitions of elements in his classification system, they are very clearly defined in its figure and structure, the way they are executed and the way they are detailed; colour, light, scale.

Although within the elements within the image remains as clearly defined territories in themselves, what also becomes clearly evident is how the picture construction of the painting clearly defines   a territorial boundary.

The frame of the painting which is drawing on each illustration within the manuscripts, the fading detail as the view continues in the distance defining the territorial limit in depth and the territory defined through the compositional construction of elements within the paining.

What I will focus on how territories are constructed from an assemblage of elements within the pictorial representation of Humphrey Repton.

The chief excellence and beauty of a park, consists of in uniform verdure, undulating lines, contrasting with each other in variety of forms, trees so grouped as to produce light and shade to display the uneven surface of the ground, and an undivided range of pasture, fed by animals which may appear natural and free from confinement, at liberty to collect their food from the rich herbage of the valley, and afterwards to ruminate, or sportively exercise their limbs on the brows of the neighbouring hills.
The farm on the contrary is for ever changing the colour of its surface in motley and discordant hues, it is subdivided by straitlines of unsightly fences. The farmer wishes to lop or trim and disfigure all the trees while these can only be ranged in formal rows along the hedges. Instead of cattle enlivening the scene by their peaceful attitudes, or sportive gambols, we here see miserable animals bending beneath the yoke, or closely confined to fatten within the narrow inclosures, like the devoted victims of the farmers avarice,
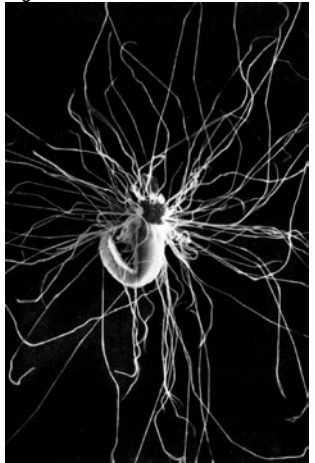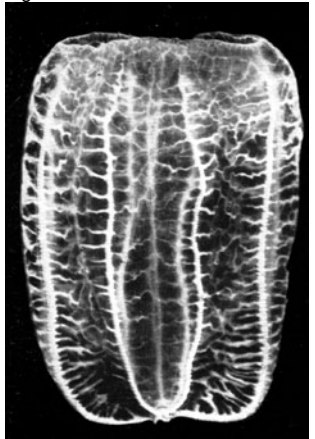

Figure 287

Figure 288

Figure 289

Figure 290

Plane of consistency:

(ph) The plane of consistency or of composition (planomenon) is opposed to the plane of organization and development. (…) the plane of consistency knows nothing of substance and form: haecceities, which are inscribed on this plane, are precisely modes of individuation proceeding neither by form, nor by the subject. The plane consist abstractly, but really, in relations of speed and slowness between unformed elements (…). In another sense, consistency concretely ties together heterogeneous, disparate elements as such: it assures the consolidation of fuzzy aggregates, in other words, multiplicities of the rhizome type. (…). (Deleuze G., Guattari F., TP);
()
(cy);
(hy);
(ur);

Plane of Immanence

(ph); It is necessarily a plane of immanence and univocality. We therefore call it the plane of Nature, although nature has nothing to do with it, since on this plane there is no distinction between the natural and the artifical. However many dimensions it may have, it never has the supplementary dimension to that which transpires upon it. That alone makes it natural and immanent. (Deleuze G & Guattari F., TP); (pg266) P
()
(cy);
(hy);
(ur);The plane is conceived as neither a concept nor an object but as necessary abstraction that establishes the plane of immanence as the invisible tablet upon which a host of interrelated concepts is actively played out to form a machinic philosophy of multiplicities. (…) The plane of immanence is an image of thought which is constituted by the construction of concepts (..) an ontological construction of the possible spheres of being compressed onto a single plane of thought. (Chu C., CI)(ANY pg 23.39)

Plan's realization:

(ph) If the evolution of life is something other than a series of adaptations to accidental circumstances, so also it is not the realisation of a plan. A plan is given in advance. It is represented, or at least representable, before its

Figure CXXI-ii
Before + After 03
Repton

and not the free subjects of a liberal master." Volume 2 The red books of Humphrey Repton. Under the categorical definitions of a farm and park

The network which I suggest defines the territorial composition of the paintings is invisible, although, becomes visible in the continual connections made between objects within the painting. Connections through vegetation connections between distant views and the structures in between, and between differences such as the manor house in the distance and the meandering water in the foreground. This order unites things and determines the boundaries of the territory defines in the picture.

This analysis brings out the next observation of which is to consider the painting it self as a singular territory since the painting exists only within itself, the connections only exits internally, the image cannot exist outside of itself , whether the view is taken from another direction the image does not exist. Although what becomes transferred is the boundless territory of the picture plane, which is homogeneous, infinite and easily reproduced . This is clearly demonstrated in the pictorial representation of

The repetition of the image as Rosalind Krauss discusses was an important feature of the picturesque " the prioirness and repetition of pictures were necessary to the singularity of the Picturesque…. Was made possible only by prior example" the pictures. Karuss is describing how pictures can affect the reception and understanding of a landscspe, the basis of the picturesque, but pictures can also work to affect the production and management of landscape. The Red Books of Hymphrey Repton, for example, show the beautification of a series of rural landscapes through the use of " before and after" paintings of specific scenes. The logic of the picture plane determines the landscape composition, subtracting amd adding earth, eater, and vegetation to an existing inferior view. Both existing and proposed views are compared or overlaid so that one might understand the precise nature of the transfomation. Of couse, many picturesque landscapes were laid out as an arrangement and disposition of scenes. One might stroll through such a landscape catching glimpses and then fully composed views of scenes. The picturesque pictorial views demand that the subject's primary mode of

Figure311

Figure312

Figure313

Figure314

Figure315

Figure316

A Conversation about Form:

A Conversation about the Wearable Cities

realisation. The complete execution of it may be put off to a distant future, or even indefinitely. (…). True, we shall not witness the detailed accomplishment of a plan. Nature is more and better than a plan in course of realization. A plan is a term assigned to a labor: it closes the future whose form it indicates. Before the evolution of life, on the contrary, the portals of the future remain wide open. It is a creation that goes on for ever in virtue of an initial movement. (…). (Bergson H., MM)
()
(cy);
(hy);
(ur);

Play:
(ph);
();
(cy);
(hy);
(ur);Play represents an always new type of clearing; it might be seen as a type of Sabbath in the very deepest sense, the introduction of a lucid, nonproductive timeform into a world of crude spatiality, of commerce, and of their relentless technological mastery. Play announces the always inchoate revolutionary project of a world in which events and history and the cultivation of a thick duration – might one day take conceptual precedence over places and things(…) To play is to give shape to what is beyond space, that is, to time itself, amid the full and tragic awareness if its waning, to deposit a figure in which flees, and to know that its deliquescence (and unverifiability) is the lyrical condition of beauty. (Kwinter S., PBE. ANY no12) (pg 12.61)

Plentitude:
(ph);
();
(cy) Because the value of an action in the network economy multiplies exponentially by the number of networks that action flows through, you want to touch as many others networks as you can reach. This is plentitude. You want to maximize the number of relations flowing to and from you. (Kelly K., NRNE);
(hy);
(ur);

Figure CXXII
Wearable City 01, G.U.M.
Study Tour

1 Grosz, Elisabeth, Architecture from the outside: essays on virtual and real space, Cambridge, The MIT Press, 2001. p49.

Conversation **Three**

A Conversation about Form:

A Conversation about the Wearable Cities

"Cities have always represented and projected images and fantasises of bodies, whether individual, collective, or political. In this sense, the city can be seen as a (collective) body-prosthesis or boundary that enframes, protects, and houses while at the same time taking its own forms and functions from the (imaginary bodies it constitutes. Simultaneously, cities are loci that produce, regulate, and structure bodies. This relation is not simple one of mutual determination nor a singular, abstract diagram of interaction: it depends on the types of bodies (racial, ethinic, class, sexual) and the types of cities (economic, geographic, political), and it is immensely complicated through various relations of interaction, specification, interpolation, and inscription that produce "identities" for both cities in their particularity and populations in their heterogeneity)." [1]

This body doesn't have a recognisable human figure, it doesn't have any arms or legs but it is recognisable through its flows of information, sensations and performance. The body acts as a ground plane which reads into the depths of its surface registering the effects of the various intricacies of the complex systems which constitute the body.

The prosthetic filaments extend beyond a singular surface, and the tensioned network of intersecting paths, twisted and knotted strands.

This phase of work was conducted with students and on my own, repeatedly over a number of years. When undertaking the projects on wearable cites the following objectives were considered: - To understand the site as a set of rhythms, cycles and tendencies - To establish modes of reading information that establishes generative mechanisms for design. - To speculate on various connections - To develop an understanding of the city as a body - To explore various representational techniques - To develop an understanding of the diagram as a design tool
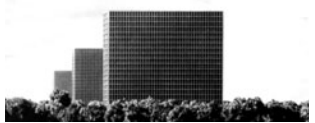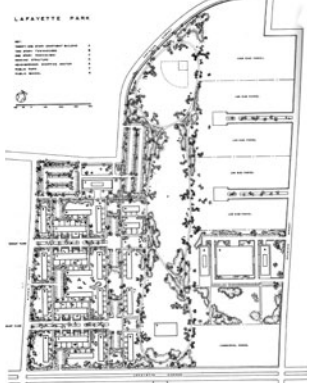
Figure 291

Figure 292

Figure 293

Figure 294

Figure 295

Figure 296

Figure 297

Positive Feedback:

(ph);

();

(cy);

(hy) The turbulent dynamics behind an explosion are the clearest example of a system governed by positive feedback. In this case the causal loop is established between the explosive substance and its temperature. The velocity of an explosion is often determined by the intensity of its temperature (the hottest the fastest), but because an explosion itself generates heat, the process is self-accelerating. Unlike the thermostat, where the arrangement helps to keep temperature under control, here positive feedback forces temperature to go out of control. (…) the principal characteristic of negative feedback is its homogenizing effect (…). Positive feedback, on the other hand, tends to increase heterogeneity by being ¨deviation-amplifying¨ (…). (De Landa M., TYNH); P

(ur);

Power:

(ph); Power is the medium through which conflicts of interest are ultimately resolved. Power influences who gets what, when, and how. (…) While some view power as a resource, i.e., as something one possesses, others view it as a social relation characterized by some kind of dependency(…) Robert Dahl (…) suggests that power involves an ability to get another person to do something that he or she would not otherwise have done.(Morgan G., IO) (pg158) P

();

(cy);

(hy); In 1739 Forest de Belidor maintained that seven men required to do the haulage work of one horse. Other measurements in 1800 suggested that one man could 'till from 0.3 to 0.4 hectares, turns 0.4 g=hectares a meadow, harvest 0.2 hectares with a sickle, thresh about 100 litres of corn' per day; a more optimistic historian put it at two quintals.(Braudel F, CML) (pg246)

(ur) Power is that relationship between human subjects which, on the basis of production and experience, imposes the will of some subjects upon others by the potential or actual use of violence. (Castells M., IC);
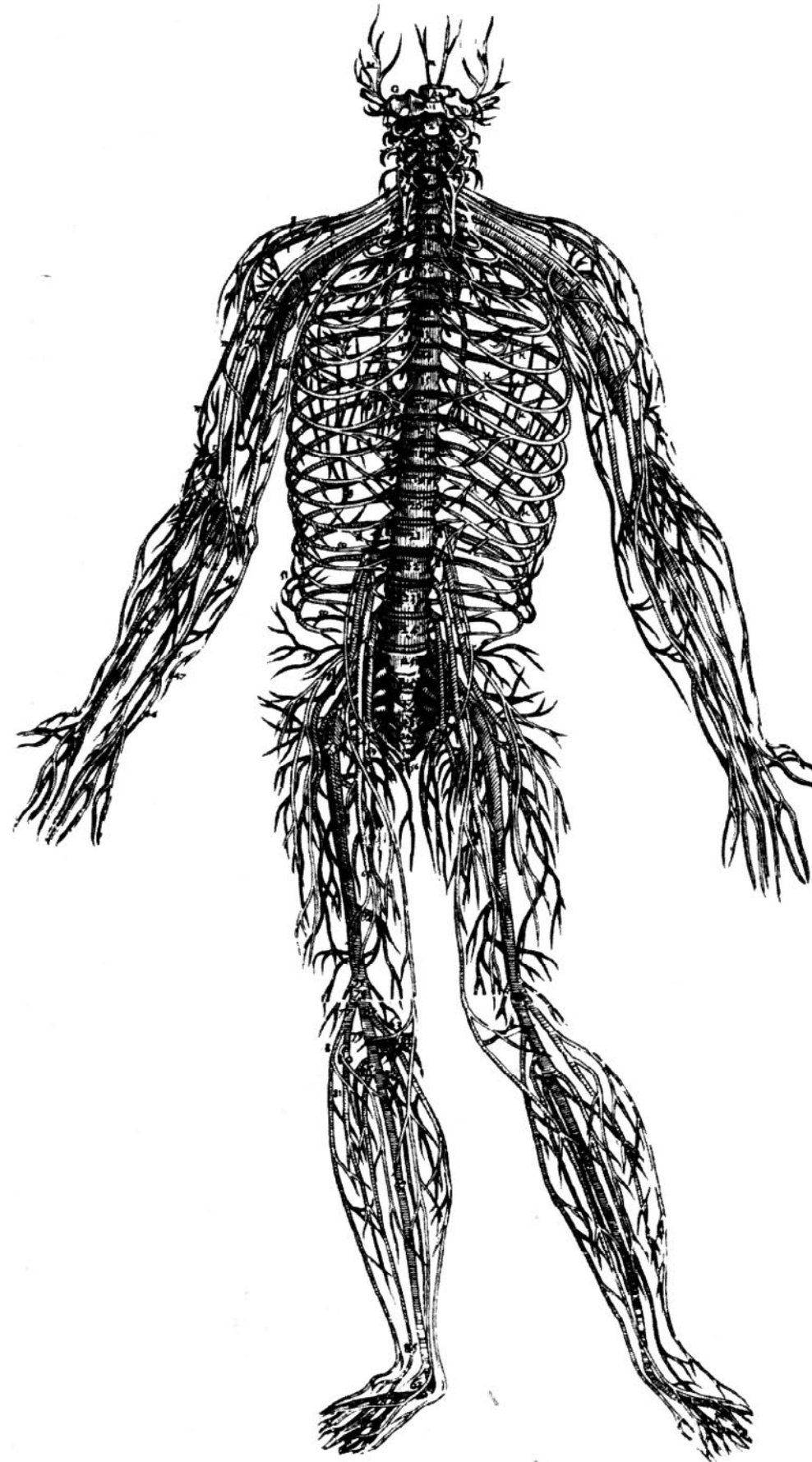
Figure LV
Sketetal System

- To explore ideas of change and time

The body analysis and the construction of the wearable city is an investigation exploring different ways of looking and reading the body. How the body is read, not purely as an image but as an assemblage of parts that temporarily make the whole, and in this case, the city. The construction of the city's constituent parts explored the relationship to the observation of a new body and the extension and representation of these discoveries. The aim of the wearable cities is to establish an understanding of the body as a site which is made up of a set of inseparable singularities that influence and inform each other.

Some of the questions which emerge is how can we begin to understand the body through a screening of information, and whether we begin to understand the body through its rhythms, cycles and tendencies? Can we begin to read the body through a singular entity such as pressure points, nervous system, senses, muscular system, and brain, and then consequently understand the other forces and systems influencing the body? Would the body then completely transform and be understood as a multiplicity of formal transitions?

The Body as Site

The relational condition of the body as site derives from an uninterrupted exchange between the real and virtual, the intrinsic and extrinsic, and what is imagined and what is known in the world, within which the body and city exist. The site provides a guide as to how and to what to respond; this understanding provides an embedded constructed knowledge for engaging with the world

Through a screening of the body, information is collected to gain a particular understanding of the body that is specific to each set of information. For example, treating the body and the stimulus required by pressure and heightened stimulation, through the information collected, describes a particular set of relationships, forming various diagrams, animations and models informing the characteristics and possibilities of the body as site. The body is the site which specifies the relationship between parts and the scale of the body to the city; this is key to the processes

Figure 298

Figure 299

Figure 300

Figure301

Figure302

Figure303

Figure304

Pragmatic:

(ph) Thus pragmatics (or schizoanalysis) can be represented by four circular components that bud and form rhizomes: (1) the generative component: the study of concrete mixed semiotics (…) (2) the transformational components: the study of pure semiotics; their transformations-translations and the creation of new semiotics. (3) the diagrammatic component: the study of abstract machines (…). (4) the machinic component: the study of the assemblages that effectuate abstract machines, simultaneously semiotizing matters of expression and physicalizing matters of content (…). (Deleuze G., Guattari F., TP); (pg146) P

()

(cy);

(hy);

(ur);

Pressurized field:

(ph);

();

(cy);

(hy);

(ur) The combination of the system theory of the urban realm with its dynamic interpretation as a pressurized field gives rise to an assembly language based on impregnation, with system elements existing simultaneously, and at least virtually, everywhere, emerging to actualisation only within nodes (conjunctions) of mutually interfering systems. (Kwinter S., AT);

Probability:

(ph);

()

(cy); (…) when an event with probability p occurs our information is increased by an amount k log p , where K is a negative constant. (…) to give the formula a simple geometrical interpretation when the event in question can be described by an elementary catastrophe (…) provided that the information is identified with a certain topological complexity of the generic morphology resulting from the catastrophe.(..) a catastrophe, in the everyday sense of the word, is basically an improbable, nongeneric event.(Thom R., SSU)

(hy); Yields from the fifteenth to the eighteenth centuries are disappointing wherever surveys have been made. The harvest from one grain was often five and sometimes much less. As the grain required for
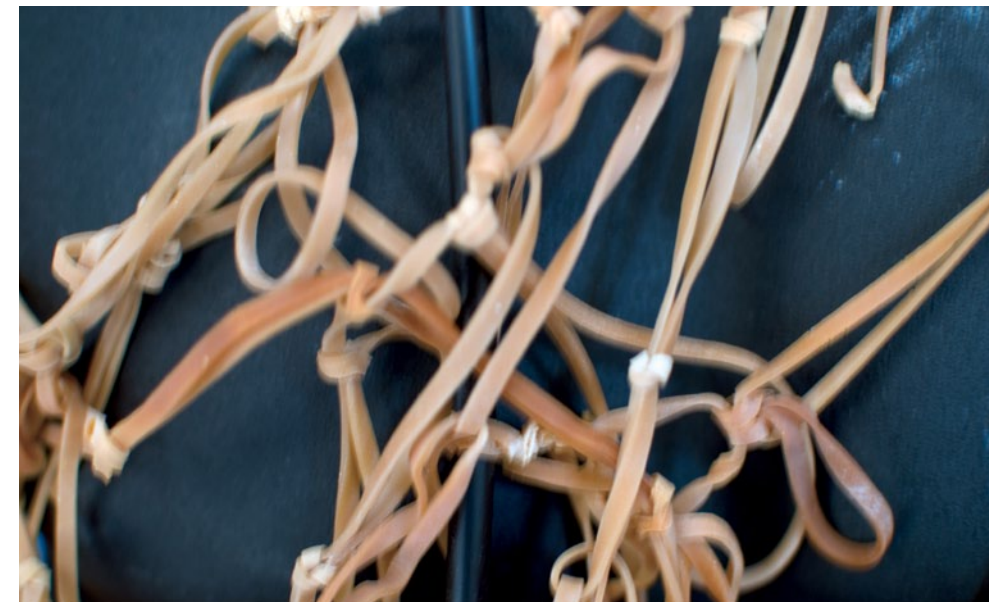
Figure CXXIII
Wearable City 01, G.U.M.
Study Tour

the next sowing had to be deducted, four grains were therefore produced for consumption from every one sown. What does this yield represent in quintals and hectares? Before embarking on these simple calculations we must warn the reader to be wary of their simplicity. Probability in these matters is not enough and, furthermore, everything varied with the fertility of the land, the methods of cultivation and changes in climate from year to year. (Braudel F., CML); (pg79) (?) (ur)

Process:

(ph);

(sci) The nineteenth century was really the century of evolution; biology, geology, and sociology emphasized processes of becoming, of increasing complexity. As for thermodynamics, it is based on the distinction of two types of processes: reversible processes, which are independent of the direction of time, and irreversible processes, which depend on the direction of time. (Prigogine I., Stengers I., OOC); (pg12) P

(cy);

(hy);

(ur) While all social and biological activities are in fact processes, some elements of these processes crystallize in material forms that constitute goods and services, the usual content of economic products. Technological revolutions are made up of innovations whose products are in fact processes. (Castells M., IC)

Proliferation:

(ph);

(cy);

(hy);

(ur); (…) reparative practice implies that the city has an ideal complete state, that we need to be able to recognize and reproduce. It is an idealstic as a visionary practice. Between these two forms of utopia, the visionary and the therapeutic, the 'tabula rasa' and the reproductive. The notion of urban practice that interests us most is proliferation. To work neither on the invention nor on the completion of the city, but on its projection beyond a concrete moment doesn't mean not being contextual.It is the opposite: being capabale of operating with this matter, projecting it instead of repairing or replacing it. (FOA., Foa Code Remix) (pg136) P

OUTLINE
— STRESS LINE
○ REFERENCE
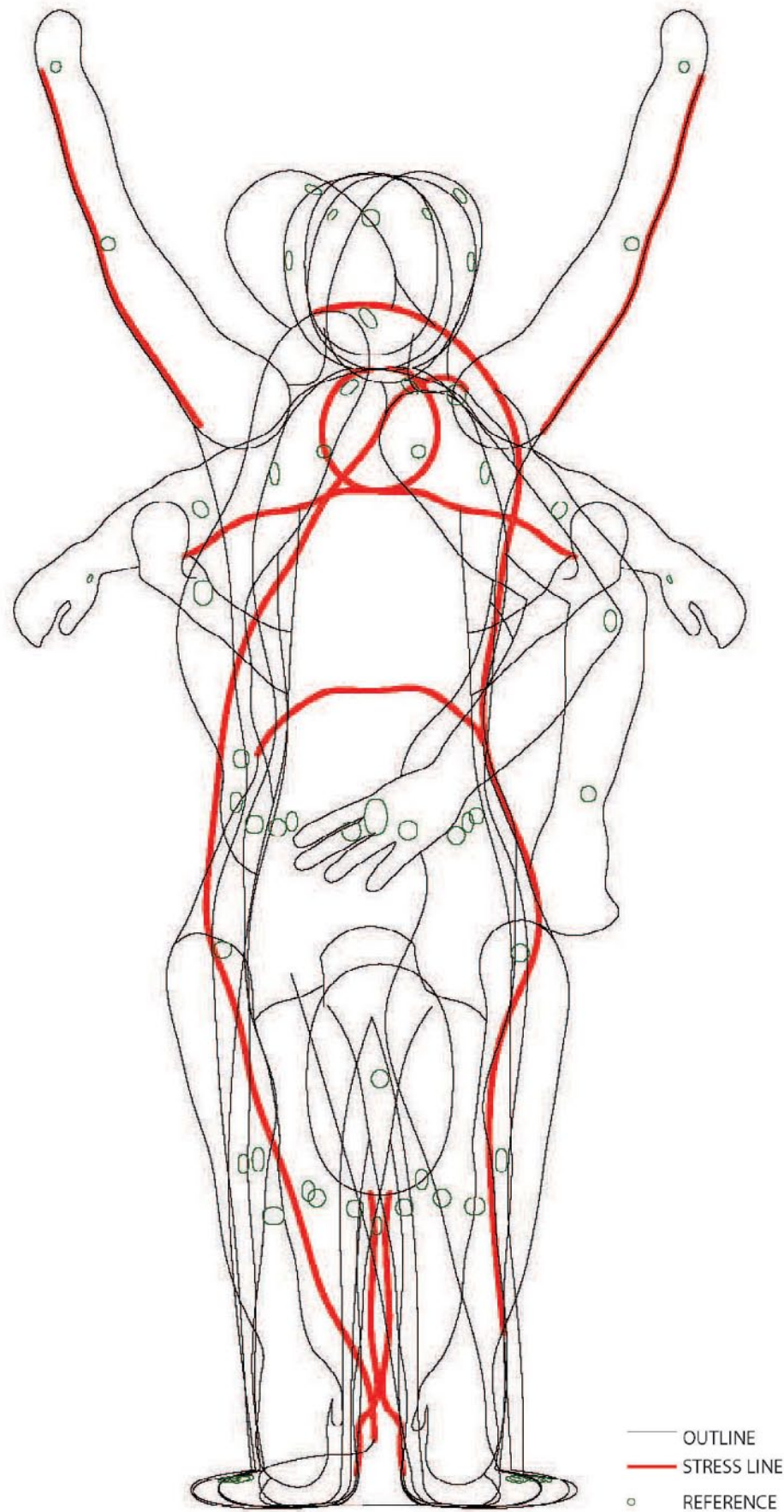
Figure CXXIII-i
Wearable City 01, G.U.M.
Study Tour

by which the virtual city is made flesh. The body as site has embedded limits and potentialities to the wearable city. The body, its inherent code, undulating surfaces, the patterns of hills and ripples on the surface of the flesh, and the complexities which differentiate one body to the next, determines its performative capabilities and formulate the inherent relational structure which the wearable city extends and from where it's life is supported.

Information flows: rhythms cycles and tendencies

The thick flesh constituting the body is composed of a multiplicity of points; a suite of vector fields with inherent relationships of varying movement, rest, resistance, pressure and intensity which capture inputs from all the five senses. Each field has a varying action and infolding, with a responsiveness where tacit knowledge is embedded within the vector fields. Reading the body to capture these information flows requires examining the body, not visually, but through the responsiveness of the flesh. A prodding of flesh elicits thresholds of pain or pleasurable sensations but in the process, in certain circumstances, restricts movement. This results in the directing and remaking of the body in the process of capturing information, and the re-reading of the body, un-recognisable as a figure, but by its performative characteristics.

The body without an image is considered through another time-form; its temporality through its rhythms, cycles and tendencies. These measures are not purely empirical but have a qualitative dimension inherent within it its phases of change. Its transformations have an affect on space and time. Each transformation cannot be mimicked through its cyclical tendencies, but each loop has a feedback into the body transforming itself in its process, and by behaviours and traits of the transformation itself. These measures are always an approximation, as only tendencies can be recorded and understood through rhythms and cycles. These tendencies become the primary means for visioning the body's information flows, as each transformation is only understood in relation to its other forms of transformation. Repetition allows for the recognition of the differences and transformation, which construct the site as a body.
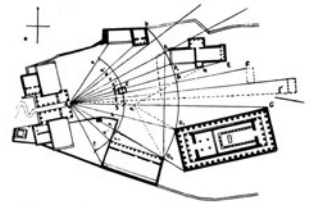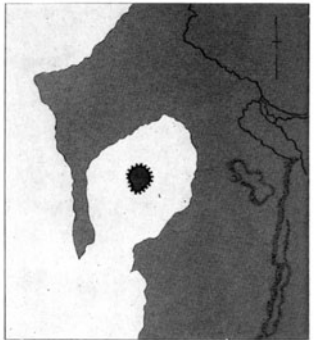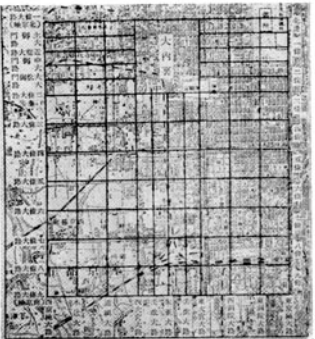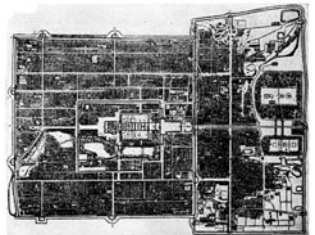
Figure305

Figure306

Figure307

Figure308

Figure309

Figure310

Protocol
(ph);
()
(cy);
(hy);
(ur) Organisational expressions perhaps inform our understanding of some very familiar development formats that typically resist conventional architectural analysis. For instance, the process of assembling residential formations often resembles agricultural production in that large numbers of houses are executed simultaneously in uniform fields, and the logistical format or protocol of that process is the chief determinant of spatial and material consequences, not the appearance of the suburban house. Here organisation does not merely facilitate architecture. It is the architecture or the logistical for spatial production. Though a-geographic, the generic specifications for assembling offices, airports, highways, and many different kinds of franchises are also explicitly calibrated according to protocols for timing and interactivity. These protocols, whether generic or idiosyncratic, are the dominant architectures in our culture of development-architectures, privileging not the formal, morphological attributes of building, but rather a repertoire of operatives affected by time, patterns of connectivity, and changing populations of multiple components. (K.Easterling, p3)

Prototype:
(ph);
()
(cy);
(hy);
(ur) Prototypes are technical and material mediators. They mediate information into form; they constitute responsive devices of internal and external transfer of information. (…) the prototype contains in itself the potential to absorb interference, the capacity to adjust to local contexts, and the potential to embody, as much as to virtualize and export information into material compounds, other sites, other conditions, and other projects. In a prototypical operation, real local data perform as an index of specific opportunities, while external models of organization operate as manifestations of different degrees of analogous global processes. A prototype does not operate in closed domains, but understands that organizations are virtually generic
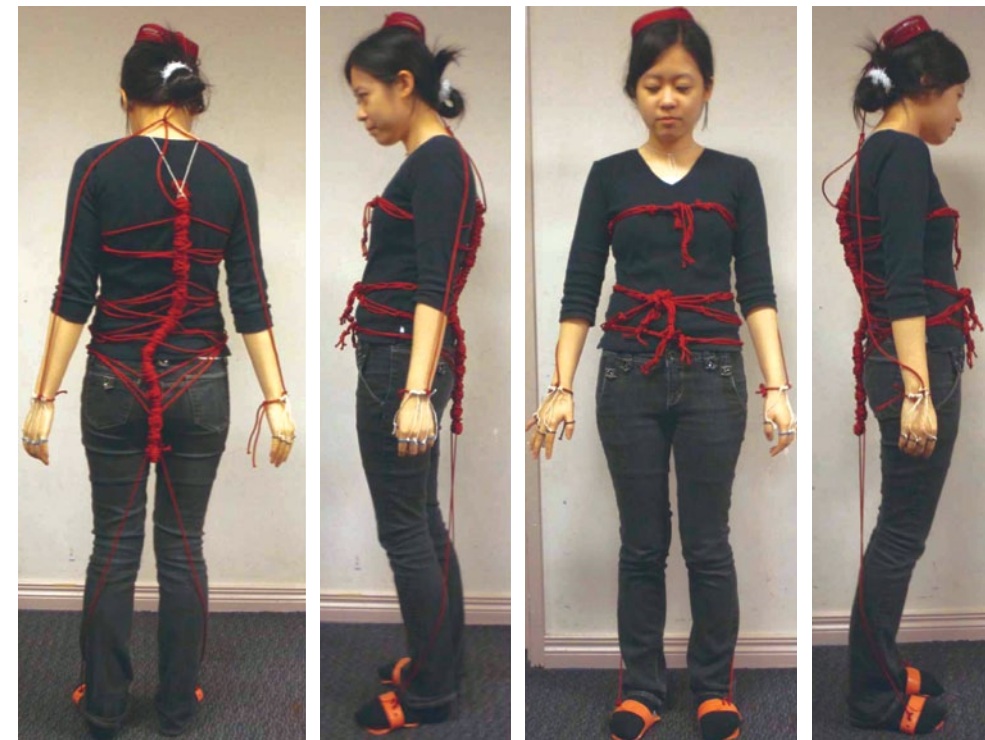
Figure CXXIII-ii
Wearable City 01, G.U.M. B
Study Tour

Figure CXXIII-iii
Wearable City 01, G.U.M. B
Study Tour

and yet specific to their actualization. (FOA., Foa code Remix 2000); (pg133) P

Quality:

(ph) (…) While the past coexist with its own present, and while it coexist with itself on various levels of contraction, we must recognize that the present itself is only the most contracted level of the past.(…) At each instant, our perseption contracts "an incalculable multitude of rememorized elements"; at each instant, our present infinitely contracts our past(…). What, in fact, is a sensation? It is the operation of contracting trillions of vibrations onto a receptive surface. Quality emerges fro this, quality is no nothing other than contracted quantity. This is how the notion of contraction (or of tension) allows us to go beyond the duality of homogeneous quantity and heterogeneous quality, and so pass from one to the other in a continuous movement. (Deleuze G., B.);
()
(cy);
(hy) (…) qualities are much more than simply logical properties or sense perceptions. They envelop a potential – the capacity to be affected, or to submit to a force (…), and the capacity to affect, or to release a force (…). (Massumi B., UGCS); (p10)
(ur)

Quantity:

(ph);
(bio);
(cy) Numbers are the product of counting. Quantities are the product of measurement.(…) Between two and three, there is a jump. In the case of quantity, there is no such a jump; and because jump is missing in the world of quantity , it is impossible for any quantity to be exact. You can have exactly three tomatoes. You can never have exactly three gallons of water. Always quantity is approximate. (Bateson G., MN);
(hy);
(ur);

Random:

(ph);
();
(cy) A sequence of events is to said to be random if there is no way of predicting the next event of a given kind from the event or events that have preceded and if the system obeys the regularities of probability.

Figure CXXIV
Wearable City 01, G.U.M.
Study Tour

Note that the events which we say are random are always members of some limited set. The fall of an honest coin is said to be random. At each throw, the probability of the next fall being heads or tails remains uncharged. But the randomness is within the limited set. It is heads or tails; no alternatives are to be considered. (Bateson G., MN);
(hy);
(ur);

Reductionism:

(ph);

(bio) I think, in short, that the fascination generated by Darwin's theory arises from some bad habits of Western scientific thought –from attitudes (pardon the jargon) that we call atomism, reductionism, and determinism. The idea that wholes should be understood by decomposition into "basics" units; (…) These ideas have been successful in our study of simple objects, made by few components, and uninfluenced by prior history. (…) But organisms are much more than amalgamations of genes. They have history and matters; their pars interact in complex ways. Organisms are built by genes acting in concern, influenced by environments, translated into parts and sections sees and parts invisible to selection. (Jay Gould S., PT);(pg77) P

(cy) It is the task of every scientist to find the simplest, most economical, and (usually) most elegant explanation that will cover the known data. Beyond this, reductionism becomes a vice if it is accompanied by an overly strong insistence that the simplest simplest explanation is the only explanation. The data may have to be understood within some larger gestalt. (Bateson G., MN);
(hy);
(ur);

Redundancy:

(ph);

();

(cy) Any aggregate of events or objects (e.g. a sequence of phonemes, a painting, or a frog, or a culture) shall be said to contain "redundancy" or "pattern" if the aggregate can be divided in any way by a "slash mark", such that an observer perceiving only what is on one side of the slash mark can guess, with better than random success, what is on the other side of the slash mark. We may say that

Figure CXXIV-i
Wearable City 01, G.U.M. B
Study Tour

Wearable City

With each wearable city the body becomes a host for what emerges. Recollections of Stelarc (Ref) suspension series come to mind in the making of the cities. The floating body with hooks through its flesh oscillating in the air of the environment where it is positioned, and is determined by the field of its relationships. Gravity and wind influence the order of the hung body. Each hook ripples through the chunky flesh, where in most cases, the silver metal rod disappears into the skin and reappears at another point. The skin, the hook and the rope have differing performative attributes; when together an indeterminacy of what follows is unknown, and a new order spontaneously arises.

The wearable city frames each action, and with the appendages, a prosthesis, the extensions to the body are undefinable through the crafting of infrastructural patterns. The alternative breathable skins and skeletal systems from which they extend become part of the thickened flesh of the body. A symbiotic relationship is established and the body is remade. With each action of the wearable city both body and city are continually remade. The body and wearable city are extensions of one another and it is unclear where one starts and the other stops, as each is dependent on the other, while each material system still has distinguishable characteristics and potentialities. New rhythms, cycles and tendencies emerge as an alternative site is constructed.

A wearable city is an assemblage of systems which are both organisational and productive. The binary conditions of interior and exterior, of flesh and structure, of constructed and natural are dissolved. These spatial and territorial differences exist over the entire wearable garment occurring even at the slightest of movments. The morphologies and differentiating conditions which emerge are ingrained in this thickened flesh constituting the garment. They are awaiting varying amplifications to emphasise, and become recognisable, by one of the many senses by which we record life.
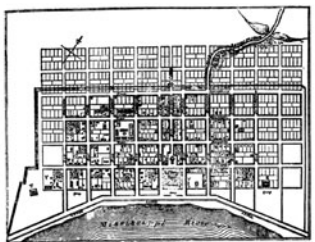
Figure317
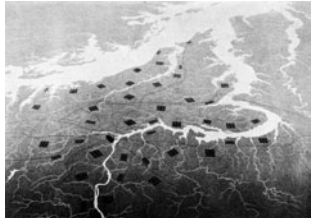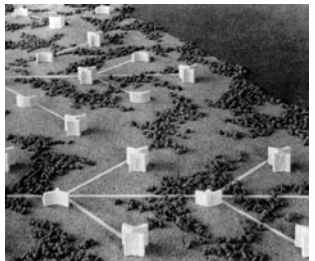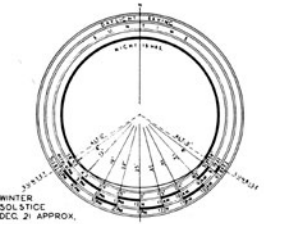
Figure318
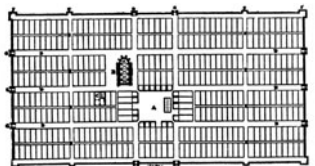
Figure319

Figure320

Figure321

Figure322

Figure323

A Conversation about Form:

A Conversation about Urban Morphologies

what is on one side of the slash contains information or has meaning about what is on the other side. Or, in engineer's language, the aggregate contains "redundancy". (Bateson G., SEM);

(hy);

(ur); (…) Network intelligence relies on smart and flexible patterns of switching between heterogeneous components and multiple scales of activity. Multiplicity, differentiation, and diversity are understood to strengthen a network, and the smarter the system the more its operation runs counter to conventional notions of efficiency. Network redundancies serve this parallelism by providing a surplus of options and pathways in a network that are the key to its precision. The opportunity for switching within the system is one measure of this parallelism and depth. (Easterling K.,   ); (p77)

Regime:

(ph);

();

(cy); (…)highly constrained, poised cell types and ordered patterns of gene activity, each able to change to only a few others, are gratuitously present in vast class of genomic regulatory systems. These may lie in the ordered patterns of gene activity, each able to change to only a few others, are gratuitously present in a vast class of genomic regulatory systems.(…) These may lie in the ordered regime, the complex regime, or the chaotic regime. The phase transition from one regime to another is governed by simple parrameters of the system, such as richness of coupling among the variables. (kauffman., OO) (pg409)

(hy);

(ur);A regime can be said to impose a configuration on such a field insofar as it organizes, allies, and distributes bodies, materials, movements, and techniques in space while simultaneously controlling and developing the temporal relations between them. (Kwinter S., AT) (pg 14)

Repetition:

(ph);

();

(cy);

(hy);

(ur) Function (…) cannot be thought outside a complex structure of repetition. Function is given within, and as, forms of repetition. The

Figure CXXV
Shanghai Aerial,
Transformative Shanghai Study
Tour

Conversation **Three**

A Conversation about Form:

A Conversation about Urban Morphologies

as commodity,

"We continue to design massive hydroelectric and petroleum projects with regional and even global economic, social and environmental impact, building machines on a scale the world has never seen. At the same time, initiatives for sustainable energy- wind, geothermal, and especially solar-promise to fundamentally restructure the energy system itself, from a centrally based system to a distributed network of energy production and consumption."
Bruce Mau, Massive Change

as infrastructure,

"… most of the time, we live our lives within these invisible systems, blissfully unaware of the artificial life, the intensely designed infrastructures that support them."
Bruce Mau, Massive Change

as a political power,

"Politics prevents complete release, It's because war is political that there is no complete release. If war weren't political, this release would reach total destruction."
Paul Virilio, Pure War.

as an economy,

"… the new economy is built on networks. Global financial markets, at the source of investment and valuation, are built on electronic networks processing signals: some of these signals are based on economic calculations, but often they are generated by information turbulences from different sources. The outcomes of these signals, and of their processing in the electronic networks of financial markets, are the actual values assigned to every asset in every economy".
Manual Castells, The hacker ethic and the spirit of the information age

Figure324
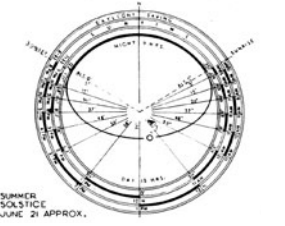
Figure325
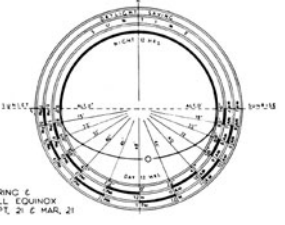
Figure326
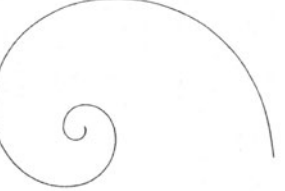
Figure327
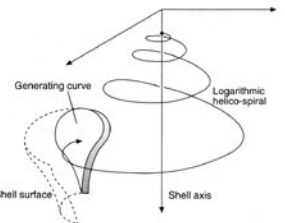
Figure328

Figure329

centrality of repetition provides an approach not just to the presence of function – the reiteration of functions given to be repeated – but also for the interconnection of function, alterity and the differing possibilities for a critical architecture. (Benjamin A., AP); (p2)

Representation:
(ph);
();
(cy);
(hy);
(ur) Representation stages its own limits. In order to chart them it is of fundamental importance to allow representation to dictate both positive and negative instances. (…)
A plan marks out what is going to be present. What this means is that representation dictates that the plan or the diagram hold that absent presence in place. There is therefore a certain futurity inscribed in the existence of the plan or diagram. Futurity always points beyond. (Benjamin A., AP); (p148)
Or
The two relationships – between representation and reality on one hand, and critique and representation on the other – may be understood according to the classical morphogenetic model that ids determined by the relationship of the possible to the real. (Kwinter S., AT); (pg6)

Rhythm:
(ph);
()
(cy);
(hy); ….Changes in climate…Recent detailed research by historians and meteorologists show uninterrupted fluctuations in temperature, pressure systems and rainfall. These variations affect trees, rivers, glaciers, the level of the seas and the growth of rice and corn, olive trees and vines, men and animals.
Now the world between the fifteenth and eighteenth centuries consisted of one vast peasantry, where 80% and 95% of people lived from the land and from nothing else. The rhythm, quality and deficiency of harvest ordered all material life. (Braudel F., CML); (pg18)
(ur)

as material,
"Binary compound that occurs at room temperature as a clear colorless odourless tasteless liquid; freezes into ice below 0 degrees centigrade and boils above 100 degrees centigrade widely used as a solvent".
Mark C. Taylor. Pg 196

as information,
" I, … , am not writing this book. Yet the book is being written. It is as if I were the screen through which the words of others flow and on which they are displayed. Words, thoughts, ideas are never precisely my own; they are always borrowed rather than possessed. I am, as it were, their vehicle. Through seeming to use language, symbols, and images, they use me to promote their circulation and extend their lives. The flux of information rushing through my mind as well as my body (I am not sure where one ends and the other begins) existed before me and will continue to flow long after I am gone. " My" thought- indeed "my" self- appears to be transient eddy in a river whose banks are difficult to discern."
Mark C. Taylor. Pg 196

as image,
We will make visible the as yet invisible. Our relationship with the image began through our natural aperture and its capacity to convert energy into meaning. … the human nervous system evolved in an environment where noticing change the slightest difference in the surrounding environment- could mean the difference between life and death. So its not surprising that our most developed cultural forms are practices of the visual. But we could not and would not stop there. So much of life occurs beyond our natural range. "
Bruce Mau, Massive Change

as energy,
"the worldwide grid: the future of our redesigning the current power system, which relies on large-scale, centralized entities. WE need to produce energy locally and distribute it globally."
Bruce Mau, Massive Change

as movement.
"As the liquid's molecules absorb the heat, their movements increase causing them to collide with one

another. Their collisions diffuse the heat upward and out of the surface. The liquid has lost its stability, but retains it homogeneity: every part of it is equally chaotic; no pattern of activity distinguishes one part from another. In theory and in practice, something else happens. If the heat is increased at a certain rate, a threshold is reached at which order spontaneously arises out of chaos. The liquid differentiates. Certain regions turn in on themselves, "nucleate," form fluid boundaries. Whirlpools form: convection currents. These vortexes appear because the liquid is under another constraint besides the command to regain equilibrium…"*
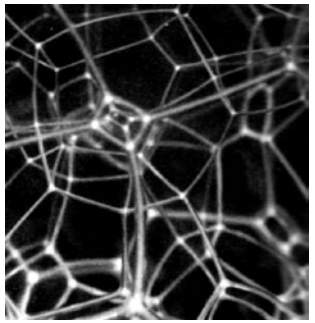Brian Massumi A Users Guide to Capitalism and Schizophrenia: Deviations from Deleuze and Guattari, pg 59

Figure330

Figure331

Figure332

Figure333

With a foreseen continuation of transformation in the environment and the changing dynamics of the way we live, the landscape is imposed with pursuing mechanisms that can accommodate the transformation of economic, social, environmental and infrastructural condition of the urban fabric. How can this transformation create a set of systems determined by the investigation and redefinition of the urban fabric that can facilitate change and accommodate a flexible assemblage and produce a changing spatial urban pattern?

The possibility exists to utilize and develop notions of indeterminacy and self-organization in a fabric that facilitates the urban landscape to emerge as a set of systems operating under dynamic, temporal and fluctuating conditions. This then constructs a set of circumstances that enables us to discover how the nature of the urban landscape can be transformed into a formless, dynamic and complex condition, where the indeterminate nature of landscape is offered as a replacement model of order. It suggests a shift from an ordered and rigid fabric, to a set of systems that emerge from an existing context, allowing access to a new form of urban!

As Designers often operate within a strict set of conditions where time, space and development are considered as separate linear devices and do not necessarily merge and influence one another. Consequently, I suggest shifting to
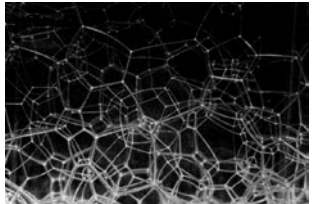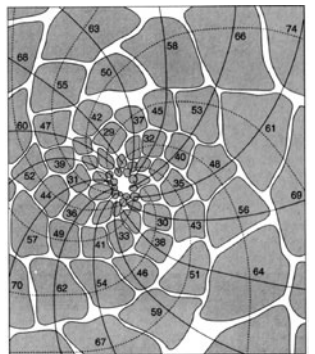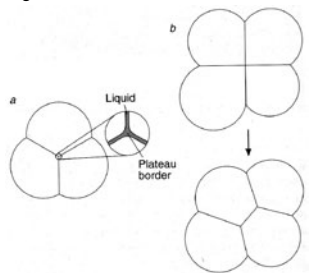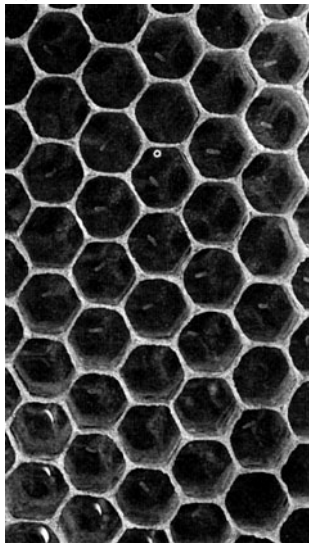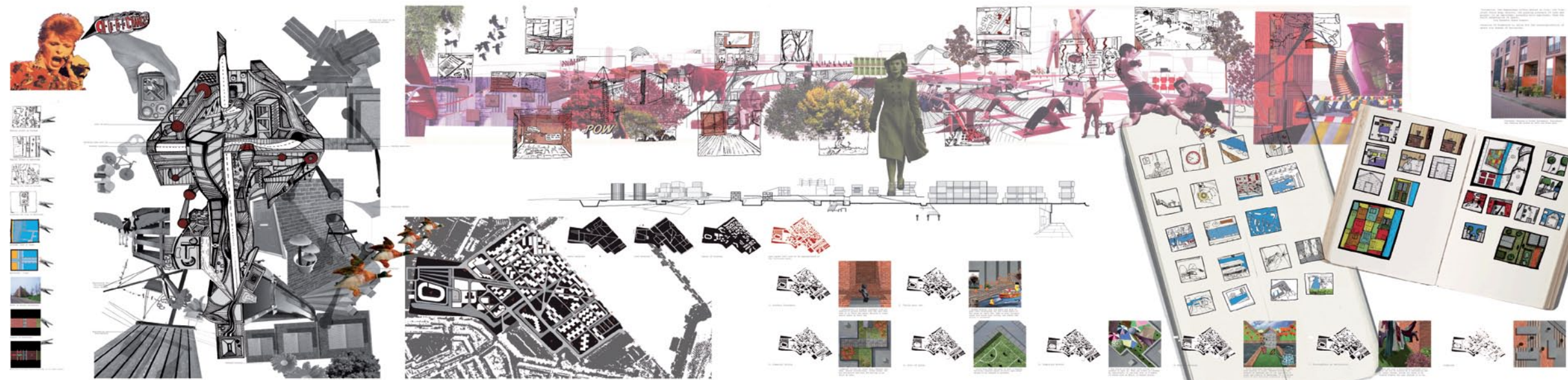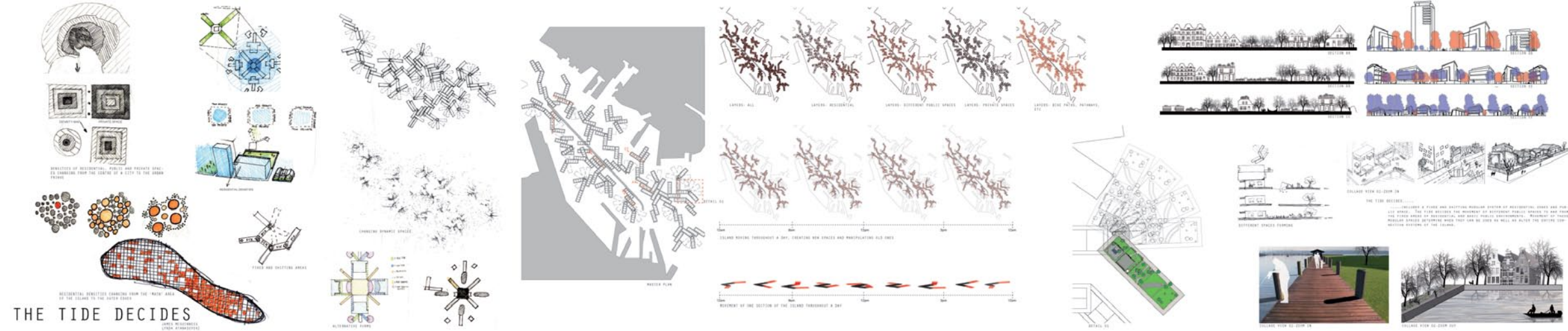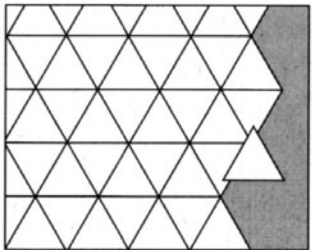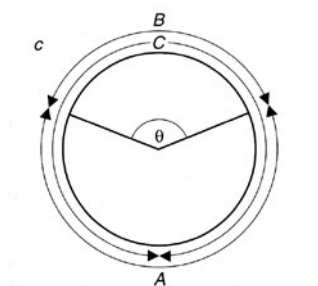

Figure334

Robustness:
(ph);
();
(cy) What accounts for TIT FOR TAT's robustness is its combination of being nice, retaliatory, forgiving and clear.
Its niceness prevents it from getting into unnecessary trouble. Its retaliation discourages the other side from persisting whenever defection is tried. Its forgiveness helps restore mutual cooperation. And its clarity makes it intelligible to the other player, thereby eliciting long-term cooperation. (Axelrod R., EC);
(hy);
(ur)

Sacrament:
(ph);
()
(cy) The outward and visible sign of an inward and spiritual grace. (Bateson G., MN);
(hy);
(ur)

Scaling Theory:
(ph);
(bio) (...) But Morgan was right in arguing that large animals are essentially the similar to small members of their groups. The similarity, however, does not reside in a constant shape. The basic laws of geometry dictate that animals must change their shape in order to work the same way at different sizes. (…).The study of these changes in form is called "scaling theory". (Jay Gould S., PT); (pg249-250) P
(cy) (…) there is an optimum size. (…) There are purely physical problems of bigness or smallness (…). But in addiction to these, there are problems special to aggregates of living matter, whether these be single creatures or whole cities. (…) Problems of mechanical instability arise because, for example, the forces of gravity do not follow the same quantitative regularities as those of cohesion. A large clod of earth is easier to break by dropping it on the ground than is a small one. Conversely (…) the very small may become unstable because the relation between surface area and weight is not linear (Bateson G., MN);
(hy); (…) the great problem at the elementary level of arithmetical fact is ratios between the present and the time of the ancien regime: history is fundamentally the realization of

THE TIDE DECIDES

Figure CXXVI
G.U.M. Design Studio, Tarryn Boden
213
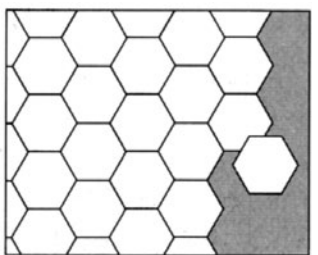
Figure335
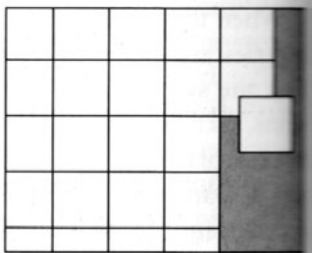
Figure336

Figure337

Figure338

a

b

c
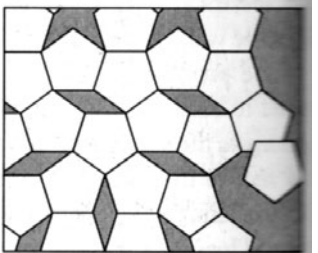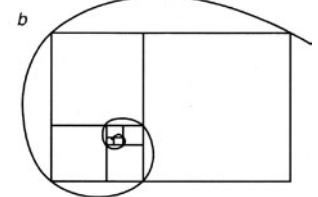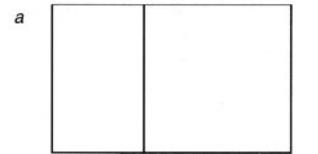
Figure339

these vital differences deriving from number. But it is still difficult to discard and break away from our obsession with present-day perspectives unless we continually refer back to come scale of reference. (Braudel F., CML) (pg20)

(ur) (…) in a building beyond a certain size, the scale becomes so enormous and the distance between center and perimeter, or core and skin, becomes so vast that the exterior can no longer hope to make any precise disclosure about the interior. (Koolhaas R., CS) (pg 16)

Self-organization:

(ph);

();

(cy) The fact that spatial and temporal patterns can be translated into the abstract language of an informational program is evident in the material self-organization of living organisms as well as in the make-up of our ideas. (Eigen M., Winkler R., LG) (p101);

(hy) (…) if we picture a command system during battle as a self-organizing process, an island of order in the midst of turmoil, the effect of centralizing decision-making is to reduce the size of the group of people that composes this island of order. This is supposed to minimize the number of errors in decision-making made in the course of the battle. The problem with centralization, however, is that instead of maximizing certainty at the top, it ends up increasing the overall amount of uncertainty: withdrawing all responsibility from individual soldiers involves defining every command in extreme detail and intensifies the need to check compliance with those commands.

But augmenting the detail of commands (as well as monitoring compliance), increases the overall flow of information at the top. Instead of leading to the achievement of total certainty, centralized schemes lead to "information explosions", which increase the amount of overall uncertainty.

However, some military organizations (…) have adopted for decentralized schemes: "mission-oriented" tactics, where the commanding officer establishes goals to be achieved, and leaves it up to the tactical units to implement the means to achieve those goals. By lowering the decision-making threshold (…), each part of the war machine has to deal with a small amount of uncertainty

Figure CXXVII
G.U.M. Design Studio,
Tarryn Boden

1 Rene Thom, "Structural Stability and Morphogenesis"

a new form of practice, where space is transformed into the complexities of time.

- Embracing the time and uncertainty in the design processes and outcomes

- The complex behaviours of dynamic interaction of forces diverse forces that, by and large follow local rules rather than imposed by a higher law of interaction which are experienced in the urban fabric

- To embrace various environmental (hydrological, geological) and infrastructural systems as a design toolbox.

How can we explore the definition of systems not as a generic modular and rigid product but as a emergent, adaptive and self organisational to a multiplicity of site-specific causes and not summed up by the individual effect.

The workshop aimed at generating a series of generic yet specific landscape urban prototypes that participate and emerge from the understanding of self-organizational models and the effects that these site-specific models have on larger operative system. They were then integrated in a dynamic urban field, in such a way where questions of contradiction, conflict, temporality and materiality were to be mediated.

Embracing the operations of Morphogenesis 'the emergence and evolution of form' in landscape as a "macroscopic examination of the morphogenesis of a process and a local and global study of its singularities, we can try to reconstruct the dynamic that generates it".1 Shifting the ideas of infrastructure from an inert understanding of its existence to a transformable set of inseparable singularities in a landscape process. Where the questioning of infrastructure in landscape 'engulfs the idea of time into its technique' rather than considering time as an 'empowering of technique'.

Everywhere is city: we still conceive of cities as discrete objects, separate from their surroundings. That's no longer true. There is no exterior to the global city that connects and sustains us all. Instead of isolated parcels of land
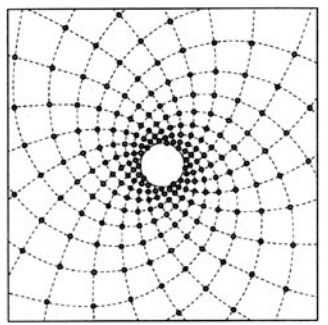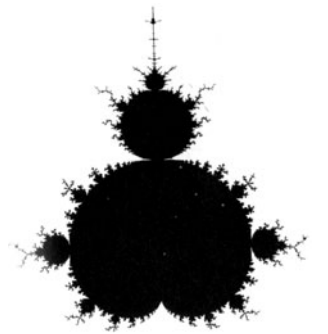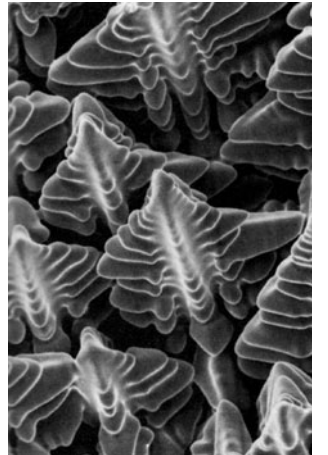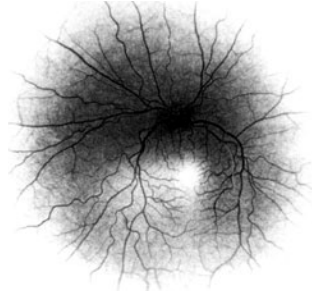

Figure340

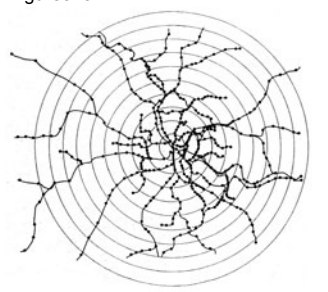Figure341

Figure342

Figure343

Figure344

instead of letting it concentrate at the top. By creating an island of stability in the middle of the war, one dispenses uncertainty all along the chain of command. (De Landa M., WAIM); (p61) P

Or

(…) at the onset of a process of self –organization (when a chemical clock begins to assemble, for example), the mechanisms involved become extremely sensitive to minor fluctuations in the environment. A small change in external conditions, one that in thermodynamic equilibrium would have negligible consequences – caused perhaps by a relatively weak gravitational or magnetic field – is amplified and directs the kind of chemical clock that is assembled (the period of oscillations, for example), thereby "naturally selecting" one self-assembly pattern over another. (DeLanda M., NL.,ZINC)(pg131) (ur);

Self-reproducing machines:
(ph);
();
(cy) What is the image of a machine? Can this image, as embodied in one machine, bring a machine of a general sort, not jet committed to a particular specific identity, to reproduce the original machine, either absolutely or under some change that may be construed as a variation? Can the new and varied machine itself act as an archetype, even as to its own departures from its own archetypal pattern? (…) I am proposing a method by which nonlinear transducers may reproduce themselves. The messages in which the function of a given transducer may be embodied will also embody all those many embodiments of a transducer with the same operative image. Among these there is at least one embodiment with a certain special sort of mechanical structure, and it is this embodiment that I am proposing to reconstruct from the message carrying the operational image of the machine. (Wiener N., GG);
(hy);
(ur);

Self-Organisation:
(ph);
();
(Sc/cy);
(hy);
(ur)

LAYERS- ALL   LAYERS- RESIDENTIAL   LAYERS- DIFFERENT PUBLIC SPACES   LAYERS- PRIVATE SPACES

IL 01

12am   9am   12pm   3pm   12am
ISLAND MOVING THROUGHOUT A DAY, CREATING NEW SPACES AND MANIPULATING OLD ONES

12am   9am   12pm   3pm   12am
MOVEMENT OF ONE SECTION OF THE ISLAND THROUGHOUT A DAY
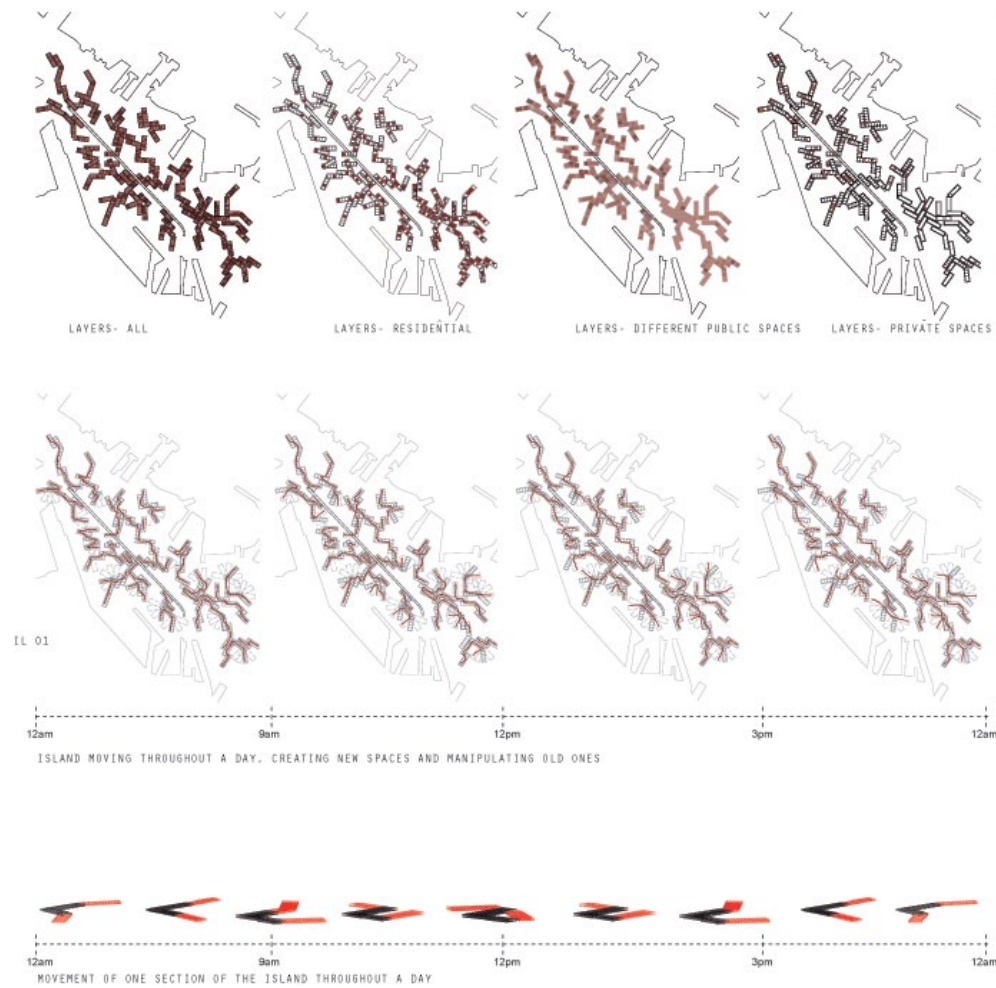
Figure CXXVIII
G.U.M. Design Studio

or singular architectural projects, its now a matter of considering an entire city infrastructure and its connected environs, whose reach is hundreds of miles beyond what has been conventionally considered urban domain. The city now represents all territory, and all territory needs to regarded and managed as one urban system.

Transformative Shanghai

The work conducted in China from a teaching perspective involved a collaboration between RMIT University, Queensland University of Technology and Shanghai's Tongji University. The focused site for the project was a former industrial area of Shanghai that is located on the south bank of Suzhou River, flanked to the east by Changhau Road and to the south by Moganshan Road. The main objective of the project was to find ways to redevelop an old industrial area while keeping in mind issues of environmental, social, economical and cultural sustainability. We analysed how mixed-programs, mixed-incomes and mixed-economies are conducted within various Shanghainese 'watertowns' (such as Zhujiajiao), and sought to apply these mixed modes of usage to our redevelopment project.

In this body of work the ambition was to explore the generation of an urban landscape where infrastructures were implicit within the urban surface. By infrastructures we meant both the visible ones like roads, boat ramps and amenities and invisible ones such as the relationships between two or more buildings that may inspire the prolongation of sustainable construction and economies. It is this consideration of relationships that also made our project uniquely 'landscape-architectural' insofar as a landscape, as design theorist Charles Waldheim suggests, can be considered to be not just a static ground upon which buildings stand, but the dynamic surface where new relations are constantly formed and which in turn potentially transforms any built forms.
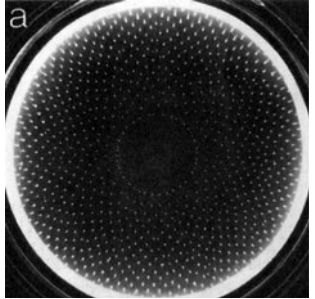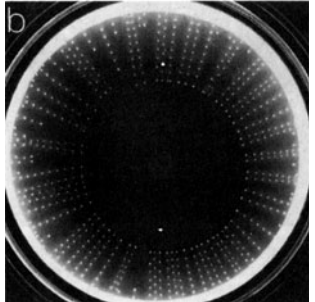

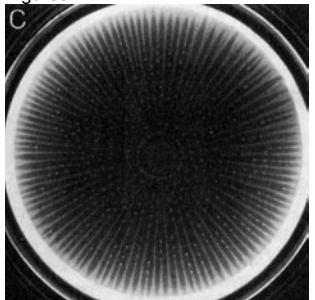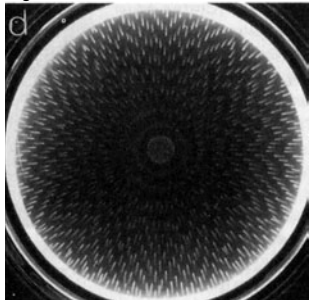Figure345

Figure346

Figure347


Figure348

Figure349

Figure350

Semi-lattice structure:
(ph);
();
(cy);
(hy);
(ur) A collection of sets forms a semi-lattice if and only if, when two overlapping sets belong to the collection, then the set of elements common to both also belongs to the collection. (…) A tree based on 20 elements can contain at most 19 further subsets of the 20, while a semi-lattice based on the same 20 elements can contain more that 1,000,000 different subsets. (…) You are no doubt wondering (…) what a city looks like which is a semi-lattice, but not a tree. (…) Every time a piece of city is torn out, and a tree made to replace the semi-lattice that was there before, the city takes the further step toward dissociation. In any organized object, extreme compartmentalization and the dissociation of internal elements are the first sign of coming destruction. (Alexander C., CT);

Set:
(ph);
();
(cy) (autocatalytic) "those autocatalytic sets are absolutely natural modes of functional integration. They are functional wholes.(…) A Collectively autocatalytic set of molecules – at least in silico, as we have seen – is capable of reproducing itself, dividing into "blobs" capable of heritable variation, and hence, following Darwin's argument, capable of evolution. The parts exits for and by means of the whole; the whole exists for and by means of the parts(…) if we stumbled on some evolving or even coevolving autocatalytic sets in a tube or vent, we'd tend to feel we were looking at living systems. (Kauffman S.,HU) (pg 274) P
(hy);
(hy);
(ur); A set is a collection of elements which for some reason we think of as belonging together. Since, as designers, we are concerned with the physical living city and its physical backbone, we most naturally restrict ourselves to considering sets which are collections of material elements such as people, blades of grass, cars, bricks, molecules, houses, gardens, water pipes, the water molecules that run into them, etc. when the elements of a set belong together because they cooperate or

Figure CXXIX
CNC Study Models,
Transformative Shanghai
Design Studio
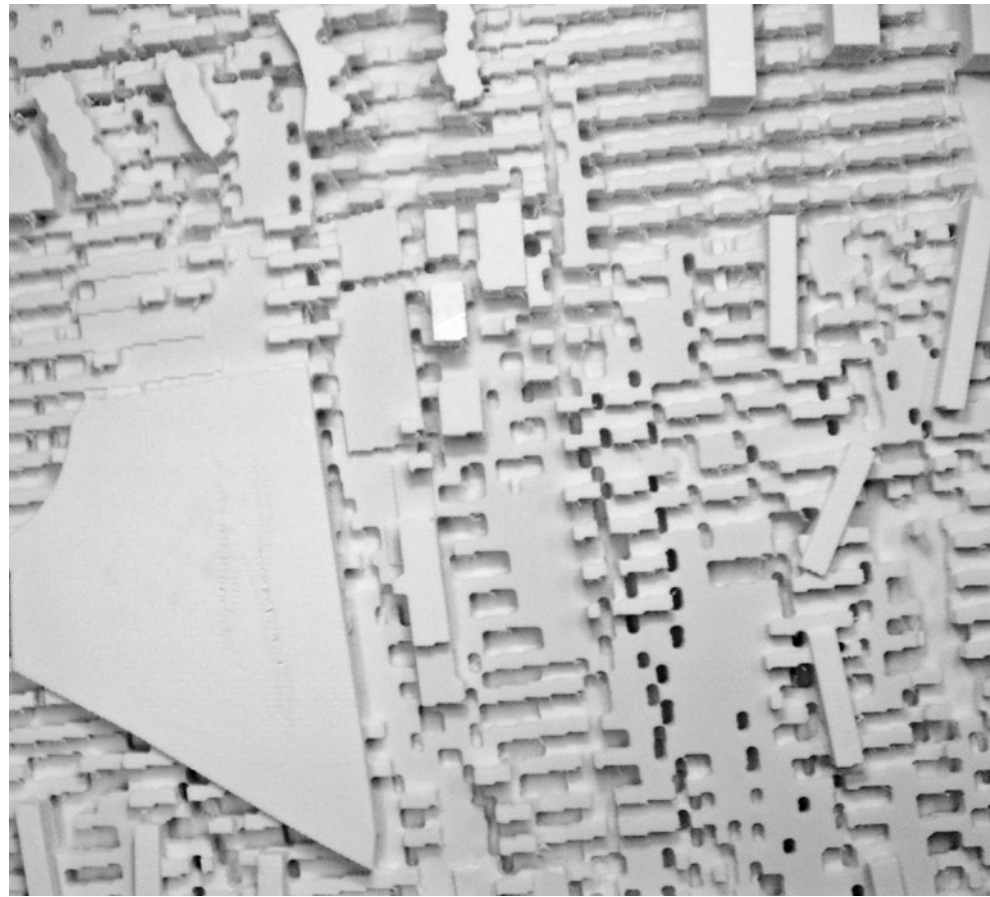
On the emergent line: Complex Systems and Self-Regulating Orders of the City

The complexity of the urban landscape is difficult to capture through a singular line or figure on a map. The line, for instance, whether it is the border condition of the urban and rural or the cities internal assemblages, when captured is only a sign. The line is a sign for the political, social and environmental complexities that lie beyond the geographical orientating system of the map. For example, the dotted line on the map depicts a territorial boundary between one city and the next yet ignores the complexities of control which are associated with this line. This line only marks out categorised limits according to jurisdictional authorities. This line does not express the activities of those who control these territorial differences and the way they continually re-demarcate the line and redefine the territorial conditions of the two properties, districts or cities or province. The line is continually renegotiated through the transfer of knowledge, goods, people, infrastructure etc. Transformations of the landscape through both social interaction and natural causes are the outcomes of renegotiation. In this sense the line does not necessarily demarcate an inside or outside, or where one territory begins and ends.

This conversation attempts to highlight ways in which landscape architects may treat the landscape and landscape representation. And through these new ways of treating landscape this conversation aims to produce new knowledge on edge conditions, an issue especially where programmatic, economic, racial, religious and cultural classifications are increasingly becoming intertwined with geographical and architectural divisions.

To readdress some of these divisions, this conversation will make use of morphologies that are not derived from rigid Cartesian geometries of measure and order. Here, I will look specifically at morphologies that are generated by responding to the continually differentiating and self-regulating landscape. Here, I will consider landscape form not as pure form that is detached from other pure forms but as a topological modulation which is interconnected with other topological modulations. As philosopher Manuel Delanda suggests, a topological form is a singular point in a manifold capable of possessing different geometric

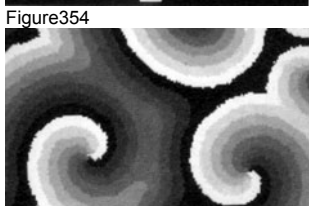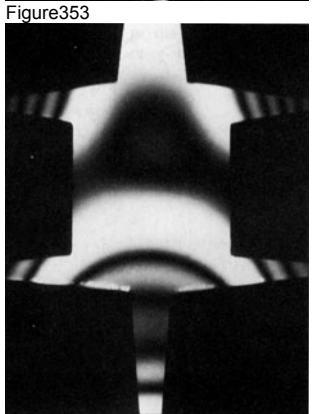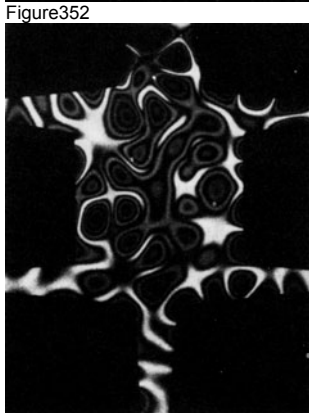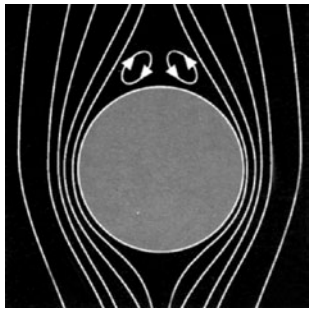Figure351

Figure352

Figure353

Figure354

Figure355

work together somehow, we call the set of elements a system. (Alexander CH., CT) (p120).

Sign:
(ph) Signs are the object of a temporal apprenticeship, not of an abstract knowledge. To learn is first of all to consider a substance, an object, a being as if it emitted signs to be deciphered, interpreted. Everything that teaches us something emits signs, every act of learning is an interpretation of signs or hieroglyphs. (Deleuze G., PS); (pg 4) P
();
(cy);
(hy) The presence of the sign is a contradiction of time. It is simultaneously an indicator of a future potential and a symptom of a past. It envelops material processes pointing forward and backward (…). The presence of the sign is not an identity but an envelopment of difference, of a multiplicity of actions, materials and levels (…). Interpretation consists in developing what is enveloped in the sign. (Massumi B., UGCS); (p10)
(ur);

Simulation:
(ph);
();
(cy);
(hy) Machine vision involves several layers of simulation operating on an image more or less simultaneously. At the bottom, image-processing techniques are used to create a model of the image itself, allowing for the extraction of low-level features (image analysis). Next, this data is compared with 3-D models of the world, where objects are represented not as flat pictures but as solid sculptures having certain spatial relationships among their parts (scene analysis). Finally, a simulation of human mental processes like associative memory and inductive logic, as well as know-how and heuristic stored in knowledge banks, are applied to these objects in order to make sense out of the scene as a whole. These three levels do not form a strict hierarchy, but rather a heterarchy: the result of a higher level may be used in a second pass to make sense out of features of a lower level. (De Landa M., WAIM); (p201) P
(ur);
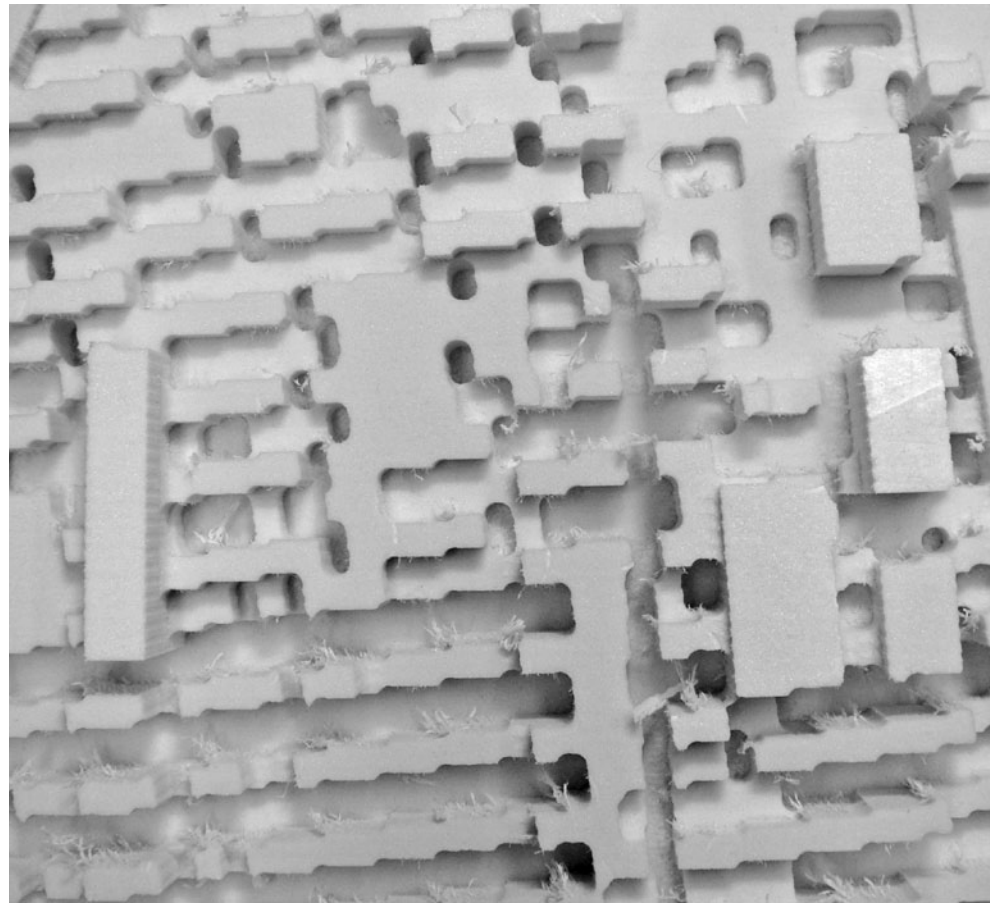
Figure CXXX
CNC Study Models,
Transformative Shanghai
Design Studio

properties and physical forms depending on the process of change and interaction it holds in a particular moment.

By treating the landscape as a manifold in which forms are interconnected, what is conventionally considered to be the line and the border or edge condition changes. Being aware of landscape forms being topological modulations the line that may be drawn becomes less a divisive mark and more a suggestive mark. The line is drawn not to demarcate permanent divisible territories but drawn to identify areas where ruptures once occurred: and from which old territorial conditions may rupture again to bear new understanding and experience of space and ultimately ownership, citizenship and nationhood. The distinction between the built and unbuilt, between water and land, between public and private etc become lines from which a field of possibilities may emerge.

Reconsidering what the term "landscape" means can be used as an initial step into producing a line or lines that are also fields of emerging possibilities. These reconsiderations of the landscape may be carried over to a rethinking of the city, its borders, limits and potentialities. Within these reconsiderations of the landscape and the city I will suggest new ways to design for, to represent and to experience the contemporary city.

Landscape

Landscape is neither a thing nor an adjective; it is a system of interconnected parts in which relations are changing in time, as such the ways in which a landscape can be described remains indefinite. More importantly a landscape, insofar as the parts involved within it can themselves change in composition, and more or less parts can be added and subtracted, exceeds the limits of the self-contained object. In this sense a landscape cannot be reduced to the sum of its individual parts for the forces that constitute these parts and the quantity of parts involved are also changing. The order of the landscape so to speak is inherent in its process of transformation; in fact one may suggest that a landscape's "order" may be a dynamic form of "ordering" whence new groups of parts and forces are assembled or ordered and also whence groups of parts and forces are decomposed. In this section I will suggest that
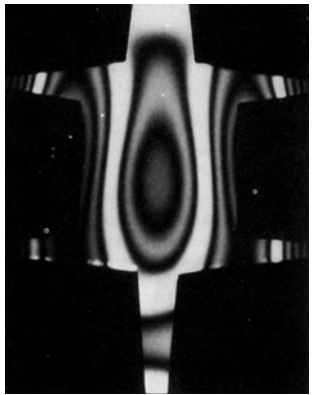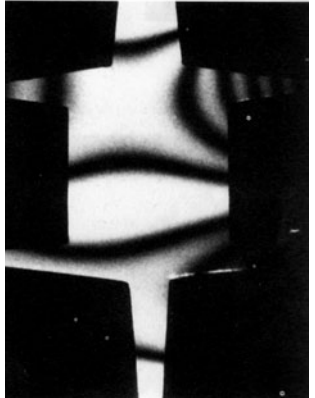

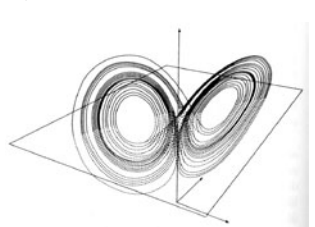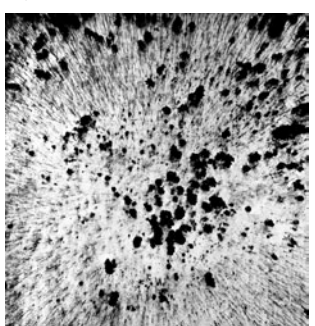Figure356

Figure357

Figure358

Figure359

Figure360

the landscape's re-ordering from a placid countryside to a dynamic field of change can be advanced by introducing changes to architectural drawing conventions.

In short one may suggest that the eidetic image should inspire the emergence of new becomings, to add new forces to current lines of becoming so that these current lines of becoming may move toward other kinds of becoming. The eidetic image differs from the mere picture precisely by refusing to turn the dynamic landscape into a series of separate programs and territories; rather it promotes the landscape's 'reality' which is its continual process of change. The eidetic image does not assume to be able to grasp the landscape's entirety, its multiple modalities and becomings. For a landscape architect the aim of making an eidetic image as Corner himself writes, "is less to picture or represent these activities [such as the lines of becoming] than it is to facilitate, instigate, and diversify their effects in time." Corner continues to suggest that making an eidetic image is "a move away from ameliorative and scenographic designs", and a move "toward more productive, engendering strategies." The landscape architect designs strategies that affirm the landscape's infinite change in time, these strategies will activate the lines of becoming with immediacy. "Eidetic images are fundamental stimuli to creativity and invention; they do not represent the reality of an idea but rather inaugurate its possibility."[1] An eidetic image does not posit itself as posterior to, or anterior to, the changing landscape, it adds to it.

If eidetic images are stimuli to creativity and possibility then to encounter them may be said to be within what Delanda (following Deleuze and Félix Guattari) calls an "intensive spatium". For Delanda an intensive spatium is a space that is charged with intensity or more accurately a potentiality for change without these future changes being pre-planned. It is a space filled with individuals, objects and places that are ready to become something else. There is an utmost potentiality there, relations between individuals, objects and places as well as with ideas and concepts are primed for transformation. In encountering the viewer's ideas and concepts, his/her sense of subjectivity is not cancelled out by that of the eidetic image, rather, the forces of the eidetic image combine with those of the viewer to produce new ideas and concepts, subjectivity and spatiality. As Delanda

notes, in the creation of "heterogeneous assemblages" the components' differences are not cancelled by the process of homogenisation, instead becomings occur. Those new ideas and concepts, subjectivity and spatiality are precisely these new becomings taking place. Furthermore, the relations between these components or parts are "non-decomposable distances"; relations persists by changing.

The architect and theorist Greg Lynn succinctly describes this process of ordering and unity of parts, and most importantly the potential for emerging new spatial formation within a dynamic landscape,

'A landscape is a system where a point of change is distributed smoothly across a surface so that its influence cannot be localized at any discrete point…'[1] The slow undulations that are built into any landscape surface as hills and valleys do not mobilize space through action but instead through implied virtual motion… The landscape can initiate movements across itself without literally moving. The inflections of a landscape present a context of gradient slopes which are enfolded.

Following Lynn's notion of a landscape one may say that its form is given by its temporal dimension, being in a state continual change. The new assemblages that are continually being forged in a landscape through social interactions and natural causes lay bare the forces that a landscape architect may harness in order to produce new assemblages of parts and forces to be interpolated back into the landscape.

In order to produce new assemblages that can be interpolated back into the landscape to change it, a landscape architect may begin by devising new ways to document or represent the landscape. These new representations of the landscape are meant to inspire the landscape architect him/herself and other interested parties to act differently, to inspire the future creations of designs that can also transform the landscape. Landscape architect and theorist James Corner proposes a distinction between the mere picture and the image or what he considers the eidetic image. The picture depicts a city, a person or an object through the use of icons. The eidetic image on the other hand is able to affect its viewers to think. The eidetic image is the image that inspires the
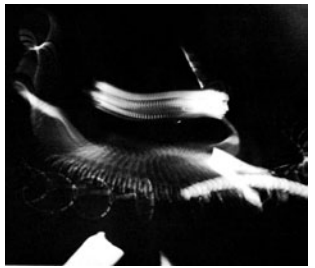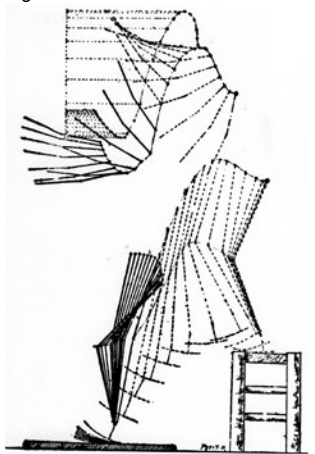
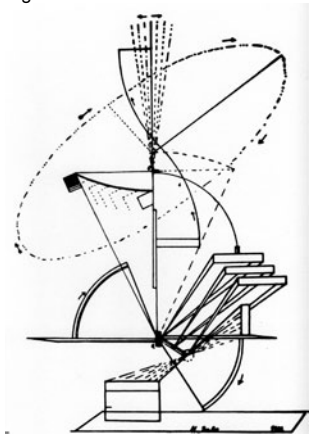1 Greg Lynn, Animate Form, New York: Princeton University Press, 1999, 29.

Figure361

Figure362

Figure363

Figure364

range of somatic flexibility available to the organism at the given time. (Bateson G., SEM);
(hy);
(ur);

Space:
(ph) Space, in effect, is not matter or extension, but the "schema" of matter, that is, the representation of the limit where the movement of expansion (détente) would come to an end as the external envelope of all possible extensions (…). (Deleuze G., B);
();
(cy);
(hy) Speed allows for progress in space, only progress in space has been identified with progress in time, in history. And that is really an abuse of language.(…) All current technologies reduce expanse to nothing. They produce shorter and shorter distances – a shrinking fabric. Now, a territory without temporality is not a territory, but only an illusion of a territory (Virilio P., PW);
(ur); (…) We can see a mayor social trend standing out from all our observations: the historical emergence of the space of flows, superseding the meaning of the space of places. By this we understand deployment of the functional logic of power-holding organizations in asymmetrical networks of exchange which do not depend on the characteristics of any specific locate for the fulfillment of their fundamental goals. The new industrial space and the new service economy organize their operations around the dynamics of their information-generating units, while connecting their different functions to disparate spaces assigned to each task to be performed(…). (Castells M., IC); (p494 CR)

Speed:
(ph);When we oppose speed and slowness, the quick and the weighty, Celeritas and Gravitas, this must not be seen as a quantitative opposition, or as a mythological structure (…) The opposition is both qualitative and scientific, in speed is not merely an abstract characteristics of movement in general but is incarnated in a moving body that deviates, however slightly, from its line of descent or gravity. Slow and rapid are not merely an abstract characteristics of movement in general but it is incarnated in a moving body that deviates however slightly, from its
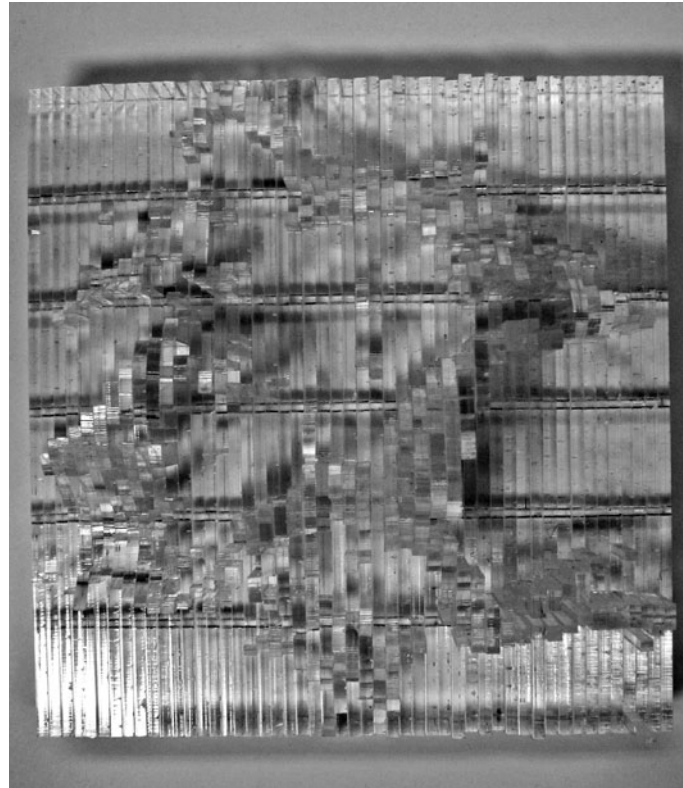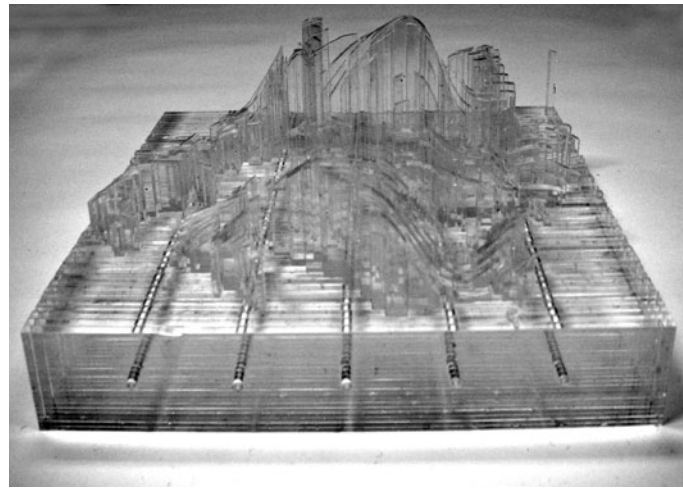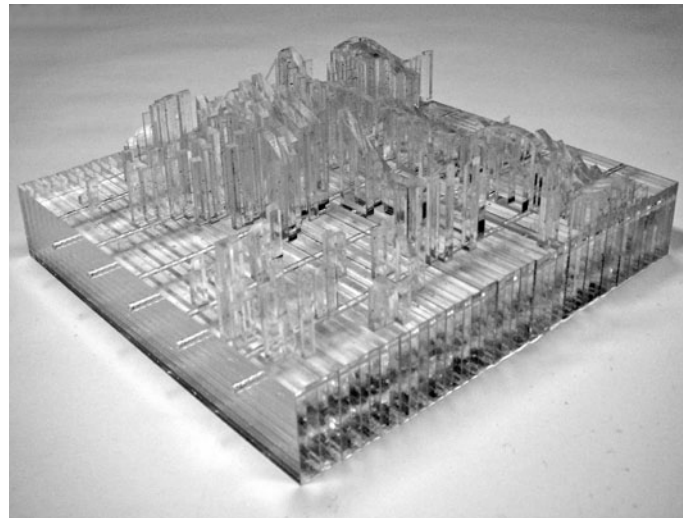

Figure CXXX
Study Models, Transformative
Shanghai Design Studio,
Monica Yang

process of ideation.

The eidetic image however must remain only suggestive, it must never take on the character of being didactic otherwise it will become the picture. The eidetic image is not the visual equivalent of any fixed concept. It may be composed of a set of graphic marks, texts and photographic images that together express the potentialities for new ideas to emerge; it offers to its viewers a number of forces and conditions to contemplate and to use to create new knowledge and experiences. In this sense the eidetic image cannot serve as the sole cause of the designs and ideas that follow. The eidetic image retains only an affective quality. Philosopher Gilles Deleuze writes that to be affected is not the same as being an effect of some sole cause. The cause and effect binary and the privileging of the cause do not figure in the process of being affected. To be affected, for Deleuze, is to undergo a process of modification which form is a continual variation. As such to be affected implies the process where a subject, a concept or a space differentiates from itself. Following Deleuze, Delanda writes that to be affected implies a certain degree of openness insofar as any individual or thing possesses an infinite quantity of capacities for change. Moreover, to be affected implies the capability to affect another individual or something else: hence to be affected is never a simple cause and corresponding effect equation but is constituted by a field of the actions of affecting and of being affected. The eidetic image should be capable of inspiring this field of change.

In short one may suggest that the eidetic image should inspire the emergence of new becomings, to add new forces to current lines of becoming so that these current lines of becoming may move toward other kinds of becoming. The eidetic image differs from the mere picture precisely by refusing to turn the dynamic landscape into a series of separate programs and territories; rather it promotes the landscape's 'reality' which is its continual process of change. The eidetic image does not assume to be able to grasp the landscape's entirety, its multiple modalities and becomings. For a landscape architect the aim of making an eidetic image as Corner himself writes, "is less to picture or represent these activities [such as the lines of becoming] than it is to facilitate, instigate, and diversify their effects in time." Corner continues to
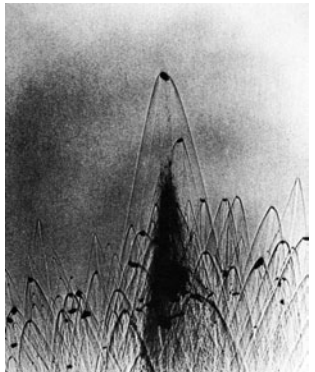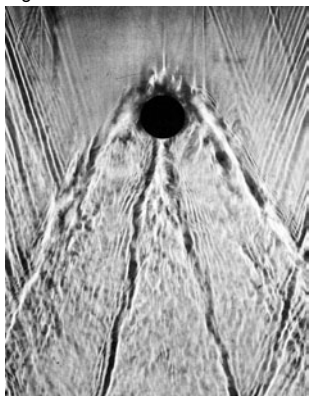

Figure365

Figure366

Figure367

Figure368

Figure369

line of descent or gravity. Slow and rapid are not quantitative degrees of movement but rather two types of qualified movement, whatever the speed of the former or the tardiness of the latter. (Deleuze G & Guattari F., TP); (pg371) P

();

(cy);

(hy) The city has always been a box full of speeds, a kind of gear-shift. The organization of cities is the streets. What are streets? In Greece they don't say a street, they say "a run" (dromos). (…) A city is not simply a place where one lives, it's above all a crossroads. (Virilio P., PW);

or

(…) with horses, coaches, ships and runners, it was the general rule to cover at the most 100 kilometres in 24 hours. Higher speeds were infrequent and a great luxury. (…) If the large towns attracted rapid news in their direction it was better communications, one of which was obviously to build stone or paved roads; but such things long remained exceptions. (Braudel F, CML); (pg318)

(ur);

S t i m u l i - a n d - r e s p o n s e sequences:

(ph);

();

(cy) In general in communicational systems, we deal with sequences which resemble stimuli-and-response rather than cause-and-effect. When one billiard ball strike another, there is an energy transfer such that the motion of the second ball is energized by the impact of the first. In communicational systems, on the other hand, the energy of the response is usually provided by the respondent. If I kick a dog, his immediately sequential behavior is energized by his metabolism, not by my kick (…). (Bateson G., SEM); (hy);

(ur);

Stochastic process:

(ph);

(phys) Crossing a bifurcation is a stochastic process, such as the tossing of a coin. Chemical chaos provides another example (…). We can no longer follow an individual chemical trajectory. We cannot predict the details of temporal evolution. (…) only statistical description is possible. The existence of an instability may be viewed as the result of a fluctuation

suggest that making an eidetic image is "a move away from ameliorative and scenographic designs", and a move "toward more productive, engendering strategies." The landscape architect designs strategies that affirm the landscape's infinite change in time, these strategies will activate the lines of becoming with immediacy. "Eidetic images are fundamental stimuli to creativity and invention; they do not represent the reality of an idea but rather inaugurate its possibility."[1] An eidetic image does not posit itself as posterior to, or anterior to, the changing landscape, it adds to it.

If eidetic images are stimuli to creativity and possibility then to encounter them may be said to be within what Delanda (following Deleuze and Félix Guattari) calls an "intensive spatium". For Delanda an intensive spatium is a space that is charged with intensity or more accurately a potentiality for change without these future changes being pre-planned. It is a space filled with individuals, objects and places that are ready to become something else. There is an utmost potentiality there, relations between individuals, objects and places as well as with ideas and concepts are primed for transformation. In encountering the viewer's ideas and concepts, his/her sense of subjectivity is not cancelled out by that of the eidetic image, rather, the forces of the eidetic image combine with those of the viewer to produce new ideas and concepts, subjectivity and spatiality. As Delanda notes, in the creation of "heterogeneous assemblages" the components' differences are not cancelled by the process of homogenisation, instead becomings occur. Those new ideas and concepts, subjectivity and spatiality are precisely these new becomings taking place. Furthermore, the relations between these components or parts are "non-decomposable distances"; relations persists by changing.

To facilitate the emergence of becomings and potentialities Corner draws attention to the ways the plan can be used to transform the conventional perspective of the landscape as essentially orderly as per the limits of Cartesian perspectivalism. Corner chose the plan mode of working because he believes that eidetic images "do not necessarily have to be radical and completely new; they may derive equally from a subtle realignment of the codes and conventions of some convention or technique."

An eidetic mode of planning may proceed from a reworking

1.See Alex Wall, "Programming the Urban Surface" in Recovering Landscapes: Essays in Contemporary Landscape Architecture, edited by James Corner (New York: Princeton Architectural Press, 1999): p 233

of the architectural conventions of plan drawing. Corner cites the work of architects and theorists Rem Koolhaas and Bernard Tschumi among others to illustrate how architectural plan drawing conventions and imaginations of the landscape can be subverted,

Rem Koolhaas, for instance, effectively altered traditional large-scale planning and diagramming from simply composing form and organising program to completely reformulating form and program into freshly hybrid conditions. The dismantling and isolation of layers and elements in plan not only proposes a productive working method, akin to montage, but also focuses attention on the logic of making the landscape rather than on its appearance per se. Bernard Tschumi's work with notation and combinatory indexes further exemplifies the reworking or certain orthographic and choreographic conventions.

For Corner the superimposition of multiple and sometimes incongruent layers in plan and section which is evident in the works of both architects has led to the generation of new possibilities. One may be able to form new spatial configurations and spatial understanding from juxtaposing a plan and a section onto one flat surface. The montage form is able to allow viewers to make new relations between two or more different architectural forms. In this sense one may say that the border or line that divides two or more architectural forms is starting to fade; the two or more architectural forms start to work together and become suggestive of a plethora of potential architectural forms that are yet to be determined in advance. Different architectural forms thus unite in the potential space they together may generate.

Corner also notes that statistics or pure data can be incorporated within the montage form to produce new relations. Here, he cites the work of contemporary urban designers such as design groups MVRDV and a-topos. These groups put together "datascapes" which "revisions of conventional analytical and quantitative maps and charts. Corner points out that these datascapes differ from conventional quantitative maps because they are designed to not only reveal the shaping forces of existing architectural, geographic, cultural and economical conditions of the city but also because they suggest ways to reframe these forces. By revising these conventions the
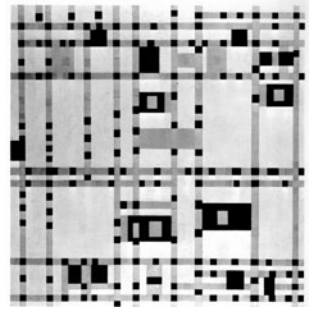

Figure370
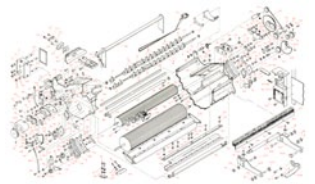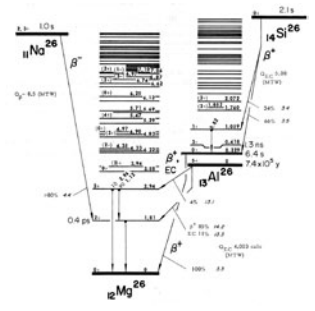

Figure371

Figure372

Figure373

Figure374

Figure375

that is first localized in a small part of the system and spreads and leads to a new macroscopic state. (Prigogine I., Stengers I., OOC); (pg177) P

(cy) The stochastic approach is perhaps the only organized theory of the nature of learning. The notion is that random changes occur, in the brain or elsewhere, and that the results of such random change are selected for survival by processes of reinforcement and extinction. In basic theory, creative thought has come to resemble the evolutionary process in its fundamental stochastic nature. Reinforcement is seen as giving direction to the accumulation of random changes of the neural system (…).

It would appear that in learning, when the solution to the given problem has been passed on to habit, the stochastic or exploratory mechanisms are set free for the solution of other problems (…) [but] It may be noted that such a model would be characterized by two stochastic mechanisms: first, the more superficial mechanism by which the changes are achieved at the somatic level, and, second, the stochastic mechanism of mutation (or the shuffling of genes constellation) at the chromosomal level. These two stochastic systems will, in the long run under selective conditions be compelled to work together, even though no message can pass from the more superficial somatic system to the germ plasm. (Bateson G., SEM);
(hy);
(ur);

Stopping Point:
(ph)
();
(cy);
(hy);
(ur);I like the question of when to stop the process because. I believe that this is the moment when a project becomes legitimate. Thus, "Why did you stop the project then?" is legitimate question. At the same time I would like to ask the jury the critics, how you assess projects that are supposed to be virtual, open, continuously changing, not fixing any type or precedence or history? If you are looking for that type of project, then how do you stop a project? Where do you stop a project at the same time enable it to remain virtual? (Zaera-Polo A., ANY No20) (pg20.36)

forces and processes operating across a given site can be revealed, and from these revelations new assemblages of forces may be constructed by other designers who may engage with these datascapes.

One can imagine the potentials at hand if datascapes are combined with layered drawings that combine both section and plan views of varying scales. Such combinations are what Corner terms "imagetexts". Imagetexts are assemblages of texts, statistics, graphs, cognitive tracings, plans, orthographic projections and sections together imagery that are "unpicturable"; these are images proper to the process of thinking in which no image definable by proper Cartesian perspectivalism can be produced. Indeed, texts used within imagetexts do not serve the conventional purpose of being labels, legends, keys, measurements or names. These texts may be snippets of poetry and theoretical musings which may not have direct or obvious relevance to graphs, plans and photographs on the same page. Readers of these imagetexts will have to forge possible relations between these texts and the graphs, plans and photographs juxtaposed next to them. These unpicturable images are images-in-process, fleets of forces being ordered into readable forms. These images are in the process of emerging; in fact emergence in time is their proper form. Corner summarises that,

The landscape imagination is a power of consciousness that transcends visualisation… How one generates and effectuates ideas is bound into a cunning fluency with imaging. Similarly, the future of landscape as a culturally significant practice is dependent on the capacity of its inventors to image the world in new ways and to body forth those images in richly phenomenal and efficacious terms.

Elaborating on the transformative qualities of the montage suggests, although the parts within a montage may be derived from the city, what these parts do and how they work together resist the harmonising perspective society conventionally ascribes to the city.   These parts in their new assemblage can be picked up by other designers and put toward new design productions. Ultimately, the montage format of the imagetexts and datascapes that Corner talks about are effective because they are eidetic, they inspire ideas to be produced, and these ideas can be plugged into other designerly activities that can physically,

spatially, geographically and lastly architecturally transform the landscape, or more precisely add to the landscape's continual transformation.

City

Classics scholar H.D.F. Kitto writes that the ancient Greeks conceived of the polis as an active, formative thing. For them the city was a living community and not merely a collection of buildings and roads. Following Kitto and the ancient Greeks' conception of the city one may suggest that the contemporary city with its active international trades, population migration and informational networks is in fact a dynamic landscape. Within the contemporary city there are extensive global forces that enable the emergence of spaces of continual movement. The contemporary city is no longer a place where the individual and the buildings are separate, or where buildings are merely effects or manifestations of fixed human subjectivity. The city, instead, is a site where the social being of a collective people is being produced. More importantly the identity of this collective people is continually changing due to the fact that the constant interaction between individuals and between individual and objects will necessarily produce divergent voices, concepts and spaces. In this sense the collective people must also necessarily include the buildings, roads and other architectural forms, and vice versa; the built environment is inseparable from its biological companions. The city is an event comprising interacting and self-differentiating parts.

Cultural theorists Michael Hardt and Antonio Negri suggest that the contemporary city possesses the power of the multitude, a term they borrow from medieval philosopher Benedict de Spinoza. The multitude expresses a world filled with a multitude of forces in constant differential relations with each other. These forces can be grouped together to express subjectivities and spatialities that are themselves in the process of differentiation. Hardt and Negri elaborate, the multitude is composed of innumerable internal differences that can never be reduced to a unity or a single identity – different cultures, races, ethnicities, genders, and sexual orientations; different forms of labour; different ways of living; different views of the world; and different desires. The multitude is a multiplicity of all these
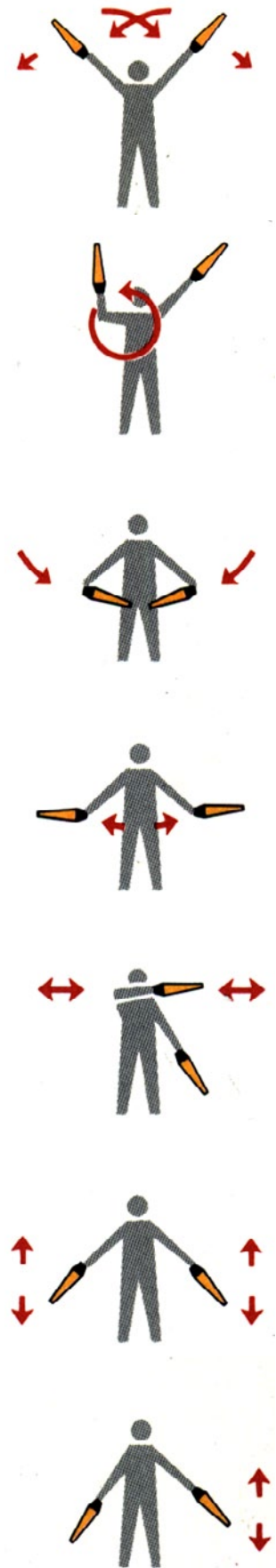
Figure376

singular differences.

However, city as a multitude holds the risk of it being collapsed into nothingness or the post-modern capitalist celebration of pastiche which may imply the reifications and exploitation of cultures, peoples and spaces. Thus, for Hardt and Negri one must know how to harness this multitude of global forces so as to turn these forces against and deconstruct those stagnant or stultified assemblages that validates racial, economical and geographical divides. One may suggest that the abovementioned cases of working against architectural drawing conventions as highlighted by Corner demonstrates a possible way of gathering up these global forces for the purpose of radical transformation.

In order to be capable of working against conventions, as philosopher Paolo Virno suggests, one must, be accustomed to mobility, to be able to keep up with the most sudden conversions, to be able to adapt to various enterprises, to be flexible in switching from one set of rules to another, to have an aptitude for a kind of linguistic interaction as banalised as it is unilateral, to be familiar with managing among a limited amount of possible alternatives. Now, these requirements are not the fruit of industrial discipline; rather, they are the result of a socialisation that has its centre of gravity outside of the workplace.

What Virno advocates is not to abandon work, which in our case is design. Rather, it is to rework the old conventions of design in order forge new design methodologies and processes. One may pay attention to the unexpected outcomes within one's design process, work out how these outcomes are produced, what forces are involved in their production and how these outcomes may be interpolated back into the city in order to change it, or at least create the conditions whence the potential for change can take place.

The political task for artists, thinkers, writers and designers according to Hardt and Negri is not simply to resist these processes taking place within old conventions but to reorganize them and redirect them toward new ends. This is why when thinking of ways to transform stagnant and repressive border conditions it is never just a matter of retreating to the nostalgic homeland of one's forebears or
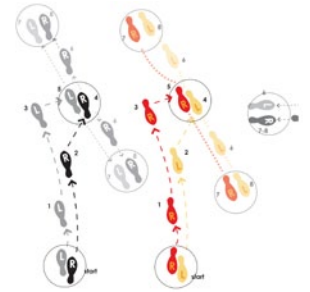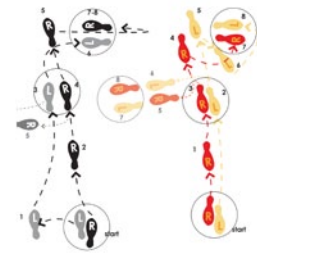
Figure CXXXI
Transformative Shanghai
Design Studio, Joseline
Setiawan

Figure377

Figure378

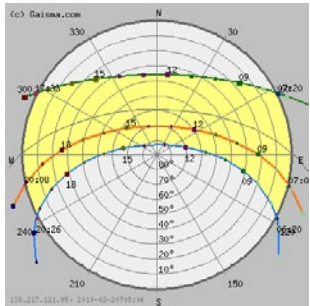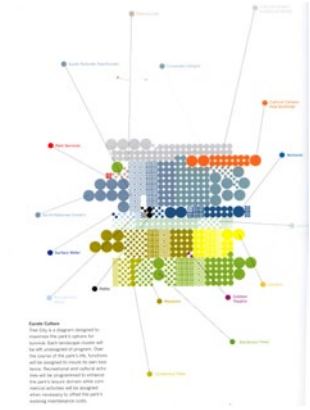Figure379

Figure380

Figure381

Structure:
(ph);
();
(cy);
(hy) (…) By "structure" was meant the division of a whole into parts; (…) the structure was a function of the duration aspect of sound, since, of all the aspect of sound including frequency, amplitude, and timbre (…). The structure, then, was a division of actual time by conventional metrical means, meter taken as simply the measurement of quantity. (…) in the Music of Changes (…) the structure became indeterminate (…). Being indeterminate, though still present, it became apparent that structure was not necessary, even though it had certain uses.
One of these uses was the determination of density, the determination, that is, of how many of the potentially present eight lines, each composed of sounds and silence, were actually to be present within a given small structural part. Another use of the structure affected the charts of sounds and silences, amplitudes, durations (…). The structure, therefore, was in these respects useful. Furthermore, it determined the beginning and ending of compositional process. But this process, had it in the end brought about a division of parts the time-lengths of which were proportional to the original series of numbers, would have been extraordinary. And the presence of the mind as a ruling factor, even by such an extraordinary eventuality, would not have been established. For what happened came about only through the tossing of coins. It became clear, therefore, I repeat, that structure was not necessary. (Cage J., S); (p18-22)
(ur) (…) analysis would need to bypass, not only the traditional notion of "meaning", but also most currently accepted notions of "structure". For even this latter "progressive" term remains victim of a perennial transparency myth: the belief that beneath the shifting profusion of appearances there lies, accessible through proper operations, the finite, essential pattern of the real. At its most sophisticated, structure was understood as the abstract but always immobile framework – perhaps even a true component – of a living signification. (Kwinter S., AT), (pg97)

claiming that borders do not need to exist at all. The process of radical design is not aimed at creating nothingness but aimed a process of re-ordering existing conditions so that new subjectivities and spaces may emerge. In the case of the Shanghai City it is not just making assumptions that the major centre which is encroaching on its peripheral cities. It is not just a matter of celebrating the particularities of chinese culture as irrefutably 'local'. Hardt and Negri suggest that, what needs to be addressed… is precisely the production of locality, that is, the social machines that create and recreate the identities and differences understood as the local. The differences of locality are neither pre-existing nor natural but rather effects of a regime of production.

One needs to attend to the particular "networks of flows" which produces a particular territory or local identity. One needs to attend to how these networks of flows of forces can be sped up again, dispersed and re-grouped otherwise. The networks of flows of forces that constitute Chinese culture may partly consist of the global forces deriving from Western culture by means of architectural and economical conditions. To attend to how Chinese culture may be liberated from these limiting conditions imposed by the factories is not to simply expel all western influences. Rather, it is a matter of knowing how to use these global forces so as to make them work to produce new kinds of subjectivities and spatialities that can transcend the now reified binary of city and country, built and unbuilt, rural and urban, interior and exterior etc. The post-colonial theorist Bill Ashcroft reminds us that the process of transformation is not necessarily contrary to the act of resistance. "The most effective strategies of post-colonial resistance" he writes "have not become bogged down in simple opposition or futile binarism, but have taken the dominant discourse and transformed it for purposes of self-empowerment."4

The methodological-practical question we are concerned with here is how the forces that were once used to draw divisive lines between the built and unbuilt, between, rural and urban, between interior and exterior etc., will be put to different use so that the line becomes an emergent field. How we switch from a figure of division to a space for production marks its radicality as well as its ethicality. Deleuze reminds us that in a world criss-crossed with

4 Bill Ashcroft, On Post-Colonial Futures, London & New York: Continuum Books, 2001, 6.

a plethora of values there can no longer be judgment based on higher moral values. Instead, Deleuze proposes that the modern individual functions upon a new kind of ethology based on the capacity to make new relations, subjectivity and spaces. This new ethology becomes, a question of knowing whether relations (and which ones) can compound directly to form a new, more 'extensive' relation, or whether capacities can compound directly to constitute a more 'intense' capacity or power. It is no longer a matter of utilisations or captures, but of socialibilities and communities. How do individuals enter into composition with one another in order to form a higher individual, ad infinitum?... Now we are concerned, not with a relation of point to counterpoint, nor with the selection of a world, but with a symphony of Nature, the composition of a world that is increasingly wide and intense.

The promotion for the emergence of novel subjectivity and space is the radical act, which creates a new kind of polis befitting of this new ethology for living. If border towns in Mexico can be considered to be not the mere peripheries of the China-as-centre, then the reverse can also be considered: China and particularly its cities like Shanghai and Hong Kong are not impregnable centres, but also territories constituted and transformed by global forces. For example, a grid that frames and divides a city centre like Shanghai's Huangpu district into rectilinear blocks does not necessarily indicate that the activities and programs within the city are as cleanly separated. Programs and activities can take place over several city blocks. More interestingly the area where these programs and activities may take place can have elastic boundaries. These boundaries can even be extended beyond the juridical borders of shanghai given the fact that as a global financial and cultural hub Shanghai is linked up to other global hubs via the Internet, transport and flight routes, etc. Subsisting within Shanghai's city structure is a field of emerging activities and programs that go beyond city, state or national boundaries.
When Hardt and Negri ask us to consider the production of locality of a place, we can infer that the question regarding the production of centrality is implied. We can ask what the social machines are contracting in global forces that constitute a centre or specifically an urban centre Shanghai. Again, the methodological-practical question for landscape architects is how existing conglomerates of global and
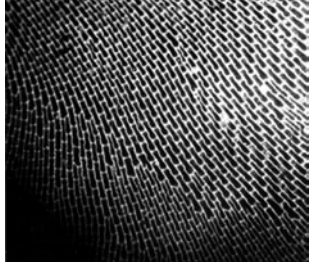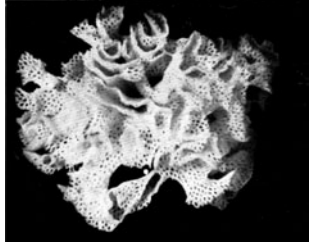

Figure382

Figure383

Figure384

Figure385

Figure386

Figure387

Surprise:
(ph);
();
(cy);
(hy) The two factors that produces surprise are secrecy and speed. Both presuppose a high degree of energy on the part of the government and the commander (…).
Basically surprise is a tactical device, simply because in tactics time and space are limited in scale (…). Only the commander who imposes his will can take the enemy by surprise; and in order to impose his will, he must act correctly, if we surprise the enemy with faulty measures, we may not benefit at all, but instead suffer sharp reverses. Our surprise, in that case, will cause in the enemy little worry; by exploiting our mistakes (…).
Much depends on the relationship established between the two sides. If general moral superiority enables one opponent to intimidate and outdistance the other, he can use surprise to greater effect, and may even reap the fruits of victory where ordinarily he might expect to fail. (Von Clausewits C., OW);
(ur);

Tactics:
(ph);
();
(cy);
(hy) The conduct of war, then, consist in the planning and conduct of fighting. If fighting consisted of a single act, no further subdivision would be needed. However, it consist of a greater of lesser number of single acts, each completed in itself, which (…) are called "engagement" and which form new entities. This gives rise to the completely different activity of planning and executing these engagements themselves, and of coordinating each of them with the others in order to further the object of the war. One has been called tactics, the other strategy (…).
According to our classification, then, tactics teaches the use of armed forces in the engagement;(…)
Principles, rules, regulations, and methods are, however, indispensable concepts to or for that part of the theory of war that leads to positive doctrines; for in these doctrines the truth can express itself only in such compressed forms.
Those concepts will appear most frequently in tactics, which is that part of the war in which theory can develop most fully into a positive

also the more 'localised' forces can be re-gathered. Architectural theorist Eduard Bru gives us examples of how the rigidity of a gridded city may be transformed. He gives Jean-Luc Godard's films as an example. Godard's films utilising "techniques such as continuous changes of distance and viewpoint, fractured and elliptical dialogue" manage to transform Paris' arrondissements into "a sort of periphery or outskirts."9 One may suggest here that Godard's films by focusing on the minute events that occur on Paris' streets manage to express possibilities that the conventional overarching view of the city as a grid cannot express. Perhaps landscape architects can take a cue from Goddard's filmic techniques and begin to present cities from a ground-level, or perhaps, given today's advances in computer graphic technology design diagrams that combine film, graphic design, programs, sound, plans, sections and orthographic projections so that amidst these juxtaposition new understanding of space may emerge.

We can learn to respond to the complexities of time, scale and form within the city. We can become attuned to the complex self-regulating processes within the city such as the way paths are cut across playgrounds or how alleyways through alternative use become differently appreciated. We can pay attention to how different alleyways connect up with surrounding buildings and roads to form zones of radical appropriation. We do not merely trace what existed before but from observing these diverse activities we may learn to create new maps with new lines on them. Maps with multiple entrances and exist can be drawn. Different kinds of media may be used to capture these processes of immanent change in the city. Such interdisciplinary ways of re-gathering the city's forces can open up the borders drawn within the city itself, allowing the city to connect with other territories and also to be connected with its unforeseen futures.

Within this catalytic emulsion the border or line that demarcates function or specific program is replaced by a web of shifting relations, for in the dynamic city functions and programs themselves are also changing. Wall cites how the competition entry for the Parc de la Villete project by Koolhaas and the Office for Metropolitan Architecture (OMA) in the 1980s dealt with shifting programs. Parc de la Villette was a 121 acres piece of land that used to house an old nineteenth-century slaughterhouse complex.

9 Eduard Bru, 'Objects and places', in Julian Raxworthy and Jessica Blood (eds), Mesh: Landscape Infrastructure, Melbourne: RMIT Press, 2005, 280.

There were many logistical problems with it including site reclamation and modernisation of services. Additionally the client also asked for "a bewildering and exhaustive list of programmatic demands." Instead of designing in terms of "styling identity" Koolhaas and OMA for their competition entry were more concerned with designing design strategies that can "accommodate any number of changing demands and programs." Their response was to superimpose four strategic layers addressing different programs together in order to determine programs, functions and what new spaces corresponding to these programs and functions may emerge. The four strategic layers are:

The "east-west strips" of varying synthetic and natural surfaces, the "confetti grid" of large and small service points and kiosks, the various "circulation paths"; and the "large objects," such as the linear and round forests.

For Koolhaas and OMA the aim in producing this layered design was to offer the city "a framework for developing flexible uses as needs and desires changed." The drawings of the strips of synthetic and natural surfaces, service points and kiosks, circulation paths and those large objects were meant to slide over one another in order to allow for "quantitative changes without loss of organizational structures." Layering as a design technique allowed changes to take place without the need to cancel any programs. The sliding of these layers over one another meant that different programs may merge to form new programs that may result in new built forms. This mode of designing allowed landscape architects to conceive of the city, or at least parts of the city, as a field of intermingling programs rather than a sectioned-up piece of real estate with each section being fitted with a given built form designated to accommodate only one program.

One can suggest that the layered drawings Koolhaas and OMA produced for their Parc de la Villette competition entry demonstrates the new kind of ethology that was mentioned earlier in this chapter. Their drawings do not determine what Parc de la Villette should look like. The drawings provided the graphic conditions for them (and one may suggest other designers) to think about the urban situation within that the piece of land that is Parc de la Villette – for instance, how different programs may integrate to form
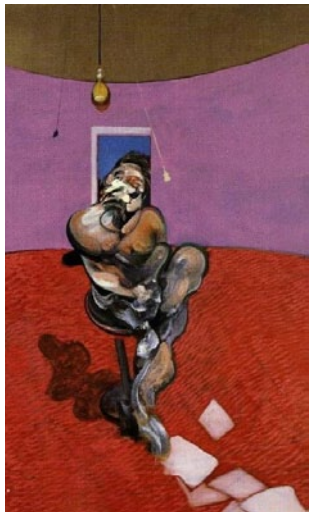

Figure388

Figure389

Figure390

Figure391

Figure392

234 Thickened Ground

doctrine.; (Von Clausewitz C., OW); (ur);Tactics is based on mobility and the capacity to redeploy relations of the fixed. It thus favors the "weak" by reconfiguring the theater of contact and establishing a new scale of thresholds and effects. (…) tactics, being the political modality of the disenfranchised, cannot "store" its triumphs (spatialization), but only renew them, make them proliferate(in time).; (Kwinter S., AT) (pg 123)

Taxonomy:
(ph) The Natural History of the Classical period is more than a confrontation, in the limbo that precedes manifest history, between a (Linnaean) view of static, ordered, compartmented universe that is subjected from its very beginning to the classificatory table, and the still confused perception of a nature that is the heir of time, with all the weight of accidents, and open to the possibility of an evolution (…), these options must be described as systematically different ways of treating objects of discourse (…), arranging forms of enunciation (of choosing them, placing them, constituting series, composing them into great rhetorical unities), of manipulating concepts. (…) these strategies must not be analyzed either as secondary elements that are superposed on a discursive rationality that is, of right, independent of them. There is not (…) a sort of ideal discourse that is both ultimate and timeless (…); there is no natural taxonomy that has been exact, fixing excepted (…). Classical taxonomy or the Analysis of Wealth, in the form in which they actually existed, and constituted historical figures, involve, in an articulated but indissociable system, objects, statements, concepts, and theoretical choices.; (Foucault M., AK);
(); Taxonomists tend to fall into two camps – "lumpers," who concerned on similarities and amalgamate groups with small differences into single species, and "splitters," who focus on minute distinctions and establish species on the smallest peculiarities of design.; (Gould S.J., MM);(pg76)
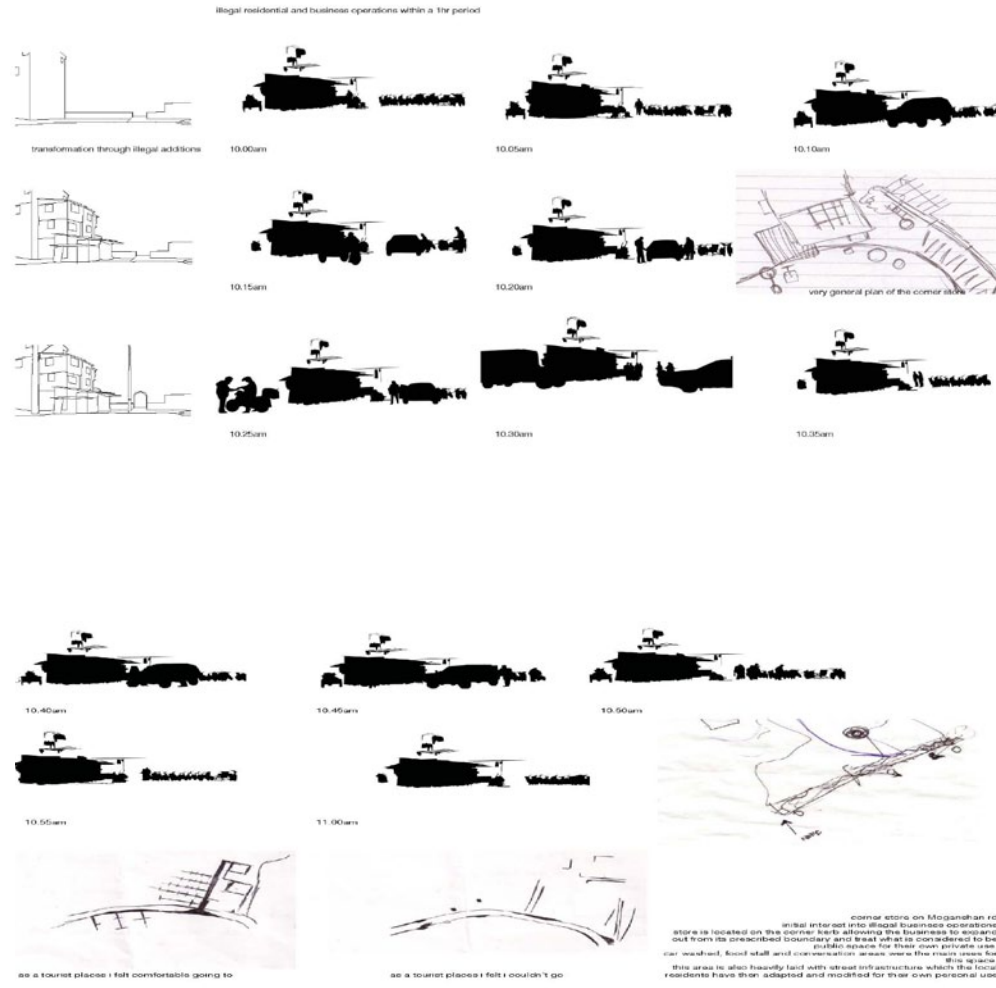(cy);
(hy);
(ur);

Figure CXXXII
Transformative Shanghai
Design Studio, Nick McCathy

new programs – instead of simply ascribing to it a reified nineteenth-century Parisian stylistic identity. As Wall writes (and one can read this sense of new ethology into it),
Thus, if the goal of designing the urban surface is to increase its capacity to support and diversify activities in time – even activities that cannot be determined in advance – then a primary design strategy is to extend its continuity while diversifying its range of services. This is less design as passive ameliorant and more as active accelerant, staging and setting up new conditions for uncertain futures.

Koolhaas and OMA's drawings express a certain eidetic-ness that Corner speaks about. These drawings prompt viewers to think of what can be made, not necessarily what must be built, but more so the radical design processes that may be developed to meet the challenges and nuances of the changing city.

Conclusions
The lines and borders that are drawn over maps in conventional cartographic practices are not completely useless to the landscape architect. The line cannot be completely eschewed. The landscape architect's task is to find out the forces contained on either side of these lines, and find out what forces constitute these lines, so as to regroup these forces into emergent fields from which new subjectivity and spatiality may spring. A line delimits nothing but still has a contour, a contour which consequently influences the structure of future forms and consequently the dynamics of those forms. The line can be thought of not as a construction of definitive X,Y coordinates but a series of discrete sometimes imperceptible points where one point influences another causing a vibration to occur, shaking up old boundaries so that new territories may form.

The landscape architect's task is to evoke an operational dynamic of a landscape urban condition so that new ideas about the internal structures and differentiations within this particular landscape may take place. His/her designs become eidetic. To design is to affirm and sustain what architectural theorist Sanford Kwinter calls "the epigenetic landscape", which affirms a landscape that bears tendencies or potentialities:

Figure393

Figure394

Figure395

Figure396

Figure397

Figure398

Figure399
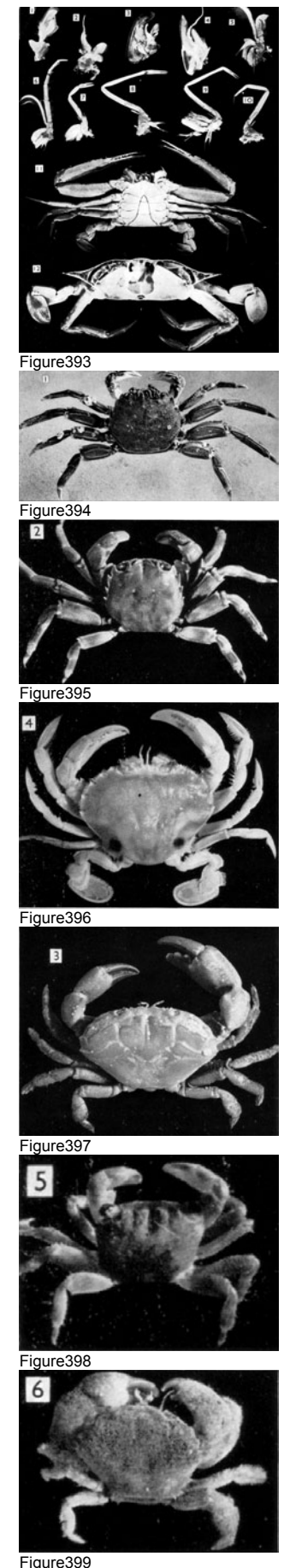
Techniques:
(ph);
();
(cy);
(hy);
(ur); Techniques, are opposed to technology, become an expression of cultural, social, and political relations rather than an essential power. The effects of abstract machines trigger the formation of concrete assemblages when their virtual diagrammtic relationships are actualized ae technical possibility. Concrete assemblages are realized only when a new diagram can make them cross technical threshold. It is the already social diagrams that select new technologies. (Lynn G., AF)(pg 40) P

Technical Consistency:
(ph);
();
(cy);
(hy);
(ur);A system of notation capable of integrating these performances by means of a reduction to specific qualitative parameters and their qualification.(AA Files No. 42) (pg46)

Technologies:
(ph);
();
(cy); (…) web of technologies is connected, the extinction of one good or service can start a spreading avalanche in which other goods and services no longer make sense and lapse from view. Each represented a way of making a living, (…) The goods and services in the economy not only evolve but coevolve, for those present must always make sense in the context of the others that already exist.(Kauffman S., HU) (pg292)
(hy);(…)technology is linked with science(…) before the seventeenth century, and still in the eighteenth century, science was only in its infancy, concerned with itself and its own foundations.(…) Such exceptions as there were confirm the rule- Huygens' discoveries (the pendulum, 1956-7; the adjusting spiral, 1675) which revolutionized clock making, or Pierre Bouguer's work(…) Technology, a collection of recipes drawn from craftsmen's experience(…)
(Braudel F., CML); (pg321)
(ur); The establishment of material and organizational linkages between
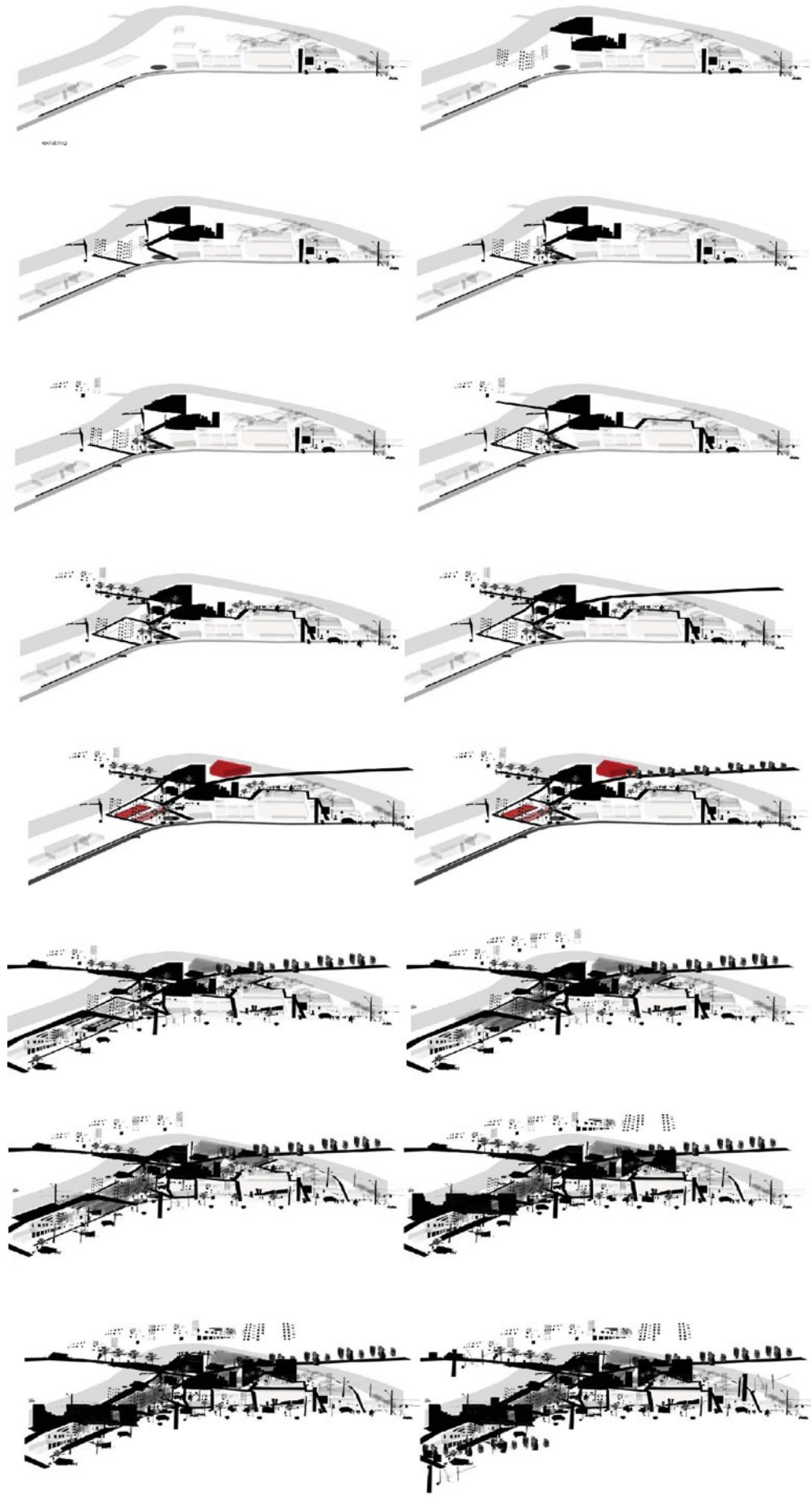
The rivulets and modulations of the epigenetic landscape correspond to built in tendencies, or default scenarios, that would condition the evolution of forms in the hypothetical absence of supplementary forces acting over time. But one should not be fooled into taking the "form" of the epigenetic landscape as itself "essential", fixed, or predetermined. For it too is only a template or virtual form, assembled in another dimension, as a multiplicity generated by an extremely complex field of forces.

The drawing out of a multitude of lines that open up to fields of emerging possibilities.

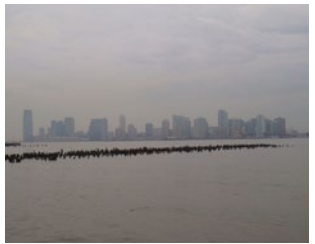Figure CXXXIII
Transformative Shanghai
Design Studio, Nick McCathy
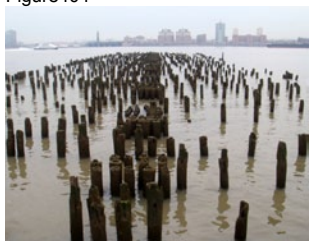
Figure400

Figure401

Figure402

Figure403

Figure404

Figure405

Figure406

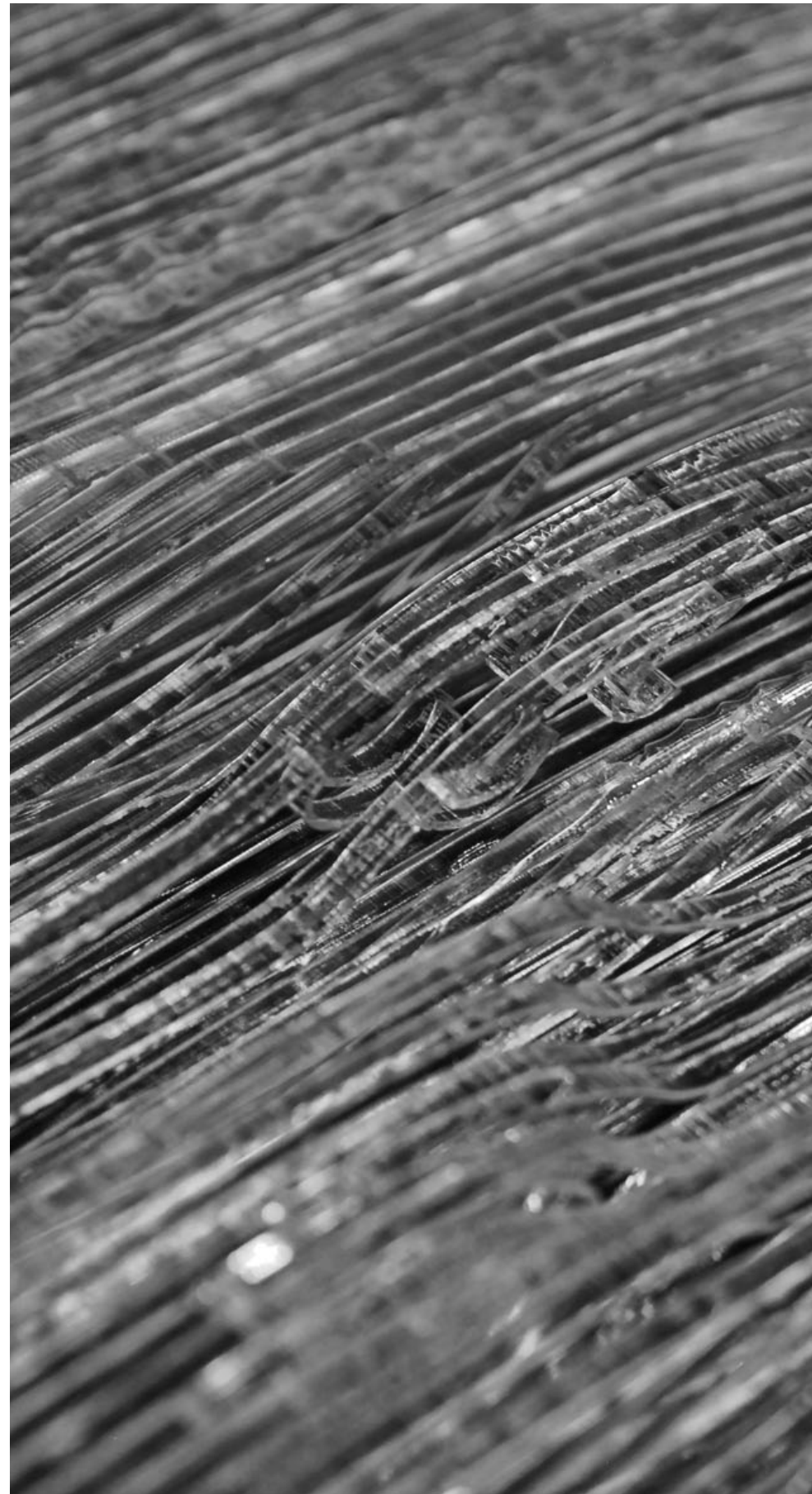**A Conversation amongst Converstaions**

the R&D centers in Cartuja and the productive networks of Andalucian firms, in agriculture, services (tourism), and manufacturing. These connections included easy telecommunications and communications links with the nodal centers of the region, particularly with Cadiz and Malaga, via the digital telecommunications network, freeway connections and even helicopter service (…). (Castells M. & Hall P., TW)

Tendency:
(ph);
();
(cy);
(hy) I begin a sentence, I work out an idea and when I consider it suggestive enough, I jump a step to another idea without bothering with the development. Developments are the episodes. I try to reach the tendency. Tendency is the change of level. (Virilio P., PW);
(ur);

Terrain:
(ph);
();
(cy);
(hy) (…) geography and the character of the ground bear a close and even-present relation to warfare. They have a decisive influence on the engagement, both as to its course and to its planning and exploitation (…).
Their principal effect lies in the realm of tactics, but the outcome is a matter of strategy. An engagement in the mountains is in itself and in its consequences quiet different from one on the plains (…).
Geography and ground can affect military operations in three ways: as an obstacle to the approach, as an impediment to visibility, an as cover from fire (…).
We shall find, as we examine the data as a whole, that there are distinct ways in which as area may differ from the concept of a lat and open plain: first in the contours of the countryside, such as its hills and valleys; second in such natural phenomena as forest, swamps and lakes and third in the factors produced by agriculture. Each of these ways contributes to the influence that geography exerts on military operations (…). (Von Clausewitz C., OW);
(ur);

Figure CXXXIV
Study Model,
G.U.M. Design Studio

A Conversation amongst Conversations

In concluding the series of conversations I will shift the frame of the conversation and draw longitudinal threads across, and through, the various conversations that have already taken place up to this point in the overall Metalogue on the Thickened Ground: Landscape Productions and Urban Morphologies.

The overall metalogue occurs around two pivot points:

1. The production of form produced by, for and through the design process. This occurs through the lenses of representation, landscape and form:

a. the order and scale of the field of complex systems
b. the resonating matter which is the producer of affects
c. the imbricated conditions of affect and field

2. The structure and order of urban morphologies is integral to composition of its parts

The questions set out by the work were;

- Could we consider urban morphologies as a figure that emerges as a 'horizontal phenomena', embedded within the complex systems of the city; that doesn't demarcate the city through an overlay of lines?

- Could the urban form then be considered as an affect which emerges from a dynamic thickened ground creating a new landscape?

- If the order of the landscape is inherent in its process of transformations, to what extent does this order produce the city?

Figure416
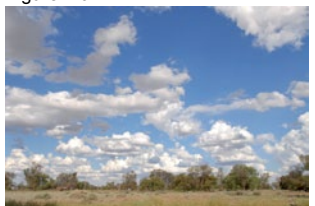
Figure417

Figure418

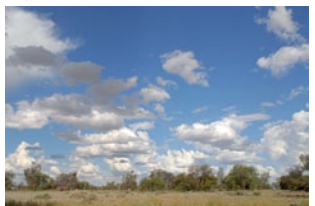Figure419

Figure420

Figure421

Figure422

Figure423

Territory
(ph);
();
(cy); The territory of an animal is, in reality, an aggregate of local charts, each associated with a well-defined motor or psychological activity (areas for hunting, congregating, sleeping, etc), and passage from one chart to another takes places through well-defined visual or olfactory markers. For certain animals some of these charts can extend over enormous distances, as with migrating birds, but here again the charts are centered on a territory and have a well-defined physiological vocation. (Thom, Rene; Structural Stability and Morphogenesis, pg 303)
(hy);
(ur);

Territorialization:
(ph);
();
(cy);
(hy);
(ur); This lining of the road system, most evident in the filling of the circular voids of the cloverleaves, demonstrates the basic of space-planning: highway columns are used as spatial dividers, foundation pads as workable surfaces, and open areas serve for the markets or the collection of materials(…) this type of territorialization of space represents a temporary but legal occupation of land without ownership, a general lining of the urban fabric. (Koolhaas R.,M) (pg674)

Threshold:
(ph);
();
(cy);
(hy
(ur); After all threshold is just another name for that privileged event-filled place at the edge of the envelope. (…) potential or already realized: congestion, short of which the 'metropolitan' effect would not exist; a new concept of Europe, its modalities of collecting, storing, and deploying energy based on a sudden "explosion of scale," and the multiple reorganizations that take place around it (…) (Kwinter S., FB); (pg 82)

Conversation of Conversations

"In the shop window you have promptly identified the cover with the title you were looking for. Following this visual trail, you have forced your way through the shop past the thick barricade of Books You Haven't Read, which are frowning at you from the tables and shelves, trying to cow you...And thus you pass the outer girdle of ramparts, but then you are attacked by the infantry of Books That If You Had More Than One Life You Would Certainly Also Read But Unfortunately Your Days Are Numbered. With a rapid maneuver you bypass them and move into the phalanxes of the Books You Mean To Read But There Are Others You Must Read First, the Books Too Expensive Now And You'll Wait Till They're Remaindered, the Books ditto When They Come Out in Paperback, Books You Can Borrow From Somebody, Books That Everybody's Read So It's As If You Had Read Them, Too."
Italo Calvino, If on a Winter's Night a Traveler

So what?

So I come to the point of my research where I ask: so what?! After sitting in front of the body of work contemplating how I would begin this conversation, I have pondered the various sources which may help frame a dialogue that addresses the 'so what?' question. My pondering led to a discovery of a range of enquiries, and the contemplation of the question from biological, musical and theoretical positions. An act of pinpointing the what beyond the singular definable object or outcome to the complexity of song and conversation.

Within the research I proposed an investigation, speculation, and enthrallment in the form of dialogues and a metalogue. It is a process-based methodology of discovery through which a multitude of questions is continually surfacing about how to conceive the emergence of the city and its morphology. There are questions about how the various threads of enquiry, representation, landscape and form operate as a set of intersecting and bifurcating lines of conversation that resonate within the larger metalogue.

In this concluding conversation it is not only a conversation with you but a conversation amongst conversations. There are conversations happening across pages, within

Conversation of Conversations

One often finds themselves sitting at the movie theatre just before the movie starts in the noisiest of situations; people ripping through chip packets, chomping on popcorn and slurping super size buckets of soft drink. While this 15 minutes of intense consumption of movie food is undertaken there is a field of conversation happening at the same time across the entire theatre; in front, to your left, right, behind and off into the distance. There is a muttering of conversations going on, each conversation unique in content, but in the field of noise all sounding the same, other than for the moment of interruption with laughter or the odd mobile phone ringing. I'm sitting there surrounded by this field of chatter, a conversation between myself and the person sitting next to me, a conversation amongst conversations, and a conversation about the conversations that continually resonates back into the spatial configuration of the theatre.

So what?

So I come to the point of where on reflection I ask: so what?! After sitting in front of the body of work contemplating how I would begin this conversation, I have pondered the various sources which may help frame a dialogue that addresses the 'so what?' question. My pondering led to a discovery of a range of enquiries, and the contemplation of the question from biological, musical and theoretical positions. An act of pinpointing the what beyond the singular definable object or outcome to the complexity of song and conversation.

Within the Phd I propose an investigation, speculation, and enthrallment in the form of dialogues and a metalogue. It is a process-based methodology of discovery through which a multitude of questions is continually surfacing about how to conceive the emergence of the city and its morphology. There are questions about how the various threads of enquiry, representation, landscape and form operate as a set of intersecting and bifurcating lines of conversation that resonate within the larger metalogue.

In this concluding conversation it is not only a conversation with you but a conversation amongst conversations. There are conversations happening across pages, within one singular conversation, conversations with other

Figure424

Figure425

Figure426

(ur) Our problem today remains one of the freeing ourselves from the impoverishments of mechanism (…) through the actualisation or incarnation of "free" or invisible difference, that is of virtuality, through the relentless invention of techniques whose task is to materialize the incorporeal by embedding everything in the flow of time (Sanford Kwinter, A Materialism of the Incorporeal, lecture at Columbia University, April 1997);

or

(…) it was no longer possible to show that one state of nature followed another by necessity rather than by utter caprice. Time, in other words, reappeared in the world as something real, as a destabilizing but creative milieu; it was seen to suffuse everything, to bear each thing along, generating and degenerating it in the process. (Kwinter S.,LOC)(pg52)

Time - inhabit:
(ph);
();
(cy);
(hy) For a long time the city existed just where it was (…). There was a territorial and geographical inertia. Now there's an inertia in time, a polar inertia, in the sense that the pole is simultaneously an absolute place (for the metaphor), absolutely inertia which is geographical locatable and also an absolute inertia in the planet's movement. We're heading toward a situation in which every city will be in the same place-in time. There will be a kind of coexistence, and probably not a very peaceful one, between these cities which have kept their distance in space, but which will be telescoped in time. When we can go to the antipodes in a second or a minute, what will remain of the city? What will remain of us? The difference of sedentariness in geographical space will continue but real life will be led in a polar inertia. (Virilio P., PW);
(ur);

Time – multiple:
(ph) What is simultaneous in a fixed system ceases to be simultaneous in a mobile system. Moreover, by virtue of the relativity of rest and movement, these contractions of

conversations. Each conversation is a lens into particular issue, concern and characteristic, but unavoidably the traits of one conversation seeps into the other. The overall metalogue of the work becomes an assemblage of all these lines of articulation and the multitude of cross sections which form can be seen as a similar act to that of the formation of a geological stratum taken through the crust of the earth.

In the overall metalogue, Conversation One sets up the principles of approach and definition for representation, as a map, recorder and expressive surface. Conversation Two explores the notion of landscape as a field of complex systems, where emergent form arises and continually remakes itself. Conversation Three explores the notion of body as city, and the city as an urban ecology that resonates, manifesting rhythms and flows of energy which produce the city.

Landscape Urbanism the Polemic

Landscape Urbanism: so what is it, and so what? Is it just another 'ism' that as designers we can latch ourselves onto, or is it a discourse to debate with the underlying intent of pursuing the limits and reclaiming a ground which desperately needs to be claimed within the inherent discipline of Landscape Architecture?

The emergent practice of 'Landscape Urbanism' where the ubiquitous problem of dealing with cities' 'dynamic and destabilizing tendencies' has been, and continues to be a central focus. The initial intention of the Landscape urbanism discourse was to reclaim the territory of the city; a widening of focus for the Landscape Architect and an acknowledgment of the discipline's capabilities to deal with the complexity of problems faced in the ever changing status of the urban environment.

Often the discourse on landscape urbanism is positioned and grounded within the philosophical and scientific fields as a means for its justification and its ability to open up the possibilities of how the discourse can be conceptualised; this needs to shift through a positioning within the disciplinary fields of architecture, landscape architecture and urbanism. Landscape urbanism over the past 15-20 years is one of the most important developments in the field

but the criticality of its contribution needs to be evaluated through design and therefore beyond the theoretical.

Is it a discourse or discipline? Some would argue that it is potentially both; a practice some may call it if it needs to be named. Unfortunately there have been tendencies to pigeonhole, dismiss, own or control this paradoxical position rather than debate the issues which have emerged from the territory of the contemporary urban environment it explores. Are we able to move beyond defining and debating the significance of the term. Can we me move beyond artifice to actually discuss the territory and how it produces the city Can we ask, what are the potential morphologies of the city. Can we ask, how might we consider the 'green terms': landscape, environment, ecology and so on.

In David Grahame Shane's article On The emergence of Landscape Urbanism (2003) the emergence of the landscape urbanism discourse is traced from the film Stalker, Georgia Daskalakis, Charles Waldheim and Jason Young's Stalking Detroit, Patrik Schumacher's After Ford to the more recent dialogues from Mohsen Mostafavi, James Corner and Charles Waldheim. The article although brief is a noteworthy point of reflection from the spate of publications produced around the discourse of landscape urbanism prior to its release. Shane identifies three key threads of enquiry connected to the main issues surrounding the discourse; the desire for an alternative city structure formed by an intricate assemblage of feedback loops, performative social patterns, adaptive complex urban morphologies linking an urban structure and ecological flows. He then turns around and argues that any true urban ecology provides feedback mechanisms to safeguard the future city from economic and social glitches. Shane's main criticism is against landscape urbanism's micro and bottom up approach. Its inability to address the social and economic concerns of the city is a factor he claims to be the evidence of a "true urbanity".

The PhD puts forth a set of principles which explore emergent urbanism where structure, organisation and form are imbricated conditions that emerge from a thickened ground and offer a continual feedback loop where the urban morphology has the ability to continually
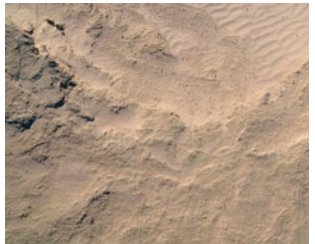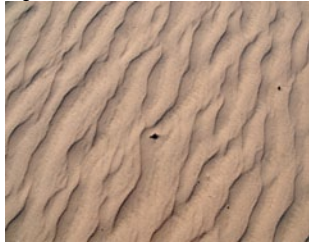

Figure427

Figure428

Figure429

Figure430

Figure431

Figure426

Figure432

extensity, these dilations of time, these ruptures of simultaneity even of accelerated movement, these contraction of extensity, these dilations of time, these ruptures of simultaneity become absolutely reciprical. In this sense there would be a multiplicity of times, a plurality of times, with different speed of flow, all real, each one peculiar to a system of reference. And as it becomes necessary, in order to situate a point, to indicate its position in time as well as in space, the only unity of time is in a fourth dimension of space. It is precisely this Space- Time bloc that actually divides up into space and into time in an infinity of ways, each one peculiar to a system.(…) Is time one or multiple? The true problem is " What is the multiplicity peculiar to time?" (…) Not only do virtual multiplicity imply a single time, but duration as virtual multiplicity is this single and same Time. (Deleuze G., B); (pg. 79-83)
();
(cy)
(hy) (…) your ancestor did not believe in a uniform, absolute time. He believed in an infinite series of times, in a growing, dizzying net of divergent, convergent and parallel time. This network of times which approached one another, forked, broke off, or were unaware of one another for centuries, embraces all possibilities of time. (Borges J.L., L)
(ur);

Time – Spatialized:
(ph) There are (…) two possible conceptions of time, the one free from all alloys, the other surreptitiously bringing in the idea of space. (…) We create (...) a forth dimension of space, which we call homogeneous time, and which enables the movement of the pendulum, although taking place at one spot, to be continually set in juxtaposition to itself. (Bergson H., TFW);
();
(cy)
(hy)
(ur); What would change in our arts, our sciences, and our technics if time were conceived as something real? (…) What is it about time's relentless fluidity, its irreducible materiality, that the modern mind finds so impossible – or repellent – to think?
But Western being, "the voices of our institutions will potest, "is time, and has been since the very dawn of modernity"- since the davent of rationalized accounting practices, the

remake itself. In the work the relational diagram orders and scales the city from the depths to the heights of the thickened ground in which the continual structuring of the diagram desires an on going feeding of information. This is evident in the conversation about the reservoir where the diagram is encoded with visible and invisible information drawn from the social, economic, political, environmental and infrastructural forces, which determine the field of a shared ground in which the relational and organisational structure for the urban landscape or city emerges. The generative diagram does not describe a project, it embodies the project, it has inherent abilities to accommodate fluctuations in time, and material irregularities. These are the qualities that enable the morphology of the city to be both highly constructed and open-ended. For the discipline of landscape architecture this identifies a shift from its obsession with the formal picturesque to an operative diagram that has performative characteristics. The qualitative and quantitative material characteristics of the landscape are inherently dynamic and functional in their nature, therefore producing not only an open indeterminate landscape but a producer of form for the urban landscape. A pursuit of material parametricism where the operations of complex systems, continuous differentiation, adaption and change over time are the producer of form; the parametric figuration expression from the urban landscape to the tectonic level of the surface

Landscape the Resonating Matter which is the Producer of Affects

With various publications inscribed with the title landscape urbanism, what becomes evident immediately is the compilation of articles that are connected in various formations from an array of disciplines. The term 'landscape urbanism' is often positioned and grounded within the philosophical and scientific fields as a means for its justification. However, what I argue in my PhD is that the ability to open up new possibilities in the conceptualisation of the discourse lie in the act of design, let alone the argument surrounding the origins of the diagram which often associated to the practice of landscape urbanism.

Landscape urbanism has been relegated to dealing with urban parks or the green common area surrounded by

buildings but a testing in the states of rapid urbanisation and urban renewal needs to be tackled as the old paradigm of planning is not capable of dealing with the changes faced by the urbanisation. Can we move away from thinking about landscape urbanism as a green artifice which is woven through the city to an approach for dealing with change and the production of our cities.

Within the continuous thread that weaves itself through the metalogue there was an attempt to position an understanding of the term landscape within a particular mode of practice which is referred to as a relational system and techniques based term where time is imbued within its operations; providing as Stan Allen suggests a model for process and change.

The works explored the term landscape shifting it from conjuring up images of the bucolic landscape to designating the term as a function and affect. The term landscape was not intended to act an object such as a piece of land, or singular territorial rights, as landscape in the work is neither a thing nor an adjective; but within this body of work it is to be considered as a system of interconnected parts where sets of relationships are changing in time, therefore the ways in which a landscape can be described remains infinite. More importantly, a landscape, insofar as the parts which are constituted within it can themselves changed in composition exceed any perceived limits or comparisons to a self-contained object. In this sense a landscape cannot be reduced to the sum of its individual parts for the forces that constitute these parts and the quantity of parts involved are also changing. The order of the landscape, so to speak, is inherent in its process of transformation; in fact one may suggest that a landscape's "order" may be a dynamic form of "ordering" whence new groups of parts and forces are assembled or ordered and also whence groups of parts and forces are dissolved. Through the work landscape is the act of assemblage, a dynamic interconnection that removes the subject/ object interface yet retains the specificity of the material systems at play. The landscape as a recorder, is then a constituent in the thickened ground. It is an assemblage that forms new assemblages through the existing social, environmental, economic, cultural, material forces and intensities. In the exploration of landscape, a re-ordering

Figure433

discovery of universal mechanical laws and constants, the application of systematic techniques for governing populations, the rise of humanistic disciplines and experimental method, the birth of Cartesian of modern "self." But the forms of time expressed in these seemingly disparate historical developments are not, strictly speaking, "real" at all, but only chimeras of an emerging and very specific instrumental culture; they are, in a word, abstractions – ingenious tools contrived to distribute the senseless procession of events in nature within an external, thinkable space of measure, manangement and mastery. (Kwinter S., AT) (pg4)

Top-Down Approach:
(ph);
();
(cy) AI researchers started out thinking that they could reproduce all of cognition through a 100 percent top-down approach: functions calling sub functions calling sub functions and so on, until it all bottomed out in some primitives. Thus intelligence was though to be hierarchically decomposable, with high-level cognition at the top driving low-level cognition at the bottom. (…) some bottom-up processing was allowed to occur within essentially a top-down contex, the trend has been shifting. But there still is a large element of top-down quality in AI. (Hoftadter D., MT);
(hy);
(ur);

Topology:
(ph);
();
(cy) A branch of mathematics that ignores quantities and deals only with the formal relations between components, especially components that can be represented geometrically. Topology deals with those characteristics (e.g., of a surface or body) that will remain unchanged under quantitative distortion. (Bateson G., MN); (p230)
(hy);
(ur);Topology considers superficial structures susceptible to continuous transformations which easily change in their form, the most interesting geometric properties common to all modifications being studied. Assumed is an abstract material of ideal deformability which can be deformed, with the exception of disruption.(Lynn G., FBB) (pg 124) P

from the passive to a dynamic field of change can be advanced by introducing changes to architectural drawing or modelling conventions. This PhD has described just such a shift from the standard modes of representing a project to modes in which time and technique are imbued in the representation.

City: the Imbricated Conditions of Affect and Field; the Production of Urban Form.

The projects which are often associated to the discourse of landscape urbanism have been inherently discussed through small scale projects and urban parks, consequently arguing that the discourse predominantly lies, and is most influential, at the scale of the city. These can be seen as case studies for larger urban projects for how the urban form can be reconsidered and where the capabilities of discourses are most effective. With the problems and complexities of the urban environment, architecture or the micro project can not solely solve these problems, therefore it is important to go back to landscape and reinvigorate its role in urbanism in order to deal with these issues.

To speak of a city is to also speak of, or suggest, its potentialities for change, its potentiality for its social, economical and cultural borders within its territorial boundaries to be transformed. To speak of a city, as landscape architects, is to speak of how we can promote these transformations. The urban theorist Alex Wall writes that a city may be treated as an "urban surface" which is "dynamic and responsive; like a catalytic emulsion" capable of generating new urban, architectural and landscape forms comprising of new gatherings of forces. The change that happens within a city is not telic; it does not necessarily need to move toward a utopian end forecast by jurisdictional and governmental authorities. The city's life does respond to the activities that its people perform. Again, as Wall reminds us, the city is a "functioning matrix of connective tissue" where an action performed or an alteration to the city's physical form can unfold a series of unexpected affects; a change in one assemblage of parts and forces can generate change in another, and so forth. The life of a city, the macro and micro events that take place within it, are not mapped out. The affective change between events will unfold in time; in fact, one may consider the city's surface to really be this event of

unfolding, and the agent for the transformation of these patterned assemblages. This allows for a coexistence of both urban and natural systems in a defining set of complex systems, that when faced with global problems of economic change or severe environmental impact have embedded capacities for dealing with variation and change in habitation.

The model of emergence positions the morphology of the urban within a dynamic field of performance where the thickened ground and its multiple relational fields are ingrained with inherent rhythms, cycles and tendencies for patterns changing over time. These assemblages are in a continual state of transformation, passing through one state into another, a state of modulation where the resonating patterns of transformation are never repeated. This can be evidenced as a thread throughout the overall metalogue with a multitude of examples such as the resonating relational fields where flows and forces are continually remaking the assemblage. The urban morphology which emerges as the city; its patterns of organisation and associated fields of information, sensitive systems, material performance and affects have a desire for coherence and discern to a certain extent in its formation.

Within the work I argue that material agency is where time and technique are mutually exclusive. The processes and transformation in form, space and materiality have a profound effect on the way they formulate the world; where form and material have aesthetic and qualitative concerns but also performative, instrumental, and productive effects, in which time and processes are fundamental material practices.

Throughout the various conversations in this metalogue I have continually drawn attention to the scale and order of the field that constructs the sets of complex systems at play. Scale and order identify the material behavior at play, where the set of complex systems within the field of the landscape is defined for that particular moment in time. Scale is not the quantitative measure for the world but a framing and ordering device for the logic of succession and transfer of knowledge amongst the set of systems which organise the city.

Figure434

Figure435

Figure436

Figure437

Typology:

(ph)

( );

(cy);

(hy);

(ur); The typology of natural order is always underwritten by the variable measurement of difference between and within species. For instance, the evolutionary From frog to Apollo", which appeared in the 1803 edition of Johann Caspar Lavater's Physiognomische Fragmente, exploited both the constellation of particularities and differences between the frog and the ideal man and a continuous and general faciality that registers these differences. (Lynn G., MIN); (pg33)

Tracing:

(ph) (…) it is inaccurate to say that a tracing reproduces a map. It is instead like a photograph or X ray that begins by selecting or isolating, by artificial means such as colorations or other restrictive procedures, what it intends to reproduce. The imitator always creates a model, and attracts it. The tracing has already translated the map into an image (…). It has organized, stabilized, neutralized the multiplicities according to the axes of significance and subjectification belonging to it. It has generated, structuralized the rhizome, and when it thinks it is reproducing something else it is in fact only reproducing itself (…). What the tracing reproduces of the map or rhizome are only impasses, blockages, incipient taproots, or points of structuration. (Deleuze G., Guattari F., TP); (pg13)

P

();

(cy);

(hy);

(ur);

Tree Structure:

(ph);

();

(cy);

(hy);

(ur); A collection of sets form a tree if and only if, for any two sets that belong to the collection, either one is wholly contained in the other, or else they are wholly disjoint. (…) since this axiom excludes the possibility of overlapping sets, there is no way in which the semi-lattice axiom can be violated, so that every tree is trivially a simple semi-lattice (…).
It is not merely the overlap which makes the distinction between the

Landscape offers a model where the actual formal constructs of a project are embodied in a highly constructed yet open ended condition in which the imbricated condition where affect and field are inherently knotted together giving the thickened ground the rules of behavior of how the rhythms, cycles and tendencies of the materials and set of complex systems play. Understanding urban organisation as complex systems dismantles the idea of the city as a closed object and enables the modulation of such plasticity through the desire of continual opportunism and readjustment. This suggests an interdependency between fields, and as a consequence, proliferates potentialities within the fields. I suggest that this shift to tendencies, intensities, probabilities and iteration sets up order, production and control for the city through a self governing system of feedback loops.

The Clue:
the Order and Scale of the Field of Complex Systems

Contrary to Sherlock Holmes would commonly say 'when you have eliminated the impossible, whatever remains, however improbable, must be the truth…'.Whatever the truth may be, a method of reasoning, a process of elimination, the going back and forth and linking of clues in the field of information, is a process of Cartesian reasoning for Holmes. From the singular Cartesian system to multiple systems of mapping; seeing cognitively, mapping the visible and invisible, the self referential, a referencing of movement through space, the twists and turns and subtle undulations where relational positions emerge. The visual mapping, with no distinct figure or landmark as a means for its orientation, references qualitative dimensional clues which when assembled together form the map .With each case, Holmes would be sensitive to the underlying structures and shifts in the city; the city's hidden clues, the invisible forces at play, the hidden lines which demarcate diverse territories, the rustling of objects in obscure corners, the sudden movement of trees by a passing gust of wind, the affect of the multiple forces at play; these lead to an unraveling and formation of the city which is often unknown or hidden unless actively sought. Constructing the city isn't a static or singular act, but cumulative and intertwined in its viewing of the world and its making. Within my Ph.D the mapping of terms in the glossary, the

threading of multiple conversations, or the compilation of various modes of my practice, are an ordering not only to the overarching structure of the Ph.D but also an approach for how I might consider the ordering of the city. Whether it is with the recorder, in particular the turbulent movement of Terra Fluxus or the twisting, cranking, crinkling and folding of the paper recorders in States of Change, the viewing of the world, its emerging rhythms and tendencies which aren't neatly ordered on one hand, but neither completely chaotic, produce the recorder for invisible and visible forces for the producer of the city. The recorder wasn't just the mirror which reflected the flows, but an extension of, and participant in, the complexity and transformation which was occurring. The singular image or drawing struggles to capture this, as it was incredibly complex and required a multitude of mages to capture its tendencies, as the material of the recorder itself required a long period of time to fully comprehend the affects.

What I'm proposing in my PhD is a way to consider the diagram not as an applied condition over the urban landscape but as an emergent condition which organises the urban through a set of relational systems. The diagram is a material condition which emerges from the field of complex systems, recording and mapping the resonating material affect of the informational flows which are in a continual state of flux, a continual state of remaking, yielding a multiplicity of possible futures. The diagram is not a representation of the organisational structure of the city but the city itself.

Figure 00

Bibliography

Alpahbetical

A

Any Magazine 23: Diagram Work: Data Mechanics for a Topological Age, New York, 1998

Archigram, Archigram, London, Archigram Group, 1961-1970.

Alexander, Christopher, Pattern language: towns, buildings, construction, New York, Oxford University Press, 1977

Arthus-Bertrand, Yann, Earth from the air, London, Thames & Hudson, 1999.

Aardent

Alberti, Leon Battista, On Painting, London, Penguin, 1991

Alberti, Leon Battista, On the Art of Building in Ten Books (trans. By Joseph Rykwert, Neil Leach & Robert Tavernor), London, The MIT Press,1998

Allen, Stan, Points + Lines: Diagrams and projects for the city, New York, Princeton Architectural Press, 1999.

Allen, Stan, Practice: Architecture, Technique and Representation. London, Routledge, 2000.

Allen, Stan, From Object to Field. Architectural Design Vol 67 5/6: Architecture After Geometry, London, John Wiley & Sons, May-June1997.

Anderson, Sanford(ed.), On Streets, Cambridge, Massachusetts ,The MIT Press, 1978.

Arendt, Hannah, The Human Condition, Chicago, The University of Chicago Press,1989.

B

Bacon, Mardeges, Le Corbusier in America: Travels in the Land of the Timid, Cambridge, Massachusetts, The MIT Press, 2001.

Banham, Reyner. Theory and Design in the Machine Age. 2nd ed. New York: Praeger Publishers, 1967.

Banham, Reyner, Megastructure: Urban Futures of the Recent Past, New York, Harper and Row, 1976.

Bascom, W.H, Waves and Beaches, New York, Doubleday, 1974. Anthropomorphic

Bateson, Gregory, Mind and Nature: A necessary Unity, New York, E.P. Dutton, 1979.

Bateson, Gregory, Steps To an Ecology of Mind, Chicago, The University of Chicago Press,1972.

Batty, Michael, Cities and Complexity: Understanding cities with cellular Automata, Agent based Models and Fractals, Cambridge, Massachusetts, The MIT Press, 2005.

Benevolo, Leonardo, The Origins of Modern Town Planning, London, Routledge & Kegan Paul, 1967.

Burns, Carol "on Site", in Andrea Kahn, Drawing Building Text, New York, Princeton Architectural Press, 1991.

Berger, Alan, Drosscape, New York, Princeton Architectural Press, 2006.

Berson, Henri, Creative Evolution, Lanham, Md, University Press, 1983

Bergson, Henri, Matter and Memory, New York, Zone books, 1988

Buissert, David (ed.), Envisioning the City: Six Studies in Urban Cartography, United States of America, The University of Chicago Press, 1998.

Burns, Carol J.& Kahn, Andrea, Site matters: design concepts, histories and strategies. New York, Routledge,2005.

Byvanck, Valentijn(ed.), Superstudio: the Middleburg Lectures, Netherlands, Zeeuws Museum,2005.

C

Cache, Bernard, Earth Moves: The furnishing of Territories, Cambridge, Massachusetts, The MIT Press,1995.

Cassar, Silvio(ed.) Peter Eisenman: Feints, Milan, Skira, 2006

Czerniak, Julia(ed.), Case: Downsview Park Toronto, Munich, Prestel, 2001

Chaoy, Francoise, The Modern City: Planning in the 19th century, New York, George Braziller, 1969.

Chaoy, Francoise, The Rule and the Model: On the theory of Architecture and Urbanism, Cambridge Massachusetts, 1980.

Colebrook, Claire, Gilles Deleuze, London, Routledge, 2002

Colebrook, Claire, Understanding Deleuze, Crows Nest , Allen & Unwin, 2002.

Corner, James, Taking measures across the American Landscape. United States, Yale University Press, 1996.

Corbusier, Le, Aircraft, London, The studio publications, 1935.

Corbusier, Le, The City of Tomorrow and Its Planning, Great Britain, The Architectural Press, 1971.

Corbusier, Le, Radiant City: Elements of a doctrine of urbanism to be used as the basis of our machine-age civilization, London, faber & faber, 1967.

Corner, James(ed.), Recovering landscape: essays in contemporary landscape architecture. Princeton Architectural Press. New York, 1999.

Corner, James, Not unlike life itself: Landscape strategy no win Rising ambitions, Expanding terrain, Harvard Design Magazine, Fall 2004/Winter 2005, No 21, Harvard University Graduate School of Design: Cambridge, Massachusetts, [1997-

Cosgrove, Denis, Apollo's Eye: A cartographic genealogy of the earth in the western imagination, Maryland, The John Hopkins University Press, 2001.

Casey, Edward S., Earth-mapping: Artists Reshaping Landscape, Minneapolis, University of Minnesota Press. 2005.

Cosgrove, Denis E., Social formation and symbolic Landscape. United States of America, The University of Wisconsin Press, 1998.

Cosgrove, Denis, "Liminal Geometry and Landscape: Construction and Representation" in James Corner, Recovering Landscapes, New York, Princeton Architectural Press, 1999.

Cosgrove, Denis (ed.), Mappings, London, Reaktion, 2002.

Cosgrove, Denis & Stephen Daniels (ed.), The Iconography of Landscape. Cambridge, Cambridge University Press(8th Edition), 2004.

Bateson, Gregory, Mind and Nature. London, Wildwood House Limited, 1979.

Bergson, Henri, Matter and Memory. New York, Zone Books, 1994.

Bergson, Henri, Creative Evolution, New York, Dover, 1998.

Braudel, Fernand, Capitalism & Material Life, 1400-1800, London, Fontana, 1979.

D

Daskalakis, Georgia, Waldheim, Charles & Jason Young, Stalking Detroit, Barcelona, Actar, 2001.

Giles Deleuze, Bergsonism, New York, Zone Books, 1991

Deleuze, Gilles. Expressionism in Philosophy: Spinoza, New York, Zone Books, 1988.

Deleuze, Gilles, Francis Bacon: The logic of sensation, Minneapolis, University of Minnesota Press,2002.

Deleuze, Gilles and Guattari, Felix, One the Line, New York, Semiotext(e), 1983.

Deleuze, Gilles and Guattari, Felix. A Thousand Plateaux: Capitalism and Schizophrenia. Minneapolis, University of Minnesota Press, 1988.

Deleuze, Gilles, Foucault. Minneapolis, University of Minnesota Press,

Minneapolis, 1998.

De Landa, Manuel. A Thousand Years of Nonlinear History. Cambridge, New York, Zone Books, 1997.

De Landa, Manuel. War in the Age if Intelligent Machines. New York, Swerve Editions, 1991.

De Landa, Manuel, Intensive Science & Virtual Philosophy. New York, Continuum, 2002.

Dephew ,David and Weber ,Bruce, Darwinism Evolving: Systems Dynamics and the Genealogy of Natural Selection, Cambridge, Massachusetts, The MIT Press, 1995.

Derrida, Jacques, Edmund Husserl's Origin of Geometry: An Introduction, United States of America, University of Nebraska Press. 1989.

E

Eames, Ray & Charles, Powers of Ten: about the relative size of things in the universe, New York, Scientific American Library, 1982.

Eaton, Ruth, Ideal Cities: Utopianism and the (Un) Built Environment, London, Thames and Hudson, 2002.

Eisenman, Peter, Diagram Diaries, London, Thames & Hudson, 1999.

Eisenman, Peter, Blurred Zones: investigations of the interstitial: Eisenman Architects 1988-1998, New York, Monacelli Press, 2002

Evans, Robin, Translations from Drawings to Building and Other Essays, London, Architectural Association Press, 1997.

F

Fechner, Michel & Kwinter, Sanford (ed.), Zone 1/2: The Contemporary City, New York, Zone Books,1987

Fishman, Robert. Urban Utopias in the twentieth Century: Ebenezer Howard, Frank Lloyd Wright & le Corbusier. Cambridge, Massachusetts, The MIT Pres (8th Edition), 1999.

Foucault, Michel, Archaeology of Knowledge, London, Tavistock Publication, 1972.

Foucault, Michel, Discipline and Punish: the birth of the prison, London, Penguin, 1977.

Foucault, Michel, The Order of Things, London, Routledge, 1986

Foucault, Michel, The Birth of the Clinic, London, Routledge, 1986

Foucault, Michel, This is not a pipe, Berkeley & Los Angeles, University California Press, 1983.

Foster, Hal, The Anti-Aesthetic: essays on post-modernism culture, Seattle, Bay Press, 1983.

Freidman, Yona, Drawings and montages from the collection of Yona Friedman, Kitakyushu, CCA Kitakyushu, 2005.

Frampton, Kenneth. "Modern Architecture and the Critical Present", in Architectural Design, 1982, July/August,

Frampton, Kenneth, "Toward and Urban Landscape," in Columbia Documents, New York, Columbia University, 1995.

G

Garnier, Tony. Une Cité Undustrielle. Translated by Andrew Ellis, New York, Rizzoli, 1990.

Geddes, Patrick, Cities in Evolution, London, Williams and Norgate, 1950

Gell-Mann, Murray, The Quark and the Jaguar: Adventures in the Simple and the Complex, Great Britain, Abacus Books, 2002.

Girot, Christophe (ed.), Landscape Architecture in Mutation: essays on urban landscape, Zurich, Institute for Landscape Architecture: ETH Zurich, 2005.

Gleick, James. Chaos: The Amazing Science of the Unpredictable. London, Vintage, 1998.

Goodchild, Phillip, Deleuze and Guattari: An Introduction to the Politics of Desire, London, Sage Publications, 1996.

Goodwin, Brian, How the leopard changed its spots: The Evolution of Complexity, Great Britain, Phoenix Paperback, 1994

Gruen, Victor, The heart of our Cities: The Urban Crisis, Diagnosis and Cure, New York, Simon and Schuster, 1964.

Gruen, Victor, Centers for the Urban Environment: Survival of the Cities, New York, Van Nostrand Reinhold, 1973.

Guattari, felix, Chaosmosis: an ethico- aesthetic paradigm, Sydney, Power publications, 1995.

H

Hardt, Michael & Negri, Antonio, Empire, Cambridge, Massachusetts, Harvard University Press, 2001.

Hays,K.Michael(ed.), Architecture Theory Since 1968. Massachusetts, Columbia Books of Architecture. The MIT Press, 2002.

Hays,K.Michael(ed.), Oppositions Reader, Princeton Architectural Press

Hilberseimer, Ludwig, New Regional Patterns: Industries and gardens, workshops and farms, Chicago, Poole Brothers Inc, 1949.

Hilberseimer, Ludwig, The Nature of Cities, Chicago, Paul Theobald & Company, 1955.

Hilberseimer, Ludwig, The New City: Principles of Planning, Paul Theobald, 1944.

Holland, John, Emergence from chaos to order, Oxford University Press, 1998.

Howard, Ebenezer. Garden Cities of To-Morrow. London, Faber and Faber Ltd., 1946.

I

J

Johnson, Steven, Emergence: The connected lives of Ants cities and software, New York, Touchstone 2002.

K

Kahn, Andrea, Drawing, Building, Text. New York, Princeton Architectural Press. 1991.

Kauffman, Stuart. The Origins of Order: Self-organisation and Selection in Evolution, New York, Oxford University Press, 1993.

Kauffman, Stuart. At Home in the Universe: the search for the Laws of Self-Organisation and Complexity. London, Oxford University Press, 1995

Kelly, Kevin, Out of Control: the new Biology of the Machine. London, Fourth Estate,1994.

Kelso, J.A., Dynamic Patterns: the self-organisation of brain and behaviour, London and Cambridge, Mass, The MIT Press, 1999.

Kemp, Martin, The Science of Art: optical themes in western art from Brunelleschi to Suerat, New Haven, Yale University Press, 1990.

Kepes, Gregory (ed.), Structure in art and in Science, New York, George Braziller,1965.

Kepes, Gregory(ed.), Module Proportion Symmetry, Rhythm, New York,

George Braziller,1996..

Kline, Morris, Mathematical Thought: From Ancient To Modern Times (Volume1), New York, Oxford University Press, 1972.

Koolhaas, Rem, Delirious New York, Rotterdam, 010 Publishers, 1994.

Koolhaas, Rem, S,M,L,XL, New York, The Monacelli Press, 1995.

Koolhaas, Rem, Mutations / Rem Koolhaas, Harvard Project on the City ; Stefano Boeri, Multiplicity ; Nadia Tazi, Hans Ulrich Obrist, Barcelona, Actar ,, 2000.

Kostof, Spiro, City Shaped: urban patterns and meanings through history, London, Thames and Hudson, 1999.

Koyre, Alexandre, From the Closed World to the Infinite Universe, Baltimore, John Hopkins University Press, 1957.

Krell, David Farrell, A Malady of Chains. Architectural Design Vol 67 5/6: Architecture After Geometry, London, John Wiley & Sons, May-June1997.

Kultermann, Udo, Kenzo Tange 1946-1969: Architecture & Urban Design, London, Pall Mall Press, 1970.

Kwinter, Sanford, Emergence or the artificial life of space, in Davidson, Cynthia, Anywhere, Rizzoli: New York, 1993.

Kwinter, Sanford , Landscapes of Change. Assemblage (19), Cambridge, Masachusetts, The MIT Press, 1992.

Kwinter, Sanford, Architectures of Time: Towards a Theory of the Event in Modernist Culture, Cambridge Massachusetts, The MIT Press, 2001.

L

Lang, Peter & Menking, William, Superstudio: life without objects, Milan, Skira, 2003

Latour, Alessandra(ed.) Louis I. Kahn: Writings, Lectures, Interviews, New York, Rizzoli, 1991.

Lefaivre, Liane & Tzonis, Alexander (ed.), Critical Regionalism: Architecture and Identity in a Globalised World, Munich, Prestel,2003.

Le Gates, Richard T. & Stout, Frederic, The City Reader, London, Routledge, 1996.

Lerup, Lars, After The City, Cambridge, Masachusetts, The MIT Press, 2000.

Lynn, Greg, Probable Geometries, in ANY, New York Anyone Corporation, 1993.

Lynn, Greg (ed.), Architectural Design 102: Folding in Architecture, London, John Wiley & Sons, 1993.

Lynn, Greg, Animate Form, New York, Princeton Architectural Press, 1999.

Lynn, Greg, Folds, Bodies & Blobs: Collected Essays, La Lettre Volee, 1998.

Lynn, Greg, Geometry in Time in Cynthia C. Davidson (ed.), Anyhow, New York Anyone Corporation, 1998.

Lynn,Greg, Multiplicitous and Inorganic Bodies. Assemblage (19), Cambridge, Masachusetts, The MIT Press, 1992.

M

McHarg, Ian L. Design with Nature, New York, John Wiley & Sons, 1992.

Marx, Karl, Capital: a critique of political economy Volume 1, Harmondsworth, Penguin, 1976

Marx, Karl, Capital: a critique of political economy Volume 2, Harmondsworth, Penguin, 1978

Massumi, Brian, A User's Guide to Capitalism and Schizophrenia, Cambridge, Massachusetts, MIT Press, Swerve Editions,1992.

Massumi, Brian, Parables of the Virtual: movement, affect, sensation, Durham, Duke University Press,2002.

Massumi, Brian, "The Evolutionary Alchemy of Reason" in Marquard Smith Stelarc, (Cambridge, Massachusetts, The MIT Press, 2005.

Matless, David, Landscape Englishness, London, Reaktion Press, 1998.

Maclean, Alex S., Designs on the Land: exploring America from the air, London, Thames & Hudson, 2003.

Mostafavi, Mohsen & Najle, Ciro, Landscape Urbanism: A Manual for the Machinic Landscape, London, Architectural Association, 2003

N

O

P

Pai, Hyungmin, The Portfolio and the Diagram: Architecture, Discourse, and Modernity in America, Cambridge Massachusetts, The MIT Press, 2002.

Peppiatt, Michael, Francis Bacon: Anatomy of an Enigma, Great Britain, A Phoenix Giant Paperwork,1999.

Picon, Antoine & Ponte, Alessandra (ed.), Architecture and the Sciences: exchanging metaphors, New York, Princeton Architectural Press, 2003.

Plato, Republic, New York, W. Norton, 1985

Pommer, Richard, Spaeth, David and Harrington, Kevin, Ludwig Hilberseimer; Architect, Educator, and Urban Planner, New York, The art institute of Chicago in Association with Rizzoli International publications, 1988.

Prigogine, Ilya, From Being to Becoming : Time and Complexity in the Physical Sciences New York , W. H. Freeman and Company, c1980

Prigogine, Ilya, Introduction to Thermodynamics of Irreversible Processes, Chichester, John Wiley, 1967.

Prigogine, Ilya & Stengers, Isabelle, Order out of chaos: man's new dialogue with nature, London, Bantam Books, 1984.

Q

R

Rainbow, Paul, The Foucault Reader, Harmondsworth, Penguin, 1984.

Reeser, Amanda & Schafer, Ashley. 2004, Landscapes. Praxis: journal of writing + building, (4), New York, Praxis Inc, [1999-

Rose, Nikolas, Democracy, Citizenship and the Global City, London, Routledge, 2000.

Rose, Nikolas, Powers of Freedom, United Kingdom, Cambridge University Press, 1999.

Rossi, Aldo, The Architecture of the City, Cambridge Massachusetts, Opposition Books, 1994

Rowe, Colin, Collage City, London, MIT Press, 1978.

Rowe, Colin, Transparency, Basel, Birkhauser, 1997.

Rowe, Peter G. Making a Middle Landscape, Cambridge: MIT Press, 1991.

Rybczynski, Witold. A Clearing in the Distance: Frederick Law Olmsted and America in the

Nineteenth Century., New York, Scribner, 1999.

S

Sadler, Simon, Archigram, Architecture Without Architecture, Cambridge, Massachusetts, MIT Press, 2005.

Sarkis, Hashim(ed.), Le Corbusier's Venice Hospital and the Mat Building Revival, Munich, Prestel, 2001.

Sassen, Saskia, Global Networks, Linked Cities, London, Routledge, 2002.

Smithson, Alison & Peter, Urban Structuring: Studies of Alison & Peter Smithson, London,Studio Vista/ Reinhold Publishing Corporation, 1967.

Scheper, George L. "The Reformist Vision of Frederick Law Olmsted and the Poetics of Park Design."in The New England Quarterly 62:3 (September 1989): 369–402.

Schuyler, David. The New Urban Landscape: The Redefinition of City Form in Nineteenth Century America' Baltimore' Johns Hopkins University Press, 1986.

Soleri, Paolo, Archology: the city in the image of man, Cambridge, Massachusetts, MIT Press, 1969.

Somol, Robert & Whiting, Sarah, Doppler Effect. Perspecta: Yale Architecture Journal, (33), New Haven Connecticut, Yale University, [1952-.

Swaffield, Simon(ed.), Theory in Landscape Architecture: a Reader, Philadelphia, University of Pennsylvania Press, 2002.

Sylvester, David, The Brutality of Fact: Interviews with Francis Bacon, New York, Thames & Hudson,1987.

T

Taylor, Mark C., The Moment of Complexity: Emerging Network Culture, Chicago, The University of Chicago Press, 2003.

Thom, Rene, Structural stability and morphogenesis: an outline of a general theory of models, California, Addison-Wesley, 1989.

Thompson, D'Arcy Wentworth, On Growth and Form: the complete revised edition, Dover Publications, New York, 1992.

Thompson, Morris M, Maps for America: cartographic products of the US geological survey and 0thers, 2d ed. Washington, D.C, US department of the interior, 1981.

Tschumi, Bernard, Event Cities(praxis), London, The MIT Press, 1994.

Tschumi, Bernard. Cinégramme Folie: Le Parc de La Villette. Princeton, N.J.,Princeton Architectural Press, 1987.

Tschumi, Bernard, "The la Villette Competition" in (On landscape) Princeton Journal vol. 2, 1985.

U

V

Van Schaik, Martin(ed.), Exit Utopia: Architectural provocations, 1956-76, Munich, Prestel, 2005

Vidler, Anthony, Claude-Nicolas Ledoux: architecture and Utopia in the era of the French Revolution, Basel, Birkhauser, 2006

Vidler, Anthony, Claude- Nicolas Ledoux: Archiecture and Social Regorm at the end of Ancien Regime, London, MIT Press, 1990

Vitruvius, Ten Books on Architecture (trans.by Morris Nicky Morgan), New York, Dover, 1960

W

Waddington, Conrad,.H, The Strategy of Genes, New York, Macmillian Press, 1957.

Walter, Volker M., Biopolis: Patrick Geddes and the City Life, Cambridge, Massachusetts, The MIT Press. 2002

Waldheim, Charles (ed.), Hilberseimer/Mies Van der Rohe: Lafayette Park Detroit.(Case: Harvard Design School). New York, Prestel Verlag, 2004.

Waldheim, Charles (ed.), The Landscape Urbanism Reader, New York, Princeton Architectural Press, 2006.

Wigley, Mark, Constant's New Babylon: The Hyper-Architecture of Desire, Rotterdam, 010 Publishers, 1998.

Norbert Wiener, Cybernetics or Control and Communication in the Animal and the Machine, Cambridge, Massachusetts, The MIT Press, 1961.

Whitehead, Alfred North, The Concept of Nature, Cambridge University Press, 1920

Wolfram, Stephen, A New Kind of Science, Illinois, Wolfram Media, 2002.

Wright, Frank Lloyd, Disappearing City, New York, WF Payson, 1932.

Wright, Frank Lloyd, Living City, New York, Mentor, 1963.

X

Y

Z

Bibliography

Chronological

1910
1911
1912
1913
1914
1915
1916
1917
1918
1919
1920
Whitehead, Alfred North, The Concept of Nature, Cambridge University Press, 1920

1921
1922
1923
1924
1925
1926
1927
1928
1929
1930

1931
1932
Wright, Frank Lloyd, Disappearing City, New York, WF Payson, 1932.
1933
1934
1935
Corbusier, Le, Aircraft, London, The studio publications, 1935.
1936
1937
1938
1939
1940

1941
1942
1943
1944
Hilberseimer, Ludwig, The New City: Principles of Planning, Paul Theobald, 1944.
1945
1946
Howard, Ebenezer. Garden Cities of To-Morrow. London, Faber and Faber Ltd., 1946.
1947
1948
1949
Hilberseimer, Ludwig, New Regional Patterns: Industries and gardens, workshops and farms, Chicago, Poole Brothers Inc, 1949.
1950
Geddes, Patrick, Cities in Evolution, London, Williams and Norgate,
1950

1951
1952
Somol, Robert & Whiting, Sarah, Doppler Effect. Perspecta: Yale Architecture Journal, (33), New Haven Connecticut, Yale University, [1952-.

1953
1954
1955
Hilberseimer, Ludwig, The Nature of Cities, Chicago, Paul Theobald & Company, 1955.
1956
1957
Koyre, Alexandre, From the Closed World to the Infinite Universe, Baltimore, John Hopkins University Press, 1957.
Waddington, Conrad,.H, The Strategy of Genes, New York, Macmillian Press, 1957.
1958
1959
1960
Vitruvius, Ten Books on Architecture (trans.by Morris Nicky Morgan), New York, Dover, 1960

1961
Norbert Wiener, Cybernetics or Control and Communication in the Animal and the Machine, Cambridge, Massachusetts, The MIT Press, 1961.
1962
1963
Wright, Frank Lloyd, Living City, New York, Mentor, 1963.
1964
Gruen, Victor, The heart of our Cities: The Urban Crisis, Diagnosis and Cure, New York, Simon and Schuster, 1964.
1965
Kepes, Gregory (ed.), Structure in art and in Science, New York, George Braziller,1965.
1966
1967
Banham, Reyner. Theory and Design in the Machine Age. 2nd ed. New York: Praeger Publishers, 1967.
Benevolo, Leonardo, The Origins of Modern Town Planning, London, Routledge & Kegan Paul, 1967.
Corbusier, Le, Radiant City: Elements of a doctrine of urbanism to be used as the basis of our machine-age civilization, London, faber & faber,
1967
Prigogine, Ilya, Introduction to Thermodynamics of Irreversible Processes, Chichester, John Wiley, 1967.
Smithson, Alison & Peter, Urban Structuring: Studies of Alison & Peter Smithson, London,Studio Vista/ Reinhold Publishing Corporation, 1967.
1968
1969
Chaoy, Francoise, The Modern City: Planning in the 19th century, New York, George Braziller, 1969.
Soleri, Paolo, Archology: the city in the image of man, Cambridge, Massachusetts, MIT Press, 1969.
1970
Archigram, Archigram, London, Archigram Group, 1961-1970.
Kultermann, Udo, Kenzo Tange 1946-1969: Architecture & Urban Design, London, Pall Mall Press, 1970.

1971
Corbusier, Le, The City of Tomorrow and Its Planning, Great Britain, The Architectural Press, 1971.
1972
Bateson, Gregory, Steps To an Ecology of Mind, Chicago, The University of Chicago Press,1972.
Foucault, Michel, Archaeology of Knowledge, London, Tavistock Publication, 1972.
Kline, Morris, Mathematical Thought: From Ancient To Modern Times

(Volume1), New York, Oxford University Press, 1972

1973
Gruen, Victor, Centers for the Urban Environment: Survival of the Cities, New York, Van Nostrand Reinhold, 1973.

1974
Bascom, W.H, Waves and Beaches, New York, Doubleday, 1974. Anthropomorphic

1975

1976
Banham, Reyner, Megastructure: Urban Futures of the Recent Past, New York, Harper and Row, 1976.
Marx, Karl, Capital: a critique of political economy Volume 1, Harmondsworth, Penguin, 1976

1977
Alexander, Christopher, Pattern language: towns, buildings, construction, New York, Oxford University Press, 1977
Foucault, Michel, Discipline and Punish: the birth of the prison, London, Penguin, 1977.

1978
Anderson, Sanford(ed.), On Streets, Cambridge, Massachusetts ,The MIT Press, 1978.
Marx, Karl, Capital: a critique of political economy Volume 2, Harmondsworth, Penguin, 1978
Rowe, Colin, Collage City, London, MIT Press, 1978.

1979
Bateson, Gregory, Mind and Nature: A necessary Unity, New York, E.P. Dutton, 1979.
Bateson, Gregory, Mind and Nature. London, Wildwood House Limited, 1979.
Braudel, Fernand, Capitalism & Material Life, 1400-1800, London, Fontana, 1979.

1980
Chaoy, Francoise, The Rule and the Model: On the theory of Architecture and Urbanism, Cambridge Massachusetts, 1980.
Prigogine, Ilya, From Being to Becoming : Time and Complexity in the Physical Sciences New York , W. H. Freeman and Company, c1980

1981
Thompson, Morris M, Maps for America: cartographic products of the US geological survey and 0thers, 2d ed. Washington, D.C, US department of the interior, 1981.

1982
Eames, Ray & Charles, Powers of Ten: about the relative size of things in the universe, New York, Scientific American Library, 1982.
Frampton, Kenneth. "Modern Architecture and the Critical Present", in Architectural Design, 1982, July/August

1983
Berson, Henri, Creative Evolution, Lanham, Md, University Press, 1983
Deleuze, Gilles and Guattari, Felix, One the Line, New York, Semiotext(e), 1983.
Foucault, Michel, This is not a pipe, Berkeley & Los Angeles, University California Press, 1983.
Foster, Hal, The Anti-Aesthetic: essays on post-modernism culture, Seattle, Bay Press, 1983.

1984
Prigogine, Ilya & Stengers, Isabelle, Order out of chaos: man's new dialogue with nature, London, Bantam Books, 1984.
Rainbow, Paul, The Foucault Reader, Harmondsworth, Penguin, 1984.
1985
Tschumi, Bernard, "The la Villette Competition" in (On landscape) Princeton Journal vol. 2, 1985.

1986

Foucault, Michel, The Order of Things, London, Routledge, 1986
Foucault, Michel, The Birth of the Clinic, London, Routledge, 1986
Schuyler, David. The New Urban Landscape: The Redefinition of City Form in Nineteenth Century America' Baltimore' Johns Hopkins University Press, 1986.

1987
Fechner, Michel & Kwinter, Sanford (ed.), Zone 1/2: The Contemporary City, New York, Zone Books,1987
Sylvester, David, The Brutality of Fact: Interviews with Francis Bacon, New York, Thames & Hudson,1987.
Tschumi, Bernard. Cinégramme Folie: Le Parc de La Villette. Princeton, N.J.,Princeton Architectural Press, 1987.

1988
Bergson, Henri, Matter and Memory, New York, Zone books, 1988
Deleuze, Gilles. Expressionism in Philosophy: Spinoza, New York, Zone Books, 1988.
Pommer, Richard, Spaeth, David and Harrington, Kevin, Ludwig Hilberseimer; Architect, Educator, and Urban Planner, New York, The art institute of Chicago in Association with Rizzoli International publications, 1988.
Scheper, George L. "The Reformist Vision of Frederick Law Olmsted and the Poetics of Park Design."in The New England Quarterly 62:3 (September 1989): 369–402.

1989
Arendt, Hannah, The Human Condition, Chicago, The University of Chicago Press,1989.
Derrida, Jacques, Edmund Husserl's Origin of Geometry: An Introduction, United States of America, University of Nebraska Press. 1989.
Thom, Rene, Structural stability and morphogenesis: an outline of a general theory of models, California, Addison-Wesley, 1989.

1990
Garnier, Tony. Une Cité Undustrielle. Translated by Andrew Ellis, New York, Rizzoli, 1990.
Kemp, Martin, The Science of Art: optical themes in western art from Brunelleschi to Suerat, New Haven, Yale University Press, 1990.
Vidler, Anthony, Claude- Nicolas Ledoux: Archiecture and Social Regorm at the end of Ancien Regime, London, MIT Press, 1990

1991
Alberti, Leon Battista, On Painting, London, Penguin, 1991
Burns, Carol "on Site", in Andrea Kahn, Drawing Building Text, New York, Princeton Architectural Press, 1991.
Giles Deleuze, Bergsonism, New York, Zone Books, 1991
De Landa, Manuel. War in the Age if Intelligent Machines. New York, Swerve Editions, 1991.
Kahn, Andrea, Drawing, Building, Text. New York, Princeton Architectural Press. 1991.
Latour, Alessandra(ed.) Louis I. Kahn: Writings, Lectures, Interviews, New York, Rizzoli, 1991.
Rowe, Peter G. Making a Middle Landscape, Cambridge: MIT Press, 1991.

1992
Kwinter, Sanford , Landscapes of Change. Assemblage (19), Cambridge, Masachusetts, The MIT Press, 1992.
Lynn,Greg, Multiplicitous and Inorganic Bodies. Assemblage (19), Cambridge, Masachusetts, The MIT Press, 1992.
McHarg, Ian L. Design with Nature, New York, John Wiley & Sons, 1992.
Massumi, Brian, A User's Guide to Capitalism and Schizophrenia, Cambridge, Massachusetts, MIT Press, Swerve Editions,1992.
Thompson, D'Arcy Wentworth, On Growth and Form: the complete revised edition, Dover Publications, New York, 1992

1993

Kauffman, Stuart. The Origins of Order: Self-organisation and Selection in Evolution, New York, Oxford University Press, 1993.

Kwinter, Sanford, Emergence or the artificial life of space, in Davidson, Cynthia, Anywhere, Rizzoli: New York, 1993.

Lynn, Greg, Probable Geometries, in ANY, New York Anyone Corporation, 1993.

Lynn, Greg (ed.), Architectural Design 102: Folding in Architecture, London, John Wiley & Sons, 1993.

1994

Bergson, Henri, Matter and Memory. New York, Zone Books, 1994.

Goodwin, Brian, How the leopard changed its spots: The Evolution of Complexity, Great Britain, Phoenix Paperback, 1994

Kelly, Kevin, Out of Control: the new Biology of the Machine. London, Fourth Estate,1994.

Koolhaas, Rem, Delirious New York, Rotterdam, 010 Publishers, 1994.

Rossi, Aldo, The Architecture of the City, Cambridge Massachusetts, Opposition Books, 1994

Tschumi, Bernard, Event Cities(praxis), London, The MIT Press, 1994.

1995

Cache, Bernard, Earth Moves: The furnishing of Territories, Cambridge, Massachusetts, The MIT Press,1995.

Dephew ,David and Weber ,Bruce, Darwinism Evolving: Systems Dynamics and the Genealogy of Natural Selection, Cambridge, Massachusetts, The MIT Press, 1995.

Frampton, Kenneth, "Toward and Urban Landscape," in Columbia Documents, New York, Columbia University, 1995.

Guattari, felix, Chaosmosis: an ethico- aesthetic paradigm, Sydney, Power publications, 1995.

Kauffman, Stuart. At Home in the Universe: the search for the Laws of Self-Organisation and Complexity. London, Oxford University Press, 1995

Koolhaas, Rem, S,M,L,XL, New York, The Monacelli Press, 1995.

Plato, Republic, New York, W. Norton, 1985

1996

Corner, James, Taking measures across the American Landscape. United States, Yale University Press, 1996.

Goodchild, Phillip, Deleuze and Guattari: An Introduction to the Politics of Desire, London, Sage Publications, 1996.

Kepes, Gregory(ed.), Module Proportion Symmetry, Rhythm, New York, George Braziller,1996..

Le Gates, Richard T. & Stout, Frederic, The City Reader, London, Routledge, 1996.

1997

Allen, Stan, From Object to Field. Architectural Design Vol 67 5/6: Architecture After Geometry, London, John Wiley & Sons, May-June1997.

Corner, James, Not unlike life itself: Landscape strategy no win Rising ambitions, Expanding terrain, Harvard Design Magazine, Fall 2004/ Winter 2005, No 21, Harvard University Graduate School of Design: Cambridge, Massachusetts, [1997-

De Landa, Manuel. A Thousand Years of Nonlinear History. Cambridge, New York, Zone Books, 1997.

Evans, Robin, Translations from Drawings to Building and Other Essays, London, Architectural Association Press, 1997

Rowe, Colin, Transparency, Basel, Birkhauser, 1997.

Krell, David Farrell, A Malady of Chains. Architectural Design Vol 67 5/6: Architecture After Geometry, London, John Wiley & Sons, May-June1997.

1998

Any Magazine 23: Diagram Work: Data Mechanics for a Topological Age, New York, 1998

Alberti, Leon Battista, On the Art of Building in Ten Books (trans. By Joseph Rykwert, Neil Leach & Robert Tavernor), London, The MIT Press,1998

Buissert, David (ed.), Envisioning the City: Six Studies in Urban Cartography, United States of America, The University of Chicago Press, 1998.

Cosgrove, Denis E., Social formation and symbolic Landscape. United States of America, The University of Wisconsin Press, 1998.

Bergson, Henri, Creative Evolution, New York, Dover, 1998.

Deleuze, Gilles and Guattari, Felix. A Thousand Plateaux: Capitalism and Schizophrenia. Minneapolis, University of Minnesota Press, 1988.

Deleuze, Gilles, Foucault. Minneapolis, University of Minnesota Press, Minneapolis, 1998.

Gleick, James. Chaos: The Amazing Science of the Unpredictable. London, Vintage, 1998.

Holland, John, Emergence from chaos to order, Oxford University Press, 1998.

Lynn, Greg, Folds, Bodies & Blobs: Collected Essays, La Lettre Volee, 1998.

Lynn, Greg, Geometry in Time in Cynthia C. Davidson (ed.), Anyhow, New York Anyone Corporation, 1998.

Matless, David, Landscape Englishness, London, Reaktion Press, 1998.

Wigley, Mark, Constant's New Babylon: The Hyper-Architecture of Desire, Rotterdam, 010 Publishers, 1998.

1999

Arthus-Bertrand, Yann, Earth from the air, London, Thames & Hudson, 1999.

Allen, Stan, Points + Lines: Diagrams and projects for the city, New York, Princeton Architectural Press, 1999.

Corner, James(ed.), Recovering landscape: essays in contemporary landscape architecture. Princeton Architectural Press. New York, 1999.

Cosgrove, Denis, "Liminal Geometry and Landscape: Construction and Representation" in James Corner, Recovering Landscapes, New York, Princeton Architectural Press, 1999.

Eisenman, Peter, Diagram Diaries, London, Thames & Hudson, 1999.

Fishman, Robert. Urban Utopias in the twentieth Century: Ebenezer Howard, Frank Lloyd Wright & le Corbusier. Cambridge, Massachusetts, The MIT Pres (8th Edition), 1999.

Kelso, J.A., Dynamic Patterns: the self-organisation of brain and behaviour, London and Cambridge, Mass, The MIT Press, 1999.

Kostof, Spiro, City Shaped: urban patterns and meanings through history, London, Thames and Hudson, 1999.

Lynn, Greg, Animate Form, New York, Princeton Architectural Press, 1999.

Peppiatt, Michael, Francis Bacon: Anatomy of an Enigma, Great Britain, A Phoenix Giant Paperwork,1999.

Reeser, Amanda & Schafer, Ashley. 2004, Landscapes. Praxis: journal of writing + building, (4), New York, Praxis Inc, [1999-

Rose, Nikolas, Powers of Freedom, United Kingdom, Cambridge University Press, 1999.

Rybczynski, Witold. A Clearing in the Distance: Frederick Law Olmsted and America in the

Nineteenth Century., New York, Scribner, 1999.

2000

Allen, Stan, Practice: Architecture, Technique and Representation. London, Routledge, 2000.

Koolhaas, Rem, Mutations / Rem Koolhaas, Harvard Project on the City ; Stefano Boeri, Multiplicity ; Nadia Tazi, Hans Ulrich Obrist, Barcelona, Actar ,, 2000.

Lerup, Lars, After The City, Cambridge, Masachusetts, The MIT Press, 2000.

Rose, Nikolas, Democracy, Citizenship and the Global City, London, Routledge, 2000.

2001
Bacon, Mardeges, Le Corbusier in America: Travels in the Land of the Timid, Cambridge, Massachusetts, The MIT Press,
Czerniak, Julia(ed.), Case: Downsview Park Toronto, Munich, Prestel, 2001
Cosgrove, Denis, Apollo's Eye: A cartographic genealogy of the earth in the western imagination, Maryland, The John Hopkins University Press, 2001.
Daskalakis, Georgia, Waldheim, Charles & Jason Young, Stalking Detroit, Barcelona, Actar, 2001.
Hardt, Michael & Negri, Antonio, Empire, Cambridge, Massachusetts, Harvard University Press, 2001.
Kwinter, Sanford, Architectures of Time: Towards a Theory of the Event in Modernist Culture, Cambridge Massachusetts, The MIT Press, 2001.
Sarkis, Hashim(ed.), Le Corbusier's Venice Hospital and the Mat Building Revival, Munich, Prestel, 2001.
2002
Colebrook, Claire, Gilles Deleuze, London, Routledge, 2002
Colebrook, Claire, Understanding Deleuze, Crows Nest , Allen & Unwin, 2002.
Cosgrove, Denis (ed.), Mappings, London, Reaktion, 2002.
Deleuze, Gilles, Francis Bacon: The logic of sensation, Minneapolis, University of Minnesota Press,2002.
De Landa, Manuel, Intensive Science & Virtual Philosophy. New York, Continuum, 2002.
Eaton, Ruth, Ideal Cities: Utopianism and the (Un) Built Environment, London, Thames and Hudson, 2002.
Eisenman, Peter, Blurred Zones: investigations of the interstitial: Eisenman Architects 1988-1998, New York, Monacelli Press, 2002
Gell-Mann, Murray, The Quark and the Jaguar: Adventures in the Simple and the Complex, Great Britain, Abacus Books, 2002.
Hays,K.Michael(ed.), Architecture Theory Since 1968. Massachusetts, Columbia Books of Architecture. The MIT Press, 2002.
Johnson, Steven, Emergence: The connected lives of Ants cities and software, New York, Touchstone 2002.
Massumi, Brian, Parables of the Virtual: movement, affect, sensation, Durham, Duke University Press,2002.
Pai, Hyungmin, The Portfolio and the Diagram: Architecture, Discourse, and Modernity in America, Cambridge Massachusetts, The MIT Press, 2002.
Sassen, Saskia, Global Networks, Linked Cities, London, Routledge, 2002
Walter, Volker M., Biopolis: Patrick Geddes and the City Life, Cambridge, Massachusetts, The MIT Press. 2002
Wolfram, Stephen, A New Kind of Science, Illinois, Wolfram Media, 2002.
2003
Lang, Peter & Menking, William, Superstudio: life without objects, Milan, Skira, 2003
Lefaivre, Liane & Tzonis, Alexander (ed.), Critical Regionalism: Architecture and Identity in a Globalised World, Munich, Prestel,2003.
Maclean, Alex S., Designs on the Land: exploring America from the air, London, Thames & Hudson, 2003.
Mostafavi, Mohsen & Najle, Ciro, Landscape Urbanism: A Manual for the Machinic Landscape, London, Architectural Association, 2003
Picon, Antoine & Ponte, Alessandra (ed.), Architecture and the Sciences: exchanging metaphors, New York, Princeton Architectural Press, 2003.
Swaffield, Simon(ed.), Theory in Landscape Architecture: a Reader, Philadelphia, University of Pennsylvania Press, 2002.

Taylor, Mark C., The Moment of Complexity: Emerging Network Culture, Chicago, The University of Chicago Press, 2003.
2004
Cosgrove, Denis & Stephen Daniels (ed.), The Iconography of Landscape. Cambridge, Cambridge University Press(8th Edition), 2004.
Waldheim, Charles (ed.), Hilberseimer/Mies Van der Rohe: Lafayette Park Detroit.(Case: Harvard Design School). New York, Prestel Verlag, 2004.
2005
Batty, Michael, Cities and Complexity: Understanding cities with cellular Automata, Agent based Models and Fractals, Cambridge, Massachusetts, The MIT Press, 2005.
Burns, Carol J.& Kahn, Andrea, Site matters: design concepts, histories and strategies. New York, Routledge,2005.
Byvanck, Valentijn(ed.), Superstudio: the Middleburg Lectures, Netherlands, Zeeuws Museum,2005.
Casey, Edward S., Earth-mapping: Artists Reshaping Landscape, Minneapolis, University of Minnesota Press. 2005.
Freidman, Yona, Drawings and montages from the collection of Yona Friedman, Kitakyushu, CCA Kitakyushu, 2005.
Girot, Christophe (ed.), Landscape Architecture in Mutation: essays on urban landscape, Zurich, Institute for Landscape Architecture: ETH Zurich, 2005.
Massumi, Brian, "The Evolutionary Alchemy of Reason" in Marquard Smith Stelarc, (Cambridge, Massachusetts, The MIT Press, 2005.
Sadler, Simon, Archigram, Architecture Without Architecture, Cambridge, Massachusetts, MIT Press, 2005.
Van Schaik, Martin(ed.), Exit Utopia: Architectural provocations, 1956-76, Munich, Prestel, 2005
2006
Berger, Alan, Drosscape, New York, Princeton Architectural Press, 2006.
Cassar, Silvio(ed.) Peter Eisenman: Feints, Milan, Skira, 2006
Vidler, Anthony, Claude-Nicolas Ledoux: architecture and Utopia in the era of the French Revolution, Basel, Birkhauser, 2006
Waldheim, Charles (ed.), The Landscape Urbanism Reader, New York, Princeton Architectural Press, 2006.
2007
Mateo, JosepLluis(ed.), Natural Metaphor: an anthology of essays on architecture and nature, Barcelona, Actar, 2007.
2008
2009
GIssen,David,Subnature: Architecture's other Environments, New York, Princeton Architectural Press, 2009
McDonough, Tom (ed.), The Situationists and the city, London, Verso, **2009.**
2010
Mostafavi , Mohsen and Doherty, Gareth (ed.), Ecological Urbanism, Harvard University GSD, Lars Muller Publishers, 2010
Welland , Michael, Sand: The Never-Ending Story, Los Angeles, University of California Press, 2010

Bibliography

Discipline

Disciplinary origins

1. (ph); Philosophy
2. (sci); science
3. (cy); cybernetics
4. (hy); history &artt
5. (ur); urban

1. (ph); Philosophy

Bergson, Henri, Creative Evolution, Lanham, Md, University Press, 1983

Bergson, Henri, Matter and Memory, New York, Zone books, 1988

Benjamin, Andrew, What is Abstraction?, Academy Editions, London, 1996.

Colebrook, Claire, Gilles Deleuze, London, Routledge, 2002

Colebrook, Claire, Understanding Deleuze, Crows Nest , Allen & Unwin, 2002.

Giles Deleuze, Bergsonism, New York, Zone Books, 1991

Deleuze, Gilles. Expressionism in Philosophy: Spinoza, New York, Zone Books, 1988.

Deleuze, Gilles, Francis Bacon: The logic of sensation, Minneapolis, University of Minnesota Press,2002.

Deleuze, Gilles and Guattari, Felix, One the Line, New York, Semiotext(e), 1983.

Deleuze, Gilles and Guattari, Felix. A Thousand Plateaux: Capitalism and Schizophrenia. Minneapolis, University of Minnesota Press, 1988.

Deleuze, Gilles, Foucault. Minneapolis, University of Minnesota Press, Minneapolis, 1998.

De Landa, Manuel, Intensive Science & Virtual Philosophy. New York, Continuum, 2002.

Derrida, Jacques, Edmund Husserl's Origin of Geometry: An Introduction, United States of America, University of Nebraska Press. 1989.

Foucault, Michel, Archaeology of Knowledge, London, Tavistock Publication, 1972.

Foucault, Michel, Discipline and Punish: the birth of the prison, London, Penguin, 1977.

Foucault, Michel, The Order of Things, London, Routledge, 1986

Foucault, Michel, The Birth of the Clinic, London, Routledge, 1986

Foucault, Michel, This is not a pipe, Berkeley & Los Angeles, University California Press, 1983.

Foster, Hal, The Anti-Aesthetic: essays on post-modernism culture, Seattle, Bay Press, 1983.

Goodchild, Phillip, Deleuze and Guattari: An Introduction to the Politics of Desire, London, Sage Publications, 1996.

Guattari, felix, Chaosmosis: an ethico- aesthetic paradigm, Sydney, Power publications, 1995.

Hardt, Michael & Negri, Antonio, Empire, Cambridge, Massachusetts, Harvard University Press, 2001.

Hays,K.Michael(ed.), Architecture Theory Since 1968. Massachusetts, Columbia Books of Architecture. The MIT Press, 2002.

Massumi, Brian, Parables of the Virtual: movement, affect, sensation, Durham, Duke University Press,2002.

Plato, Republic, New York, W. Norton, 1985

Rainbow, Paul, The Foucault Reader, Harmondsworth, Penguin, 1984.

2. (sci); science

Batty, Michael, Cities and Complexity: Understanding cities with cellular Automata, Agent based Models and Fractals, Cambridge, Massachusetts, The MIT Press, 2005.

Dephew ,David and Weber ,Bruce, Darwinism Evolving: Systems Dynamics and the Genealogy of Natural Selection, Cambridge, Massachusetts, The MIT Press, 1995.

Gell-Mann, Murray, The Quark and the Jaguar: Adventures in the Simple and the Complex, Great Britain, Abacus Books, 2002.

Gleick, James. Chaos: The Amazing Science of the Unpredictable. London, Vintage, 1998.

Goodwin, Brian, How the leopard changed its spots: The Evolution of Complexity, Great Britain, Phoenix Paperback, 1994

Holland, John, Emergence from chaos to order, Oxford University Press, 1998.

Kline, Morris, Mathematical Thought: From Ancient To Modern Times (Volume1), New York, Oxford University Press, 1972.

Koyre, Alexandre, From the Closed World to the Infinite Universe, Baltimore, John Hopkins University Press, 1957.

Prigogine, Ilya, From Being to Becoming : Time and Complexity in the Physical Sciences New York , W. H. Freeman and Company, c1980

Prigogine, Ilya, Introduction to Thermodynamics of Irreversible Processes, Chichester, John Wiley, 1967.

Prigogine, Ilya & Stengers, Isabelle, Order out of chaos: man's new dialogue with nature, London, Bantam Books, 1984.

Thompson, D'Arcy Wentworth, On Growth and Form: the complete revised edition, Dover Publications, New York, 1992.

Waddington, Conrad,.H, The Strategy of Genes, New York, Macmillian Press, 1957.

Whitehead, Alfred North, The Concept of Nature, Cambridge,Cambridge University Press, 1920

Welland , Michael, Sand: The Never-Ending Story, Los Angeles, University of California Press, 2010

Wolfram, Stephen, A New Kind of Science, Illinois, Wolfram Media, 2002.

3. (cy); cybernetics

Bascom, W.H, Waves and Beaches, New York, Doubleday, 1974. Anthropomorphic

Bateson, Gregory, Mind and Nature: A necessary Unity, New York, E.P. Dutton, 1979.

Bateson, Gregory, Steps To an Ecology of Mind, Chicago, The University of Chicago Press,1972.

Bateson, Gregory, Mind and Nature. London, Wildwood House Limited, 1979.

Hofstadter, Douglas R. Godel, Escher, Bach: An eternal golden braid. New York, Vintage Books, 1979

Johnson, Steven, Emergence: The connected lives of Ants cities and software, New York, Touchstone 2002.

Kauffman, Stuart. The Origins of Order: Self-organisation and Selection in Evolution, New York, Oxford University Press, 1993.

Kauffman, Stuart. At Home in the Universe: the search for the Laws of Self-Organisation and Complexity. London, Oxford University Press, 1995

Kelly, Kevin, Out of Control: the new Biology of the Machine. London, Fourth Estate,1994.

Kelso, J.A., Dynamic Patterns: the self-organisation of brain and behaviour, London and Cambridge, Mass, The MIT Press, 1999.

Sassen, Saskia, Global Networks, Linked Cities, London, Routledge, 2002.

Thom, Rene, Structural stability and morphogenesis: an outline of a general theory of models, California, Addison-Wesley, 1989.

Wiener, Norbert. Cybernetics or Control and Communication in the Animal and the Machine, Cambridge, Massachusetts, The MIT Press, 1961.

Wiener, Norbert. Cybernetics or Control and Communication in the Animal and the Machine. MIT, 1948 and 1961.

Wiener, Norbert. God & Golem, Inc. A Comment on Certain Points where Cybernetics Impinges on Religion. The MIT Press, 1964

Neumann, John Von and Morgenstern, Oskar .Theory of Games and Economic Behavior. Princeton University Press, 1944. Renewed 1972

4. (hy); history &art

Arthus-Bertrand, Yann, Earth from the air, London, Thames & Hudson, 1999.

Alberti, Leon Battista, On Painting, London, Penguin, 1991

Alberti, Leon Battista, On the Art of Building in Ten Books (trans. By Joseph Rykwert, Neil Leach & Robert Tavernor), London, The MIT Press,1998

Arendt, Hannah, The Human Condition, Chicago, The University of Chicago Press,1989.

Benevolo, Leonardo, The Origins of Modern Town Planning, London, Routledge & Kegan Paul, 1967.

Buissert, David (ed.), Envisioning the City: Six Studies in Urban Cartography, United States of America, The University of Chicago Press, 1998.

Cosgrove, Denis, Apollo's Eye: A cartographic genealogy of the earth in the western imagination, Maryland, The John Hopkins University Press, 2001.

Cosgrove, Denis E., Social formation and symbolic Landscape. United States of America, The University of Wisconsin Press, 1998.

Cosgrove, Denis, "Liminal Geometry and Landscape: Construction and Representation" in James Corner, Recovering Landscapes, New York, Princeton Architectural Press, 1999.

Cosgrove, Denis (ed.), Mappings, London, Reaktion, 2002.

Cosgrove, Denis & Stephen Daniels (ed.), The Iconography of Landscape. Cambridge, Cambridge University Press(8th Edition), 2004.

Braudel, Fernand, Capitalism & Material Life, 1400-1800, London, Fontana, 1979.

De Landa, Manuel. A Thousand Years of Nonlinear History. Cambridge, New York, Zone Books, 1997.

De Landa, Manuel. War in the Age if Intelligent Machines. New York, Swerve Editions, 1991.

Flam, Jack(Ed.),Robert Smithson: The Collected Writings, University of California Press,Ltd., London, England, 1996.

Kemp, Martin, The Science of Art: optical themes in western art from Brunelleschi to Suerat, New Haven, Yale University Press, 1990.

Kepes, Gregory (ed.), Structure in art and in Science, New York, George Braziller,1965.

Kepes, Gregory(ed.), Module Proportion Symmetry, Rhythm, New York, George Braziller,1996..

Kostof, Spiro, City Shaped: urban patterns and meanings through history, London, Thames and Hudson, 1999.

Marx, Karl, Capital: a critique of political economy Volume 1, Harmondsworth, Penguin, 1976

Marx, Karl, Capital: a critique of political economy Volume 2, Harmondsworth, Penguin, 1978

Massumi, Brian, A User's Guide to Capitalism and Schizophrenia, Cambridge, Massachusetts, MIT Press, Swerve Editions,1992.

Massumi, Brian, "The Evolutionary Alchemy of Reason" in Marquard Smith Stelarc, (Cambridge, Massachusetts, The MIT Press, 2005.

Casey, Edward S., Earth-mapping: Artists Reshaping Landscape, Minneapolis, University of Minnesota Press. 2005.

Matless, David, Landscape Englishness, London, Reaktion Press, 1998.

Pai, Hyungmin, The Portfolio and the Diagram: Architecture, Discourse, and Modernity in America, Cambridge Massachusetts, The MIT Press, 2002.

Peppiatt, Michael, Francis Bacon: Anatomy of an Enigma, Great Britain, A Phoenix Giant Paperwork,1999

Rose, Nikolas, Democracy, Citizenship and the Global City, London, Routledge, 2000.

Rose, Nikolas, Powers of Freedom, United Kingdom, Cambridge

University Press, 1999.

Rowe, Peter G. Making a Middle Landscape, Cambridge: MIT Press, 1991.

Soleri, Paolo, Archeology: the city in the image of man, Cambridge, Massachusetts, MIT Press, 1969.

Sylvester, David, The Brutality of Fact: Interviews with Francis Bacon, New York, Thames & Hudson,1987.

Thompson, Morris M, Maps for America: cartographic products of the US geological survey and 0thers, 2d ed. Washington, D.C, US department of the interior, 1981.

Virilio, Paul Pure War. New York: Semiotext(e), 1997

5. (ur); urban & architecture

Any Magazine 23: Diagram Work: Data Mechanics for a Topological Age, New York, 1998

Archigram, Archigram, London, Archigram Group, 1961-1970.

Alexander, Christopher, Pattern language: towns, buildings, construction, New York, Oxford University Press, 1977

Allen, Stan, Points + Lines: Diagrams and projects for the city, New York, Princeton Architectural Press, 1999.

Allen, Stan, Practice: Architecture, Technique and Representation. London, Routledge, 2000.

Allen, Stan, From Object to Field. Architectural Design Vol 67 5/6: Architecture After Geometry, London, John Wiley & Sons, May-June1997.

Anderson, Sanford(ed.), On Streets, Cambridge, Massachusetts ,The MIT Press, 1978.

Bacon, Mardeges, Le Corbusier in America: Travels in the Land of the Timid, Cambridge, Massachusetts, The MIT Press, 2001.

Banham, Reyner. Theory and Design in the Machine Age. 2nd ed. New York: Praeger Publishers, 1967.

Banham, Reyner, Megastructure: Urban Futures of the Recent Past, New York, Harper and Row, 1976.

Burns, Carol "on Site", in Andrea Kahn, Drawing Building Text, New York, Princeton Architectural Press, 1991.

Berger, Alan, Drosscape, New York, Princeton Architectural Press, 2006.

Burns, Carol J.& Kahn, Andrea, Site matters: design concepts, histories and strategies. New York, Routledge,2005.

Byvanck, Valentijn(ed.), Superstudio: the Middleburg Lectures, Netherlands, Zeeuws Museum,2005.

Cache, Bernard, Earth Moves: The furnishing of Territories, Cambridge, Massachusetts, The MIT Press,1995.

Cassar, Silvio(ed.) Peter Eisenman: Feints, Milan, Skira, 2006

Czerniak, Julia(ed.), Case: Downsview Park Toronto, Munich, Prestel, 2001

Chaoy, Francoise, The Modern City: Planning in the 19th century, New York, George Braziller, 1969.

Chaoy, Francoise, The Rule and the Model: On the theory of Architecture and Urbanism, Cambridge Massachusetts, 1980.

Corbusier, Le, Aircraft, London, The studio publications, 1935.

Corbusier, Le, The City of Tomorrow and Its Planning, Great Britain, The Architectural Press, 1971.

Corbusier, Le, Radiant City: Elements of a doctrine of urbanism to be used as the basis of our machine-age civilization, London, faber & faber, 1967.

Corner, James(ed.), Recovering landscape: essays in contemporary landscape architecture. Princeton Architectural Press. New York, 1999.

Corner, James, Taking measures across the American Landscape. United States, Yale University Press, 1996.

Corner, James, Not unlike life itself: Landscape strategy no win Rising ambitions, Expanding terrain, Harvard Design Magazine, Fall 2004/ Winter 2005, No 21, Harvard University Graduate School of Design: Cambridge, Massachusetts, [1997-]

Daskalakis, Georgia, Waldheim, Charles & Jason Young, Stalking Detroit, Barcelona, Actar, 2001.

Eames, Ray & Charles, Powers of Ten: about the relative size of things in the universe, New York, Scientific American Library, 1982.

Eaton, Ruth, Ideal Cities: Utopianism and the (Un) Built Environment, London, Thames and Hudson, 2002.

Eisenman, Peter, Diagram Diaries, London, Thames & Hudson, 1999.

Eisenman, Peter, Blurred Zones: investigations of the interstitial: Eisenman Architects 1988-1998, New York, Monacelli Press, 2002

Evans, Robin, Translations from Drawings to Building and Other Essays, London, Architectural Association Press, 1997.

Fechner, Michel & Kwinter, Sanford (ed.), Zone 1/2: The Contemporary City, New York, Zone Books,1987

Fishman, Robert. Urban Utopias in the twentieth Century: Ebenezer Howard, Frank Lloyd Wright & le Corbusier. Cambridge, Massachusetts, The MIT Pres (8th Edition), 1999.

Freidman, Yona, Drawings and montages from the collection of Yona Friedman, Kitakyushu, CCA Kitakyushu, 2005.

Frampton, Kenneth. "Modern Architecture and the Critical Present", in Architectural Design, 1982, July/August,

Frampton, Kenneth, "Toward and Urban Landscape," in Columbia Documents, New York, Columbia University, 1995.

Garnier, Tony. Une Cité Undustrielle. Translated by Andrew Ellis, New York, Rizzoli, 1990.

Geddes, Patrick, Cities in Evolution, London, Williams and Norgate, 1950

Girot, Christophe (ed.), Landscape Architecture in Mutation: essays on urban landscape, Zurich, Institute for Landscape Architecture: ETH Zurich, 2005.

Gruen, Victor, The heart of our Cities: The Urban Crisis, Diagnosis and Cure, New York, Simon and Schuster, 1964.

Gruen, Victor, Centers for the Urban Environment: Survival of the Cities, New York, Van Nostrand Reinhold, 1973

Hays,K.Michael(ed.), Oppositions Reader, Princeton Architectural Press

Hilberseimer, Ludwig, New Regional Patterns: Industries and gardens, workshops and farms, Chicago, Poole Brothers Inc, 1949.

Hilberseimer, Ludwig, The Nature of Cities, Chicago, Paul Theobald & Company, 1955.

Hilberseimer, Ludwig, The New City: Principles of Planning, Paul Theobald, 1944.

Howard, Ebenezer. Garden Cities of To-Morrow. London, Faber and Faber Ltd., 1946.

Kahn, Andrea, Drawing, Building, Text. New York, Princeton Architectural Press. 1991.

Koolhaas, Rem, Delirious New York, Rotterdam, 010 Publishers, 1994.

Koolhaas, Rem, S,M,L,XL, New York, The Monacelli Press, 1995.

Koolhaas, Rem, Mutations / Rem Koolhaas, Harvard Project on the City ; Stefano Boeri, Multiplicity ; Nadia Tazi, Hans Ulrich Obrist, Barcelona, Actar ,, 2000.

Krell, David Farrell, A Malady of Chains. Architectural Design Vol 67 5/6: Architecture After Geometry, London, John Wiley & Sons, May-June1997.

Kultermann, Udo, Kenzo Tange 1946-1969: Architecture & Urban Design, London, Pall Mall Press, 1970.

Kwinter, Sanford, Emergence or the artificial life of space, in Davidson, Cynthia, Anywhere, Rizzoli: New York, 1993.

Kwinter, Sanford , Landscapes of Change. Assemblage (19), Cambridge,

Masachusetts, The MIT Press, 1992.

Kwinter, Sanford, Architectures of Time: Towards a Theory of the Event in Modernist Culture, Cambridge Massachusetts, The MIT Press, 2001.

Lang, Peter & Menking, William, Superstudio: life without objects, Milan, Skira, 2003

Latour, Alessandra(ed.) Louis I. Kahn: Writings, Lectures, Interviews, New York, Rizzoli, 1991.

Lefaivre, Liane & Tzonis, Alexander (ed.), Critical Regionalism: Architecture and Identity in a Globalised World, Munich, Prestel,2003.

Le Gates, Richard T. & Stout, Frederic, The City Reader, London, Routledge, 1996.

Lerup, Lars, After The City, Cambridge, Masachusetts, The MIT Press, 2000.

Lynn, Greg, Probable Geometries, in ANY, New York Anyone Corporation, 1993.

Lynn, Greg (ed.), Architectural Design 102: Folding in Architecture, London, John Wiley & Sons, 1993.

Lynn, Greg, Animate Form, New York, Princeton Architectural Press, 1999.

Lynn, Greg, Folds, Bodies & Blobs: Collected Essays, La Lettre Volee, 1998.

Lynn, Greg, Geometry in Time in Cynthia C. Davidson (ed.), Anyhow, New York Anyone Corporation, 1998.

Lynn,Greg, Multiplicitous and Inorganic Bodies. Assemblage (19), Cambridge, Masachusetts, The MIT Press, 1992.

McHarg, Ian L. Design with Nature, New York, John Wiley & Sons, 1992.

Maclean, Alex S., Designs on the Land: exploring America from the air, London, Thames & Hudson, 2003.

Mateo, JosepLluis(ed.), Natural Metaphor: an anthology of essays on architecture and nature, Barcelona, Actar, 2007.

Mostafavi, Mohsen & Najle, Ciro, Landscape Urbanism: A Manual for the Machinic Landscape, London, Architectural Association, 2003

Mostafavi , Mohsen and Doherty, Gareth (ed.), Ecological Urbanism, Harvard University GSD, Lars Muller Publishers, 2010

Picon, Antoine & Ponte, Alessandra (ed.), Architecture and the Sciences: exchanging metaphors, New York, Princeton Architectural Press, 2003.

Pommer, Richard, Spaeth, David and Harrington, Kevin, Ludwig Hilberseimer; Architect, Educator, and Urban Planner, New York, The art institute of Chicago in Association with Rizzoli International publications, 1988.

Reeser, Amanda & Schafer, Ashley. 2004, Landscapes. Praxis: journal of writing + building, (4), New York, Praxis Inc, [1999-

Rossi, Aldo, The Architecture of the City, Cambridge Massachusetts, Opposition Books, 1994

Rowe, Colin, Collage City, London, MIT Press, 1978.

Rowe, Colin, Transparency, Basel, Birkhauser, 1997.

Rybczynski, Witold. A Clearing in the Distance: Frederick Law Olmsted and America in the
Nineteenth Century., New York, Scribner, 1999.

Sadler, Simon, Archigram, Architecture Without Architecture, Cambridge, Massachusetts, MIT Press, 2005.

Sarkis, Hashim(ed.), Le Corbusier's Venice Hospital and the Mat Building Revival, Munich, Prestel, 2001.

Smithson, Alison & Peter, Urban Structuring: Studies of Alison & Peter Smithson, London,Studio Vista/ Reinhold Publishing Corporation, 1967.

Scheper, George L. "The Reformist Vision of Frederick Law Olmsted and the Poetics of Park Design."in The New England Quarterly 62:3 (September 1989): 369–402.

Schuyler, David. The New Urban Landscape: The Redefinition of City Form in Nineteenth Century America' Baltimore' Johns Hopkins University Press, 1986.

Somol, Robert & Whiting, Sarah, Doppler Effect. Perspecta: Yale Architecture Journal, (33), New Haven Connecticut, Yale University, [1952-.

Swaffield, Simon(ed.), Theory in Landscape Architecture: a Reader, Philadelphia, University of Pennsylvania Press, 2002.

Taylor, Mark C., The Moment of Complexity: Emerging Network Culture, Chicago, The University of Chicago Press, 2003.

Tschumi, Bernard, Event Cities(praxis), London, The MIT Press, 1994.

Tschumi, Bernard. Cinégramme Folie: Le Parc de La Villette. Princeton, N.J.,Princeton Architectural Press, 1987.

Tschumi, Bernard, "The la Villette Competition" in (On landscape) Princeton Journal vol. 2, 1985.

Van Schaik, Martin(ed.), Exit Utopia: Architectural provocations, 1956-76, Munich, Prestel, 2005

Vidler, Anthony, Claude-Nicolas Ledoux: architecture and Utopia in the era of the French Revolution, Basel, Birkhauser, 2006

Vidler, Anthony, Claude- Nicolas Ledoux: Architecture and Social Reform at the end of Ancien Regime, London, MIT Press, 1990

Vitruvius, Ten Books on Architecture (trans.by Morris Nicky Morgan), New York, Dover, 1960

Walter, Volker M., Biopolis: Patrick Geddes and the City Life, Cambridge, Massachusetts, The MIT Press. 2002

Waldheim, Charles (ed.), Hilberseimer/Mies Van der Rohe: Lafayette Park Detroit.(Case: Harvard Design School). New York, Prestel Verlag, 2004.

Waldheim, Charles (ed.), The Landscape Urbanism Reader, New York, Princeton Architectural Press, 2006.

Wigley, Mark, Constant's New Babylon: The Hyper-Architecture of Desire, Rotterdam, 010 Publishers, 1998.

Wright, Frank Lloyd, Disappearing City, New York, WF Payson, 1932.

Wright, Frank Lloyd, Living City, New York, Mentor, 1963.

Figures

Appendix

two important. Still more important is the fact that the semi-lattice is potentially a much more complex and subtle structure than a tree. We may see just how more complex a semi-lattice can be than a tree in the following fact: a tree based on 20 elements can contain at most 19 further subsets of the 20, while a semi-lattice based on the same 20 elements can contain more than 1.000.000 different subsets. (Alexander C., CT);

Trial and Error:

(ph);

();

(cy) Whatever the system, adaptive change depends upon feedback loops, be it those provided by natural selection or those of individual reinforcement. In all cases, then, there must be a process of trial and error and a mechanism of comparison.

But trial and error must always involve error, and error is always biologically and /or physically expensive. It follows therefore that adaptive change must always be hierarchic.

There is needed not only that first-order change which suits the immediate environmental (or physiological) demand but also second-order changes which will reduce the amount of trial and error needed to achieve the first order change. (Bateson G., SEM);

(hy);

(ur);

Unpredictability:

(ph);

();

(cy) Accordingly to the popular image of science, everything is, in principle, predictable and controllable(...). This view is wrong. Not merely in detail but in principle. It is even possible to define large classes of phenomena where prediction and control are simply impossible for very basic but quite understandable reasons.(...) What is important about divergent sequences is that our description of them concerns individuals, especially individual molecules (...). Similarly, any description of the pathways of individual molecules in Brownian movement allows for no extrapolation. What happens at one moment, even if we could know it, would no give us data to predict what will happen at the next one. (Bateson G., MN);

(hy);

(ur)

event terrain - detail

event program catalogue

event terrain

event programming

fluctuating event terrain

cultural network

cultural precinct ... NY chelsea

terrain sections

eleventh avenue

tenth avenue

hudson

tenth avenue
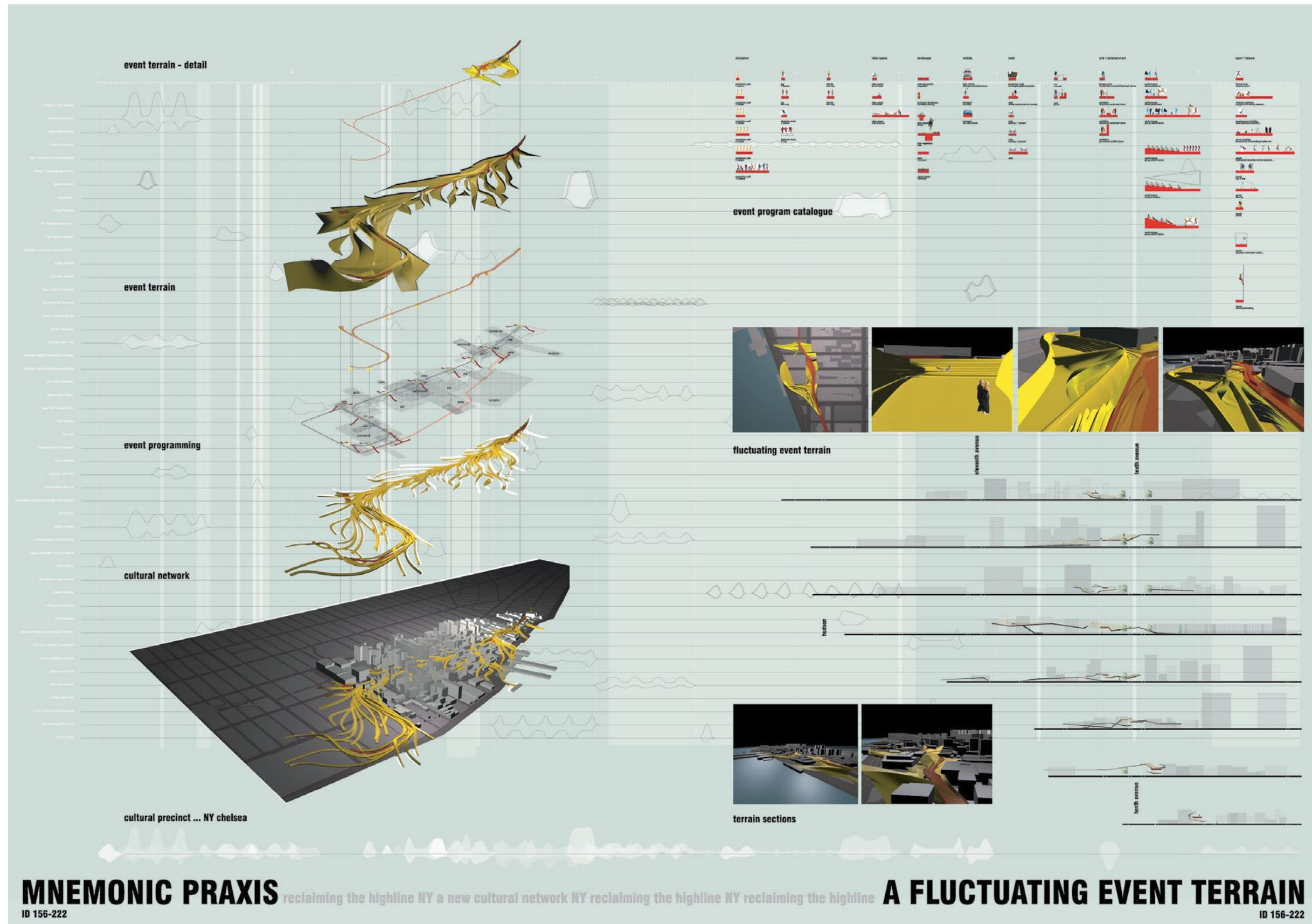
MNEMONIC PRAXIS reclaiming the highline NY a new cultural network NY reclaiming the highline NY reclaiming the highline NY reclaiming the highline **A FLUCTUATING EVENT TERRAIN**

ID 156-222

ID 156-222

Figure CXXXIV
Mnemonic Praxis
Highline Competition, NY

Variation:

(ph) (…) if the variations are accidental, how can they ever agree to arise in every part of the organ at the same time, in such way that the organ will continue to perform its function? (…) For a difference which arises accidentally at one point of the visual apparatus, if it be very slight, will not hinder the functioning of the organ; and hence this first accidental variation can, in a sense, wait for complementary variations to accumulate and rise vision to a higher degree of perfection. Granted; but while the insensible variation does not hinder the functioning of the eye, neither does it help it, so long as the variations that are complementary do not occur. (Bergson H., CE); p64 ();

(cy) (…) an individual plant or animal produces offspring after its own image. (…) these offspring are not completely after its own image but may differ from it in ways also subject to heredity. This is the fact of variation and by no means implies the very doubtful inheritance of acquired characteristics. The third element of Darwinian evolution is that the over-rich pattern of spontaneous variation is trimmed by the difference in the viability of different variations, most of which tend to diminish the probability of continued racial existence, although some, perhaps a very few, tend to increase it.

The basis of racial survival and racial change –of evolution, as we call it– may be much more complicated than this, and probably is. For example, one very important type of variation is variation of higher order –the variation of variability. (Wiener N., GG);

(hy);

(ur);

Virtual:

(ph);

();

(cy) ; (…) the most effective way to create artificial intelligence will be to devise small self-replicating programs capable of mutating and undergoing evolution inside our machines, the idea being that they will eventually develop the complexity, self-referentiality, and autonomy needed to produce a consciousness akin to our own.(…) The most fascinating thing about virtual reality is that although it initially appears to be least natural of human creations, the most disembodied and abstracted expression of modernity's
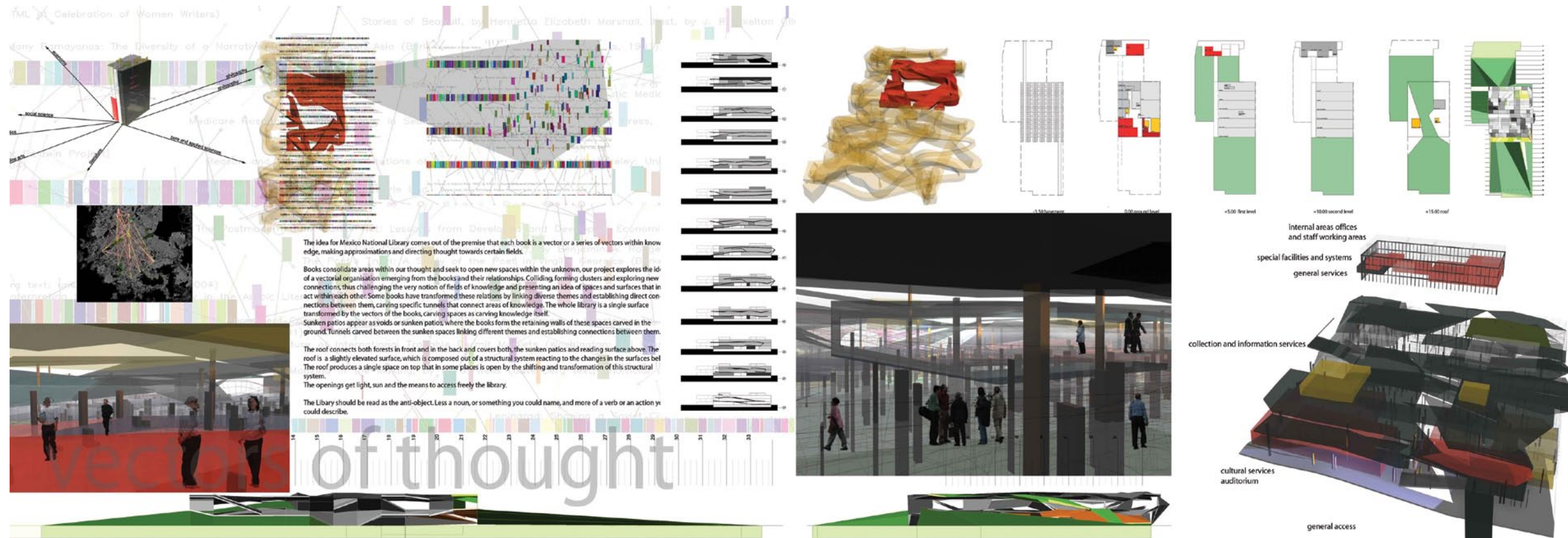
Figure CXXXV
National Library Competition,
Mexico City, Mexico

alienation from nature, it can in fact serve as a powerful and rather troubling test of whether we really know what we're talking about when we speak of nature. One would think that the virtual world stand in pure opposition to the real, (Cronan W., UG) (pg 45) P

(ur) The so-called emergence and evolution of form will no longer follow the classical, eidetic pathway determined by the possible and the real. Rather it will follow the dynamic and uncertain processes that characterize the schema that links a virtual component to an actual one. (…) the virtual, though it may yet have no actuality, is nonetheless already fully real. It exists, one might say, as a free difference or singularity, not yet combined with other differences into a complex ensemble or salient form. What this means is that the virtual does not have to be realized, but only actualised (activated and integrated); its adventure involves a developmental passage from a state to another. The virtual is gathered, elected – let us say incarnated – it passes from one moment-event (or complex) in order to emerge – differently, uniquely – within another. (Kwinter S., AT);

Vital Impetus:
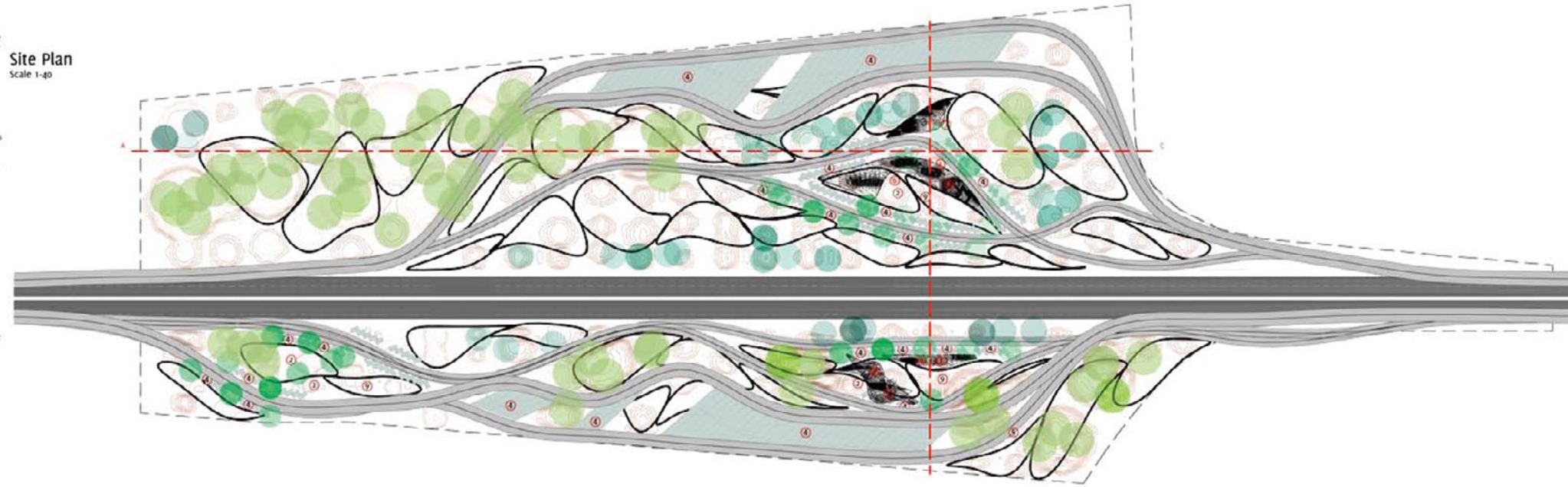(ph) So we come back, by a somewhat roundabout way, to the idea we started from, that of an original impetus of life, passing from one generation of germs to the following generation of germs through the developed organisms which bridge the interval between the generations. This impetus, sustained right along the lines of evolution among which it gets divided, is the fundamental cause of variations, at least of those that are regularly passed on, that accumulated and create new species. (…). (Begson H. CE)
();
(cy);
(hy);
(ur);

War:
(ph);
();
(cy);
(hy) (absolute and real) War plans cover every aspect of a war, and weave them all into a single operation that must have a single, ultimate objective in which all particular aims are reconciled (…). (but) factors inherent to the war-machine

5. cultivate information sites + program

Restrooms & Information kiosks

The organic forms that mould and form our new landscape are incorporated into the shape and function of the architecture. The wavy landscape folds to become the rest room roof. The wall is a continuation of the roof; it splits at certain moments, allowing openings to appear that keep the restrooms flowing with fresh air. While privacy is not affected safety and lightness and a sense of the landscape are maximized.

Sometimes the folding of the landscape is as light and poetic as a grid of fine curving tree like structures. The various shades are thick and solid with the rippling of the white ceramic tiles and at other times branched flickers provide respite from the harsh summer sun. It's filaments overhang and mediate various program.

The pavilions form shaded areas with opportunity for picnic tables and benches. The overhangs would double to provide shade for cars and possibly add photo-voltaic cells to gather energy. The parking lots would also perform as a farmers market during the weekend, selling produce grown on site and in the community.

Play
Playground equipment would be built into the topography (slides, steps, tunnels, and sandboxes).

Water
Because there is a lack of water the shell like structures that house amenities are formed in a way that takes advantage of the seasonal fog for collecting water. (insert except about desert beetle) The surface of the shell has fine porous patterns that protect and collect water from the night fog.

Parking
The parking area performs and finds its grounding through the interaction of the ecologies.

6. package and disperse

The site is organized as a series of spots of varying scales and patterns. These are able to deform and mutate within fixed criteria. Overlaps and circulation tendencies of the spot internal organization manifest in a complex system of organizing the various requirements of Green Stop.

7. network of g-stop

This scheme aims to develop a strategy for all of California rest stops. It is an approach and prototype that we offer that will mould and articulate differently at each contextual junction of each different rest stop. The tools and identity of the rest stops are strongly defined.

Legend

1. Restrooms
2. Picnic Areas
3. Pet Areas
4. Parking Bays
5. Recreation Vehicle Sanitary Station
6. Information Kiosks / Equipment Room
7. California Highway Patrol (CHP) Drop-in-Station
8. Maintenance Facilities
9. Playgrounds

Site Plan
Scale 1-40

Site Sections
Scale 1-16

A SOUTH

Valley Oak Savanna — Riparian Forest / Water Treatment Zone — Riparian Forest — Valley Oak Savanna — B

B — California Prairie — Tule Marsh — Vehicular Road — Open Turf Area — Vehicular Road — Tule Marsh — Valley Oak Savanna — Open Turf Area — Large Vehicle Road — C NORTH

EAST — Large Vehicle Road — Large Vehicle Parking — Picnic and playground — Restroom — Vehicular Road — California Prairie — Highway 99 — California Prairie — Vehicular Road and Parking — California Prairie — Information Kiosk — Vehicular Road — Restrooms — California Prairie — Large Vehicle Parking — WEST

Figure CXXXVI
Green Stops Competition
USA

itself can interrupt and modify the principle of enmity as embodied in its agent, man, and in all that goes to make up warfare. Still, that process of modification is by no means adequate to span the gap between the pure concept of war and the concrete form that, as a general rule, war assumes.

(…) What exactly is this nonconducing medium, this barrier that prevents a full discharge? Why is it that the theoretical concept is not fulfilled in practice? The barrier in question is the vast array of factors, forces and conditions in national affairs that are affected by war. No logical sequence could progress through their innumerable twist and turns as though it were a single thread that linked two deductions. Logics comes to a stop in this labyrinth (…). (Von Clausewitz C., OW);

(ur);

G -sTop (sPot)
Construction Manual of Highway Restops

Greenstops for California's central valley is a framework which enables various possibilities, orders and measures where ideas of respite, leisure, orientation and the landscape are fused together to operate as coexisting ecologies. Where both the functional and ecological landscape together graft into and operate harmoniously with its existing context. The symbiotic nature of these ecologies formulizes a manual of construction possibilities. The development of the manual allows for the adaptation of many unique greenstops in various locations.

From green stop to ink spot
The term green spot abstractly as a word allows for linguistic play that opens up the diagramtic potential for what could otherwise be considered a mundane utility.
The term green-stop evolved > g-stop > g-spot > green-spot -ink spot. From a place of repose to a specific zone of excitement (arousal) to an abstract region of plant densities to a diagramatic design notion of how drawing and computer aided design tools can be the stimulas for the organisation of a road side place of repose and refreshment.
The section of the valleys and ridges of the site plan can easily be identified as a series of spots.
The design journey begins with the spots. These rounded regions define artificially designed perimeters that house different ecologies.

G-sTop (sPot) construction manual

Instructions

1.   seed ecologies for g-stop

Artificial organizational grids and patterns are placed over the site. Ecologies are arranged to the framework pattern. Various scales of circulation and ecologies react and find allegiance. The system is thus interacting with various ergonomics from the drop of rain water to cars, trucks, pedestrians and children

The scheme sets out to express a range of textures and experiences that range from the 'natural' to 'human', from nature to artifice. The five different scales and profile of these ecologies are developed from the five ecosystems of central California: Valley Oak Savanna, Riparian Forest, San Joaquin salt brush, Tule Marsh and California prairie. By researching different ecologies of California and defining five, each of the spots has different sizes.

2.   grow g-stop.

The five ecologies are integrated into the dynamics of the site.

An infrastructural system is developed relating to the ecology allowing the patterns of access to be the endoskeleton in defining and forming the landscape that is the scheme.

Water runoffs are not an independent system; they work intrinsically together with the ecologies, parking and roadway networks.

5 ecologies>
multiple scaled ecologies +
infrastructural ecologies +
parking ecologies +

The ecologies are like the bubbles in 'swiss cheese'. The processes of ecologies are a strategy that has the ability to be used in other sites as a device and brand for California rest stops.

3.   weave pathways + g-stop

Circulation
The standard rules of efficient circulation and parking are a mundane simplistic economy. Circulation as a dynamic organism that relates, confronts and adapts to adjacencies allows for a fluidity and variety that makes for an experience that embraces difference, multiplicity and a range of experiences and scales. Complexity in a digital age is a reality that needs to jump of our computers and into the organization of our infrastructure.

4.   adapt, graft + grow

The spots are not confined to space planning they are 3 dimensional and have depths and heights that allow the formation of dynamic artificial landscapes. These landscapes are ecologically sensitive and are the habitations of the amenities required. They act as the 'invisible' skeletal architecture and armature of the development. Infrastructure becomes landscape. This is a conceptual inversion from traditional notions of adding architecture and infrastructure onto nature. Nature is now connected as an artificial controlled system that contorts and grows to accommodate the required data.

Spot Organization

Spot Perfomance

Spot Organization Patterns

Activity Ecologies

Playground

Picnic/Rest

Native Plant Ecologies

San Joaquin Saltbrush
California Prairie
Tule Marsh
Valley Oak Savanna
Riparian Forest

Circulation Development

1 **Parking System**
2 **Full Parking Expansion**
3 **Entries and Exits**
4 **Ecologies**
5 **Pedestrian Paths**
6 **Paths As Loops**

Ecology Development

1 **Grid Small Scale**
2 **Grid Small Scale**
3 **System Small Scale**
4 **System Medium Scale**
5 **System Large Scale**
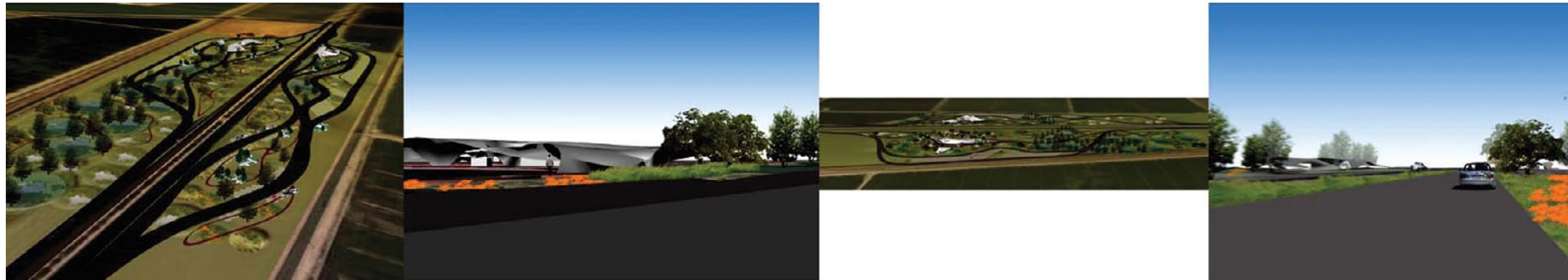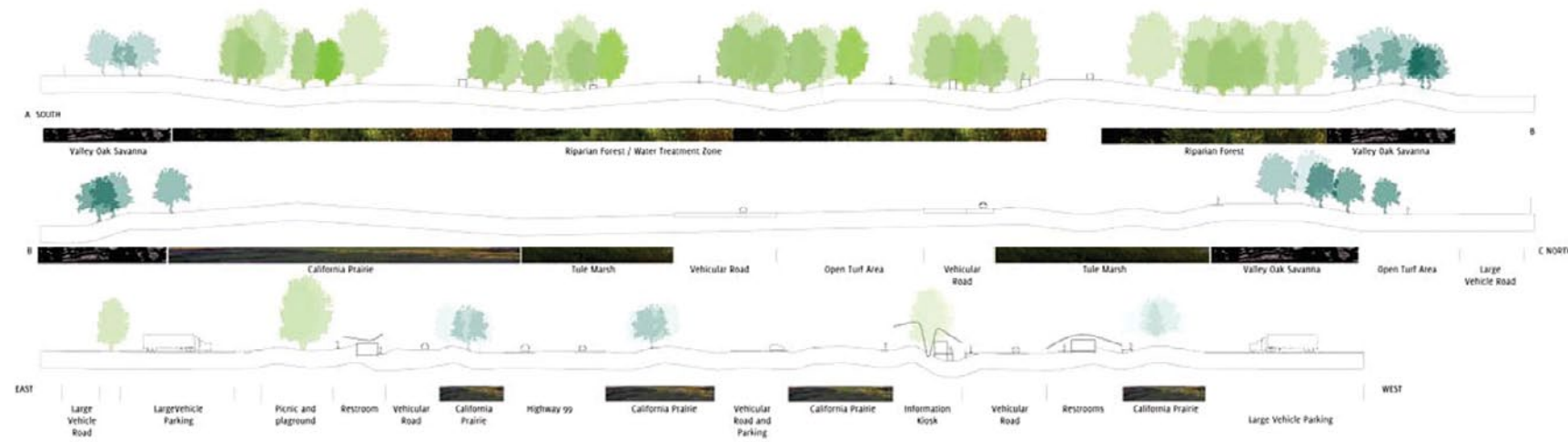6 **Small + Medium Scale + Large Scale**

Figure CXXXVII
Green Stops Competition
USA

TSUNAMI MEMORIAL: CONTEMPLATION RINGS

THE TSUNAMI MEMORIAL PROPOSED IN OUR PROJECT IS AS MUCH A PATH AS IT IS A BUILDING.

A PATH TO REMEMBER AND TO CONTEMPLATE.
THE PATH LINKS THE OLDEST EXISTING TREES IN THE SITE THROUGH A SERIES OF 6° RAMPS THAT ALLOW FOR A CONTINUOUS JOURNEY THAT WILL BECOME THE MEMORIAL ITSELF. IN THE SHADOW OF THE TREES, A SERIES OF TERRACES ALLOW FOR THE PEOPLE TO INTIMITALLY REMEMBER THEIR LOVED ONES. PEOPLE SHOULD BE WELCOME TO LEAVE THE REMAINS OR POSSESIONS IN THE TERRACES.

THE BUILDING AS A SPIRALING RING IS IN ITSELF A CONCENTRIC PATH AROUND AN INTIMATE GARDEN IN THE CENTRE, WITH A STILL WATER CIRCULAR POND. THE BUILDING IS A CONTINUOUS SPACE DIVIDED INTO THE LEARNING CENTRE ACTIVITIES AND THE MUSEUM, PASSING THROUGH THE RESTAURANT AND ENDING IN THE ROOF AS AN AMPHITHEATRE RECLINING IN THE HILL TO THE SOUTH OF THE BEACH.

THE BUILDING IS PLACED BETWEEN 10 MTS AND 15 MTS ALLOWING PEOPLE TO PHYSICALLY UNDERSTAND THE MAGNITUDE OF THE TSUNAMI WAVES.

THE BUILDING AS A RING IS AS MUCH A MATERAILIZATION OF THE TSUNAMI PHENOMENA AS A SYMBOL OF HUMAN SOLIDARITY.
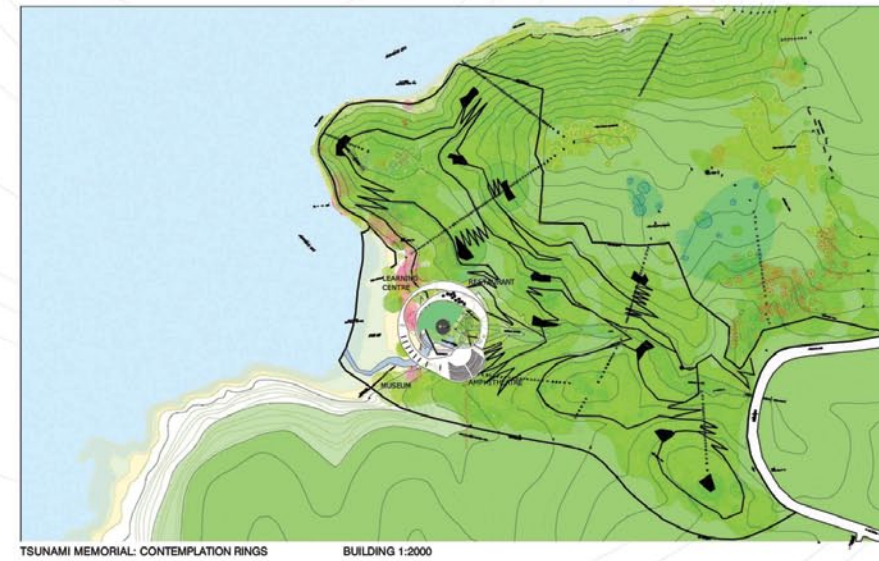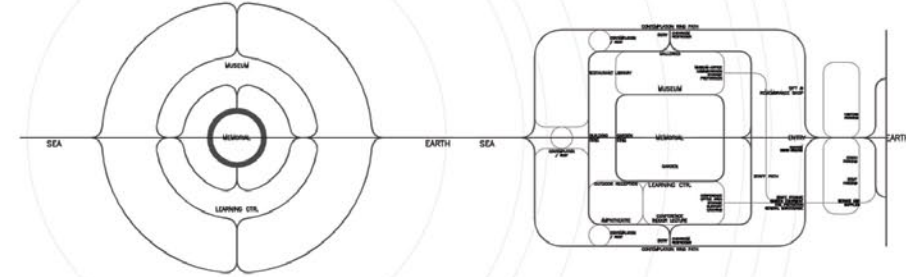
NETWORK OF OLDER TREES
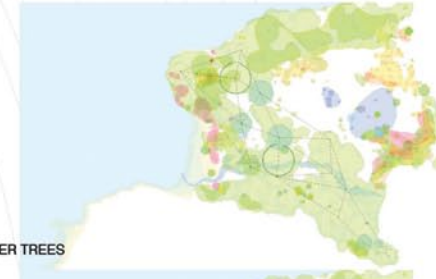
CONTEMPLATION POINTS

MEMORIAL PATHS

MEMORIAL TERRACES

TSUNAMI MEMORIAL: CONTEMPLATION RINGS   MEMORIAL PATH 1:4000
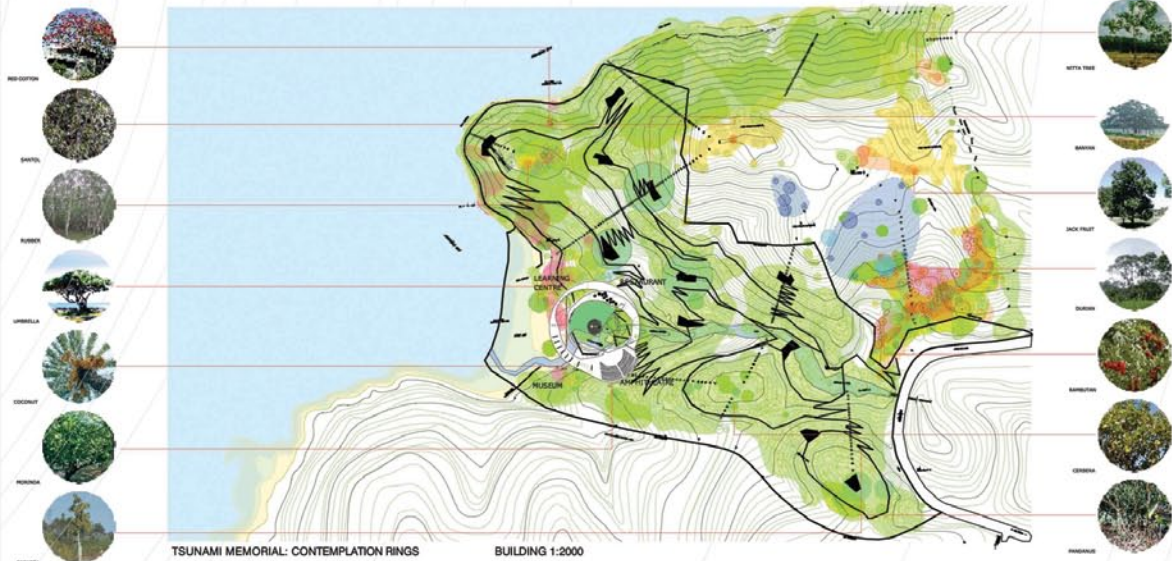
TSUNAMI MEMORIAL: CONTEMPLATION RINGS   BUILDING 1:2000

TSUNAMI MEMORIAL: CONTEMPLATION RINGS   BUILDING 1:2000

TSUNAMI MEMORIAL: CONTEMPLATION RINGS

TSUNAMI MEMORIAL: CONTEMPLATION RINGS

Figure CXXXVIII
Tsunami Memorial Competition
Thailand

Figure CXL
@ Sea Level,
Melbourne Design Festival

Figure CXLI
@ Sea Level,
Melbourne Design Festival

Figure CXLII
@ Sea Level,
Melbourne Design Festival

Figure CXLIII
Material Studies

Figure CXLIV
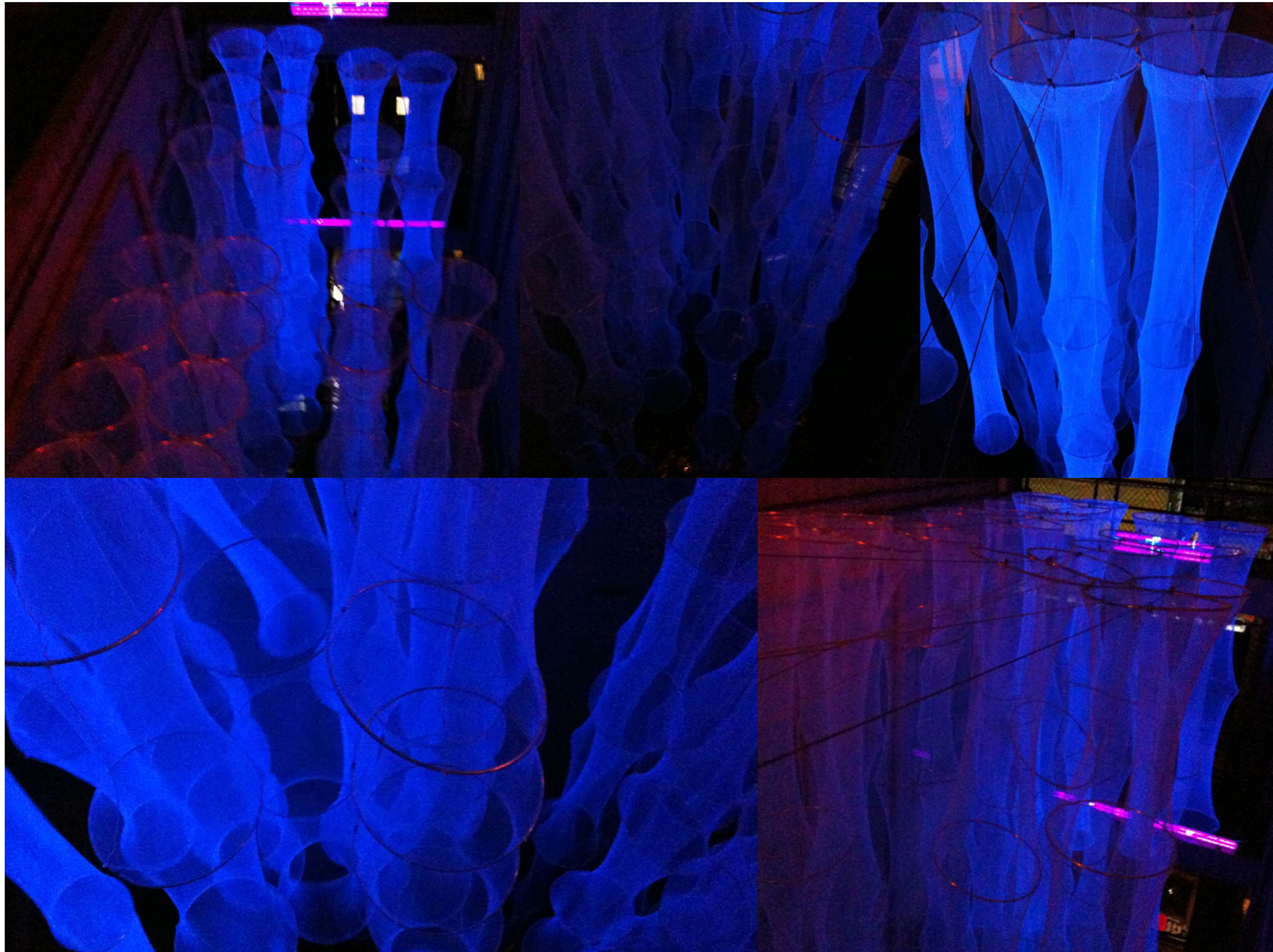Design Studio Exhibition
Super Urbansim

Figure CXLV
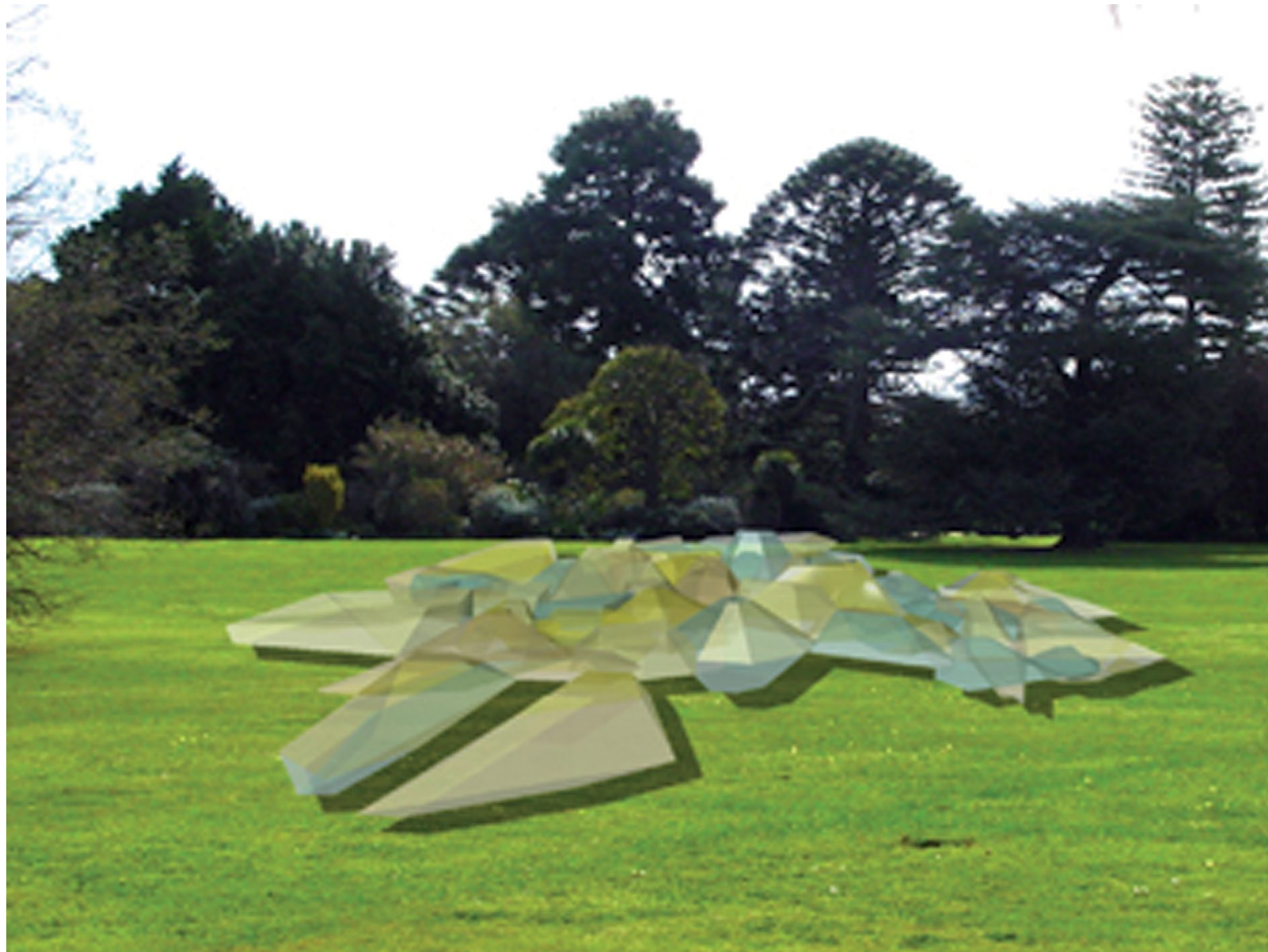Transformative Surface,
State of Design Festival, Melbourne

Figure CXLVI
Resonsive Geometries
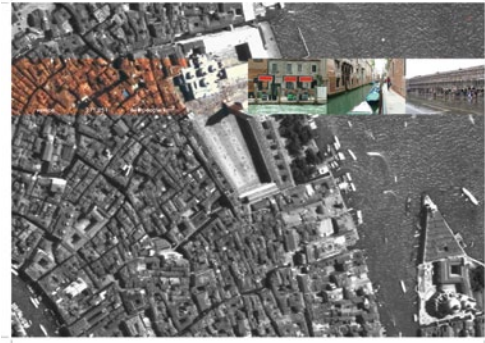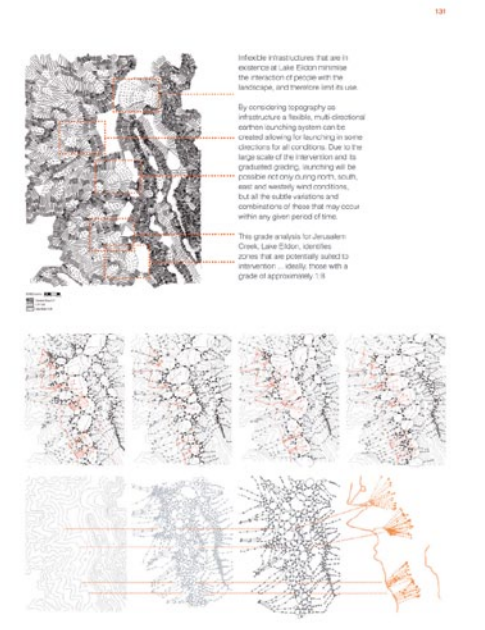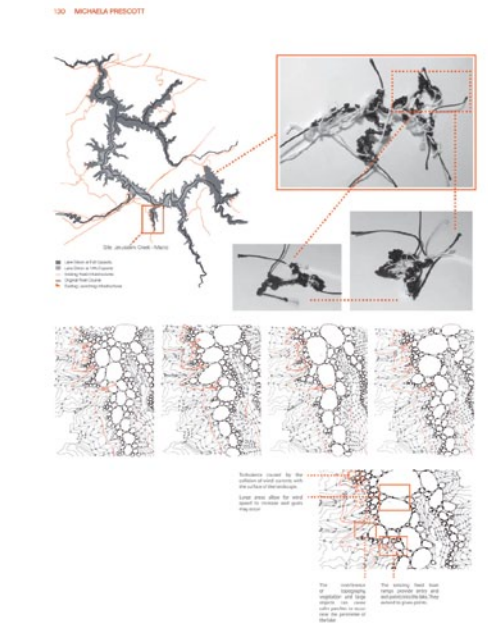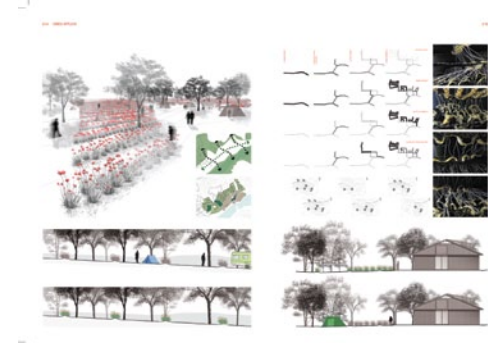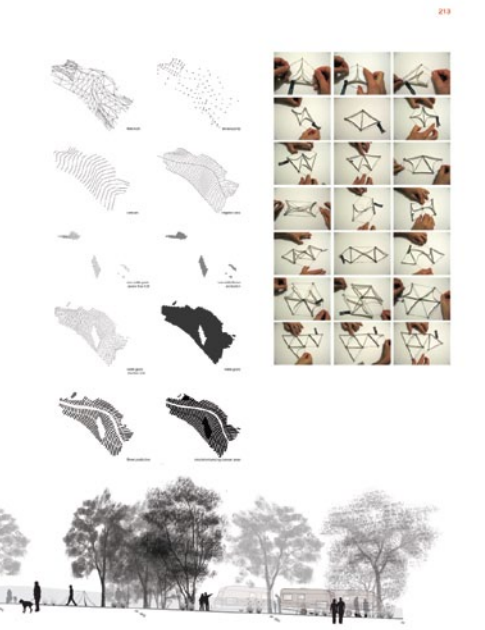Helen Lempriere National Scupture
Award entry
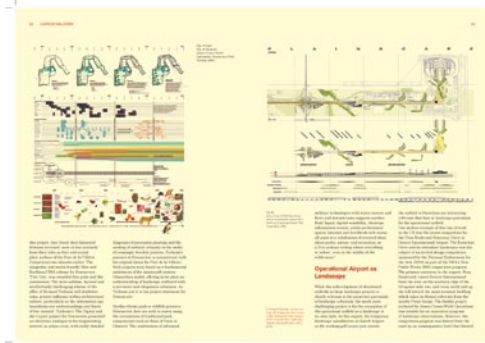
Figure CXLVII
States of Change Publication
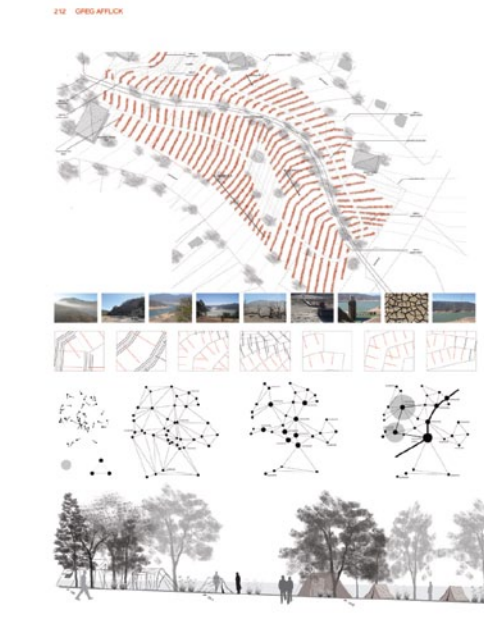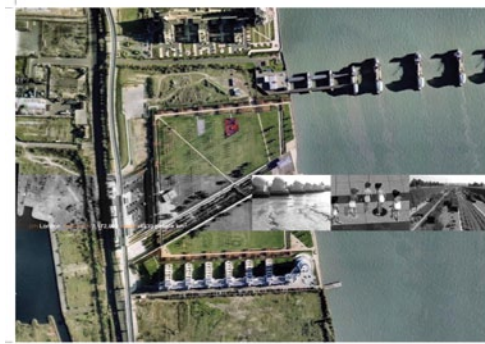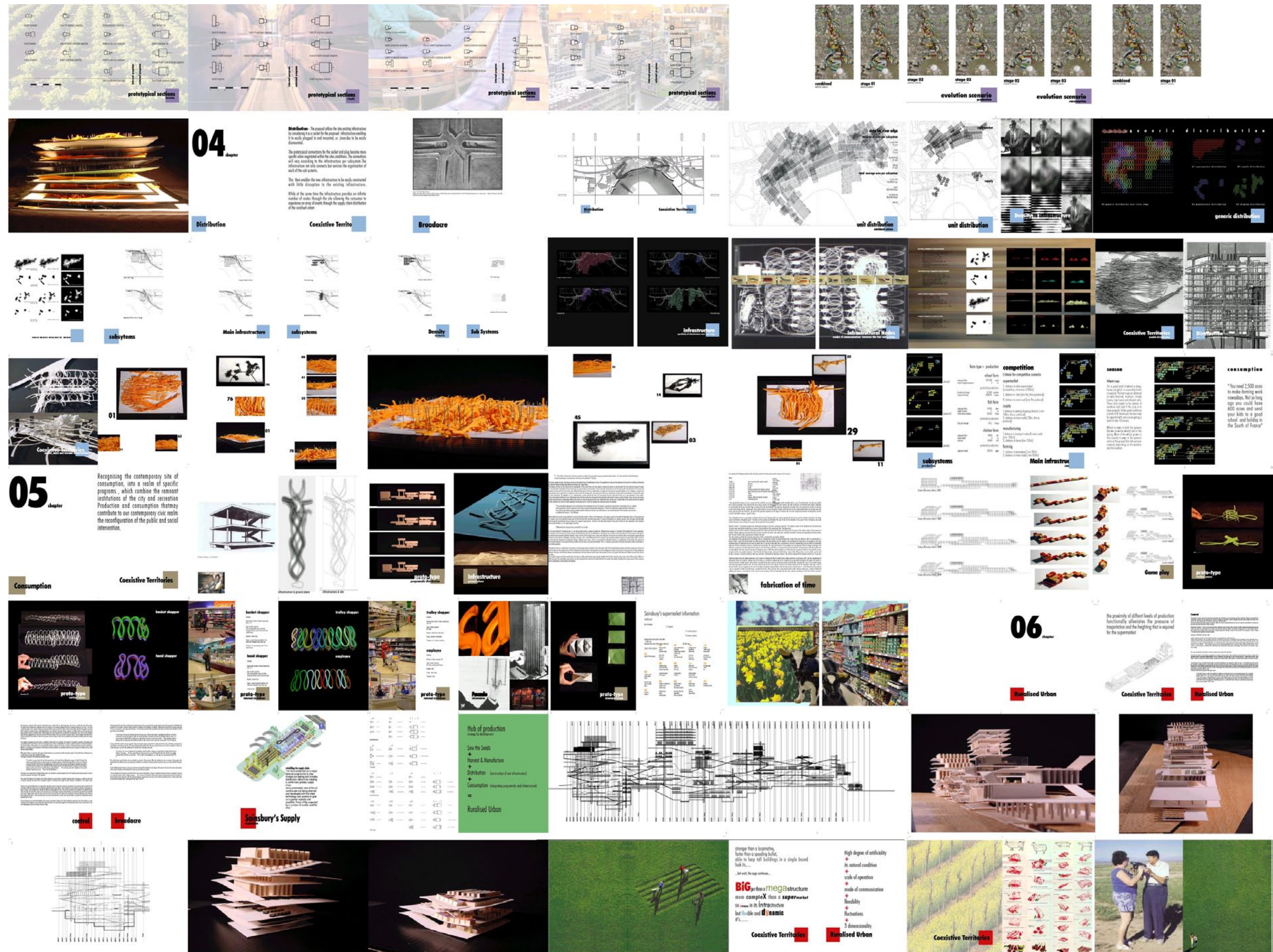
Figure CXLVIII
States of Change Publication

Figure CXLIX
Co-Existive Territories

Figure CL
Co-Existive Territories