From emergence to divergence: modes of landscape urbanism

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by Christopher D. Gray

First Reader: Malcolm Jones

School of Architecture
Edinburgh College of Art
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for my parents

Preface

Figure 1: New Orleans after Hurricane Katrina

This dissertation is the result of my interest in a hybrid practice that might cross architecture and landscape architecture. As a student of both, and a city dweller, I have always been fascinated with how the contemporary city, in all its complexity, engages with the physical architecture of its built form and the landscape of its territory. Just as fifty years ago, there were few concepts of spatial structure in cities, we are perhaps now in a period where the understanding of 'natural' systems in cities is only just starting to emerge. The conceptualisation of the ecological structure to cities and their supporting landscape systems is a critical problem when the global trend is for more and more people to live in urban areas. As a field that delights in de-industrialised, complex city sites, landscape urbanism appears to offer a way of understanding the contemporary city and furthermore, offer a way to sustain the city in a healthy, active manner. Landscape urbanism emerged at the start of my studies and has been something of a preoccupation ever since. This dissertation was an opportunity to explore the field in some depth; to try to understand its position within the broad range of disciplines in which I am interested; and speculate on its endurance as a critical approach. [Figure 1]

POSTSCRIPT

A point of clarity with regards the title of this dissertation: towards the end of writing the main text, I became aware of a specific definition of *emergence* as "the process of complex pattern formation from simpler rules."[1] This definition, whilst it is happily enmeshed with the topic of landscape urbanism, is not the meaning I originally intended in the title *From emergence to divergence;* my use of the word is to mean simply the act or process of coming into existence.

September 2006

1 "Emergence." Wikipedia, The Free Encyclopedia., Wikimedia Foundation, Inc. 8 Sep 2006 <http://en.wikipedia.org/w/index.php?title=Emergence&oldid=72596919> accessed on 29 Aug 2006

Figure 2: Volvo army. Malmö, Sweden

Chapter One: Introduction & Methodology

Figure 3: Railyard. Malmö, Sweden

INTRODUCTION

> "Much of the reason for revising practices of landscape and urbanism today derives from the changing nature of cities. The traditional notion of the city as a historical and institutional core surrounded by postwar suburbs and then open countryside has been largely replaced by a more polycentric and weblike sprawl: the regional metropolis. Here, multiple centres are served by overlapping networks of transportation, electronic communication, production, and consumption. Operationally, if not experientially, the infrastructures and flows of material have become more significant than static political and spatial boundaries. The influx of people, vehicles, goods and information constitute what urban geographers call the "daily urban system," painting a picture of urbanism that is dynamic and temporal. The emphasis shifts here from forms of urban space to processes of urbanisation, processes that network across vast regional – if not global – surfaces."[1]

This dissertation takes as its subject the emergent discipline of landscape urbanism. First expressed in the mid 1990s, this hybrid practice is positioned somewhere between architecture and landscape and developed with the assumption that landscape carries specific relevance "in describing the temporal mutability and horizontal extensivity of the contemporary city."[2] Landscape, it is suggested, is the lens through which we might understand the complexity and diversity of the metropolis in an age of increased sprawl, de-industrialisation and denatured open space. Gone are the simple rural-urban binaries on which our understanding of cities has historically been based, in which the natural and the built are understood as single objects, to be replaced by a more diverse model in which the shifting interactions of numerous dynamic systems prevail. [Figure 2-3]

Initially instigated by movements in the realms of non-linear dynamics, mathematical field theory and computer simulation of evolutionary fields, this shift from considering objects to considering complex and interacting fields has seen the concomitant move from top-down planning to bottom-up phenomena. As traditional urbanism and urban design struggle with such changes, a new model for urbanism is sought. A "cross-disciplinary sensibility"[3] to these delicate systems is required, one which can negotiate conditions of intricate local connections yet handle dramatic scale shifts across time and space. Landscape urbanism has been

1 Wall, Alex. "Programming the Urban Surface" in Corner, James (ed). *Recovering landscape : essays in contemporary landscape architecture*. New York : Princetown Architectural Press, 1999, p234

2 Waldheim, Charles. "Landscape as Urbanism" in Waldheim, Charles (ed). *The Landscape Urbanism Reader*. New York: Princeton Architectural Press, June 2006, p27

3 Weller, Richard. "An Art of Instrumentality: Thinking Through Landscape Urbanism" in Waldheim, Charles (ed). *The Landscape Urbanism Reader*. New York: Princeton Architectural Press, June 2006, p72

proposed as a possible new field that might support such cross-disciplinary sensibilities. How does this new hybrid discipline operate however? It appears to simultaneously be able to deal with the city dispersed across the territory and also with site-specific conditions that require small-scale responses. What operative mode allows such jumps in scale? This paper will examine the emergence of landscape urbanism and its subsequent development. The critical framework by which it is qualified will be explored and practices developed in parallel with the field will be discussed.

AIM & OBJECTIVES

With the author's background in both architecture and landscape architecture, the informal development period for this work has been several years, drawing from time in practice and study of both disciplines. A more focused period of research in preparation for the dissertation drew both from texts and projects within the field of landscape urbanism and from theories in aligned disciplines and hybrid fields. The final proposal identified the following key research question:

What modes of landscape urbanism have emerged and developed over the past decade and what key differences can be discerned between these modes and parallel practices?

OBJECTIVES

The following sub-questions were subsequently formulated to shape the investigation:

1.How has the critical framework for landscape urbanism emerged from a synthesis drawn from the fields of urbanism, infrastructure, ecology, architecture and landscape architecture?
2.Where can landscape urbanism be positioned in a critical perspective of aligned disciplines and hybrid fields?
3.Through exploration and definition of the various modes of landscape urbanism, can dominant modes be identified? Can specific characteristics be identified for each mode?
4.What are the similarities and differences in ethos and methodology between the two dominant modes? Can these two modes be described as divergent?

Figure 4: Winding aquaduct. Byron, California

Key to this dissertation is the proposition that two distinct theoretical threads can be perceived within the theoretical texts and projects on the subject. As will be presented, landscape urbanism can be understood to operate in several distinct modes. Furthermore, these modes have somewhat diverging assumptions as to how landscape urbanism might be made manifest. The aim of this dissertation is therefore to study the development of landscape urbanism and define the different modes in which the field can be understood; subsequently the paper will investigate the contrasting manifestations of the two schools of thought through their diverging theories and methods.

METHODOLOGY

By the very nature of the topic, the dissertation uses an interdisciplinary methodology: theories from associated fields are used to critically examine landscape urbanism's core values and methods. Interpretive frameworks drawn from diverse fields – ranging from topographic building to fractal cities, from landscape ecology to civic infrastructure, from cellular automata to urban agriculture – have been appropriated and adapted by landscape urbanism; by critically tracing these influences and testing against the diverse approaches of the field, the aim is to demonstrate the formation of distinct modes. This methodology will involve the use of key texts from landscape urbanism and other fields and the selection of case studies of relevant projects and interviews.

CHAPTER OUTLINES

Landscape urbanism draws from many disciplines and has developed in parallel with associated hybrid fields; any approach to its definition necessarily builds on a wide range of contemporary and historical theories. Whilst a non-linear methodology and approach is possible for the research phase, the fixed nature of the written dissertation manuscript demands a somewhat linear structure. The dissertation balances these conflicting demands through a striped structure: chapters that define, discuss and speculate on the future of landscape urbanism are inter-cut with chapters on the development of associated fields. Thus a balanced position is presented on a subject that is frequently dogmatic and rhetorical.

CHAPTER TWO: EMERGENCE

A brief genealogy and overview of the field is presented from first steps in the mid 1990s, and an initial critical evaluation of landscape urbanism key theorists, texts and projects is made. Moving towards a working definition, existing understandings are discussed and the two key words that comprise the compound term *landscape urbanism* are examined from an etymological point of view. Further critical evaluation of the field's language is presented in order that the terms of reference are common in later critical reviews of the modes of the field.

key to chapter contents:

STRUCTURE

CHAPTER 1
INTRODUCTION

CHAPTER 2
EMERGENCE

CHAPTER 3
CRITICALCONTEXT

CHAPTER 4
DEFINING MODES OF LANDSCAPE URBANISM

CHAPTER 5
ALIGNED DISCIPLINES & HYBRID FIELDS

CHAPTER 6
DIVERGENCE

APPENDIX
COLLECTED DEFINITIONS

CHAPTER THREE: CRITICAL CONTEXT

The critical background to the emergence of landscape urbanism is outlined in this chapter. Through an examination of the changes that have occurred recently in attitudes towards the contemporary city from an architectural, landscape architectural and urban design point of view, the framework is constructed by which landscape urbanism is qualified.

CHAPTER FOUR: DEFINING MODES OF LANDSCAPE URBANISM

A key argument of the dissertation is that distinct strands of theory and practice exist in landscape urbanism. This chapter introduces common issues across the field and briefly explores the main modes, identifying the main protagonists, academic programmes and practitioners of each. The two dominant modes of landscape urbanism are critically examined; the key differences in ethos, approach and outputs are identified; and speculations on their development are briefly outlined with reference to geographic locations, scale, and case studies.

CHAPTER FIVE: ALIGNED DISCIPLINES & HYBRID FIELDS

Landscape urbanism is frequently presented as a lens through which to understand the contemporary city: this chapter compares the lens of landscape urbanism against other significant historical and contemporary lenses to reveal key differences in ethos and approach. A historical context is set for the field and key relationships with other fields revealed in order to frame the final chapter which speculates on divergence in the field.

CHAPTER SIX: DIVERGENCE

The original aims and objectives are reviewed and key research summarised. Speculations on the impact of diverging modes are made and final conclusions drawn.

Figure 5: More green fields. Örsundaån, Sweden

Chapter Two: Emergence

Figure 6: Los Angeles River

LANDSCAPE URBANISM: A BRIEF OVERVIEW

Landscape urbanism is one of the most literal manifestations of a continuing critical shift to consider open space and natural systems over built form and infrastructure.[1] At its most basic level, landscape urbanism is just as the compound term might suggest: the strategic approach to the formation of an urban scheme through the transformation of processes related to landscape.[2] Water systems; planted ecological patches and vegetation corridors; biodiversity; the consideration of orientation and aspect; the introduction of urban agriculture; and the multiple uses of infrastructural utility corridors are all key concerns of landscape urbanism.[3] [Figure 6] However, such a simple definition ignores some of the subtle issues that have emerged in the past ten years as the field has moved beyond initial speculations to become a recognised approach, taught in several institutions and practised in various forms around the world. These issues have at times threatened the progress of the field and as will be argued in later chapters, produced diverging modes of approach and subsequently different values in the final form. Before exploring an expanded definition of landscape urbanism, this chapter charts the first steps of the new discipline, the main theorists and projects that have defined the field.

1 See Appendix for collected definitions

2 Whilst 'natural systems' might be inserted in place of 'processes' and indeed is a phrase encountered when defining landscape urbanism, the author is wary of its use without a more thorough discussion of what is meant by 'natural'

3 Bunster-Ossa, Ignacio. "Landscape Urbanism". *Urban Land*. July 2001, p2

DISCIPLINARY UNEASE

The disciplinary background that produced landscape urbanism as a field or hybrid discipline is not particularly clear. Depending on which texts one reads, the emergence of landscape urbanism has been argued to have either emerged directly from architecture and urban-design as a form of architectural post-modern "rhizomic assemblage"[4] to describe an approach to the network city, or "borne of a reaction to landscape architecture's trivialisation throughout the twentieth century."[5] Both arguments are for landscape urbanism as some form of reappraisal of a previously defined discipline (architecture and landscape architecture respectively), yet there is a clear overlap in texts and practitioners which makes any kind of critical analysis drawn along disciplinary lines an over-simplification. For this reason direct reference to the disciplinary backgrounds of those involved is avoided; a later chapter that investigates the differences in approach of the two diverging modes the author believes have formed will discuss these disciplinary differences in ethos more fully.

COINING THE PHRASE

James Corner was the first to develop the phrase *landscape as urbanism* in a series of conferences in the mid 1990s which dealt specifically with "constructing landscape" and "recovering landscape."[6] The conferences focused on contemporary landscape architectural themes with the intention of moving the discipline forward: the ideas and

4 Shane, David Grahame. *Recombinant Urbanism: Conceptual Modelling in Architecture, Urban Design and City Theory.* John Wiley, England. 2005, p147

5 Weller, Richard & Musiatowicz, Martin. "Landscape urbanism: Polemics toward an art of instrumentality?" in *The MESH Book: Landscape/Infrastructure.* Raxworthy, Julian & Blood, Jessica (eds). *The MESH Book: Landscape/Infrastructure*. Melbourne, RMIT University Press, 2004, p58

6 An extended history of landscape urbanism is traced in Waldheim, Charles. "Landscape Urbanism: a Genealogy" in *Praxis: journal of writing + building*, no. 4, 2002, p12

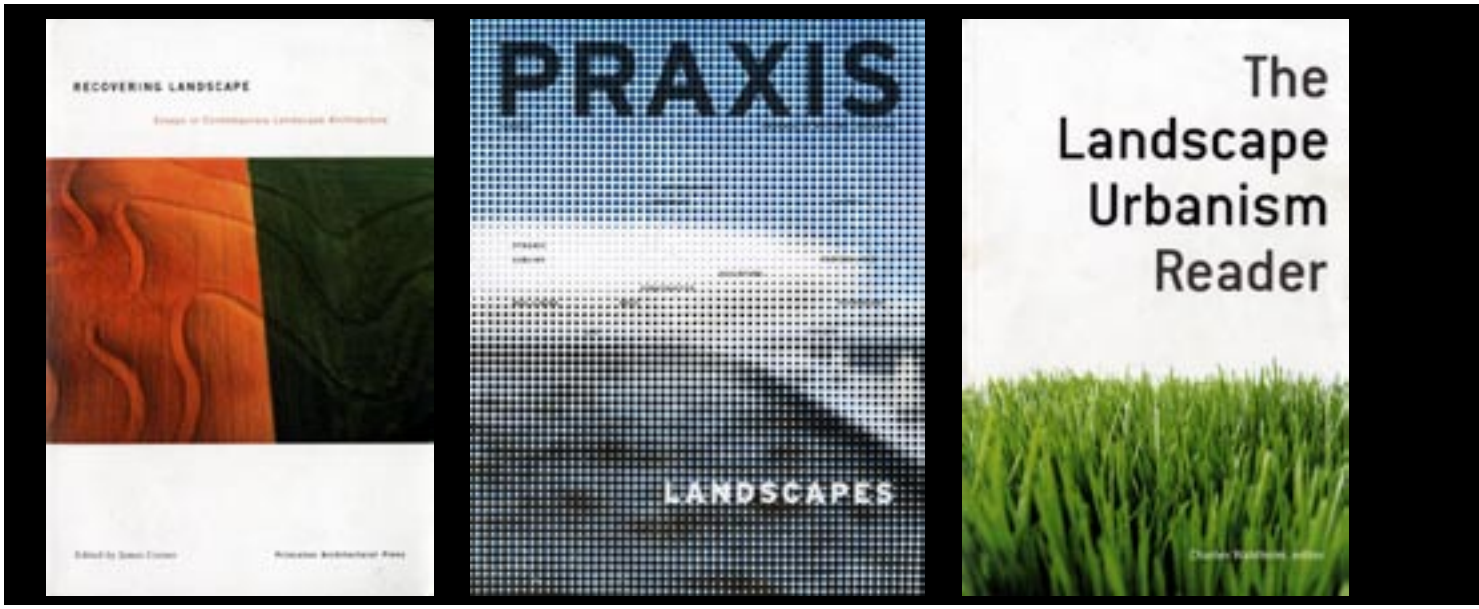


Figure 7: Key publications
Recovering Landscape, Praxis #4, The Landscape Reader, Manual for the Machinic Landscape.

papers generated from these meetings were later collected in the publication *Recovering Landscape*[7] which can be read as a key reference for the graduate landscape architecture program at University of Pennsylvania of which Corner is head. Charles Waldheim, a graduate of the program, subsequently coined the term *landscape urbanism* and organised a conference under the same neologism in 1997. This conference and the previous Corner conference held at the Architectural Association (AA) appears to have instigated their creation of a graduate programme of landscape urbanism which began accepting students in 1999 under the directorship of Mohsen Mostafavi.[8] A landscape urbanism concentration in the Master of Architecture programme under Waldheim at the School of Architecture at the University of Illinois at Chicago also began around this time, along with the creation of a chair of landscape urbanism, the Jens Jensen chair.[9]

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

8 Bullivant, Lucy. "The thickening ground: the Landscape Urbanism Graduate Programme, Architectural Association, London" in *A+U: architecture and urbanism*, no. 3(426), pp. 122-127, Mar 2006

9 "Grant Detail: Jens Jensen Visiting Professorship and Program in Landscape Urbanism." Graham Foundation Abstract Database. <http://www.grahamfoundation.org/abstract/grantDetail.asp?abstractNo=96.129&keyword=Landscape> accessed 26th May 2006

10 Waldheim, Charles (ed). *The Landscape Urbanism Reade*r. New York: Princeton Architectural Press, June 2006

11 Mostafavi, Mohsen and Najle, Ciro (eds). *Landscape urbanism : a manual for the machinic landscape*. Architectural Association, London, 2003

12 *Praxis: journal of writing + building*, no. 4, 2002. Interestingly, the Praxis journal is takes a specific disicplinary approach to the subject: "This issue of Praxis offers an investigation of landscapes from the unique vantage point of *the architect* [emphasis addedd]. Projects and essays explore overlaps between landscape, urban design, and architecture, featuring work that is simultaneously open-ended and highly constructed" quoted in "Praxis: journal of writing + building, no. 4, 2002." Praxis Journal. <http://www.praxisjournal.net/issues/04.htm> accessed on 23rd August 2006

KEY PUBLICATIONS & DEFINING COMPETITIONS

Waldheim and the AA have both recently produced publications which by their titles and collected texts aim for a somewhat dogmatic overview of the field: respectively *The Landscape Urbanism Reader*[10] and *Landscape Urbanism: A Manual for the Machinic Landscape*.[11] [Figure 7] Preceding these publications, an issue of Praxis took landscape as its theme and collected a number of articles which would later be developed in print.[12] These titles, and indeed most of the associated papers published on the subject, largely agree on the importance of several key competitions as key

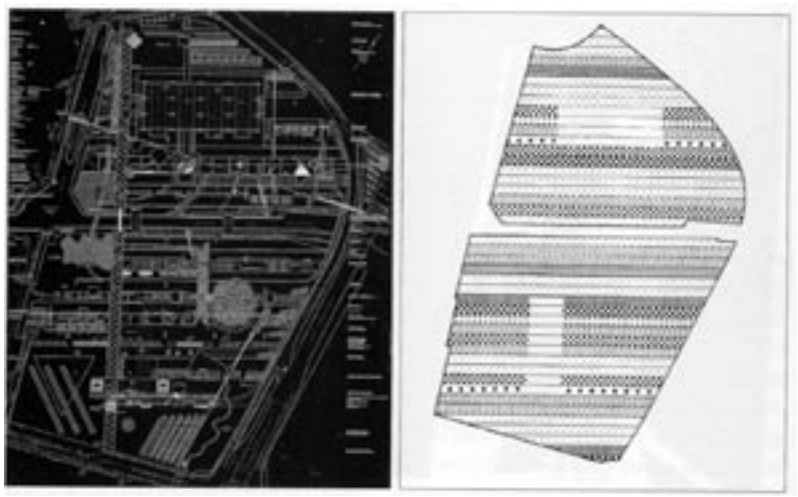


Figure 8: Parc de La Villette competition, Diagram of Programmatic Strips and Site Plan
Site plan becomes an urban-scale template for landscape effects.

catalysts to the emergence of the field. These international competitions and their highly publicised entries by renowned architects proposed initial moves that would later prove key to the developing theories. The first of these was the 1982 international competition for Parc de la Villette in Paris.[13] Both 1st and 2nd place entries to the competition have, for over twenty years now, been cited as key projects that "orchestrate urban program as landscape process."[14] Frustrated by post-modernist impulses largely towards style and form at the neglect of program and events, the entries by Bernard Tschumi and Rem Koolhaas/OMA emerged as the result of desires to actively define and organise program outwith the normal constructs of architectural form. The project adopted landscape as the medium by which to justify and order programmes that were indeterminate and subject to political change; in doing so it signalled the beginning of a reassessment of contemporary urbanism that continues today.

13 See Baljon, Lodewijk. *Designing parks : an examination of contemporary approaches to design in landscape architecture, based on a comparative design analysis of entries for the Concours International: Parc de la Villette, Paris 1982-3.* Amsterdam : Architectura and Natura Press, 1992

14 Waldheim, Charles. "Landscape Urbanism: a Genealogy" in *Praxis: journal of writing + building*, no. 4, 2002, p13

This reassessment instigated the discussion of a practice somewhere between urbanism and landscape in which architects were encouraged to transgress on the field of landscape architecture. Distinct from a blurring of boundaries where both disciplines co-operate in a zone of common space, transgression suggests the appropriation of ground from one discipline to another.[15] This transgression has seen qualities and methods eagerly adopted and adapted by architects to explore programmatic, spatial and temporal problems of the contemporary urban situation in new ways. This has expanded to the use of ecological and infrastructural approaches and beyond to a multitude of methods of designing mutable frameworks that can accommodate change and indeterminate processes.

15 See Reeser, Amanda and Schafer, Ashley. "Approaching landscapes" in *Praxis: journal of writing + building*, no. 4, 2002, p4

SANFORD KWINTER

A minor diversion at this point is required, to introduce an accidental spokesperson for landscape as medium and operating method: Sanford Kwinter. Whilst his writings were not initially directed towards architects or landscape architects, he undoubtedly had a significant impact on the language and scope of landscape urbanism. Sometime collaborator with Rem Koolhaas,[16] Kwinter's background in comparative literature and leanings towards writing on the urban, [17] positioned him uniquely to untangle the complex changes that emerged across multiple disciplines with the shift away from the linear Cartesian paradigm towards a complex non-linear theory of continuous spatial continuum.[18] Kwinter's first paper on this shift analyses the paintings of Umberto Boccioni to illustrate the results of multiple changes in the move to non-linear, field conditions from static, "linear models of movement and change."[19] Written not for an architectural audience nor a landscape architectural audience, the paper adopts and abstractly expands on catastrophe theory to describe how real and virtual folds in

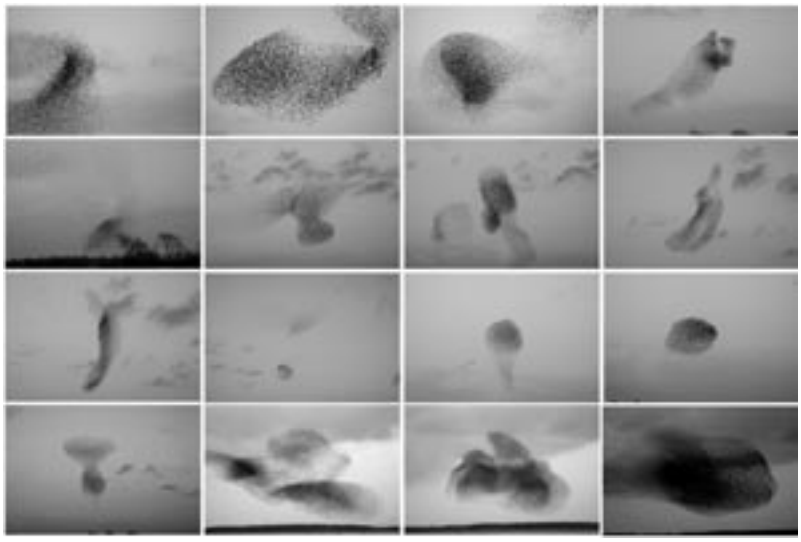


Figure 9: Flocks: Black Sun in Denmark
During spring in Denmark, at approximately one half an hour before sunset, flocks of more than a million European starlings (sturnus vulgaris) gather from all corners to join in the incredible formations shown above.

16 Koolhaas, Rem. *Conversations with Students*. Princeton Architectural Press, 1996

17 De Landa, Manuel. *A Thousand Years of Non-linear History*. Cambridge: The MIT Press, Swerve Editions. New York: Zone Books, 1997.

18 For a dicussion of this paradigm shift and critical examiniation of how this shift specifically impacted water in urban design strategies, see Mitchell, Clare A. *Folding Landscape: a study of the integration of new water management practices in the post-industrial paradigm*. Dissertation is submitted in part fulfilment of the regulations for the MA in Urban Design Oxford Brookes University, 2005

19 Kwinter, Sandford. "Landscapes of Change: Boccioni's *Stati d'animo* as General Theory of Models" in *Assemblage* 19, 1992, p53

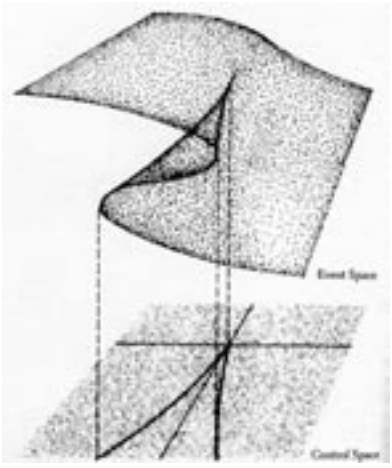


Figure 10: Catastrophe surface
Showing control space, event space, fold and its projection as a cusp. The plane below represents a Cartesian parameter space uninflected by any singularity. When a given trajectory is projected onto the space above it, both continous and discontinuous behaviours become manifest.

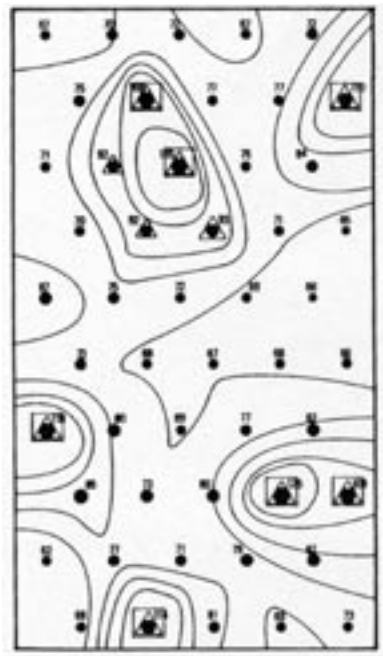


Figure 11: Christaller model
Showing symmetry breaking and the resultant complexity that arises in an intially homogeneous (point) field

surfaces might allow non-linear form to emerge. Kwinter draws on multiple disciplines to illustrate new forms and methods possible in this paradigm: the movement of self-aggregating *Celeoptera* larvae in a controlled environment; Christaller models illustrating how complexity in a homogeneous field springs from simple feedback mechanisms; and geological fault models that show how patterns emerge from the imposition of two simultaneous shear forces, are all appropriated as "event-generated diagrams" to describe the new model. [Figure 9-12]

Landscape in his paper is introduced expressly as a conceptual "undulating topographical surface in phase space"[20] used to describe the unfolding of events with which Kwinter is concerned. Although the language and terms in his paper appear in key landscape urbanism texts some fifteen years later, it took several more papers: on *soft urbanism*[21] and the multiplicity of dimensions,[22] before Kwinter himself realised the possibility of landscape as a mode for thinking and developed further his own construct of *landscapism* which this chapter later draws.[23] It is his concept of *soft urbanism*, initiated by Koolhaas' ideas of *Bigness,* that immediately preceded and perhaps prompted the explicit emergence of landscape urbanism. Kwinter describes soft urbanism as "a liquid urbanism of grazing, perpetually interacting forces, an urbanism where forces are *allowed* to interact...[it] is a dynamic, flexible, ad hoc, rule-based urbanism free of the controlling obsession with certainty, predictability, or permanence."[24] The language, somewhat developed and refined from his deliberately abstract early writing, is consistent with landscape urbanism as it subsequently emerged and his influence on the evolution of the field is clear.

20 Kwinter, Sandford. "Landscapes of Change: Boccioni's *Stati d'animo* as General Theory of Models" in *Assemblage* 19, 1992, p63

21 Kwinter, Sandford. "Politics and Pastoralism", in *Assemblage* 27, 1995, pp25-32

22 Kwinter, Sandford. "Flying the bullet or when did the future begin?" in Koolhaas, Rem. *Conversations with Students*. Princeton Architectural Press, 1996, pp72-84

23 "Despite the paper I published over a decade ago – *Landscapes of Change* – and which had managed to interest a few landscape designers (to whom it was absolutely not addressed), I remained relatively innocent of anything like the idea of a landscape revolution. In fact, it was the landscape designers' de facto reception of the ideas of that article...that alerted me to the unexpectedly direct and literal possiblities of applying landscape thinking to very large, and real, geo-social situations." Kwinter, Sanford. "American Design?" in *Praxis: journal of writing + building*, no. 4, 2002, pp6-9

24 Kwinter, Sandford. "Politics and Pastoralism", in *Assemblage* 27, 1995, p31

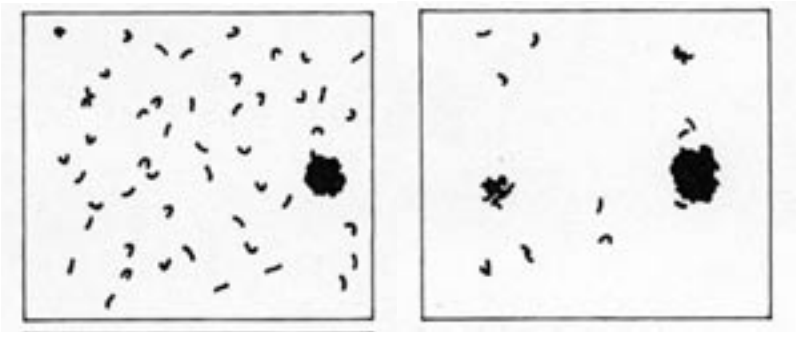


Figure 12: Celeoptera larvae self-aggregating
A gradient naturally arises as the larvae begin to emit pheremones into the environment in direct proportion to their level of nourishment

DOWNSVIEW PARK & FRESH KILLS LANDFILL TO LANDSCAPE

To return to important competitions, seventeen years after Villette, another international competition for a major city park was launched that attracted entries from the Villette finalists. With a disused military base in Toronto as the site, the *Downsview Park competition*[25] was briefed as a multidisciplinary project that "asked the competitors to design for fluctuations over time in ecosystem conditions and human use, while creating a significant cultural work in a urban space."[26] As at Villette, the Downsview competitors had to tackle a complex de-industrialised site with subtle yet important links to the surrounding urban fabric and a somewhat indeterminate set of programs. This time however, the importance of landscape as the medium for the resultant projects was explicit and demanded by the brief. The finalists are

> "competition schemes [that] entice us with new potential sets of relations between landscape, architecture and the city. Similarly, they encourage exchange between those involved in their design and planning. They make clear a simple point: landscape is too important, ubiquitous, and complex to leave to a single discipline."[27]

Whilst not explicitly labelled landscape urbanism, the issues inherent to the discipline are distinct in several of the short-listed schemes. [Figure 13-16] The project titles of the majority of the finalist teams directly reflect the preoccupations of the competition: *Emergent Landscapes; Emergent Ecologies; A New Synthetic Landscape;* and *Tree City*. The idea that landscape may not necessarily be natural, but rather celebrate the association with the artificial runs through the designs; similarly the conflation of culture with entertainment is key.[28] These two pairs of issues strategically recur through the deployment of specific strategic systems that relate to program and ecological dynamics: these matrices of interacting systems structure and guide development.[29] Another recurring tool is the phased framework plan, that takes advantage of temporal uncertainty to propose futures for the park in 5, 10 and 15 years time. The results of these tools are quite diagrammatic and graphic schemes that at times avoid any kind of spatial proposition altogether. Indeed the winning scheme, *Tree City* by OMA and Bruce Mau, is

25 For an expanded critique of the competition, the five short-listed entries and the impact of the competition's brief on various disciplines, see Czerniak, Julia (ed). *CASE: Downsview Park Toronto*. Munich ; New York : Prestel ; Cambridge, Mass. : Harvard University, Graduate School of Design. 2001

26 Hill, Kristina. "Urban Ecologies: Biodiversity and Urban Design" in Czerniak, Julia (ed). *CASE: Downsview Park Toronto*. Munich ; New York : Prestel ; Cambridge, Mass. : Harvard University, Graduate School of Design. 2001, p91

27 Czerniak, Julia. "Appearance, Performance: Landscape at Downsview" in Czerniak, Julia (ed). *CASE: Downsview Park Toronto*. Munich ; New York : Prestel ; Cambridge, Mass. : Harvard University, Graduate School of Design. 2001, p17

28 See entry by Tschumi team: *The Digital and the Coyote*. Czerniak, Julia (ed). *CASE: Downsview Park Toronto*. Munich ; New York : Prestel ; Cambridge, Mass. : Harvard University, Graduate School of Design. 2001, p82

29 See entry by Corner and Allen Team: *Emergent Ecologies*. Czerniak, Julia (ed). *CASE: Downsview Park Toronto*. Munich ; New York : Prestel ; Cambridge, Mass. : Harvard University, Graduate School of Design. 2001, p58

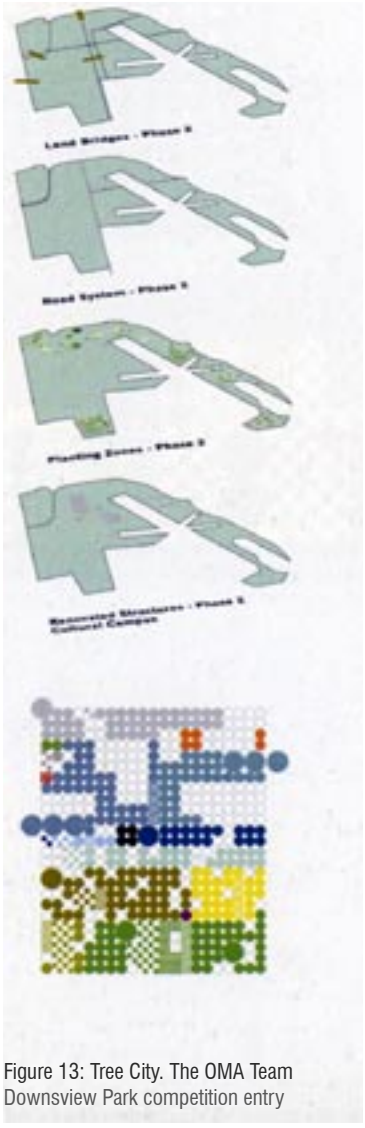


Figure 13: Tree City. The OMA Team
Downsview Park competition entry

Figure 14: Tree City. The OMA Team Downsview Park competition entry

described as using "graphic devices to indicate that the new park would include groves of trees, meadows, and 'water features,' without saying specifically where these features would be located."[30] In a way, the OMA entry is a straightforward update of their proposition for Villette which won second prize: whilst the Villette entry suggested abstract programmatic parallel strips of landscape as an organising surface for "radically juxtaposed irreconcilable contents"[31] the difference in the Downsview entry appears graphically to be a move from strips to circles. The essential underlying concept is the same:

> "*Tree City* is a diagram designed to maximise the park's options for survival. Each landscape cluster will be left unassigned of programme. Over the course of the park's life,

30 Hill, Kristina. "Urban Ecologies: Biodiversity and Urban Design" in Czerniak, Julia (ed). *CASE: Downsview Park Toronto*. Munich ; New York : Prestel ; Cambridge, Mass. : Harvard University, Graduate School of Design. 2001, p100

31 Waldheim, Charles. "Landscape as Urbanism" in Waldheim, Charles (ed). *The Landscape Urbanism Reader*. New York: Princeton Architectural Press, June 2006, p41

functions will be assigned to insure its own existence."[32]

What emerged from the Downsview competition, if not from the winning scheme, was evidence of a distinct respect for the ecological and dynamic landscape forces extant on site. The position of the site on a watershed boundary was noted by many of the competitors, even those headed by architects; as a result, the hydrology of the site and the ability of water to shape landforms and guide programmatic arrangements was exploited by several of the final schemes. Furthermore, the development of ecological strategies expanded by several degrees of magnitude on any of the Villette 'landscape' schemes which purported to adopt ecological approaches.

32 See entry by OMA team: *Tree City*. Czerniak, Julia (ed). *CASE: Downsview Park Toronto*. Munich ; New York : Prestel ; Cambridge, Mass. : Harvard University, Graduate School of Design. 2001, p80

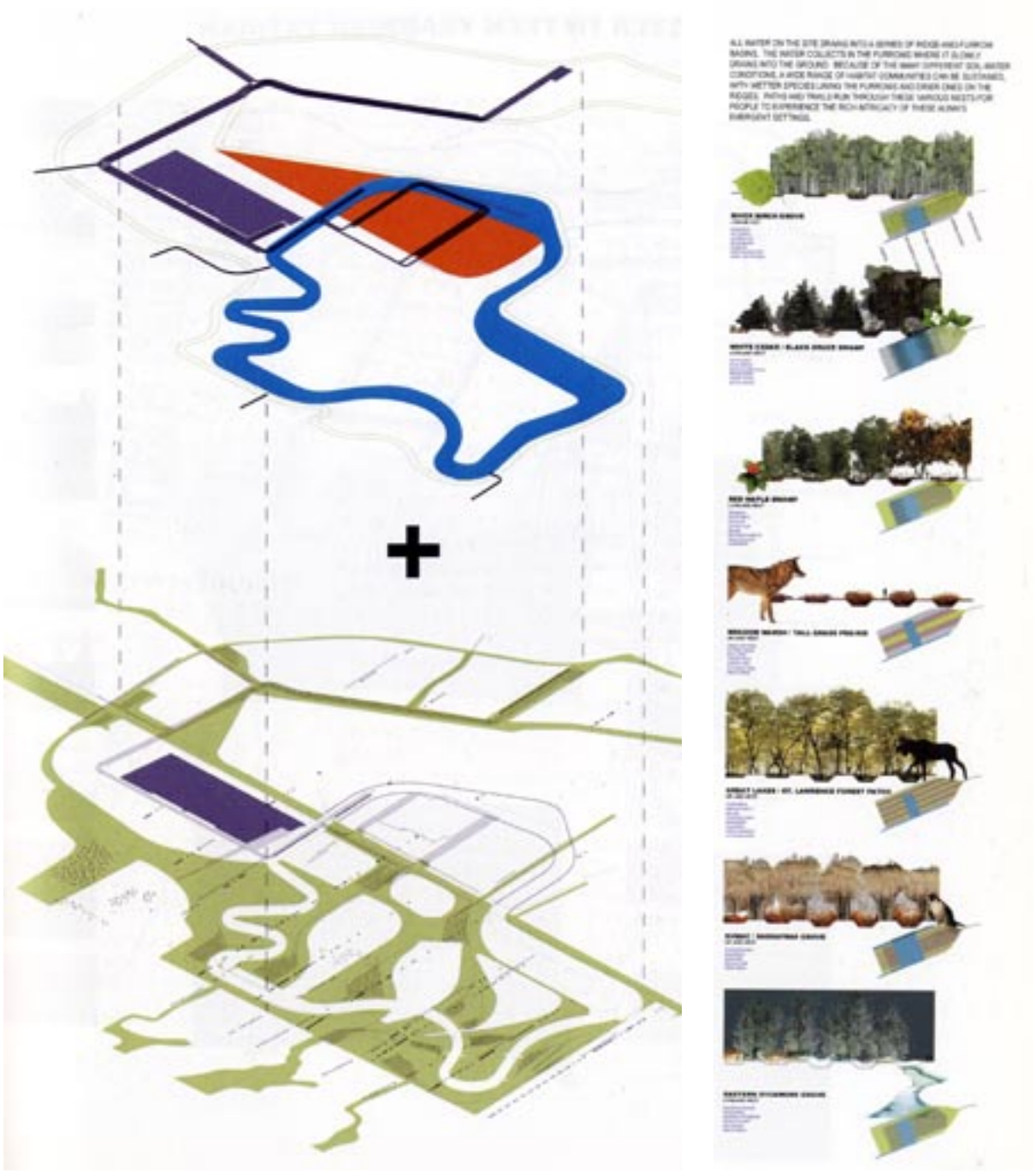
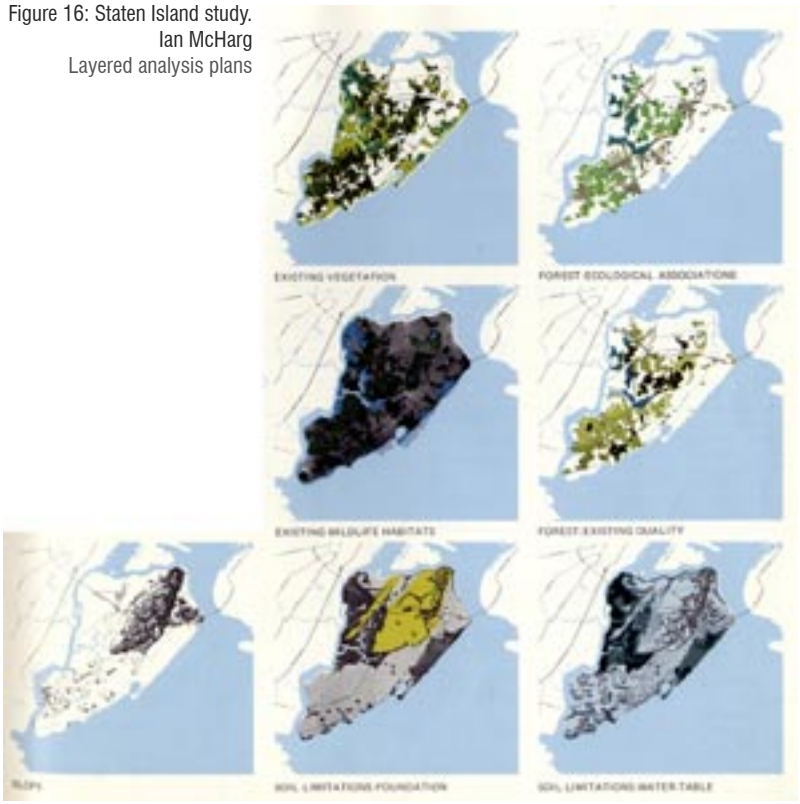
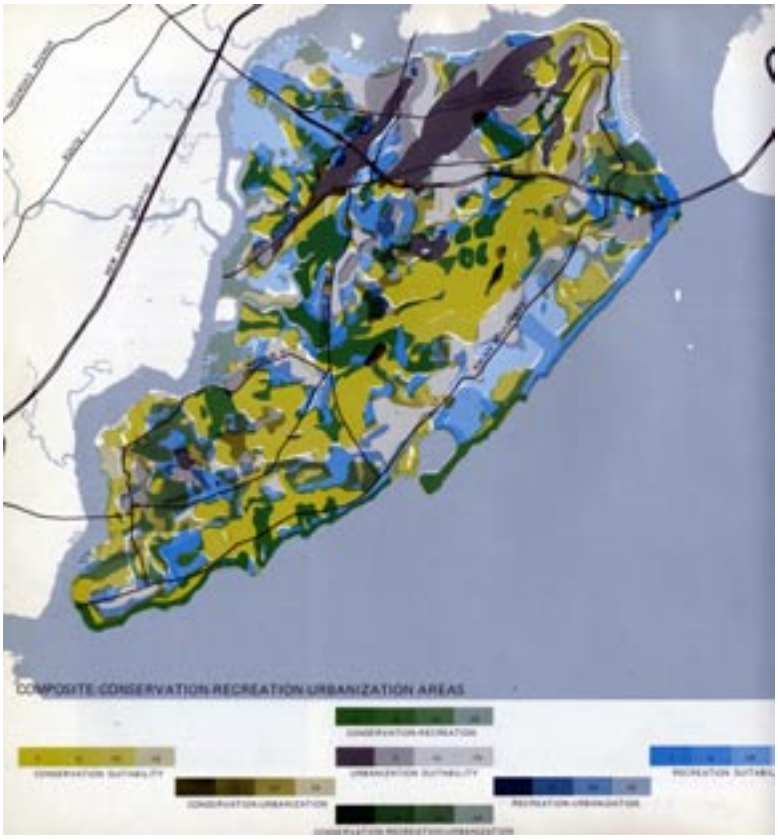


Figure 15: Emergent Ecologies, The Corner and Allen Team
Downsview Park competition entry

Figure 16: Staten Island study.
Ian McHarg
Layered analysis plans





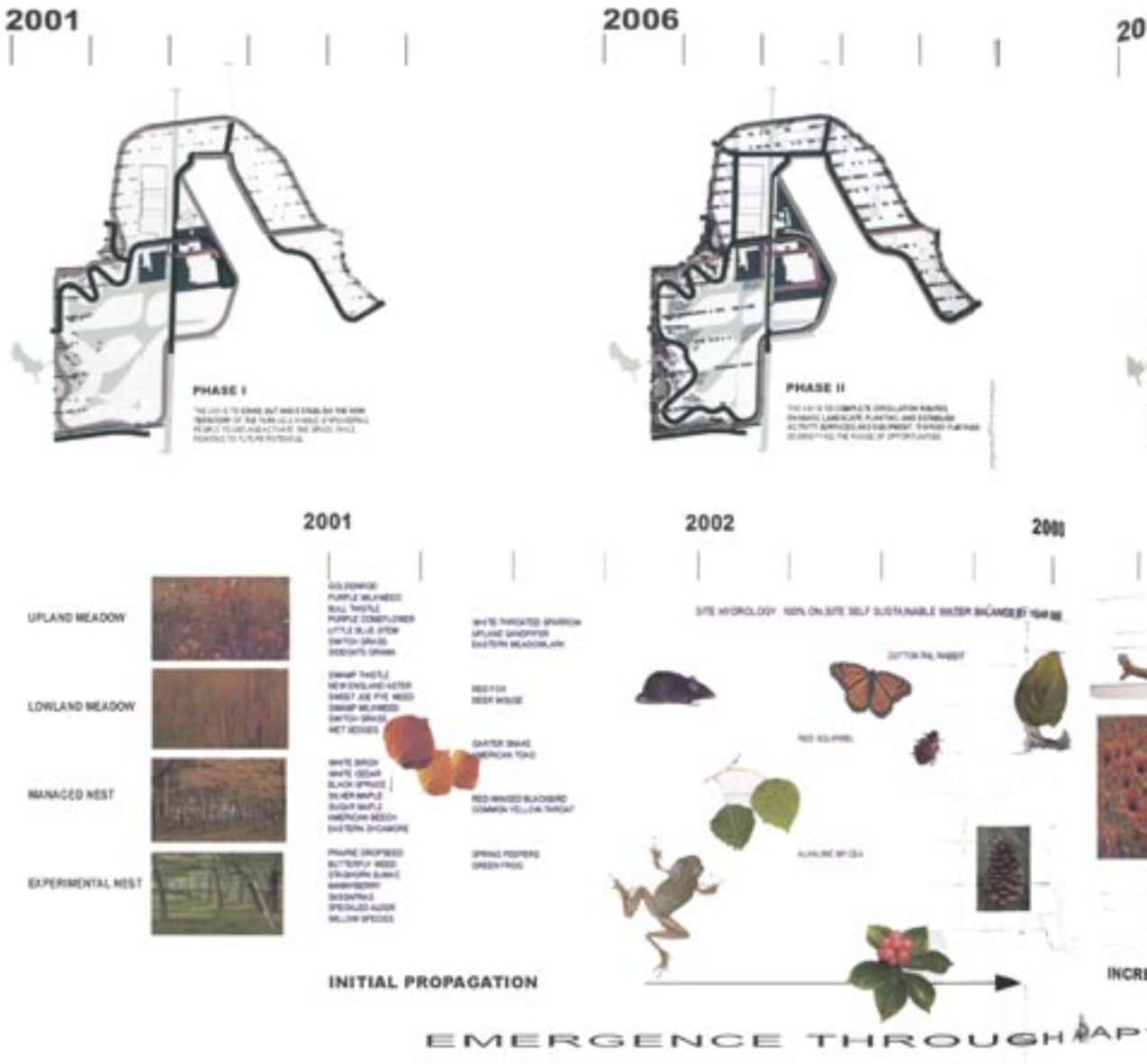
[Figure 15 & 16] These strategies recognised that the understanding of ecological systems had moved beyond the models proposed by Ian McHarg. Parallels between McHarg's approach and landscape urbanism can be drawn, however they are ultimately quite different methodologies. McHarg's proposals represent a belief in top-down planning practice applied through rigorous and inflexible data overlays that are quite different to the embrace of indeterminate systems that is the hallmark of landscape urbanism.[33] [Figure 16] Models of 'closed' or 'balanced' systems that were assumed to be in constant movement towards a climax state have been dropped in favour of contemporary approaches in which the relationships between processes and patterns are more complex.[34]

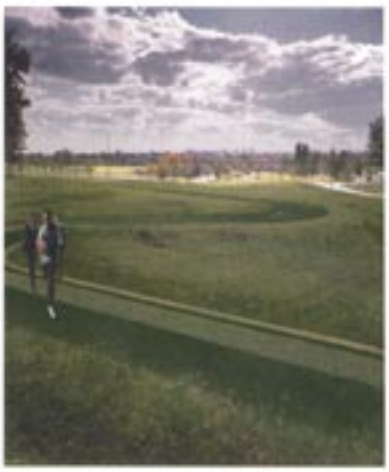
The "detailed diagrams of phasing, animal habitats, succession planting, hydrological systems and programmatic and planning regimes"[35] by which the teams described these complex ecological interventions were quite established by the time the *Fresh Kills Landfill to Landscape* international competition was launched.

33 Professor Ian McHarg initially established the University of Pennslyvania Department of Landscape Architecture and Regional Planning in 1924 and later revitalized it in the 1960s. His presence is still felt throughout, and the graduate program there has advanced his ideas under James Corner. See McHarg, Ian L. *Design with nature*. New York : J. Wiley, 1992

34 Hill, Kristina. "Urban Ecologies: Biodiversity and Urban Design" in Czerniak, Julia (ed). *CASE: Downsview Park Toronto*. Munich ; New York : Prestel ; Cambridge, Mass. : Harvard University, Graduate School of Design. 2001, p92

35 Waldheim, Charles. "Landscape Urbanism: a Genealogy" in *Praxis: journal of writing + building*, no. 4, 2002, p16





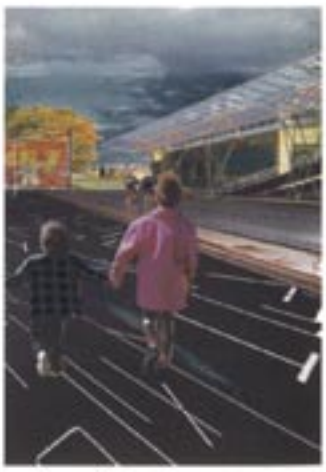
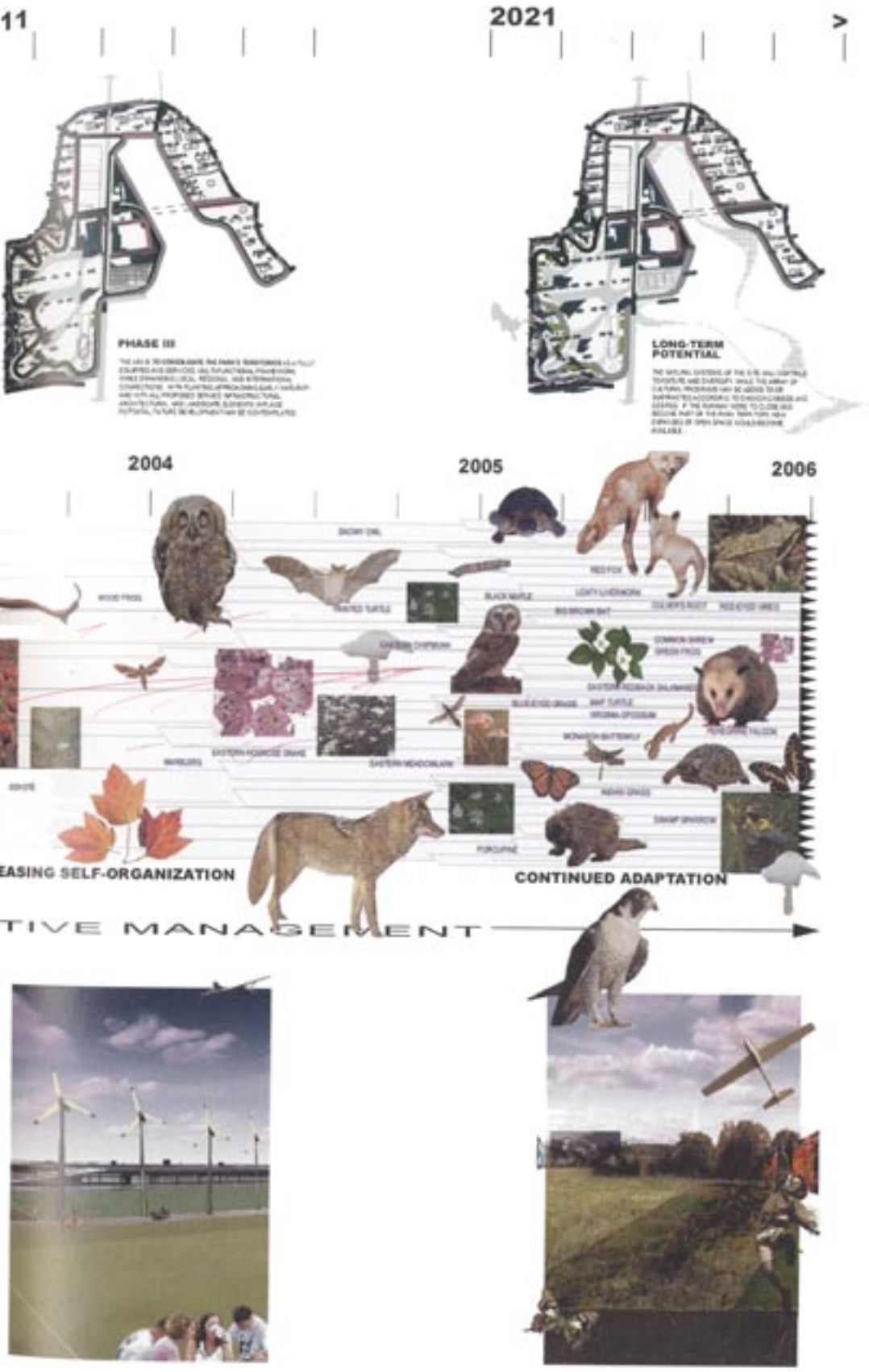


Figure 17: Emergent Ecologies, The Corner and Allen Team
Downsview Park competition entry



Although the most contemporary competition to tackle the issues so far outlined, the Fresh Kills site on Staten Island, New York is perhaps likely to see the first manifestation of large-scale landscape urbanism issues. The competition entries and the final winning scheme are certainly some of the most enticing examples of how methods and approaches associated with the discipline might be employed to produce a 25 year plan for the conversion of this massive de-industrialised site.[36] Although the winning scheme by James Corner's office *Field Operations*, is currently being finalised into something as ordinarily named as a masterplan, the initial proposals read as a text for the practice of landscape urbanism. The project is explored in more detail in a subsequent chapter as a case study to define landscape urbanism operating in a specific mode.

36 The shortlisted schemes are published in *Praxis: journal of writing + building*, no. 4, 2002. See also Pollak, Linda. "Sublime matters: Fresh kills" in *Praxis: journal of writing + building*, no. 4, 2002, pp58-63

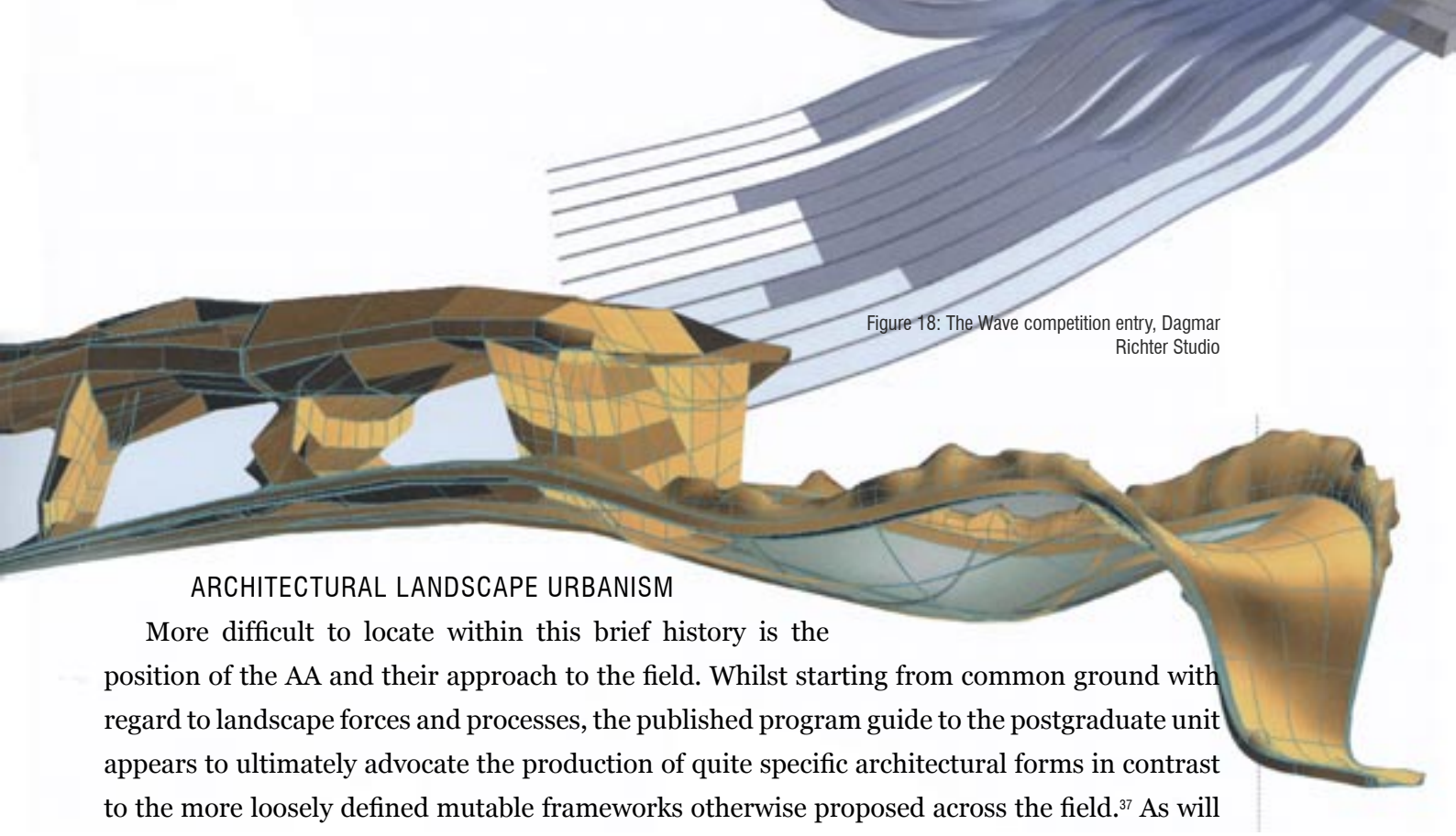


Figure 18: The Wave competition entry, Dagmar Richter Studio

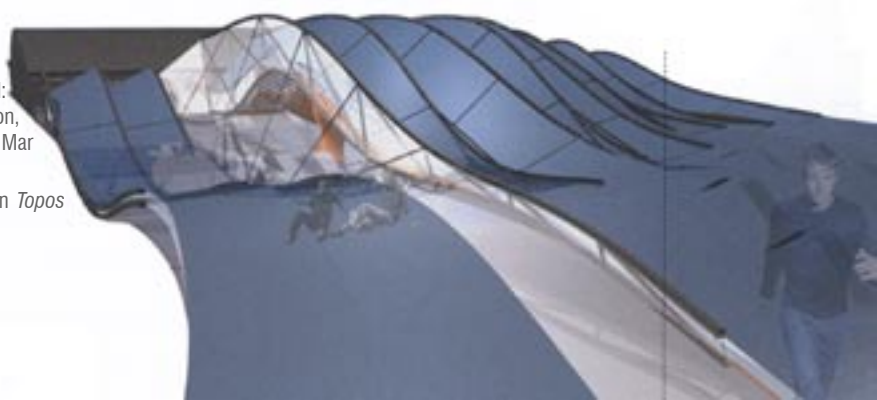
ARCHITECTURAL LANDSCAPE URBANISM

More difficult to locate within this brief history is the position of the AA and their approach to the field. Whilst starting from common ground with regard to landscape forces and processes, the published program guide to the postgraduate unit appears to ultimately advocate the production of quite specific architectural forms in contrast to the more loosely defined mutable frameworks otherwise proposed across the field.[37] As will be more fully discussed in a later chapter, these architectural firms – described as 'machinic landscapes' suggest continuous surfaces that are derived indirectly from abstract landscape forces. Architectural landscape urbanism shares the analytical and theoretical concerns of the rest of the field and advocates an analysis of the contemporary city to identify indeterminate processes and forces with a common language. However, architectural landscape urbanism appears to freeze those same forces at certain point in time, in order to use them to script – in a machine or computer-like sense – architectural forms rather than exploiting their dynamic and changing power. [Figure 18]

The reason this mode of landscape urbanism is difficult to position with the field is the similarity of approach ultimately to datascapes, diagramming and topographic landscape buildings. Bart Lootsma has described the approach as *biomorphic intelligence*, in a return to ecology where:

> "the internal organization of a project uses information from the site in the design process. In the end, the built form of the project appears as an autonomous and static unit. It is implied that the different organisation of the projects, the way they are dealing with a different form of symmetry, is better suited to accommodate 'life'."[38]

The production of a 'static unit' appears in contradiction to much of the rhetoric around complex systems, bottom-up planning and indeterminate systems that landscape urbanism promotes. It is also the first hint at a mode of landscape urbanism that diverges from an approach which does not lead to finished architectural form.



37 The Architectural Association is not the sole advocate from this mode of landscape architecture, but has certainly been the most prolific in publishing and teaching. See Bullivant, Lucy. "The thickening ground: the Landscape Urbanism Graduate Programme, Architectural Association, London" in *A+U: architecture and urbanism*, no. 3(426), pp. 122-127, Mar 2006

38 Lootsma, Bart. "Biomorphic intelligence and landscape urbanism" in *Topos* 40, 2002

Figure 18: Raoul Bunschoten, "The Skin of the Earth"

DEFINING LANDSCAPE URBANISM

> "Landscape urbanism describes a disciplinary realignment currently under way in which landscape replaces architecture as the basic building block of contemporary urbanism. For many, across a range of disciplines, landscape has become both the lens through which the contemporary city is represented and the medium through which it is constructed."[39]

> "Landscape Urbanism's methodology is multidisciplinary by definition. Expanding from the legacy of landscape design to consider the complexity of contemporary urban dynamics, it integrates knowledge and techniques from such disciplines as environmental engineering, urban strategy, landscape ecology, the development industry and architecture."[40]

The two quotes above demonstrate that a simple definition of landscape urbanism is not straightforward. Primarily this is because it can be considered as both a new discipline, some form of hybrid field between landscape and architecture, and/or as simply a lens through which to understand and analyse the contemporary city. For some, it is simply a refinement of traditional landscape architecture, an update for the contemporary urban situation; for others it is some other form of operation entirely that aims more for an architectural built form abstracted from landscape processes and forces. Furthermore, its position as a design discipline is consistently promoted and put forward as evidence of its difference from historical movements of city and regional planning, yet this design potential has not been comprehensively manifested in projects.

DEFINING A COMMON LANGUAGE

Both words that make up the compound term landscape urbanism have notions of scientific objectivity, either from initial definition or by historical application, yet their applied usages are subjective: their deeper meanings carry much historic and cultural significance with regards human interaction with their environment. Before moving towards a definition of landscape urbanism, it is worth critically examining the two emotive words to determine whether this bid for scientific objectivity is subsequently reflected in the resulting practice. Without a precise and consistent use of language between different disciplines and across time

39 Waldheim, Charles (ed). The Landscape Urbanism Reader. New York: Princeton Architectural Press, June 2006, p11

40 Architectural Association. *Graduate Prospectus 2005*. Landscape urbanism. p74

periods, a new hybrid field or discipline is difficult. The shifts in language which often accompany the adoption of a word by a particular set of people reveal much of society's attitude towards an object or subject.[41] Additionally, a criticism regularly levelled at landscape urbanism is of the density and opacity of its texts and terminology.[42]

Corner has described the term as

> "a complex amalgam...[that] brings together two previously unrelated terms to suggest a new hybrid discipline. Not unlike the combination of biology and technology to spawn biotech, or of evolutionary science with business management to produce organizational dynamics, the merging of landscape with urbanism suggests an exciting new field of possibilities."[43]

Yet this quote is a little disingenuous and simplistic: the two words have not amalgamated to form a stand-alone word such as *landurbanism* or *urbanlandscapism* for instance, nor have they produced a new composite phrase combining two new terms appropriated for the purpose and redefined to represent a new relationship. Instead the two words stand as two very distinct parts of a compound relationship. The complexities and critical baggage of each are evident and the misunderstandings of the respective words within their opposing disciplines remain largely unresolved. Without a critical dissection of this background and how the two terms might relate to each other outside their respective disciplines, a move toward a concise and clear definition is difficult.

41 See Batty, Michael. *Cities and complexity : understanding cities with cellular automata, agent-based models, and fractals*. Cambridge, Mass. : MIT Press, 2005, v for a brief discussion of just such a shift in language with regard to the words *complexity* and *complication*.

42 An exampel of the derision felt for the occasionally floral language of landscape urbanism is revealed in the creation of a web-based "landscape urbanism bullshit generator". <http://www.ruderal.com/bullshit/bullshit.htm> accessed 25th May 2006

43 Corner, James. "Landscape Urbanism" in Mostafavi, Mohsen and Najle, Ciro (ed). *Landscape urbanism : a manual for the machinic landscape*. Architectural Association, London, 2003, p58

Figure 19: Remnant beach ridges across the grid.
Reynolds, North Dakota.

Figure 20: Field stains, California

"LANDSCAPE"

> "*n.* the appearance of the area of land which the eye can view at once; the aspect of a country, or a picture or photograph representing it"[44]

> "from the Dutch word landschap, from land (land, patch, area) and the suffix -schap, corresponding to the English suffix "-ship". The word first appeared in English to describe a painted view of the land."[45]

Whilst the origins of the English word landscape can be found in "German and Middle English terms which denoted an identifiable tract of lands, an area of known dimensions,"[46] as the definitions above show, common usage is not confined to a strictly scientific meaning, but describe a term in which human influence (even if it is simply the act of viewing) is key. *Landscape* literally describes the state of the *altered* land as distinct from *virgin* land before human influence: "all landscapes are constructed ... they are phenomena of nature *and* products of culture."[47] [Figure 19 & 20] As is apparent from dictionary definitions and etymology, *landscape* in this mode is very much about the representational, the pictorial and (at least historically) the painted. Such definitions inevitably lead to associations with the Picturesque and the Romantic,[48] yet few contemporary uses have shifted to reflect less narrow preoccupations. Corner has written extensively on the subject of 'recovering landscape'[49]: that is, the retrieval or emancipation of the idea of landscape from a purely representational mode. As geographer Denis Cosgrove has pointed out, "landscape is not merely the world we see, it is a construction, a composition of that world"[50] and Corner's aim is to allow the term to be used more freely and encompass "new images and techniques of conceptualization."[51]

However, even considering such 'new images', a definition that relies heavily on a specific end image is in contradiction to much of landscape urbanism appears to be about. Where does one find the contemporary associations landscape currently holds: with scale beyond visual limits; with depth below the surface; and with processes across the field? Landscape urbanism's concern is for all of the these non-representational notions, yet for most people the term *landscape* is still about the painting, the pastoral scene, the small scale and immediately comprehended view.

44 The Chambers Dictionary, Chambers Harrap Publishers, 1994

45 "Landscape." Wikipedia, The Free Encyclopaedia. 31 Jul 2006, 02:34 UTC. Wikimedia Foundation, Inc. 2 Aug 2006 <http://en.wikipedia.org/w/index.php?title=Landscape&oldid=66784954>

46 Cosgrove, Denis E. *Social Formation and Symbolic Landscape.* Croom Helm, Kent. 1984, p16. Cosgrove offers key discussion of the treatment of landscape as "both object and subject" within the discipline of geography, and the consequences of attempting its use in a scientific way when it contains deeper cultural and historic meanings.

47 Spirn, Anne Winston. "Constructing Nature: The Legacy of Frederick Law Olmsted" in Cronon, William (ed). *Uncommon Ground: Rethinking the Human Place in Nature.* W.W. Norton & Company, New York, London, 1996. p113

48 Kwinter, Sanford. "American Design?" in *Praxis: journal of writing + building*, no. 4, 2002, p6

49 See Corner, James (ed). Recovering landscape : essays in contemporary landscape architecture. New York : Princeton Architectural Press, 1999 for a collection of essays that supply various definitions of landscape beyond the representational

50 Cosgrove, Denis E. *Social Formation and Symbolic Landscape.* Croom Helm, Kent. 1984, p13

51 Corner, James. "Eidetic Operations and New Landscapes" in Corner, James (ed). *Recovering landscape : essays in contemporary landscape architecture.* New York : Princeton Architectural Press, 1999, p154

Figure 21: nurserymosaic, Carpinteria, California

Both Corner and Kwinter propose terms that might more readily accommodate a recovered landscape: respectively the German *landschaft*,[52] and *territory*.[53] Corner draws from writings by J.B. Jackson and John Stilgoe[54] to suggest that *landschaft* comprises a deep and intimate mode of relationship not only among buildings and fields but also among patterns of occupation, activity, and space."[55] Such a definition makes an immediate acknowledgement of human impact on land and furthermore a crucial and contemporary move from object to active field. The Russian approach to the differences of meaning is to use two words: *peyzazh* refers to "landscape in its subjective aspect; its poetic, pictorial and emotional associations"[56] whereas *landshaft* refers to landscape in its technical and objective aspect.

Kwinter's concern is also with the processes that work on land, but without necessarily reducing the term to only those forces: "*territory* exceeds *landscape* in both expanse and depth; it is wider because what it denotes extends far beyond the reach of the eye, and because it is organized by a multiplicity of forces without obvious formal unity."[57] Both alternate words hold organisation as key to their definitions, yet it is not an organisation as an overt order: deep, even invisible rules govern the fields that they describe.[58] To favour mutability over a fixed image is a characteristic of both words and is perhaps more suggestive of the proposed operational mode of landscape urbanism than the original landscape definition. [Figure 21]

52 Corner, James. "Eidetic Operations and New Landscapes" in Corner, James (ed). *Recovering landscape : essays in contemporary landscape architecture.* New York : Princeton Architectural Press, 1999, p154

53 Kwinter, Sanford. "American Design?" in *Praxis: journal of writing + building*, no. 4, 2002, p6

54 Stilgoe, John R., *Common Landscae of America, 1580 to 1845*. New Haven, Conn.: Yale University Press, 1982; Jackson, J.B., *Discovering the Vernacular Landscape.* New Haven, Conn.: Yale University Press, 1984

55 Corner, James. "Eidetic Operations and New Landscapes" in Corner, James (ed). *Recovering landscape : essays in contemporary landscape architecture.* New York : Princeton Architectural Press, 1999, p154

56 *peyzazh in* Cowan, Robert *The Dictionary of Urbanism.* Streetwise Press, Wiltshire. 2005, p289

57 Kwinter, Sanford. "American Design?" in *Praxis: journal of writing + building*, no. 4, 2002, p6

58 Compare this language with another field that has had a significant impact on the development of landscape urbanism: chaos theory. Systems that exhibit the phenomenon known as chaos, whilst popularly thought to exhibit complete disorder, are "actually deterministic and thus orderly in some sense", hence an order, but an invisible order. See "Chaos theory." Wikipedia, The Free Encyclopedia. 2 Aug 2006, 13:49 UTC. Wikimedia Foundation, Inc. 3 Aug 2006 <http://en.wikipedia.org/w/index.php?title=Chaos_theory&oldid=67237999>.

"URBANISM"

> "1. The study or appreciation of the processes of change in towns and cities; making towns and cities work; town (UK) or city (US) planning. 2. The process of becoming urban (as a result of development on formerly rural land for example. 3. The product of town planning or development. 4. Patterns of social life characteristic of urban areas."[59]

> "*n.* 1. the characteristic way of life of city dwellers. 2 a : the study of the physical needs of urban societies b : CITY PLANNING. 3 : URBANIZATION"[60]

Urbanism is at once simpler to define and yet just as emotive a term as landscape. Coined by Ildefons Cerdáto describe "the science of human settlements at various scales and times, including countryside networks"[61] it was initially intended as exactly that – a science. Subsequent shifts from the original 1867 definition are reflected in more contemporary understandings which still bring the human element of city life to the fore, but expand the study to include "economic, political, social and cultural environment."[62] Whilst Cerdá's original definition referenced 'countryside networks', the impact or understanding of the influence of development on natural systems appears to have been lost in contemporary definitions. [Figure 22]

Whilst the dictionary definition appears quite straightforward, the concept of urbanism becomes emotive

59 Cowan, Robert *The Dictionary of Urbanism.* Streetwise Press, Wiltshire. 2005

60 "urbanism". Merriam-Webster online, <http://www.webster.com/dictionary/urbanism> accessed on 3rd August 2006

61 Shane, David Grahame. *Recombinant Urbanism: Conceptual Modelling in Architecture, Urban Design and City Theory.* John Wiley, England. 2005, p83. Shane gives an extended history of the term *urbanism* in its various modes and its dynamic relationship with urban design.

62 "Urbanism." Wikipedia, The Free Encyclopaedia. 31 Jul 2006, 18:18 UTC. Wikimedia Foundation, Inc. 2 Aug 2006 <http://en.wikipedia.org/w/index.php?title=Urbanism&oldid=66893970>.

Figure 22: Plan Cerdà Barcelona. Projecte de 1859

Figure 23: Hong Kong
Rampant urbanism

where it is used and appropriated by architects in some form of combat against a perceived threat of urban design. Rather than being an objective *study* of the needs of humans in urban settlements, it could be argued that the contemporary understanding of urbanism is the actual *construction* of buildings, surfaces and voids.[63] The reality of economic forces and real estate development appears to have taken over any initial ideas of urbanism as a study of human needs, be they base or higher; the result is a discipline or study in which the needs of those living in the city are largely dictated by commercial and retail factors.[64] [Figure 23]

63 Mostafavi, Mohsen. "Landscapes of Urbanism" in Mostafavi, Mohsen and Najle, Ciro (ed). *Landscape urbanism : a manual for the machinic landscape*. Architectural Association, London, 2003, p7

64 "Urbanism doesn't exist; it is only an ideology in Marx's sense of the word. Architecture does really exist, like Coca-cola: Though coated with ideology, it is a real production, falsely satisfying a falsified need. Urbanism is comparable to the advertising propogated around Coca-cola – pure spectacular ideology. Modern capitalism, which organized the reduction of all social life to a spectacle, is incapable of presenting any spectacle other than that of our own alienation. Its urbanistic dream is its masterpiece" Koolhaas, Rem & Mau, Bruce. *S,M,L,XL : small, medium, large, extra-large.*Benedikt Taschen, 1997, p1269

LANDSCAPE URBANISM: THE COMPOUND TERM

This etymological exercise somewhat demonstrates why landscape urbanism is still a relatively unknown practice: key assumptions about its structuring terms misleadingly suggest a realm with which the field is not concerned. As will be discussed in the next chapter, landscape urbanism draws on quite scientific and rational resources (such as ecology, infrastructure) in its practice, yet is not a strictly scientific practice. This difficulty is reflected in both of the words of the compound term, which despite some traces of scientific objectivity, are actually very subjective terms that reflect changing and fluid notions with regard to human interaction with their environment.

TOWARDS A WORKING DEFINITION

With this historical and critical background, a working definition is ventured:

> landscape urbanism is the approach to the design and planning of open space where landscape is the structuring medium. Landscape urbanism considers the horizontal field over the vertical figure-ground and secondly, it describes a move from the pictorial to the operational; in other words process (both in analysis and design synthesis) is favoured over a static end form.

This broad working definition assumes some background knowledge of the critical framework within which the field developed. The following chapter expands on this theoretical background in order that more specific definitions can be ventured in chapter four.

Figure 24: Coal surplus. Hostrupskov, Denmark

Chapter Three: Critical Context

ADOPTING LANDSCAPE

> "Increasingly, landscape is emerging as a model for urbanism. Landscape has traditionally been defined as the art of organizing horizontal surfaces. It bears an obvious relationship to the extended field of the contemporary city, and also to the newly emerging interest in topological surface. By paying careful attention to these surface conditions – not only configuration, but also materiality and performance – designers can activate space and produce urban effects without the weighty apparatus of traditional space making."[1]

1 Allen, Stan. "Mat Urbanism: The Thick 2-D" in Sarkis, Hashim (ed). *CASE: Le Corbusier's Venice Hospital and the mat building revival*, Munich ; New York : Prestel, 2002. ISBN: 3-7913-2538-8, p124

DEFINING THEORETICAL FRAMEWORKS

Landscape as a model for considering the city has been gaining popularity for some years now. The shift away from the 'weighty apparatus of traditional space making' has been due to a number of factors explored in this chapter: a greater awareness of the impact of contemporary cities on their wider territory; the move from considering objects to fields; the consideration of the horizontal over the vertical; and the discussion of the representational over the pictorial. The restrictive binary conditions that frequently set the framework for modern aesthetic theory have in the past decade been relaxed, reversed or split in order for other methods, relationships and fields to form. [Figure 25] These contemporary critical theories can be read as qualifiers to the emergence and subsequent refinement of landscape urbanism and also form a frame of reference for the critical discussion of aligned disciplines and hybrid fields in a later chapter.

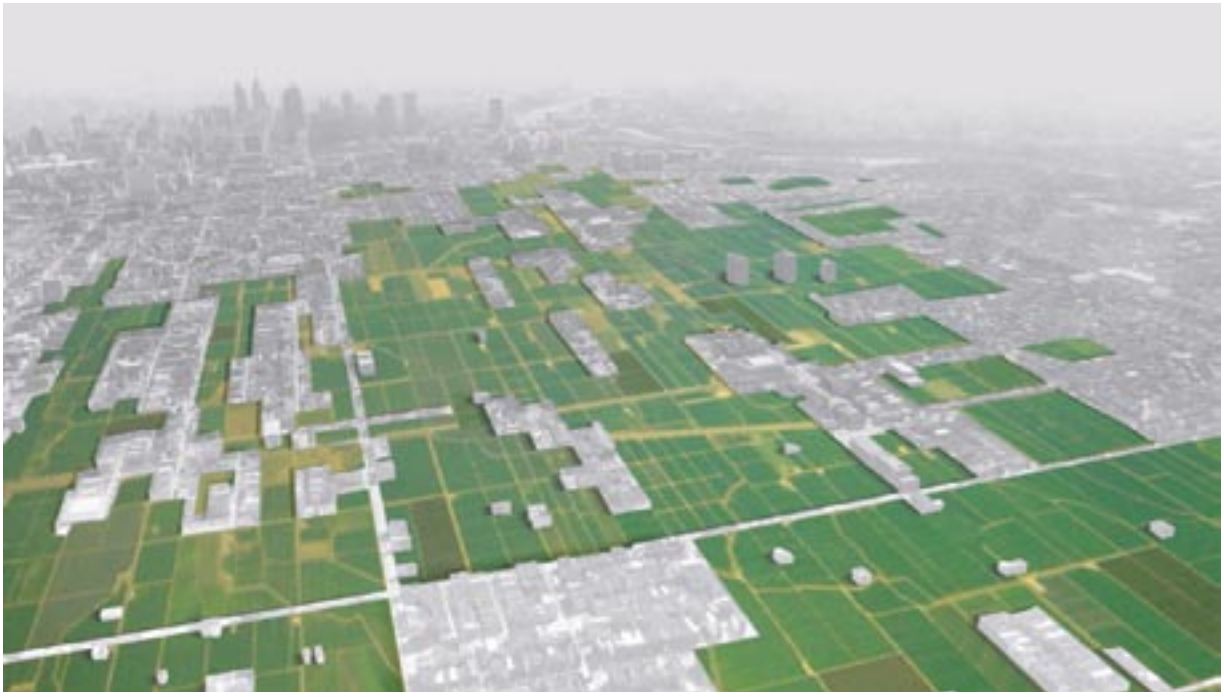


Figure 25: Farmadelphia
Entry to Urban Voids Competition by Front Studio

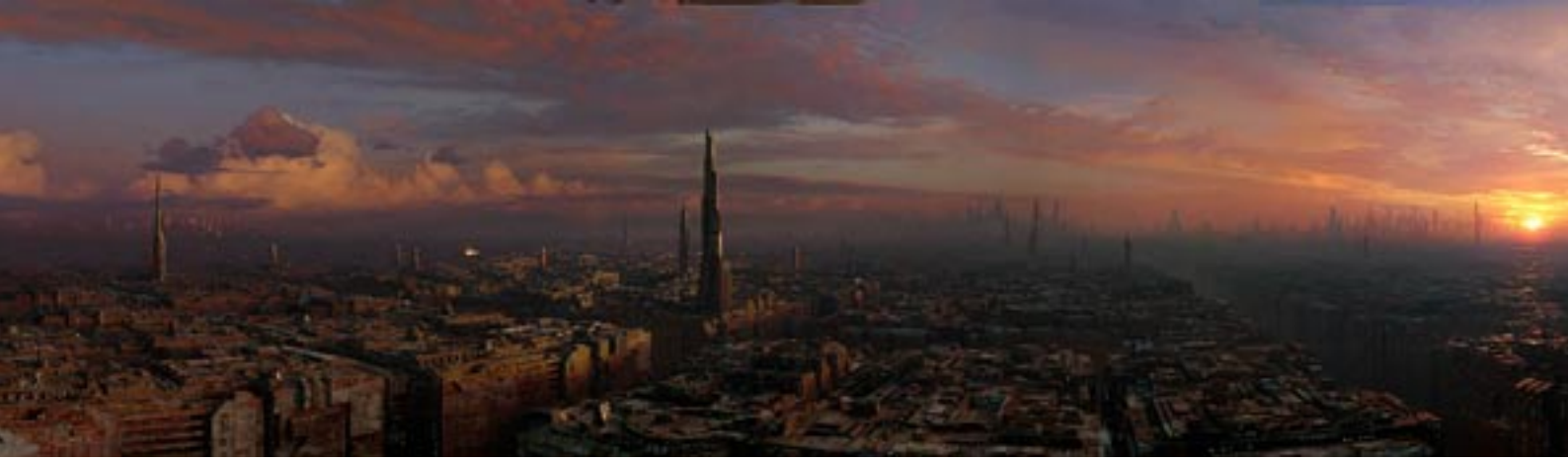


Figure 26: City of the future?
The city of Coruscan from Star Wars: Episode III - Revenge of the Sith

CITY AS LANDSCAPE

The background from which landscape urbanism has emerged is arguably the reappraisal of the contemporary city situation in terms that draw on a landscape model rather than a built form model. Whether as analogy or metaphor, as morphological comparison against established landscape forms and patterns or literally the return of green growth to increasingly de-urbanised areas, the idea that the city can be considered *as* landscape has been refined as a critical standpoint for some time.[2] The increasing complexity of contemporary urban areas makes the capability of landscape to describe intertwined processes of varying indeterminacy an attractive critical model to adopt.[3] Furthermore, as a mode of construction, landscape is one of the few successful intermediate ways of approaching de-industrialised land that makes up a large portion of the contemporary city.

Extending this notion further, it has been suggested that landscape may be the model for a third urban form. To follow traditional city history: the first urban form emerged as a tight Neolithic agrarian arrangement containing a narrowly defined urban core and associated protected surrounding; subsequently this form was disrupted by the industrial revolution which allowed the city to spill beyond initial constraints to form a looser second form. The third form

2 See Frampton, Kenneth. "Towards an Urban Landscape" in *D: Columbia Documents of Architecture and Theory*, Volume 4, 1995, pp83-94

3 Corner, James. "Terra Fluxus" in Waldheim, Charles (ed). *The Landscape Urbanism Reader*. New York: Princeton Architectural Press, June 2006, p23

after this modern industrial revolution city form has been described as an organic model: "a more open, decentralized, self-organizing, and post-modern 'matrix' pattern."[4] Cedric Price uses the analogy of *the city as an egg*, [Figure 27] applying three cooking methods to the three city forms. Price's modern city is the scrambled egg, where the core is distributed throughout the supporting tissue. This is the form of city as landscape, the forces and transformations of the city translated and understood at the scale of ecological patches, regional watersheds and with the complexity of biotic networks and their inter-relationships. The city and institutions that we perceive and understand on the ground might be described as simply where these forces intensify on the surface of the earth: they "encrust in urban form."[5] Thus the city *is* landscape, the concrete manifestations of natural processes; not necessarily 'green' or 'soft' structures as might be commonly understood as landscape, but nonetheless, emerging from fuzzy systems. [Figure 26] Such a reading moves beyond post-modern propositions which, although interested in the complexity of the city in similar terms, consider the key forces of the city as economic and dismiss "ecology as the knowledge of the relationships between a living being and his environment"[6] as beyond the traditional bounds of architects.

4 Shane, Grahame. "The Emergence of Landscape Urbanism" in Waldheim, Charles (ed). *The Landscape Urbanism Reader*. New York: Princeton Architectural Press, June 2006, p58

5 Weller, Richard. "An Art of Instrumentality: Thinking Through Landscape Urbanism" in Waldheim, Charles (ed). *The Landscape Urbanism Reader*. New York: Princeton Architectural Press, June 2006, p78

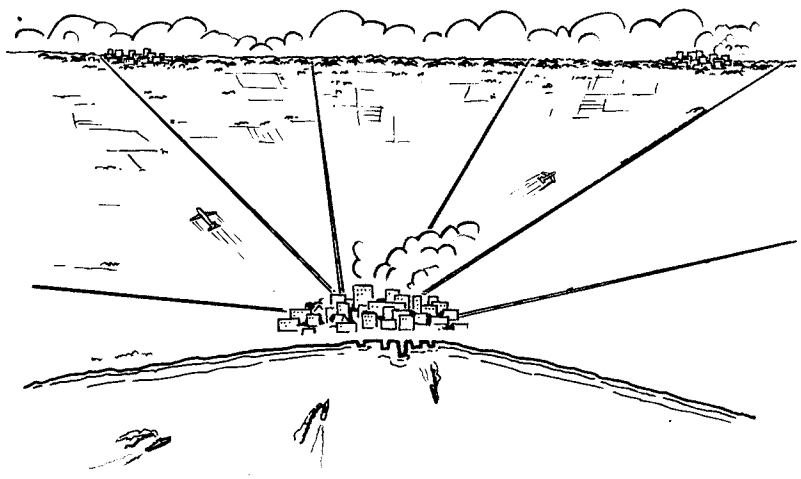
6 Rossi, Aldo. *The architecture of the city*. MIT Press, 1982, p112. While Rossi accepted that the city must be read in full: "this study has meaning only when the city is seen in the entirety of its parts, as a complex structure" and used ecology as an analogy for the inter-relationships he was interested in, he did not make the next step to using ecology as a way of describing the city. See also the author's MA(Hons) landscape architecture dissertation which investigated how successful the application of ecological patch theory might be to the study of dynamic programmes found in de-industrialised spaces along Glasgow's River Clyde. Gray, Christopher D. *Peripheral heart? : ecology & programme in the Clyde's post-industrial landscape.* Dissertation (MA LA)--School of Landscape Architecture, Edinburgh College of Art / Heriot-Watt University, Edinburgh, 2000

Figure 27: Cedric Price, "Three Eggs Diagram"

DISSOLVING CITY: THE ERASURE OF BINARIES

The treatment of the city in terms of territory rather than definitive forms[7] is another important contextual background to the development of landscape urbanism. Koolhaas talks of the dissolution of categories such as town-scape and land-scape to form the edgeless city,[8] whilst Corner describes a movement to consider landscape in two directions – both landscape into the city and city into the landscape.[9] The assumption in both cases is that the city edge has dissolved to "locate the urban fabrics in their regional and biotic contexts."[10] [Figure 28] Whereas even in the middle of last century it might have been reasonably straightforward to define those areas outside of the city as situations where green fields and blue sky dominated, such statements are not so obvious now; the binary terms city: landscape become less important. The new mode of thought,

Figure 28: The urban area in its limitless environment
A closed dynamic system: "The area communicates with the environment but does not alter it. People from the outside come into the area and leave without affecting the outside."



7 Koolhaas, Rem. "What Ever Happened to Urbanism?" in *S,M,L,XL : small, medium, large, extra-large.* Koolhaas, Rem & Mau, Bruce. Benedikt Taschen, 1997, p969

8 For a discussion of SCAPE© as proposed by Koolhaas, see Angélil, Marc & Klingmann, Anna. "Hybrid Morphologies. Infrastructure, Architecture, Landscape" in Diadalos 73, 1999, p18

9 Corner, James. "Terra Fluxus" in Waldheim, Charles (ed). *The Landscape Urbanism Reade*r. New York: Princeton Architectural Press, June 2006, p25

10 Corner, James. "Terra Fluxus" in Waldheim, Charles (ed). *The Landscape Urbanism Reade*r. New York: Princeton Architectural Press, June 2006, p24

as "continuums or hybrids – of spaces in between – instead of opposing dualities"[11] is the theoretical context in which landscape urbanism has emerged and the territory in which it practices is "smooth space…a-hierarchical, decentralized…that of oscillating relationships, always addressing through their simultaneity multiple dimensions."[12] However, as discussed previously, there is something of a contradiction concealed within this statement of erasing binaries. The compound term landscape urbanism is made up of two polarised components: how these two terms are reconciled, ensuring that they are balanced yet remain positive is one of the key critical discussions that must be resolved for landscape urbanism to advance beyond rhetoric.[13]

11 Meyer, Elizabeth K. "The Expanded Field of Landscape Architecture" in Thompson, George F. & Steiner, Frederick R. (eds). *Ecological Design and Planning*. Wiley, New York, 1997, p50

12 Angélil, Marc & Klingmann, Anna. "Hybrid Morphologies. Infrastructure, Architecture, Landscape" in Diadalos 73, 1999, p21

13 Corner, James. "Terra Fluxus" in Waldheim, Charles (ed). *The Landscape Urbanism Reader*. New York: Princeton Architectural Press, June 2006, p24

Figure 29: City & countryside. Ian McHarg
Binary conditions

FROM OBJECT TO FIELD

Stan Allen and Alex Wall are two writers and practitioners whose work has advanced the conceptual idea of the field or surface matrix of the contemporary city taking precedence over the objects within. Architect Allen, frequent collaborator with James Corner, whose interests frequently cross boundaries of discipline and medium, has proved important in defining the critical background upon which landscape urbanism is built. Allen's seminal article in an issue of Architectural Design entitled *Architecture after Geometry* introduces the shift of *object* to *field* as experienced in theoretical and visual practices and expands these initial intuitions to test possible applications against architecture and urbanism.[14] Allen recognises the initial instigation of the shift as derived from non-linear dynamics, mathematical field theory and computer simulations of evolutionary fields; the technological move from analogue systems to digital fields is identified as a parallel shift. He theoretically defines field conditions as:

> "any formal or spatial matrix capable of unifying diverse elements while respecting the identity of each. Field configurations are loosely bundled aggregates characterised by porosity and local interconnectivity. The internal regulations of the parts are decisive; overall shape and extent are highly fluid. Field conditions are bottom-up phenomena: defined not by overarching geometrical schemas but by intricate local connections. Form matters, but not so much the forms of things as the forms between things."[15]

From this quote, several key tenets on which landscape urbanism is built are apparent: the move away from top-down planning; the possibility of local contingency within a large organising model; and the importance of interstitial conditions over final end forms. These principles are not exclusive to landscape urbanism, but Allen is one of the first writers to make the case that landscape might be considered as the medium in which these field conditions operate. This suitability is the subject of several subsequent articles[16] and as such, *From Object to Field* can be read as an early conceptual text that provoked the critical development of landscape urbanism.

Figure 30: Field conditions
Diagramming the shifts from object to field

14 Allen, Stan. "From Object to Field" in *Architecture After Geometry*, Architectural Design, vol 67, no.1/2, Jan-Feb 1997, pp24-31

15 Allen, Stan. "From Object to Field" in *Architecture After Geometry*, Architectural Design, vol 67, no.1/2, Jan-Feb 1997, p24

16 Allen, Stan. "Mat Urbanism: The Thick 2-D" in Sarkis, Hashim (ed). *CASE: Le Corbusier's Venice Hospital and the mat building revival*, Munich ; New York : Prestel, 2002. ISBN: 3-7913-2538-8, pp118-126

17 Allen, Stan. "From Object to Field" in *Architecture After Geometry*, Architectural Design, vol 67, no.1/2, Jan-Feb 1997, p24

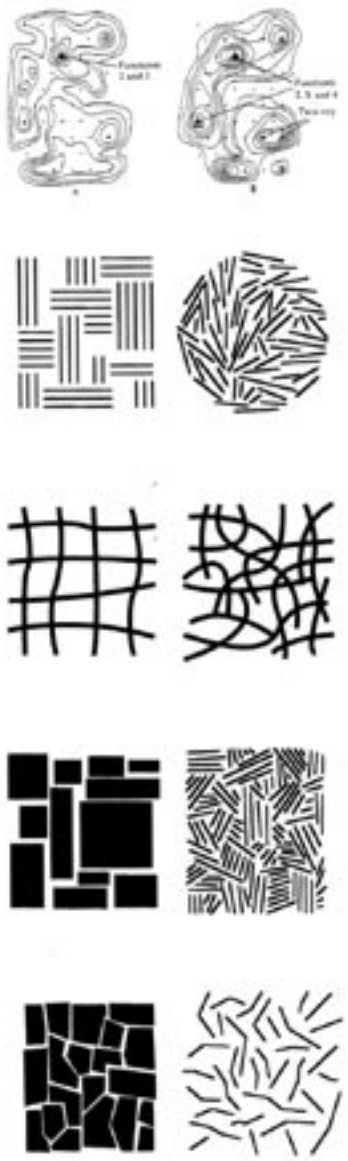


Figure 31: Field conditions
Diagramming the shifts from object to field

Whilst Allen states that "field conditions cannot claim (nor does it intend to claim) to produce a systematic theory of architectural form or composition,"[17] he proposes several concepts that might be used in practical experiments with the real. These range from highly abstract strategies such as the application of *flocks, schools, swarms* and *crowds* theory as field phenomenon, to more formal strategies that explore the thickening of the field surface to form mats or the use of moiré patterns to produce figural effects. [Figure 30-31] These strategies are later taken up and refined by Alex Wall whose interest is more towards how the urban surface might be programmed for certain effects rather than sculpted or shaped in a formal way.[18] Whilst Wall also describes *thickening* as in important field phenomenon and introduces *folding* and *movement* as ways to consider the field, the programming of the urban surface and as importantly, the provision of impermanent and indeterminate surfaces within these strategies is highlighted.

For Wall the urban surface is the supporting field from which programs and buildings emerge. The programmes and buildings it produces are less important for the designer to consider than the "extensive and intensive ground-plane of the city...the ground structure that organizes and supports a broad range of fixed and changing activities."[19] Because of this concentration, Wall signals an interest in ecology, for its ability to address "the interrelationships of parts and dynamic systems."[20] But ecology is just a component of a successful approach to the field which it is suggested must arise from a hybrid practice involving landscape, architecture and urbanism. This hybrid practice is almost exactly where landscape urbanism positions itself: capable of moving between scales to identify large scale processes and more intimate details, beyond simplistic visual patterns towards thickened ground that is alive and part of a healthy system.

18 Wall, Alex. "Programming the Urban Surface" in Corner, James (ed). *Recovering landscape : essays in contemporary landscape architecture.* New York : Princetown Architectural Press, 1999, pp233-250

19 Wall, Alex. "Programming the Urban Surface" in Corner, James (ed). *Recovering landscape : essays in contemporary landscape architecture.* New York : Princetown Architectural Press, 1999, p233

20 Wall, Alex. "Programming the Urban Surface" in Corner, James (ed). *Recovering landscape : essays in contemporary landscape architecture.* New York : Princetown Architectural Press, 1999, p247

BUILDINGS AS LANDSCAPE

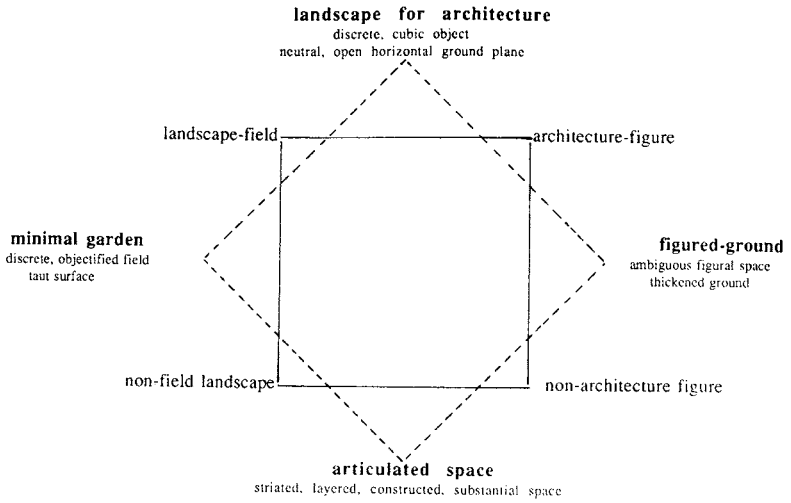
The concept of thickened ground appears in approaches where landscape is used quite literally, particularly in several conceptual modes which consider *buildings as landscape*.[21] Rather than green architecture as might be presented in sustainable terms, buildings as landscape is more openly the appropriation of language, materials and forms that have more in common with landscape architecture and topography than conventional façades and floor plans. Whether these buildings emerge as forms pulled from the ground; built into and under the ground; or float above it following its grades and slopes, the new instinct for them is to restore the land and celebrate the ground for what it is. The ancient desire to "deny the land on which we build"[22] has been replaced by a desire to respect the land and respond directly and responsibly to the landscape on which we rely. [Figure 32]

21 See Betsky, Aaron. *Landscrapers : building with the land.* New York, New York : Thames & Hudson, 2002 and Brayer, Marie-Ange & Simonot, Béatrice (eds). *Archilab's Earth Buildings: Radical Experiments in Land Architecture.* Thames & Hudson Ltd, London. 2003 and Foreign Office Architects. *Phylogenesis: foa's ark*. Actar. March 2004

22 Betsky, Aaron. *Landscrapers : building with the land.* New York, New York : Thames & Hudson, 2002, p7

Figure 32: Yokohama Ferry Terminal
Building as landscape

Figure 33: Adapted Klein group diagram
Describing an expanded spatial field for landscape architecture



23 Meyer, Elizabeth K. "The Expanded Field of Landscape Architecture" in Thompson, George F. & Steiner, Frederick R. (eds). *Ecological Design and Planning*. Wiley, New York, 1997, p52

24 Krauss, Rosalind. "Sculpture in the Expanded Field" in Foster, Hal (ed). *The Anti-Aesthetic: Essays on a Postmodern Culture.* Port Townsend WA : Bay Press, 1983, pp31-42

25 Meyer, Elizabeth K. "The Expanded Field of Landscape Architecture" in Thompson, George F. & Steiner, Frederick R. (eds). *Ecological Design and Planning*. Wiley, New York, 1997, pp52

The phrase *figured ground* or *thickened ground* is considered with reference to Elizabeth Meyer's diagram of the expanded field of landscape architecture.[23] [Figure 33] Adopting and adapting Rosalind Krauss' diagramming of the expanded field of sculpture,[24] Meyer charts a way of considering the binaries of void-mass and landscape-architecture in non-hierarchical relationship to one another. Figured ground is positioned in her adapted Klein group diagram somewhere between architecture-figure and non-architecture figure: "it finds structure in the ground, its topographic and geological structure."[25] As previously mentioned, Lootsma suggests the term biomorphic intelligence to describe how these projects might find structure in their ground, and subsequently translate it into built form.

In doing so, Meyer expands the field to consider interstitial concepts not normally considered but which have been identified as so important to the contemporary city. These spaces between the binaries are precisely the places with which landscape urbanism and other hybrid fields explored in this dissertation are concerned. Expanding beyond traditional binary term allows the recovery of spatial, material and temporal mediums and positions landscape so that is not set against architecture in a no-win situation, but rather finds a niche on an equal footing with other disciplines and inhabiting its own space.

FROM THE REPRESENTATIVE TO THE OPERATIVE

The last theoretical shift explored here as a critical background to the emergence of landscape urbanism, is the shift from the sensibility of landscape as representational or pictorial, to that of landscape in an operational mode. A previous chapter referenced Kwinter as one of the first theorists to propose such a shift and speculate that landscape might form a general model in a move away from such representational concerns; Corner's recovery of landscape from such representational modes has also been also referenced. The problem of representation is down to a historic architectural suspicion of landscape as a discipline attempting to imitate painting – itself an imitation. [Figure 34] The result of such practices necessarily being a second-generation copy led to landscape design historically being considered "a simulacrum of a discipline"[26] and thus not awarded artistic status. By stripping landscape of its associations with representation and shifting the sensibility towards an operative mode, landscape regains once more the possibility of dialogue across disciplines. This section is concerned with how this shift in landscape impacts its disciplinary relationship to architecture: specifically, the theoretical move from vertical to horizontal. In parallel to the critical shift from object to field, the move from representative to operative has been associated with a rotation of "architecture out of its vertical alignment as a model of order"[27] and the equivalent rotation of landscape onto the horizontal from the pictorial vertical.

26 See Hight, Christopher. "Portraying the Urban Landscape: Landscape in Architectural Criticism and Theory, 1960-present" in Mostafavi, Mohsen and Najle, Ciro (ed). *Landscape urbanism : a manual for the machinic landscape*. Architectural Association, London, 2003, p26

27 See Hight, Christopher. "Portraying the Urban Landscape: Landscape in Architectural Criticism and Theory, 1960-present" in Mostafavi, Mohsen and Najle, Ciro (ed). *Landscape urbanism : a manual for the machinic landscape*. Architectural Association, London, 2003, pp22-32

Figure 34: Claude Lorraine
Landscape with Ascanius Shooting the Stag of Sylvia, 1682, Oil on canvas, 120 x 150 cm

28 Walter Benjamin as quoted in Hight, Christopher. "Portraying the Urban Landscape: Landscape in Architectural Criticism and Theory, 1960-present" in Mostafavi, Mohsen and Najle, Ciro (ed). *Landscape urbanism : a manual for the machinic landscape*. Architectural Association, London, 2003, p29

To briefly expand on these references to horizontal and vertical axes, the conventional assumption of modern aesthetic theory is that of "the longitudinal [vertical] cut of painting, and the transversal [horizontal] cut of certain graphic productions. The longitudinal cut seems to be that of representations, of a certain way it encloses things. The transversal cut is symbolic, it encloses signs."[28] Applying this statement to the critical territory of urbanism, the old relationship of landscape to painting places landscape as medium firmly on the vertical axis. This relationship and conceptualisation is most evident in Modernist architectural projects where the discrete architectural objects of a scene use landscape as the pictorial backdrop: architecture is the frame in which the vertical landscape is set. [Figure 35]

Figure 35: Villa Savoye
Framing the vertical landscape

However in the post-modernist city, these relationships are no longer as valid: discrete conventional architectural objects have been replaced by generic surfaces and architecture as the model of order is not necessarily applicable when the very nature of the city itself has changed. Landscape is rotated through to the horizontal and instead of occupying the realm of representation, the newly defined landscape occupies the space of symbols and signs. As Wall notes, "landscape [is]

Figure 36: Stray survey lines. Ironton, Missouri
One of James Corner 's many synoptic maps

a horizontal and continuous surface, [a] field that is best apprehended in maps and plans";[29] the contemporary urban surface is therefore best organised by the careful use of plans and diagrams, informal maps and diagrams which draw on intuitive methods to organise and describe the relationships amongst objects, elements and programs. [Figure 36] Corner describes this operative approach as a form of abstraction, the aim not to isolate the architectural object from its context in a purifying or reductive way which might suit a *tabula rasa* field, but to bring out and strengthen the original embedded forces within the surface structure in order to understand the position of objects and their interactions with each other;[30] as with Wall's desire to program the urban surface, the emphasis is on the connections between the parts. Landscape urbanism's tools of computer modelling, digital visualisation

29 Wall, Alex. "Programming the Urban Surface" in Corner, James (ed). *Recovering landscape : essays in contemporary landscape architecture.* New York : Princetown Architectural Press, 1999, p247

30 See the author's diploma dissertation for a fuller discussion of how abstract forces might be transformed from phenomenological effects to ontological effects. Gray, Christopher D. *Measure: phenomenological & ontological readings*. Dissertation (Dip Arch)--School of Architecture, Edinburgh College of Art / Heriot-Watt University, Edinburgh, 2006

Figure 37: Cortland Avenue. San Francisco, California

and information mapping are clearly part of the space of symbols and signs, treating landscape on the horizontal axis rather than the historic vertical axis. As such, it might be seen as the hybrid practice of artistic creativity that the discipline historically known as landscape design was denied. [Figure 37]

Figure 38: Göta Kanal. Kungs Norrby, Sweden

Chapter Four: Defining Modes

MODES OF LANDSCAPE URBANISM

With a critical framework for landscape urbanism established, and a working definition ventured, the core research question of the dissertation is posed: can different modes of landscape urbanism be identified? What are the key differences between these modes and can they be described as divergent? Whilst a core of issues common to the field can be identified, there are key differences in how these issues are subsequently dealt with: several modes of landscape urbanism exist which produce quite different outputs from common inputs. This chapter will briefly introduce the core issues, the main modes and propose that there are two dominant and divergent modes currently extant.

COMMON ISSUES

The three common issues that recur in landscape urbanism projects and largely drive their organisation are outlined below.

WATER

The treatment, storage, filtration and improvement of water can be considered one of the major concerns of the field. Frequently, this entails dealing with systems that have been artificially controlled and engineered to purely functional standards that aim to move problem surges downstream as quickly and invisibly as possible. Despite their artificial forms, these engineered systems are still functional landscape elements, and frequently offer the most powerful opportunities to link open spaces and mediate against negative environmental and spatial impacts of hardscape and built form.

Figure 39: Los Angeles river
Warner Studios in the background

URBAN INFRASTRUCTURE

Consideration of water supply, sewerage, surface water, utilities and transportation systems make up a large proportion of urban infrastructural concerns that are core issues to landscape urbanism; the function of facilities involving heath and education, leisure, law and order and public administration are additionally considered.[1] Integrating these functional concerns with usable open space and in some way making visible the workings of such processes is a key aim, in order to make use of land in multiple ways, but also to help link the contemporary city into its territory and make explicit the support it receives from an increasingly anonymous and dispersed hinterland. [Figure 40]

Figure 40: LA River, Bridge and Tracks

1 "urban infrastructure". Cowan, Robert *The Dictionary of Urbanism.* Streetwise Press, Wiltshire. 2005

Figure 41: Farmadelphia
Entry to Urban Voids Competition by Front Studio

Figure 42: Farmadelphia
Entry to Urban Voids Competition by Front Studio

ECOLOGICAL SYSTEMS & BIODIVERSITY

Encompassing landscape ecology in addition to geomorphology, hydrology, climate and vegetation, the main concern is with the identification of existing ecological resources and the introduction of new resources. The creation and enhancement of "wildlife habitat by introducing complex, ecologically coherent, and self-sustaining landscapes"[2] is a core aim.

PROCESS AND NATURAL SUCCESSION

Intimately tied into a concern for ecological systems is the consideration of the processes that occur within them. A knowledge of the workings of these dynamic models is at the heart of landscape urbanism and encompasses the flows of programme, goods, energy and people as well as the purely biotic flows.

2 Bunster-Ossa, Ignacio. "Landscape Urbanism". *Urban Land*. July 2001

SECONDARY ISSUES

Secondary issues can be identified that might not appear in all landscape urbanism projects but which expand and refine the main themes with which the field is concerned:

URBAN AGRICULTURE

A specific programmatic response to vacant and de-industrialised sites within cities: the application of agricultural systems as a transitional tool to clean and green potentially toxic grounds; as a tool to re-engage people with their environment; and ultimately for the local production of food for the surrounding community.[3] [Figure 41-43]

Figure 43: Farmadelphia
Entry to Urban Voids Competition by Front Studio

3 Rich, Sarah. "Farmadelphia" on *inhabitat* <http://inhabitat.com/blog/2006/03/05/farmadelphia> accessed on 19th June 2006

Figure 44: Windfarm. Granada, Spain

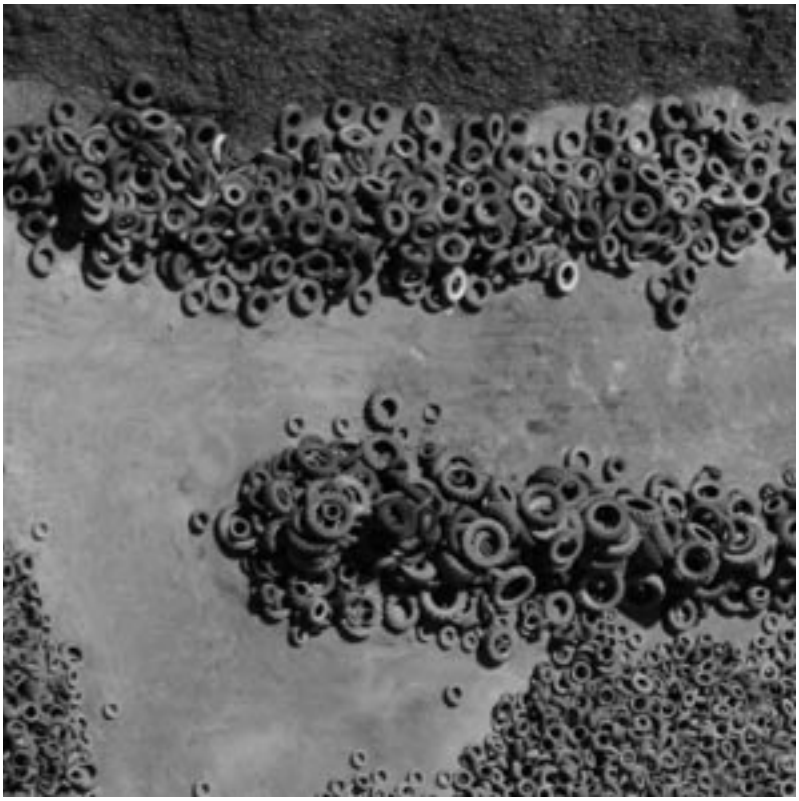


Figure 45: tiresone. Slite, Sweden

4 See Berger, Alan. "Drosscape" in Waldheim, Charles (ed). *The Landscape Urbanism Reader*. New York: Princeton Architectural Press, June 2006, p200 for an expansion of the argument against using the value system implied by the term 'post-industrial'

5 Three important references that consider these 'left-over' spaces are unfortunately beyond the scope of this dissertation: de Solà-Morales, Ignasi. "Terrain Vague" in *Quaderns 212*, 1996, p36 and his discussion of the term *terrain vague;* Berger, Alan. "Drosscape" in Waldheim, Charles (ed). *The Landscape Urbanism Reader*. New York: Princeton Architectural Press, June 2006, and his discussion of 'drosscape'; and Lerup, Lars. "Stim & Dross: Rethinking the Metropolis" in *Assemblage* 25, 1995, who introduces the terms 'Stim & dross' to describe urban concepts of stimulation and waste products respectively

ENERGY

Energy production through alternative and renewable generation sources such as wind, photovoltaic, ground source; energy reduction through planting for shading and wind-shelter, and design for micro-climate and orientation. [Figure 44]

DE-INDUSTRIALISED SPACE

In contra-distinction to post-industrialisation where parcels of the city are essentially objectified and defined as static, de-industrialisation suggests an ongoing industrial process which forms other parts of the city.[4] These spaces are typically where landscape urbanism is most likely to be practised: left-over, in-between surfaces that fall outside of the range and use of major programmes, yet offer significant opportunities for new programmes, new conceptualisations of what is considered 'waste space', and significant tracts of land within the city.[5] [Figure 45]

RECREATION

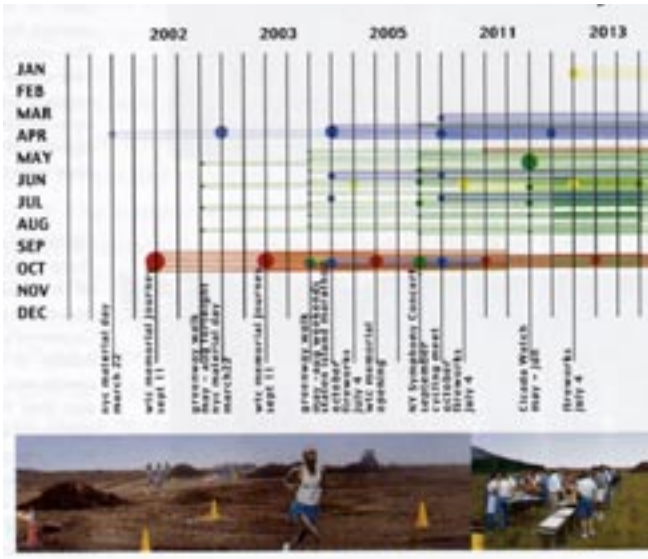
The programming of surfaces as flexible spaces for diverse recreational uses.

DEFINING MODES

These common issues and themes are quite straightforward to identify across landscape urbanism projects, firstly from examining the types of sites in which the field practices, from the initial analysis of such sites and from the subsequent synthesis before planning, design or operations begin. It is in the way that these issues are addressed and the forces identified as operating on the surface are used that different modes become apparent. To put it another way, as a lens through which to analyse and comprehend the city, landscape urbanism is quite consistent across publications and theorists; however as a way of producing designs for the same situation there are various modes of operation, which produce quite different results.

In a critical analysis drawn from projects, competitions and texts in the field, landscape urbanism can understood to operate in four main modes which are briefly outlined below. These modes can be described as: machinic landscape; field operations; civic infrastructure; and green urban design.[6]

6 These terms and descriptions borrow partly from associated texts but also as compound terms which the author presents as the essence of each mode



MACHINIC LANDSCAPE

The machinic landscape mode operates to use the forces identified in the analysis of a site to feed an abstract mechanism that creates architectural forms. The organisation of the design project therefore comes directly from the site and the result is static, fixed forms. This mode is largely promoted by the AA postgraduate course and has also been critically examined by Lootsma and Marie-Ange Brayer & Béatrice Simonot.[7] [Figure 46]

7 See Lootsma, Bart. "Biomorphic intelligence and landscape urbanism" in *Topos* 40, 2002. pp10-25 and Brayer, Marie-Ange & Simonot, Béatrice (eds). *Archilab's Earth Buildings: Radical Experiments in Land Architecture.* Thames & Hudson Ltd, London. 2003

Figure 46: mesh-frame
a mesh of circulatory bifurcations and a triangulated structure frame the differential distribution and changes in the mix of farming, leisure and market units. Santiago Bozzola.

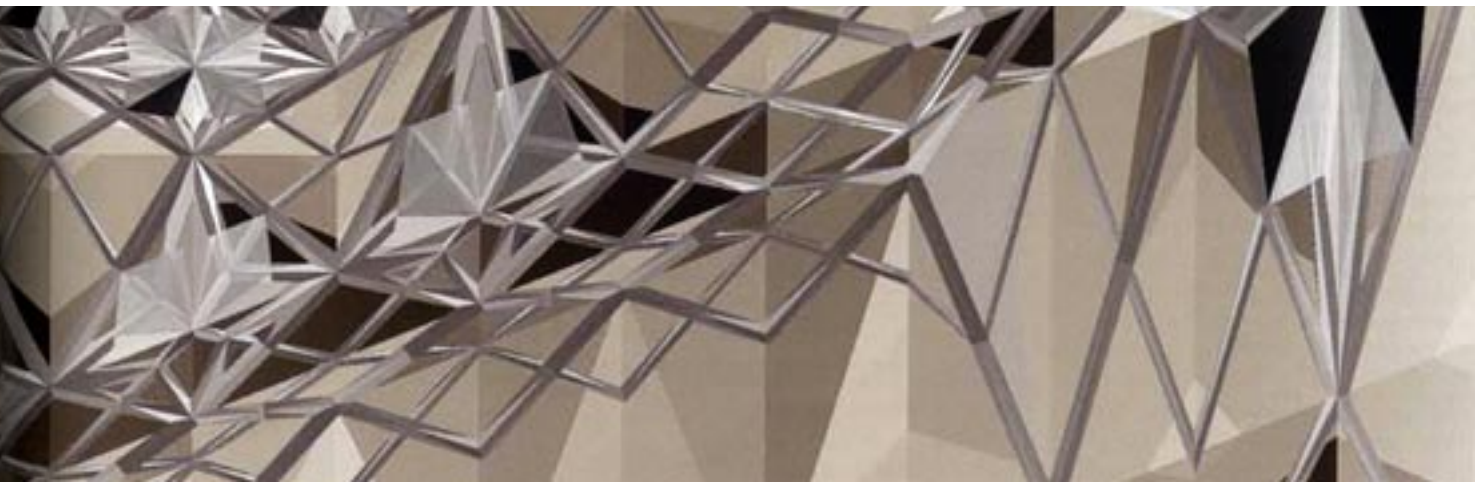
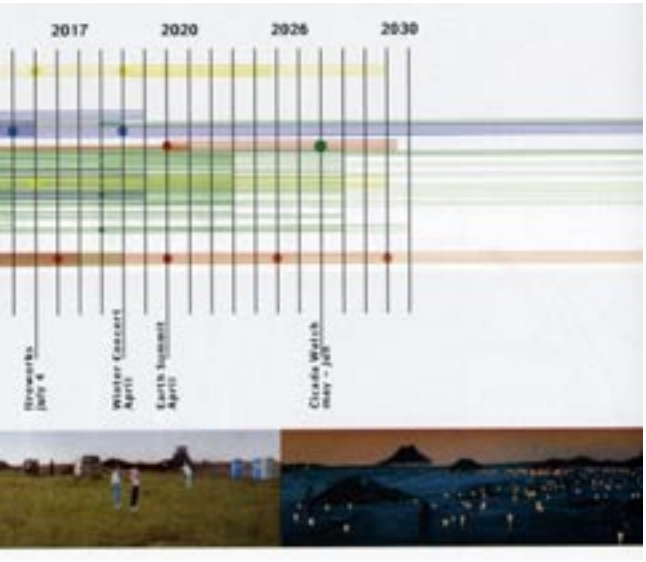


Figure 47: Dynamic coalition.
Mathur/Da Cunha + Tom Leader Studio.
Freshkills competition entry



FIELD OPERATIONS

In contrast to the machinic landscape mode, the end result of this mode is not a static architectural form, but complex and intertwined "soft systems of landscape, ecology, infrastructure, architecture, urban development and living patterns,"[8] integrated into an active and healthy ecologically balanced environment. The identification of key forces that might be harnessed to transform the surface or field is the primary concern, followed by the setting in place key 'operations' that work on these forces to begin indeterminate processes of rehabilitation of both ecological systems and programmatic concerns. James Corner is one of the key practitioners and theorists of this mode and his office's scheme for Fresh Kills Landfill could be considered an archetypal project of landscape urbanism in this mode. [Figure 47]

8 Bullivant, Lucy. "Field Operations: soft systems of landscape, ecology, infrastructure, architecture, urban development and living patterns" in *A+U: architecture and urbanism*, no. 1(424), Jan 2006, p158

CIVIC INFRASTRUCTURE

Described as a "synthesis of ecology, infrastructure and history into designs which are healthy, catalytic and full of civic expression,"[9] landscape urbanism as civic infrastructure concentrates on methods of designing urban infrastructure so as to engage people with their position in the city whilst creating open spaces that function beyond simple engineered works. By actually engaging with the very materials carried by infrastructure, the aim is designs and artefacts that demonstrate a healthy public realm, somewhat reminiscent of Olmsted designs for city infrastructure as park. Kathy Poole, Gary Strang and Julian Raxworthy are perhaps the key voices in support of this particular mode. [Figure 48]

Figure 48: Bamboo garden, Parc de La Villette
Infrastructure of the city exposed by Alexander Chemetoff

GREEN URBAN DESIGN

Arguably the weakest mode, urban design as 'landscape urbanism' appears merely to appropriate the term as a buzzword to describe little more than the landscaping[10] or greening of urban design masterplans.[11] The interest is mainly in the scenic and visually appealing rather than as a structuring principle and there are some associations with new urbanism. [Figure 49]

Figure 49: Seaside, Florida
New Urbanism ideals in practice

9 From Poole, Kathy. "Poole Design. Landscape Architecture + Urban Design" <http://www.kathypoole.com/> accessed 16th July 2006. See also Poole, Kathy. "Civitas Oecologie: Civic Infrastructure in the Ecological City" in *The Harvard Architectural Review*, No. 10, Civitas/What is City?, 1998, pp126-145

10 Landscaping in its derogatory definition, to mean "the treatment of land(other than buildings) for the purpose of enhancing or protecting the amenities of the site and the area in which it is situated and includes screening by fences, walls or other means, the planting of trees, hedges, shrubs or grass, the formation of banks, terraces or other earthworks, the layout of gardens and courts, and the provision of the amenity features" or alternatively "the garnish sprinkled on bad development to try to hide it". See "landscaping". Cowan, Robert *The Dictionary of Urbanism.* Streetwise Press, Wiltshire. 2005

11 Krieger, Alex. "Territories of Urban Design". February 2004. Graduate School of Design, Harvard University, Faculty Profiles. <http://www.gsd.harvard.edu/people/faculty/krieger/articles/territoriesofud.pdf> accessed on August 15th 2006

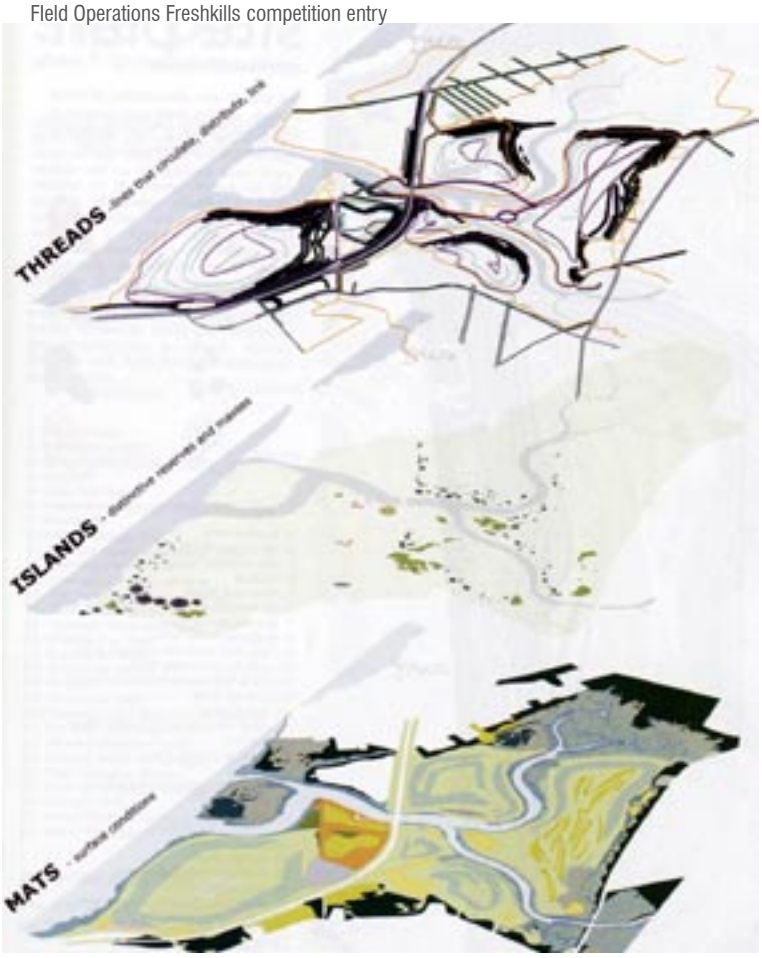
DOMINANT MODES

From an analysis of the field that takes into account key publications, projects and academic institutions, two dominant modes in landscape urbanism can be identified: the *machinic landscape* and *field operations*. It is in these modes that landscape urbanism is most likely to be used by those working in the mode as the term which best describes their work. These two modes are more or less represented as the specific taught approach at the few academic institutions which offer courses: in terms of leading academic and practising theorists, the fields could be said to be respectively led by the Architectural Association with Mostafavi and Najle; and the University of Pennsylvania with Corner.

12 Shane, Grahame. "On Landscape. The Emergence of "Landscape Urbanism": Reflections on Stalking Detroit" in *Harvard Design Magazine*, Architecture As Conceptual Art? Number 19, Fall 2003/Winter 2004, p4

Figure 50: Bundled network.
Programmatic components are treated as generic segments with extructued typical sections. They are arrnaged in parrallel sets, flattened and accumulated around the nodes of an operational network
Rosalea Monacella

Figure 51: Lifescape
Fleld Operations Freshkills competition entry



These modes present the field as either a way of designing infrastructural systems, architectural form and green structures through the abstraction of natural systems and forces; or alternatively as an "interstitial design discipline, operating in the spaces between buildings, infrastructural systems, and natural ecologies"[12] to design looser systems with a less deterministic end form. To return to basic precepts, the modes could be considered as respectively *building as landscape* or *city as landscape*. [Figure 51]

MACHINIC LANDSCAPE

The term machinic landscape is taken from the AA publication, *Landscape Urbanism: A Manual for the Machinic Landscape*. Landscape urbanism in this mode works by the creation of a machinic medium which handles the multiplicity of information in urbanism projects, specifically organising across scales and disciplines, integrating temporal and non-physical forces. The machinic is described as a "technically controlled sieve"[13] which must be able to not only receive and manage information, but also generate organisations and protocol and eventually move toward the expression of materiality and fine scale details. In practice this mechanism is usually the synthesis of data by computer program to produce organisational diagrams and subsequent architectural forms.[14] [Figure 52 & 53]

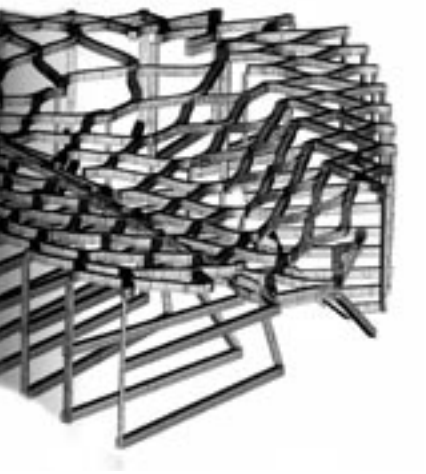
Utilising an approach that appears to be consistent across the texts of landscape urbanism, the AA publication presents as a coherent field frequently conflicting works from various theorists and practitioners. A close reading reveals some significant differences between the prescriptive texts which make up the 'manual for the machinic landscape' and the work presented as examples of the manual in operation. Especially indicative of this difference are the student projects from the landscape urbanism programmes: their diagrams and projects move inexorably towards built forms that are as fixed as the texts surrounding them are fluid.

13 Mostafavi, Mohsen and Najle, Ciro (ed), *Landscape urbanism : a manual for the machinic landscape*. Architectural Association, London, 2003, p39

14 These may be off-the-shelf Computer Aided Drawing tools, customised Geographic Information Systems, or bespoke programs written for specific projects. Certain programming languages have been adopted, usually written specifically for the simulation of cellular automata. Specific data inputs can produce diagrams and 3d forms that are then extracted to more conventional architectural software. See for instance the language Processing: "Processing is an open source programming language and environment for people who want to program images, animation, and sound. It is used by students, artists, designers, architects, researchers, and hobbyists for learning, prototyping, and production. It is created to teach fundamentals of computer programming within a visual context and to serve as a software sketchbook and professional production tool. Processing is developed by artists and designers as an alternative to proprietary software tools in the same domain.Processing.org. <http://processing.org/> accessed 20th August 2006

Figure 52: mesh-frame
a mesh of circulatory bifurcations and a triangulated structure frame the differential distribution and changes in the mix of farming, leisure and market units. Santiago Bozzola.

Figure 53: Absorption
The ground is constructed through a series of shallow parrallel arches that index the vectors of a circulatory pattern. David Mah



BEYOND THE MODERNIST MACHINE

An example of the contradictory views within the AA publication that seem to pervade the machinic landscape mode relate to the concept of the machine itself. Najle appears to promote the idea of the new landscape as machine which:

> "embodies the ultimate opportunity to intermingle systems in a consistent cybernetic universe, a machine with its own laws. The machinic landscape is pure exteriority evolving, where the natural absorbs the social, and where the systemic absorbs the linguistic,"[15]

Zaera-Polo is quite contradictory in his preceding text however. He states that

> "the mutant, the hybrid and the morphed are likely to replace the machine or Frankenstein as the stereotypes of [emerging landscape] this century."[16]

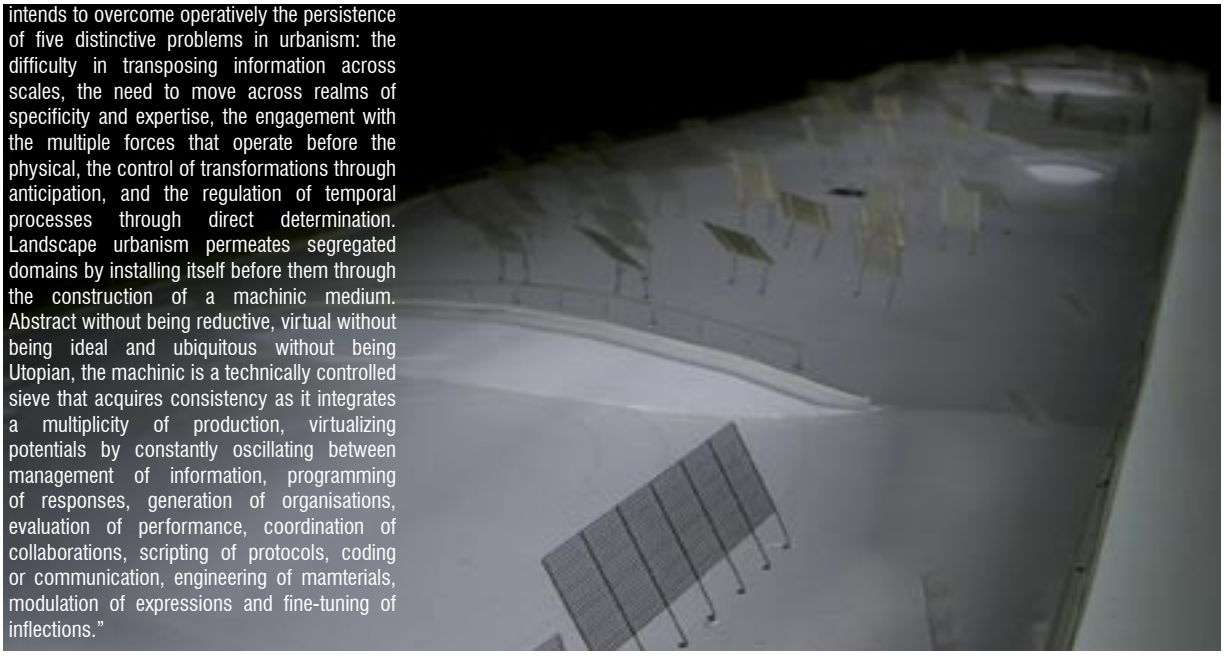
This is perhaps a disagreement over language rather than deep structural concepts: it is specifically the machine as understood in Modernist terms that Zaera-Polo and others want to move away from. Yet basic questions remain unresolved in the book: does the machine emerge from the landscape, or does the cyborgian designer[17] apply machinic systems to the landscape? This inconsistency over language is evident throughout texts regarding machinic landscape and clarity of expression is not helped by the density of the supposedly precise introductions to each chapter theme.[18] The jargon, synthetic words and intractable sentences are essentially a response to the complexity of what the authors want to tackle: the entire urban scene.

15 Mostafavi, Mohsen and Najle, Ciro (ed). *Landscape urbanism : a manual for the machinic landscape*. Architectural Association, London, 2003, p141

16 Zaera-Polo, Alejandro. "On Landscape" in Mostafavi, Mohsen and Najle, Ciro (ed). *Landscape urbanism: a manual for the machinic landscape*. Architectural Association, London, 2003, p132

17 For a further discussion of the *cyborgian designer* see Meyer, Elizabeth K. "The Expanded Field of Landscape Architecture" in Thompson, George F. & Steiner, Frederick R. (eds). *Ecological Design and Planning*. Wiley, New York, 1997, pp45-79

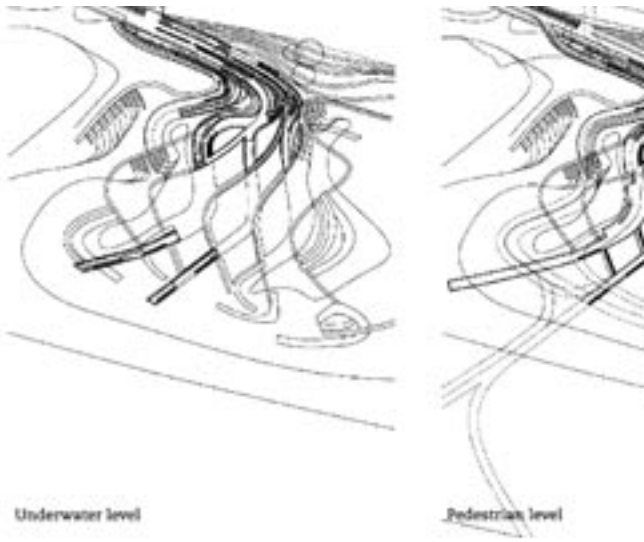
18 Take for example the introduction to the chapter on Medium. "In its renewed framework, the proposition of urban responses involves the simultaneous constitution of a medium that consistently generates those responses out of a multitude of stimuli. Through the management of multiscalarity, transpecificity, prephysicality, intensitivity and virtuality, such a medium intends to overcome operatively the persistence of five distinctive problems in urbanism: the difficulty in transposing information across scales, the need to move across realms of specificity and expertise, the engagement with the multiple forces that operate before the physical, the control of transformations through anticipation, and the regulation of temporal processes through direct determination. Landscape urbanism permeates segregated domains by installing itself before them through the construction of a machinic medium. Abstract without being reductive, virtual without being ideal and ubiquitous without being Utopian, the machinic is a technically controlled sieve that acquires consistency as it integrates a multiplicity of production, virtualizing potentials by constantly oscillating between management of information, programming of responses, generation of organisations, evaluation of performance, coordination of collaborations, scripting of protocols, coding or communication, engineering of mamterials, modulation of expressions and fine-tuning of inflections."



FROM DYNAMIC FORCES TO FIXED FORM

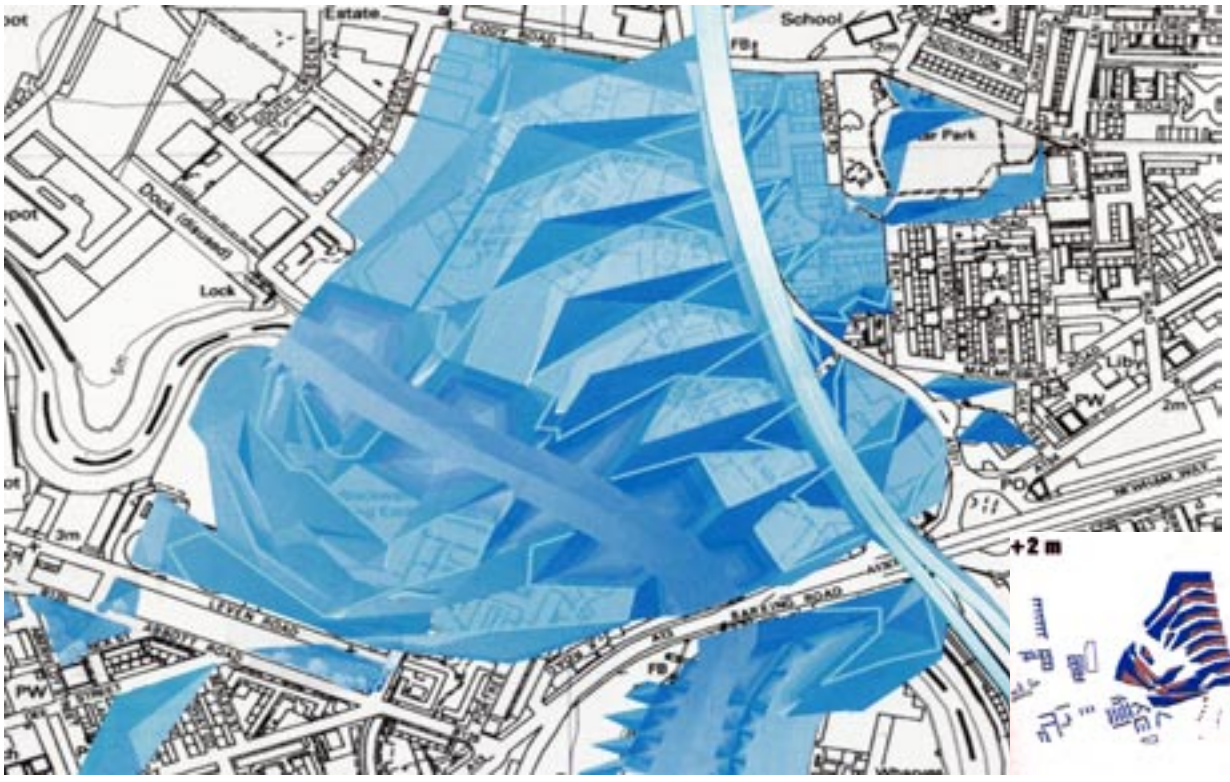
The response and ultimate output from the machinic landscape 'technical sieve' is a piece of architectural infrastructure: "beyond mere sustainability, landscape urbanism makes use of the intensity and urgency of these ecologies and economies through the enhancement and escalation of natural systems in complex pieces of infrastructure."[19] The process and output is termed organisation, yet the static products seem in contrast to the obvious delight taken by the authors in the complexity of indeterminate sites and situations in temporal flux. Considering one of the consistent critical shifts which prompted landscape urbanism theory is the move from the representational to the operative, there is a definite contradiction that arises when such dynamic systems are formally represented and finitely defined in pieces of architectural infrastructure. [Figure 54]

The result, as identified by Lootsma, is that the ecological aspect of a site is only really represented in the organisation of the end product. During the design process these complex systems allow an organic development in the diagrams or buildings; the move to final architectural and built form is however something of a brutal break in these processes: "this approach in the end produces only a simulacrum of life, not life itself in the original 'ecology' (by which I do not mean



19 Mostafavi, Mohsen and Najle, Ciro (ed). *Landscape urbanism : a manual for the machinic landscape*. Architectural Association, London, 2003, p141

Figure 54: Triangulation.
The horizontality of public space is textured and diversified through a system of triangulation that regulates built areas and integrates volumetric discreteness with superficial continuity, Julian Varas



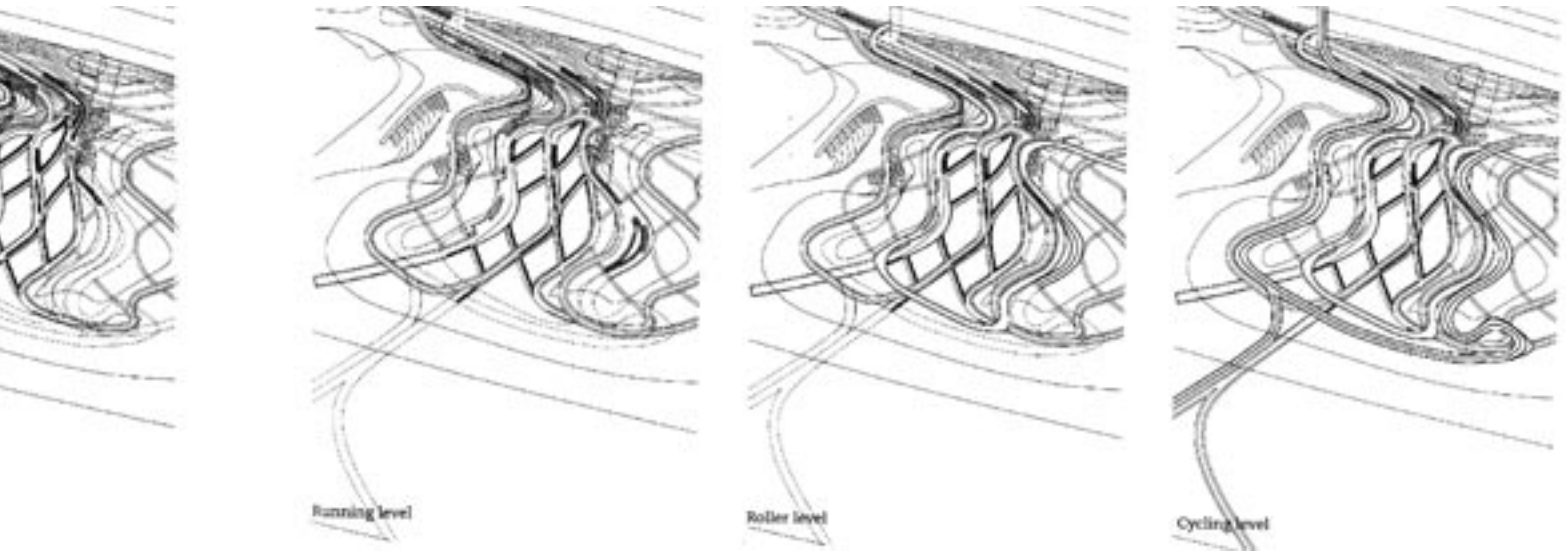


Figure 55: Transitions
The structural and circulatory merger between strands of circulation is solved by the incorporation of open zones, shared facilities and vertical connections. Roxana Scorcelli

the ecology of the computer but the ecology that feeds the computer.)"[20] The unstable nature of ecological systems does not suit a final, fixed end product in which the smallest change can ruin a design. To return to the critical framework that qualifies landscape urbanism, the simulacrum of the machine landscape mode does not fit with the supposed shift that has occurred from pictorial and representational to operative which actively dismisses copies.

The danger with this mode is that the identification and analysis of data territories for use in the machinic mechanism becomes an end in itself. In a way, to practice landscape urbanism in this mode is to create a data network that is ultimately self-referential and fails to acknowledge the real world from which it is allegedly derived.[21] There is a something of delusion within the field that this organisation is anything more than a simple extrusion into form of abstract forces, an appropriation of data as design generation produce form and nothing more. As Raxworthy notes, if organisation is considered in this way, it is not far removed from the Deconstructivist appropriation of form for design generation only.[22] [Figure 55]

20 Lootsma, Bart. "Biomorphic Intelligence and Urban Landscape" in Brayer, Marie-Ange & Simonot, Béatrice (eds). *Archilab's Earth Buildings: Radical Experiments in Land Architecture.* Thames & Hudson Ltd, London. 2003, p34

21 Easterling, Keller. "Error" in Mostafavi, Mohsen and Najle, Ciro (ed). *Landscape urbanism : a manual for the machinic landscape*. Architectural Association, London, 2003, p156

22 See Raxworthy, Julian. "Landspace landscapism" in Architectural Review Australia, no. 88, 2004, p26

FIELD OPERATIONS

The phrase *field operations* has its origins in several articles: the most direct references are Corner's texts and his design office takes the phrase as its name.[23] As previously stated Stan Allen defines *field conditions* and Alex Wall *programming the urban surface* to describe similar modal approaches. In Wall's essay *Programming the urban surface*[24] – an expansion on the critical move from considering the design of the object to the design of the field that Allen had proposed – Wall takes as his subject the contemporary construct that is the urban surface. Falling somewhere between landscape and urbanism, he describes an approach in which the emphasis and reflection is not simply on the space between buildings, but the urban surface as a connective tissue that activates programme and stimulates events. Crucially, Wall describes this surface as more than merely green or natural space: it is the ground structure of the city which supports its many activities and dynamic programmes. As a supporting structure, it is the urban surface that accommodates the needs of

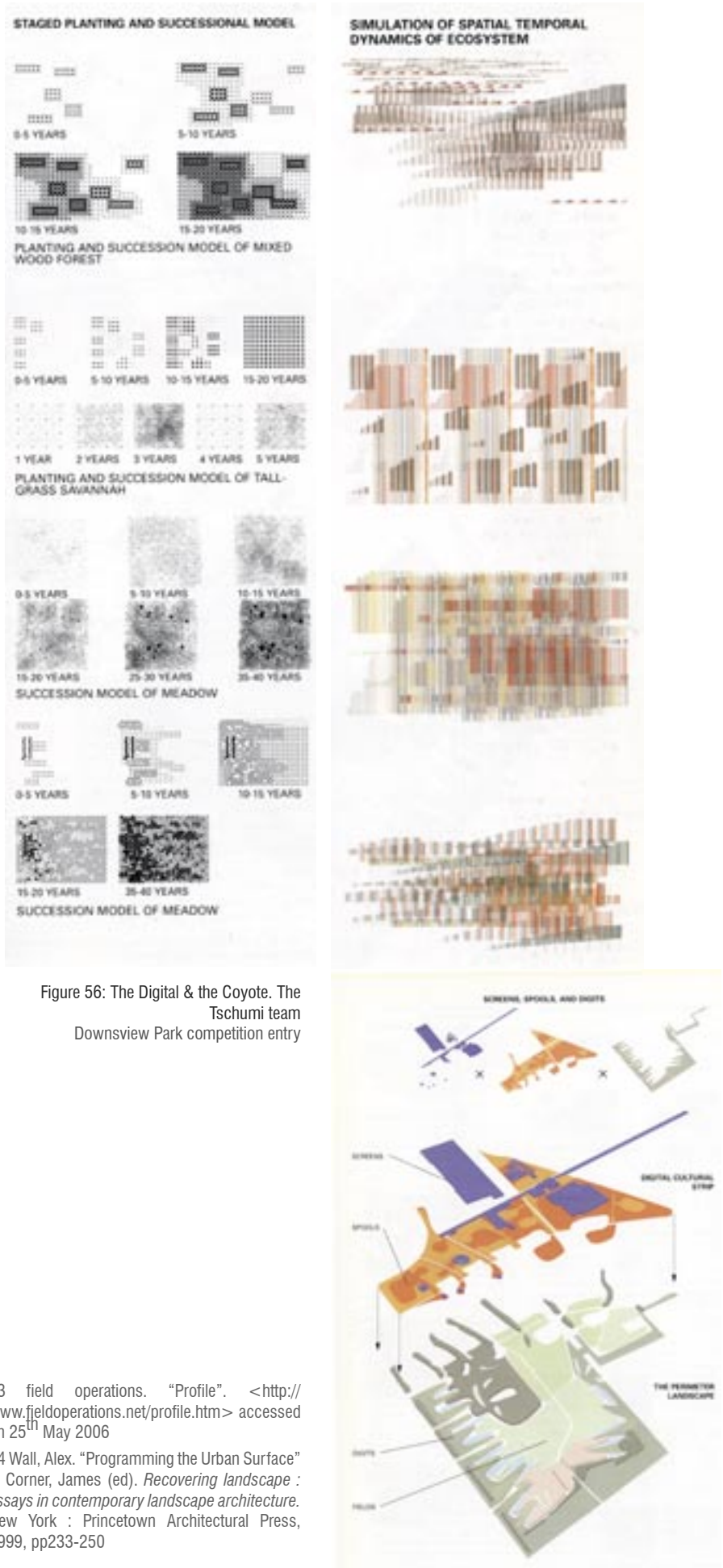


Figure 56: The Digital & the Coyote. The Tschumi team
Downsview Park competition entry

23 field operations. "Profile". <http://www.fieldoperations.net/profile.htm> accessed on 25th May 2006

24 Wall, Alex. "Programming the Urban Surface" in Corner, James (ed). *Recovering landscape : essays in contemporary landscape architecture.* New York : Princetown Architectural Press, 1999, pp233-250

these activities and events, embedding support and services within its crust. A successful urban surface also predicts and anticipates future needs: "as such the urban surface is dynamic and responsive; like a catalytic emulsion, the surface literally unfolds events in time."[25] By considering the field as an active design stage, the move is away from the historic design of 'green' or 'natural' space for scenic purposes only, to the design of the surfaces as an active stage that speeds up and activates programmes or creates conditions to support indeterminate futures.

This construct, an active designed landscape beyond the scenic, is how landscape urbanism in its mode of *field operations* should be understood. The consideration of landscape as an active accelerant is one of the key assumptions and furthermore, there is no presumption to the product of this accelerant being necessarily architectural in form. The aim is to support programmes that are dynamic and unknown, rather than create fixed buildings which are limited in what they support. [Figure 56 & 57]

Corner has proposed that four themes run through landscape urbanism as he defines it: "processes over time, the staging of surfaces, the operational or working method, and the imaginary."[26] These themes are outlined below to show how this modal approach might be understood.

25 Wall, Alex. "Programming the Urban Surface" in Corner, James (ed). *Recovering landscape : essays in contemporary landscape architecture.* New York : Princetown Architectural Press, 1999, pp233

26 Corner, James. "Terra Fluxus" in Waldheim, Charles (ed). *The Landscape Urbanism Reade*r. New York: Princeton Architectural Press, June 2006, p28

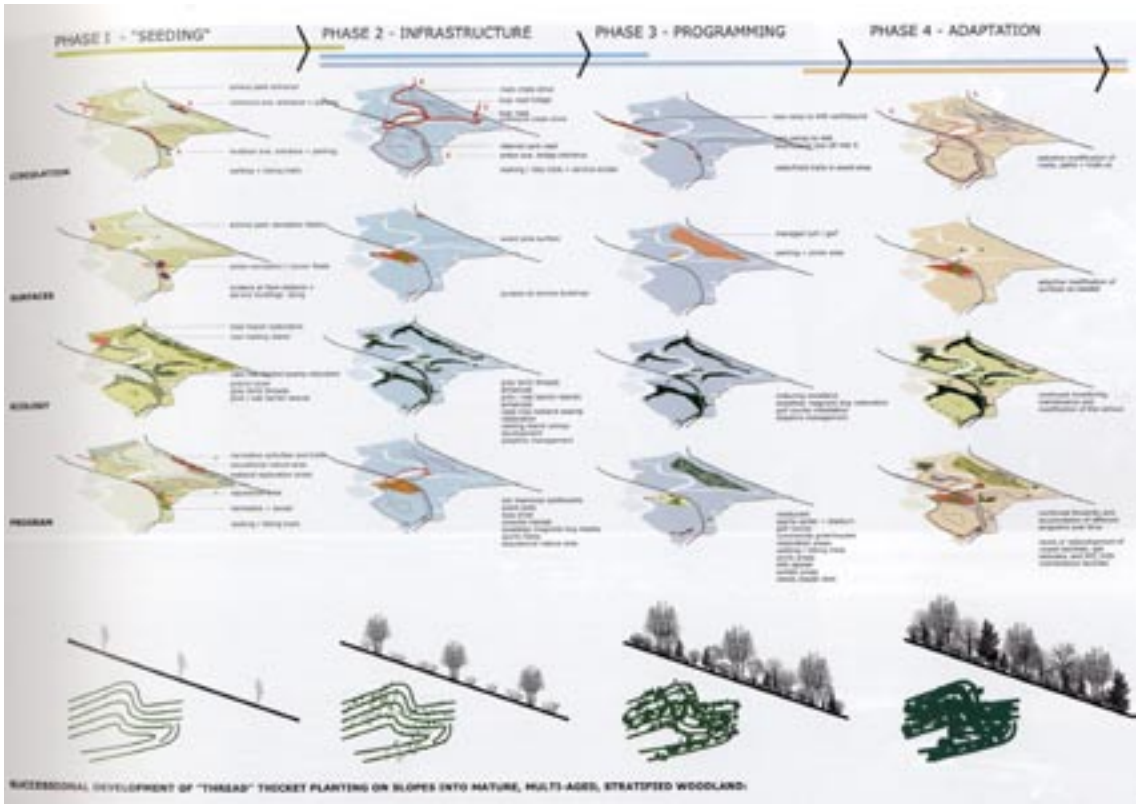


Figure 57: Lifescape
Field Operations Freshkills competition entry

A SPACE-TIME ECOLOGY

The interest in ecology as a lens by which to understand the complex inter-relationships of the contemporary city has been noted, but where *field operations* perhaps goes further is to apply such ecological concepts to more than the traditional natural systems which appear somewhat removed from the city; political and social components are considered as part of the overall city ecological mass, along with cultural and economic systems which are embedded in and interact with the 'natural systems' of the traditional ecological realm. [Figure 58] In broadening the view, but still applying familiar concepts, the possibility is "the development of a space-time ecology that treats all forces and agents working in the urban field and considers them as continuous networks of inter-relationships."[27] The introduction of the phrase 'space-time' points to the necessity in considering the city in temporal rather than spatial terms. The practice of ecology has always been innately concerned with temporal interactions and dynamic systems; the application of these temporal concerns to the city allows the possibility of new relationships to emerge between otherwise unconnected systems and new actions to occur which may in turn produce further reactions. The city is therefore no longer fixed in place, but revels in the exposed shifting processes at play across its territory.

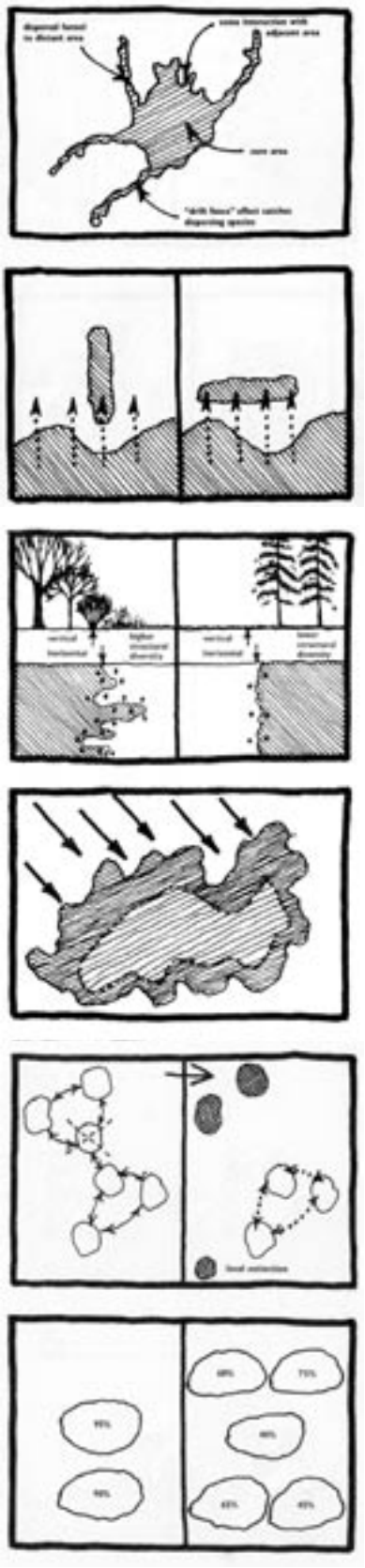


Figure 58: Ecological principles

27 Corner, James. "Terra Fluxus" in Waldheim, Charles (ed). *The Landscape Urbanism Reader*. New York: Princeton Architectural Press, June 2006, p30

Figure 59: Revealing hidden infrastructure
Survey lines showing the multiple networks beneath pavements, Leith Walk, Edinburgh

FIELD & SURFACE

Although the terms *field* and *surface* have appeared largely interchangeable in the preceding text, there are some subtle differences and loadings which must be outlined before they can be applied. Although an initial reading of the term surface might be one of a two-dimensional entity without depth, in the context of landscape urbanism, particularly as practised in the field operations mode, surface takes on meanings that relate to directly to urban infrastructure. [Figure 59] It is for this reason that field is selected over surface to describe the mode: the practice is about more than simply tackling urban infrastructure, as important as such a challenge is. Corner describes the 'staging of surfaces' to show how the particular infrastructure of the city can be challenged to provide future sites for unknown futures. In contrast to architectural practice which "consumes the potential of a site,"[28] field operations proposes the preparation of surfaces for future uses, resetting them as true urban infrastructures for the flexible support of the indeterminate ends.

28 Corner, James. "Terra Fluxus" in Waldheim, Charles (ed). *The Landscape Urbanism Reade*r. New York: Princeton Architectural Press, June 2006, p30

OPERATIONS AND WORKING METHOD

In order to deal with such a wide range of systems; differences in scale and control; and the multitudes of actors engaged in the piece, the working method and techniques of field operations are necessarily catholic in taste and as such challenge traditional assumptions as to how design and planning might be conceived and represented. [Figure 60] Corner suggests

> "working synoptic maps, alongside the intimate recordings of local circumstance, comparing cinematic and choreographic techniques to spatial notation, entering the algebraic, digital space of the computer while messing around with paint, clay and ink, and engaging real estate developers and engineers alongside the highly specialized imagineers and poets of contemporary culture"[29]

as just a few of the working methods, but also recognises the lack of cohesive operative strategies available to the hybrid discipline. Whilst the entries for competitions such as Downsview and Fresh Kills display obvious marks of these operative methods of dealing with multiple stimuli and data, the ultimate end product appears to be the quite conventional written and illustrated masterplan.[30]

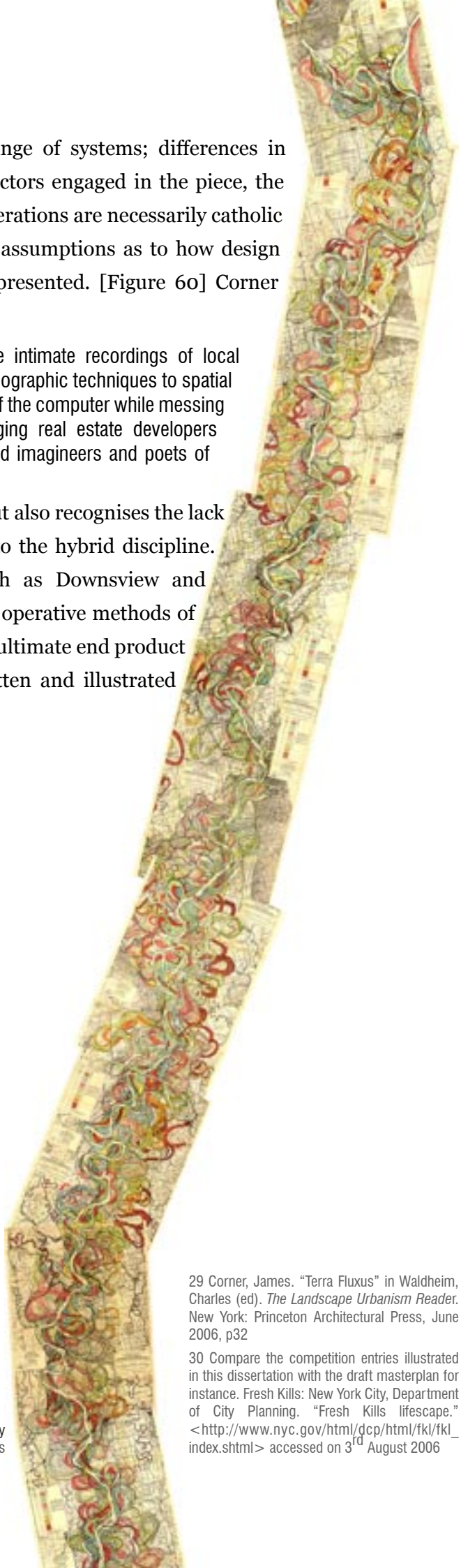


Figure 60: Mississippi River history
Diagramming local contingencies as the river adapts

29 Corner, James. "Terra Fluxus" in Waldheim, Charles (ed). *The Landscape Urbanism Reader*. New York: Princeton Architectural Press, June 2006, p32

30 Compare the competition entries illustrated in this dissertation with the draft masterplan for instance. Fresh Kills: New York City, Department of City Planning. "Fresh Kills lifescape." <http://www.nyc.gov/html/dcp/html/fkl/fkl_index.shtml> accessed on 3rd August 2006

THE IMAGINARY

It is the creative and poetic opportunity of the mode that Corner proposes as the final theme in the practice of landscape urbanism. Where "earlier urban design and regionally scaled enterprises [failed] was the oversimplification, the reduction, of the phenomenal richness of physical life."[31] The involvement of the imaginary is where the diversity and exuberance evident in the contemporary city emerges and where the diversity of human life can be celebrated. [Figure 61] The manifestation of spiritual and cosmological relationships to the environment should not be lost in the desire to diagram and plan the urban; landscape urbanism perhaps offers the opportunity to take measure of our environment in a way that draws out the unseen and the unknown,[32] allowing the crucial public spaces of our cities to remain "the containers of collective memory and desire, and secondly ... the places for geographic and social imagination to extend new relationships and sets of possibilities."[33]

31 Corner, James. "Terra Fluxus" in Waldheim, Charles (ed). *The Landscape Urbanism Reade*r. New York: Princeton Architectural Press, June 2006, p32

32 See the author's diploma dissertation for an expanded discussion of how the poetic sensibilities of measure might be understood, with specific reference to Heidegger's article *Poetically Man Dwells*. Gray, Christopher D. *Measure: phenomenological & ontological readings.* Dissertation (Dip Arch)--School of Architecture, Edinburgh College of Art / Heriot-Watt University, Edinburgh, 2006, p24

33 Corner, James. "Terra Fluxus" in Waldheim, Charles (ed). *The Landscape Urbanism Reade*r. New York: Princeton Architectural Press, June 2006, p32

Figure 61: Robert Smithson's Floating Island To Travel Around Manhattan Island
"on view September 17, 2005-September 25, 2005, from 8 am to 8 pm every day, the Whitney and Minetta Brook, a New York-based arts organization known for innovative public art projects, will launch Floating Island to Travel Around Manhattan Island by Robert Smithson, a major figure in the cultural landscape of the 1960s and 1970s and a central influence on contemporary artists. Never realized during Smithson's lifetime, although attempts were made, Floating Island is a project that involves a 30-x-90-foot barge, landscaped with earth, rocks, and native trees and shrubs that will circumnavigate Manhattan. The fabricated "island," towed by a tugboat, will be visible to millions along the Hudson and East Rivers." From Whitney exhibition text

Figure 62: Volvo formation. Malmö, Sweden

Chapter Five: Aligned Disciplines & Associated Hybrid Fields

Figure 63: Model: The Highline
Exhibition at the Museum of Modern Art, New York, 2005

PARALLEL PRACTICES

Before final speculations on where the divergence of landscape urbanism modes might lead, this penultimate chapter briefly introduces and compares a selection of aligned disciplines and hybrid fields that have developed in parallel. Frequently occupying common ground and a familiar theoretical zone, these lenses and practices offer similar approaches to the contemporary city but with quite different language and end products.

INFRASTRUCTURAL URBANISM

> "Infrastructure is an operation that combines different kinds of spaces and activities – a park, a road, a building – within its domain and is able to sustain program beyond its own logistical requirements. As an operation it works strategically to create conditions for future events, as opposed to a conventional understanding of infrastructure as an artefact that exists for the sake of a technical program. It is through this combinatorial role that the operation of infrastructure has the potential to mediate between architecture and landscape in order to contribute to the re-conceptualization of the urban realm."[1]

Two readings of infrastructure as urbanism can be made: one that is reflected in the quote above as a manifestation of the move toward operational approaches, the other can be traced to the reaction against post-modern culture of adopting signs and surfaces over material and concrete proposals. [Figure 63] Stan Allen describes this as the "consequence of the shift from technologies of production to technologies of reproduction"[2] and proposes the architectural consideration of infrastructure as a way to re-engage with the complexity of the urban situation and subsequently force a move towards a material practice away from signs. Reading his definition of *material practice* in parallel with landscape urbanism texts reveals many overlaps. His concern is with performance of forces intrinsically linked with infrastructure and the supposed insignificance of formal ends to this practice.[3] It is worth examining Allen's manifesto-like propositions; to briefly paraphrase, he proposes that the material practice of infrastructural urbanism would fulfil all or some of the following:

1 Berrizbeitia, Anna & Pollak, Linda. *Inside outside: between architecture and landscape.* Rockport, Mass, USA. 1999, p152

2 Allen, Stan. "Infrastructural Urbanism" in Allen, Stan. *Points + lines : diagrams and projects for the city.* New York : Princeton Architectural Press, 1999, pp49

3 Allen, Stan. "Infrastructural Urbanism" in Allen, Stan. *Points + lines : diagrams and projects for the city.* New York : Princeton Architectural Press, 1999, pp49

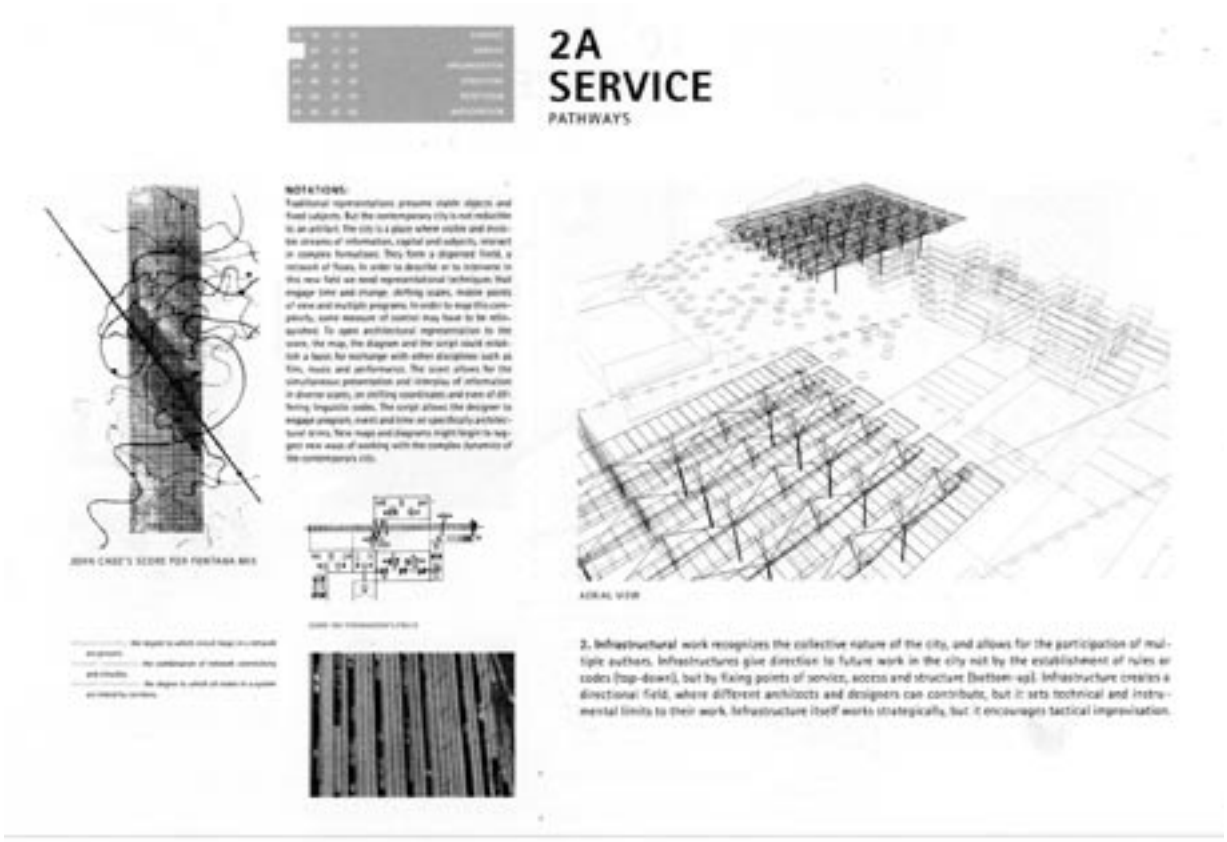


Figure 64: Barcelona manual
Stan Allen's study for infrastructural urbanism

1. Construct the site
2. Flexible and anticipatory. Indeterminate yet precise
3. Collective. Multiple authors
4. Local contingency whilst maintaining overall continuity. Pragmatism. Invested neither in (ideal) regularity nor in (disjunctive) irregularity
5. Organisations of control that allow flexibility and future unplanned space. Effects of scale and overlap prevent a linear organisation
6. Artificial ecologies
7. Detailed design of typical elements or repetitive structures

Themes that overlap with landscape urbanism immediately jump out: the interest in indeterminate ordering principles; space for unplanned actions in the future; the relaxed attitude towards rigid regularity in favour of allowing local conditions to influence design; and the importance of the historic site to the final approach. Yet the final point in Allen's manifesto

4 Allen, Stan. "Infrastructural Urbanism" in Allen, Stan. *Points + lines : diagrams and projects for the city.* New York : Princeton Architectural Press, 1999, p53

5 The historic projects of Olmsted are worth noting here for their success in embodying cultural meaning with urban infrastructure. See Spirn, Anne Winston. "Constructing Nature: The Legacy of Frederick Law Olmsted" in Cronon, William (ed). *Uncommon Ground: Rethinking the Human Place in Nature.* W.W. Norton & Company, New York, London, 1996. pp91-113

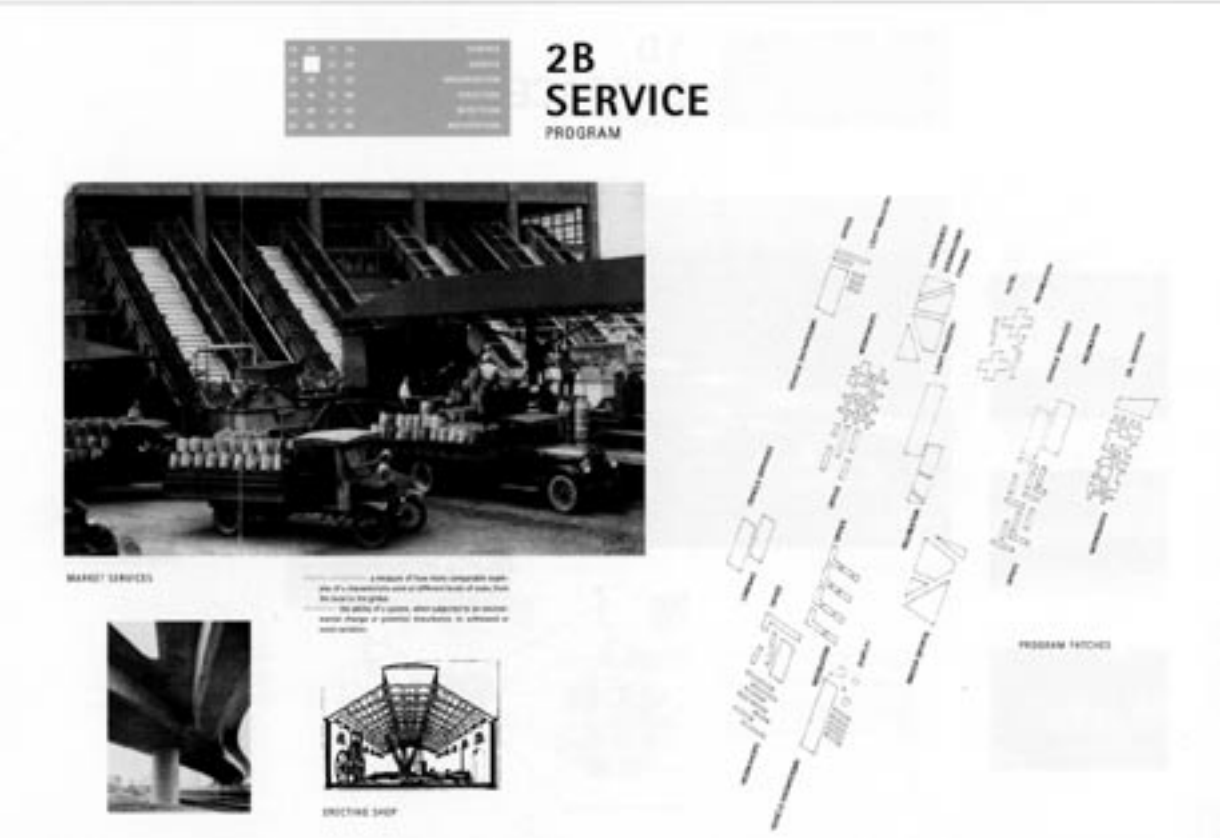


Figure 65:The Fens and Riverway, Boston.
Frederick Law Olmsted
Top: Constructing the Riverway, 1892.
Bottom: The Riverway, 1920

reveals the same desire for orthodoxy that appears in landscape urbanism as practised in the mode of the machinic landscape: the ultimate need for conventional architectural form. [Figure 64] Practising within the technical medium of infrastructure this appears more achievable and more understandable perhaps than the softer systems with which landscape as medium is concerned. [Figure 65] Where the technical needs of energy inputs and output are considered, there is an obvious need for structures which are less easily justified in the practice of landscape urbanism. This technical aspect also reveals a further strength of infrastructural urbanism when compared against landscape urbanism: the ability to ascribe meaning to the final product. Allen draws on Foucault to argue that "techniques are social before they are technical"[4] and therefore meaning can be entwined within the operation of infrastructure, not simply within the artefacts by which it is traditionally represented.[5]

MAT BUILDINGS & MAT URBANISM

"One reasons for [mat building's] continuing relevance is the avoidance of questions of style or appearance. The emphasis instead is insistently organisational. That is, buildings that look quite dissimilar are grouped together on the basis of common organisational strategies...Mat building is more than a loose descriptive category. Beyond simple horizontal extension, the buildings...follow certain significant spatial patterns. They are mostly similar in the way in which the parts fit together, and the character of the void spaces formed by their architectural matter."[6]

Mat buildings were first proposed by Alison Smithson in 1974 in an article entitled *How to Recognise and Read Mat-Building*.[7] The concept has enjoyed a recent rejuvenation and as with infrastructural urbanism, it is Stan Allen who leads the drive to reassess Smithson's theories, proposing *mat urbanism – the thick 2D* as the contemporary evolution of the term. Allen describes mat building as "a studied response to a fundamental urbanistic question: how to give space to the active unfolding of urban life without abrogating the architect's responsibility to provide some form of order."[8] It is the use of events and functions to determine spaces within a neutral architectural frame; essentially, a field-like assemblage is proposed, where the voids between defined space are equally important. The form of the building is governed by these interconnections and the overall geometry relies on the systems within rather than a proscribed order imposed from above.

However, Allen expands the concept beyond the individual building, to suggest that in the contemporary urban site, mat urbanism might have applications as an urbanistic model. He supports such a proposal in two ways. Firstly he suggests a shift in the scale at which mat effects might be defined to take into account contemporary differences in speed of movement around the city. Secondly he proposes a shift in medium to consideration of the landscape as the medium for the design of horizontal surfaces and atmosphere rather than architecture as the medium for the design of mass and volume.[9] By considering mat effects in these different conditions, Allen proposes that urbanistic assemblages, rather

6 Allen, Stan. "Mat Urbanism: The Thick 2-D" in Sarkis, Hashim (ed). *CASE: Le Corbusier's Venice Hospital and the mat building revival*, Munich ; New York : Prestel, 2002. ISBN: 3-7913-2538-8, p122

7 Originally in Smithson, Alison: "How to recognise and read mat-building" in *Architectural design* 44, 9, 1974, pp573-590, reprinted in Sarkis, Hashim (ed). *CASE: Le Corbusier's Venice Hospital and the mat building revival*, Munich ; New York : Prestel, 2002

8 Allen, Stan. "Mat Urbanism: The Thick 2-D" in Sarkis, Hashim (ed). *CASE: Le Corbusier's Venice Hospital and the mat building revival*, Munich ; New York : Prestel, 2002. ISBN: 3-7913-2538-8, p119

9 Allen, Stan. "Mat Urbanism: The Thick 2-D" in Sarkis, Hashim (ed). *CASE: Le Corbusier's Venice Hospital and the mat building revival*, Munich ; New York : Prestel, 2002. ISBN: 3-7913-2538-8, p124

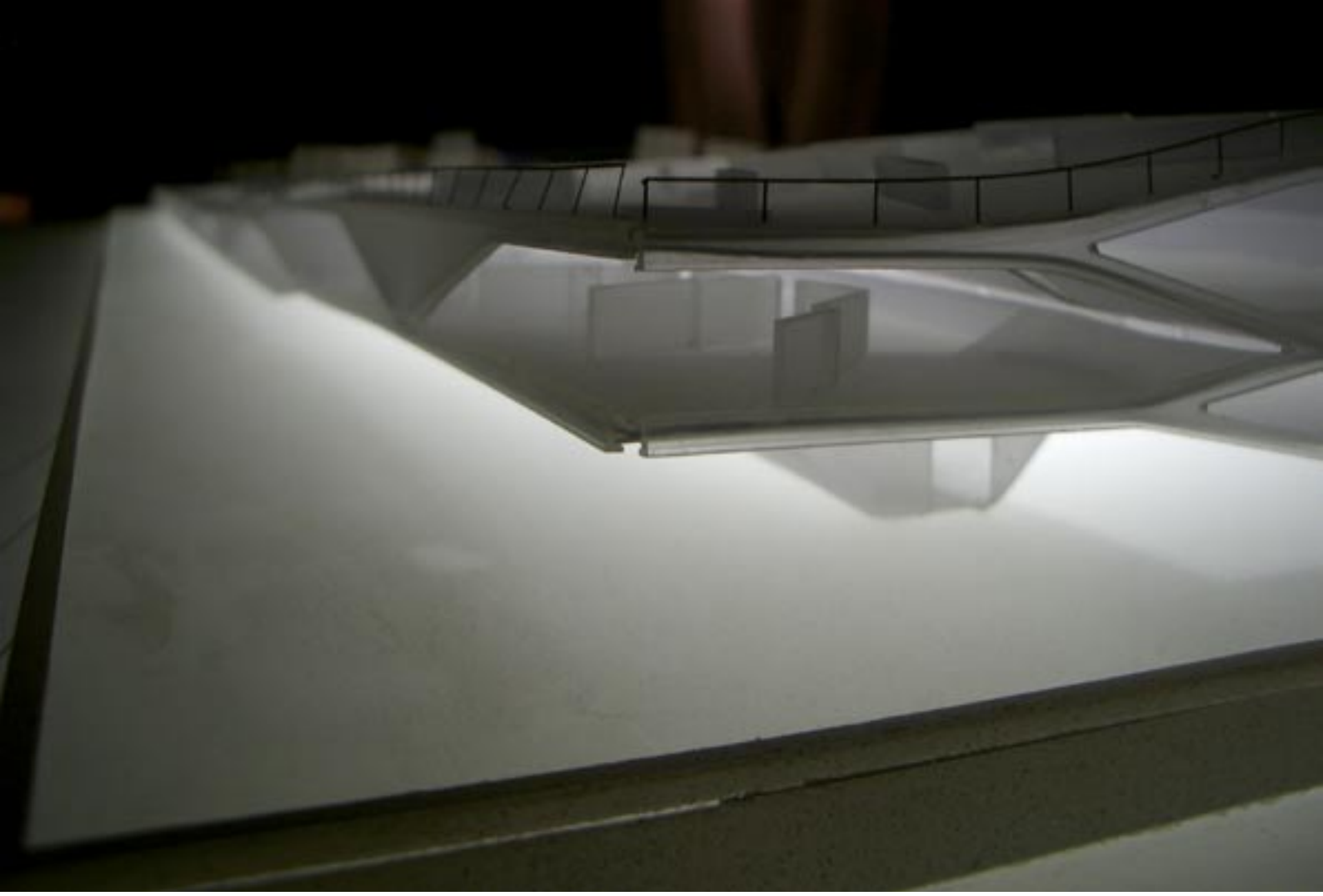


Figure 66: International Port Terminal at Yokohama
Model at 'Breeding Architecture'exhibition at the Institute of Contemporary Arts, London, 2004

than individual buildings can emerge. These assemblages can take advantage of the thick section of landscape surfaces in a way that abstract architectural forms that propose thin warped folds cannot: the performative aspects of this thick 2D allow surface conditions that can actually activate space, accommodate change and allow urban spatial connections outwith the "weighty apparatus of traditional space making."[10] [Figure 66]

The relationship to landscape urbanism comes therefore from the suggestion of urbanism as field rather than object, but also from the performative aspect of organisation. Whereas the machinic landscape mode of landscape urbanism takes the ecological and infrastructure forces synthesised from the site to drive a built organisation, mat urbanism takes the ecology of urban life as its driving force, suggesting that "the notion of landscape that grows in and changes over time can be applied to programming, resulting in a kind of loose scaffold that supports the adaptive ecology of urban life."[11] Whilst the revival of mat building has claimed many contemporary individual buildings as its own, once again, the definition of larger scale urbanistic projects is less clear.

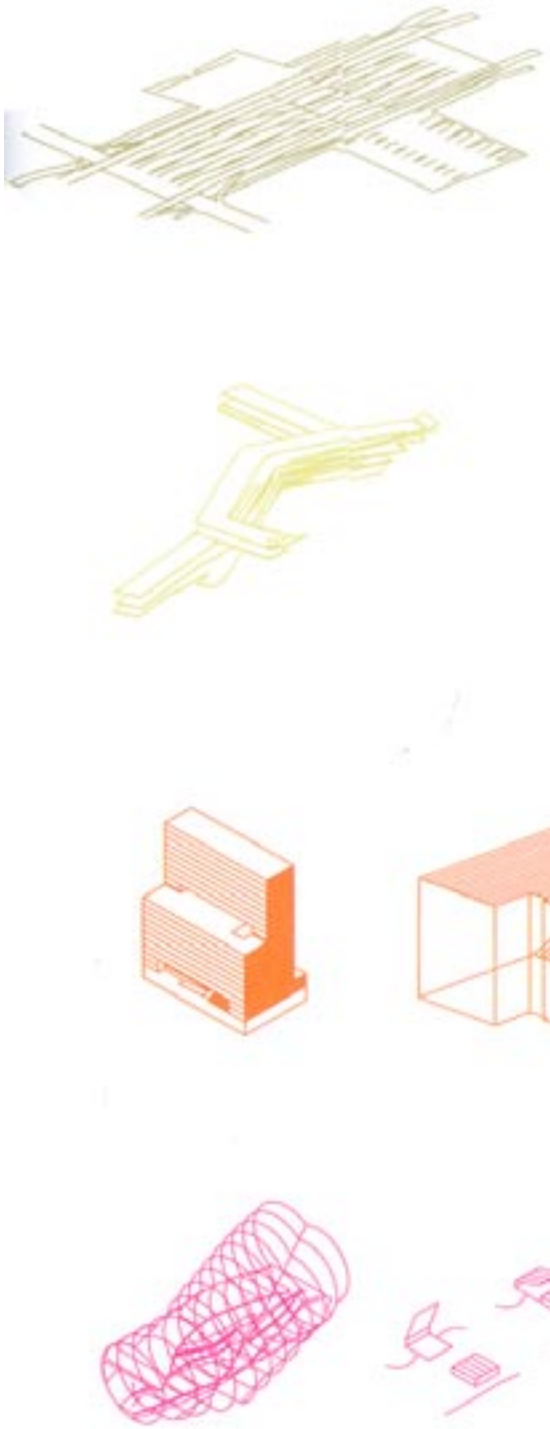
10 Allen, Stan. "Mat Urbanism: The Thick 2-D" in Sarkis, Hashim (ed). *CASE: Le Corbusier's Venice Hospital and the mat building revival*, Munich ; New York : Prestel, 2002. ISBN: 3-7913-2538-8, p124

11 Allen, Stan. "Mat Urbanism: The Thick 2-D" in Sarkis, Hashim (ed). *CASE: Le Corbusier's Venice Hospital and the mat building revival*, Munich ; New York : Prestel, 2002. ISBN: 3-7913-2538-8, p126

FOREIGN OFFICE ARCHITECTS' PHYLOGENISIS

> "Typologies were the traditional instrument by which groupings of traits and organisational features become part of disciplinary knowledge, reproduced and evolved. However, the belief that architectural typologies are eternal and static will only freeze the necessary evolution of the discipline to deal with the increased rates of environmental change that contemporary culture demands. This is where the concept of a species becomes relevant for the discipline of architecture, as a potential mediator between a top-down typological design process and a bottom-up parametric design approach."[12]

Considered an expansion and refinement of the concept of mat buildings are architectural forms that explore the folded and incised ground forms of surface. Whereas mat buildings are driven largely by *organisational* conditions, Foreign Office Architects' (FOA) have most explicitly explored the *spatial* conditions of surface to produce architectural and landscape architectural projects where topographical ground modelling is key. The FOA understanding and practice of this form of topographic[13] buildings are set out in their publication *Phylogenesis:* FOA's *ark*[14] which accompanied an exhibition called *Breeding Architecture*.[15] This publication can be read as a textbook for their ideas of defining a "lineage of projects through seven categories of surface diversification"[16] and a study of the diversity of surfaces and thickened ground projects.[17] The biology term *phylogenesis* describes "the sequence of events involved in the evolutionary development of a species or taxonomic group of organisms"[18] and was appropriated by FOA to describe a conceit where they become taxonomists, carefully constructing an organizational tree diagram that classifies surfaces by branching paths as they are assessed for various attributes. In their classification, the first major lineage split is by function, separating ground surfaces from enveloping surfaces. Subsequent branching narrows the species definition under such categories as faciality (how many surface faces are inhabited), discontinuity (whether there are discontinuities in the surface such as ripples, pinches or perforations), and orientation (how the surface relates to gravity). A route down this tree map ultimately produces a species name followed by the 'Common Name' of the creature, which turns out to be the FOA project name.



12 Foreign Office Architects. *Phylogenesis: foa's ark*. Actar. March 2004, p11

13 The words *topological* and *topographical* appear to be interchangeable in the reference texts

14 Foreign Office Architects. *Phylogenesis: foa's ark*. Actar. March 2004

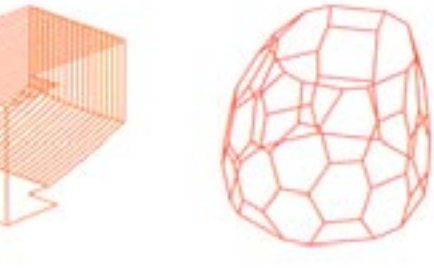
15 Breeding Architecture at the Institute of Contemporary Arts, London, Sat 29 Nov - Sun 29 Feb 2004

16 'Breeding Architecture' exhibition text

17 For an expanded discussion of this concept and its application beyond simply architecture see the author's article: Gray, Christopher. "Folding the land" in *Landscape – the Journal of the Landscape Institute.* Issue 6, June 2004

18 Definition from WordNet, a lexical database for the English language, developed by the Cognitive Science Laboratory at Princeton University. http://www.cogsci.princeton.edu/~wn/index.shtml

19 Fagerström, Christina. "View from Barcelona" in *Architectural Review* 2003. June v213. N 1276, p43-45



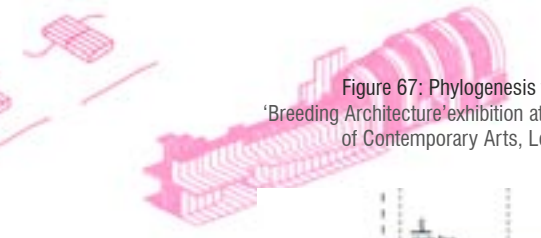
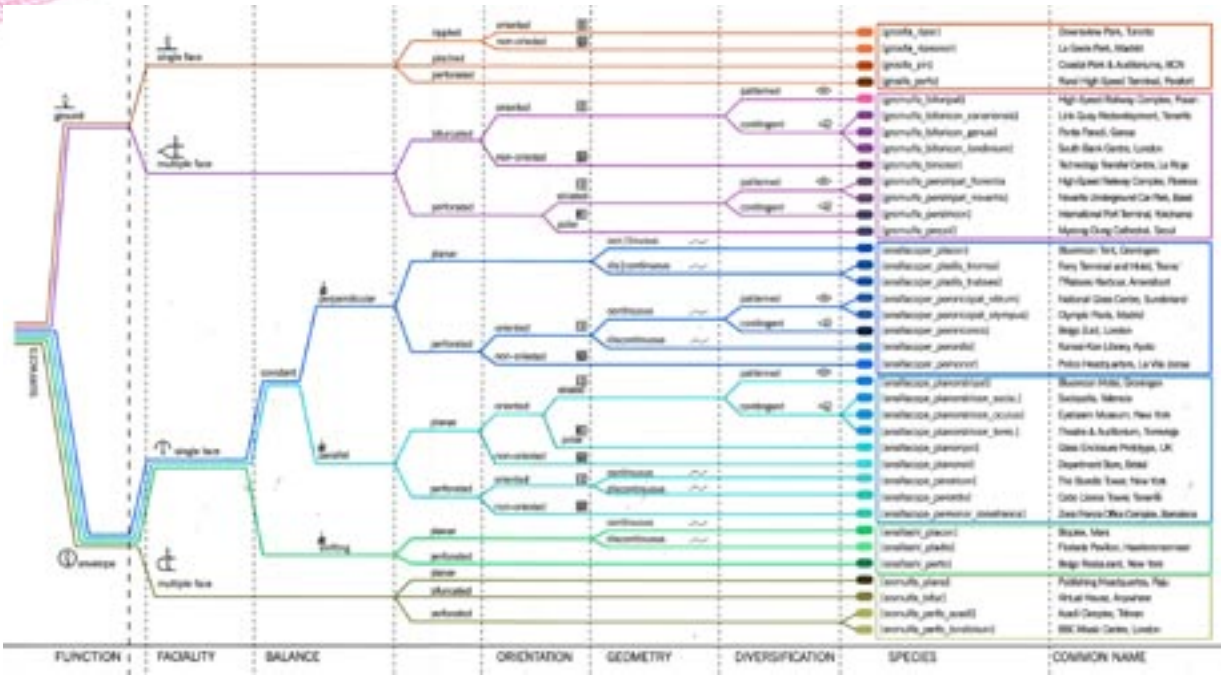


Figure 67: Phylogenesis tree diagram 'Breeding Architecture' exhibition at the Institute of Contemporary Arts, London, 2004

Beyond a codification and post-rationalisation of their diverse projects, phylogenesis demonstrates a unique attempt by FOA to examine what operations and conditions make certain surfaces behave in ways that other surfaces do not. Their relatively objective definition of a particular surface or ground condition is arrived by careful study of each particular attribute and option within the branching taxonomic chart and a specific spatial experience of the end surface can be firmly stated. Beyond the importance of this study in expanding our understanding of the folding and deforming of surfaces, *phylogenesis* and the topographical buildings it describes can be seen as the emergence of a new design language that overlaps architecture and landscape architecture. More than describing the simple modelling of surfaces, the definitions and taxonomic forms easily accommodate physical organizational forms that are generated from the contingencies of specific site. [Figure 67]

An example of such a hybrid project is FOA's Coastal Park and Auditoriums in Barcelona which "explor[es] the organizationally complex landscapes that emerge from topographies artificially generated by a mediated integration of rigorous modelled order."[19] Taking coastal sand dunes as its organizational prototype, the park weaves a network of different programmes through landscape to create a circuit of activities: surfaces of programme are woven through green surfaces to produce rich folded and perforated



sections. By describing the processes and ultimate end forms of these projects in terms that are not specific to any particular discipline, common lineages are revealed in projects that might otherwise be thought of as unrelated. Consequently, a project that might traditionally be defined as a building ultimately ends up amongst relatives that might be traditionally described as landscape projects. By mediating between manipulation of programme and topographies, contemporary hybrid forms are easily understood and the perception of specific spatial designs is made obvious.

FOA have an association with the machinic landscape mode of landscape urbanism, and indeed their theoretical writing appears in the AA publication.[20] *Phylogenesis* can be understood as a powerful lens that is capable of resolving the complex organic forms that emerge from the machinic landscape school. Where this lens differs quite considerably with landscape urbanism is in the concept of indeterminate processes and forces: by the very nature of its structure and concept, in its current form phylogenesis does not accommodate vague or unknown components. However, the choice of a biological model to convey this order means that the refinement and evolution of initial base attributes is possible, and the expansion of the various families inevitable. The use of clear definitions of the attributes that make up surface conditions means that potentially the language can go beyond mere description and become a tool for design itself. By defining a language that has no historical implications with architecture nor landscape, a hybrid discipline evolves in which the final product is somewhere between building and landscape.

20 Zaera-Polo, Alejandro. "On Landscape" in Mostafavi, Mohsen and Najle, Ciro (ed). *Landscape urbanism: a manual for the machinic landscape*. Architectural Association, London, 2003, pp132-134

CELLULAR AUTOMATA & THE FRACTAL CITY

Hybrid fields that describe and model the city in mathematical and fractal terms are worth exploration in relation to landscape urbanism, which considers city form in similarly abstract terms. The recognition that complexity rather than complication is key to understanding city processes is key to each approach. Christopher Alexander's *The City is Not a Tree*[21] manifesto is one of the key founding texts to this mathematical approach and can be read as the building block to contemporary models such as the fractal city and partly cellular automata. [Figure 68] Alexander was one of several writers who reacted against the Modernist model of city planning, and proposed an approach to the issues of the modern city as "problems in organized complexity,"[22] through the injection of ambiguity and uncertainty into the sterility and facile nature of city design.

21 Alexander, Christopher. "A City is not a Tree" in Thackera, J. (ed.). *Design after Modernism: Beyond the Object,* Thames and Hudson, London, 1988, pp67-84

22 Jencks, Charles and Kropf, Karl (ed). *Theories and Manifestos of Contemporary Architecture*, Academy Editions, Great Britain, 1997, p26

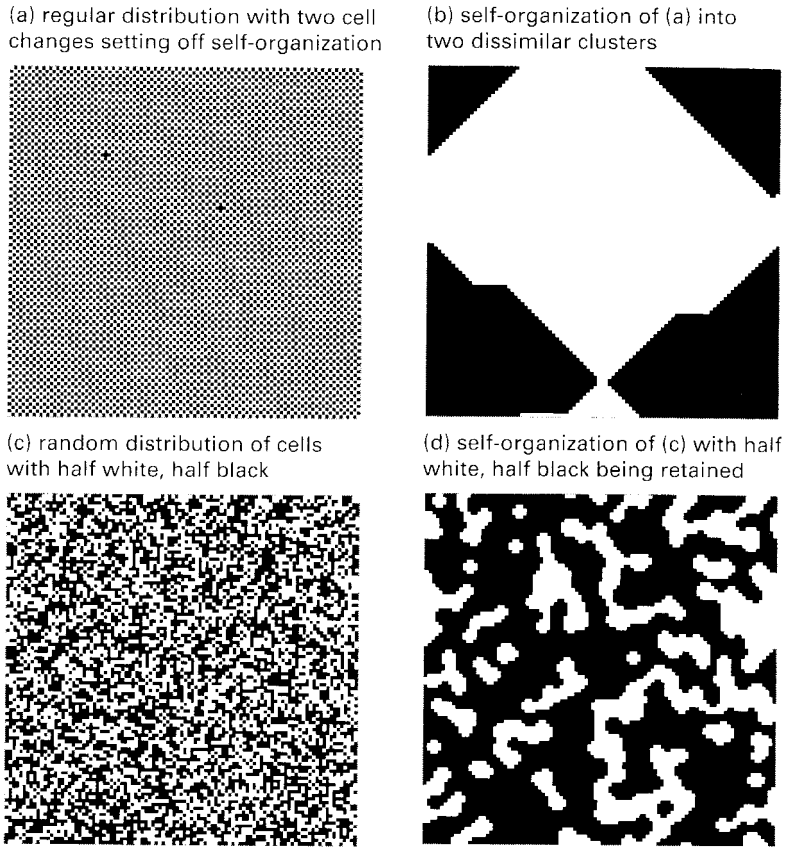
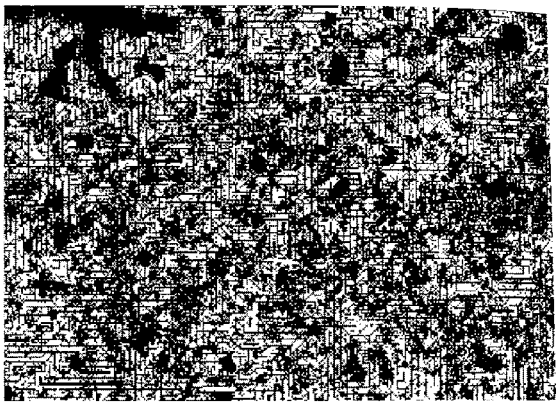


Figure 68: The emergence of segregated clusters

t=240 housing development



t=60

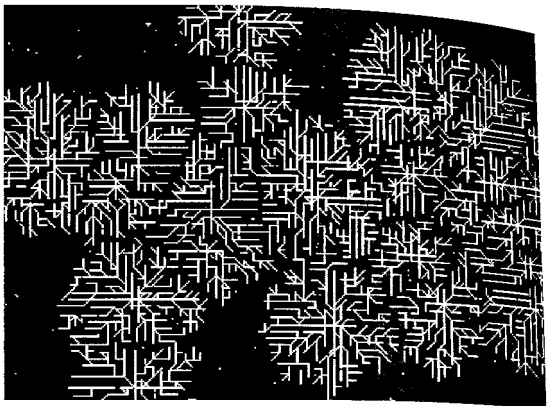
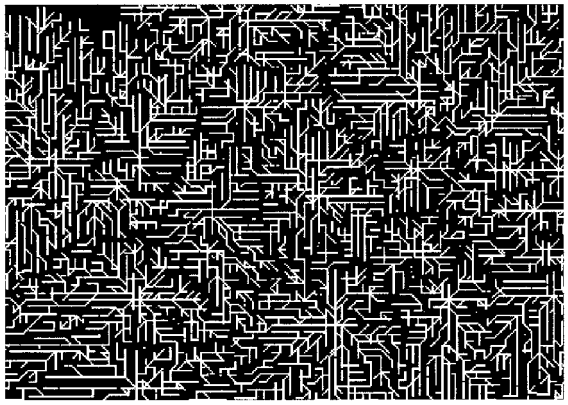


Figure 69: Housing and street development in a system of fusing cities

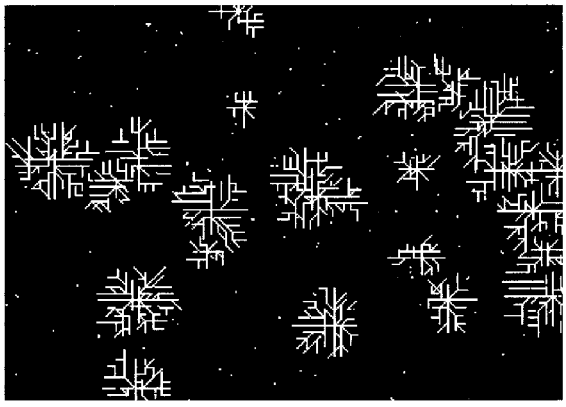
The City is Not a Tree describes the contemporary city in mathematical terms as a semi-lattice that structures related sets of material elements in order to compose the urban form; Alexander shows that one may consider the sets to be linked to each other in physical and non-physical relationships. The diagram formed by drawing these linkages can result in a tree if interrelationships are ignored, or a semi-lattice if these multiple connections are mapped. The abstract concept of the tree as an organising structure for these sets is false, he argues, as it fails to explain the myriad interrelated links that form between the sets. Analysing several examples of Modernist 'model' city plan proposals, he shows that each diagrams structurally as a tree, ignoring the overlapping conditions of a 'natural' (i.e. 'traditional') city plan which he considers to be a "vital generator of structure."[23]

23 Alexander, Christopher. "A City is not a Tree" in Thackera, J. (ed.). *Design after Modernism: Beyond the Object,* Thames and Hudson, London, 1988, pp67-84

t=120 street development



t=30



Whilst *The City is not A Tree* was formulated as an alternative to the hard rational concerns of Modernist urbanism, Alexander's mathematically-based proposals have more recently proved attractive as a basis for extremely rational, urban dynamics-based city modelling. The creators of SimCity, a highly successful strategic city-planning 'simulation' in its 4th generation, cite Alexander's ideas as part of the theoretical basis for the game.[24] Positioning the player as mayor of a virtual city, the game allows various theories of development and city building to be tested against a sophisticated model of city system dynamics. Initially built upon a "closed dynamic system...in a limitless environment" modelled by Jay Forrester[25] the game has gradually taken into account factors beyond the immediate city boundaries and increased in complexity, first taking on the structural concepts of Alexander and more recently using *cellular automata* as the basic unit for its urban behaviour model. [Figure 69]

24 Lobo, Daniel G. "Playing with Urban Life: How Simcity influences Planning Culture", The Next American City, Issue 6, October 2004. <http://www.americancity.org/article.php?id_article=21> accessed 3rd August 2006

25 Forrester, Jay. *Urban Dynamics*. The MIT Press, Cambridge, Mass. 1969, (1973 printing), p15

It is perhaps the use of cellular automata that offers most to the practice of landscape urbanism when practised in the field operations mode:

> "Cellular automata are a method of computation that is particularly useful as a pattern-recognizer. In its simplest form, the cellular automata comprises a grid, a starting condition and a set of rules. The grid is two-dimensional, like graph paper. Each square is called a cell. At the starting condition, each cell on the grid looks at all eight of the surrounding cells and, following the rules, figures out whether or not to change. All the cells figure out what they are going to do, but they do not do it till they have all done their calculations. Then they all change at once."[26]

Although the precepts of cellular automata have been around since the advent of digital computation, it is only recently that a detailed study has been made on their application as testing grounds for cities.[27] In essence, cellular automata acts as a model to test how local actions generate global order.[28] The resultant structures and patterns produced by very simple initial rules are truly complex; the dynamics of such systems have been labelled *emergence* which refers not only to spatial patterns but to temporal shifts that the processing power of modern computers graphically reveals.[29] The same idea of emergence of form; pattern; and spatiality from multiple simple rules that combine and overlap to create complex systems runs through landscape urbanism. The description of these systems has been up until now based on human interpretation of the existing systems of a site and their reaction to the introduction of new actors or the bringing about of certain actions which instigate change. Sometime in the future it is possible that this human interpretation might be augmented or even supplanted by the emergent products of cellular automata, if and when the incredibly complex ecologies and systems of the contemporary city can be reduced to the simple rules that are crucial to the functioning of the model.

26 Chiaradia, Alain, "SimCity", *AA Files*, no. 28, 2000, note 3, p89

27 See Batty, Michael. *Cities and complexity : understanding cities with cellular automata, agent-based models, and fractals*. Cambridge, Mass. : MIT Press, 2005 for a comprehensive overview of the field at this time and a detailed speculation into how these models might be adapted to usefully aid our understanding of cities and their ecology

28 Batty, Michael. *Cities and complexity : understanding cities with cellular automata, agent-based models, and fractals*. Cambridge, Mass. : MIT Press, 2005, p68

29 Batty, Michael. *Cities and complexity : understanding cities with cellular automata, agent-based models, and fractals*. Cambridge, Mass. : MIT Press, 2005, p103

Figure 70: Green fields. Örsundaån, Sweden

Chapter Six: Divergence

Figure 71: Patches laid across gravel. Berkeley, California

CONCLUSIONS

Landscape urbanism can be seen as a response to the complex urban environment of the contemporary city and to non-linear approaches which were first apparent in post-modern theoretical and visual practices. Landscape as a *medium* through which these two outlooks might be approached is by now an established stance, and one adopted across disciplines. Landscape as a *model* for urbanism, however, is not so clearly defined.

This paper set out to establish how landscape urbanism might use landscape as a model and what modes of this practice have emerged and developed over the past decade. Several questions were initially posed to draw out a critical analysis of the broad field:

1. How has the critical framework for landscape urbanism emerged from a synthesis drawn from the fields of urbanism, infrastructure, ecology, architecture and landscape architecture?
2. Where can landscape urbanism be positioned in a critical perspective of aligned disciplines and hybrid fields?

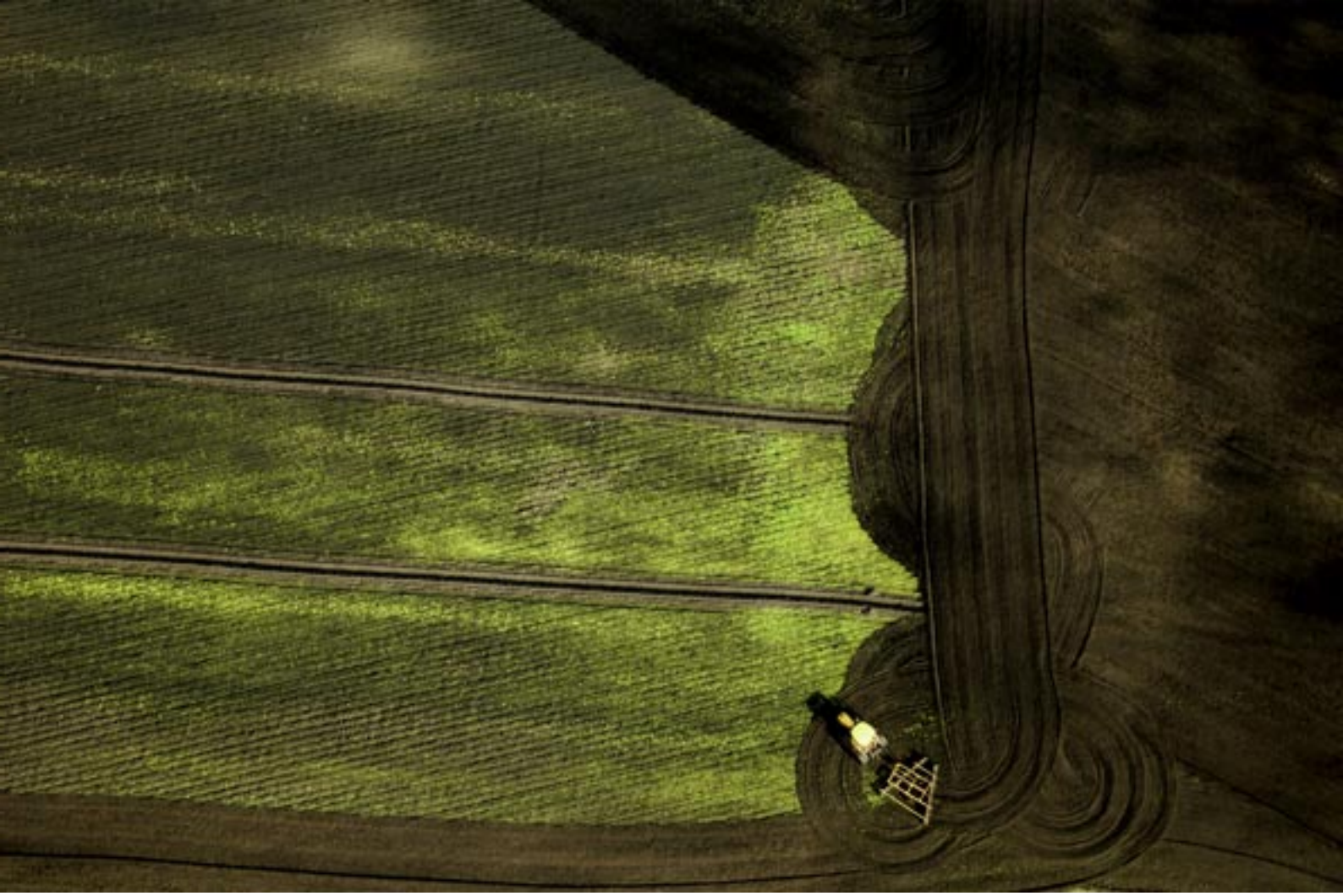


Figure 72: Turning the field. Lodi, California

3. Through exploration and definition of the various modes of landscape urbanism, can dominant modes be identified? Can specific characteristics be identified for each mode?
4. What are the similarities and differences in ethos and methodology between the two dominant modes? Can these two modes be described as divergent?

By its very nature landscape urbanism draws from multiple frameworks and disciplines. This required an approach within this paper that interspersed a broad critical contextual analysis between key chapters which specifically tackled the main research question. A striped structure which balanced the non-linear research method was designed. Thus, a chapter which worked specifically towards a definition of the discipline by brief history and etymology of the compound phrase was immediately followed by a chapter that examined more generally the critical frameworks which qualify the practice of landscape urbanism. The following chapter very specifically explored and defined the modes in which landscape urbanism is practised, and was followed by a more general chapter which

critically evaluated parallel practices and hybrid disciplines and speculated on their interaction with the various modes of landscape urbanism. This last chapter concludes by collating the arguments of all the chapters to draw final conclusions.

DEFINITION

A brief history of the emergence of landscape urbanism, with the Parc de Villette competition as a key catalyst was explored. The influence of James Corner and Sanford Kwinter in igniting the discussion over contemporary landscape both as medium and as practice for the contemporary city is clear. Their attitudes towards the definition and meaning of landscape used as a critical tool to investigate how landscape urbanism might be defined are also well established. Due to a number of factors, including cross-disciplinary wariness; confusion or misunderstanding concerning definitions and development of words: a straightforward definition of landscape urbanism is not easy. An etymology of the two components of the compound term was presented and a working definition ventured:

> landscape urbanism is the approach to the design and planning of open space where landscape is the structuring medium. Landscape urbanism considers the horizontal field over the vertical figure-ground and secondly, it describes a move from the pictorial to the operational; in other words process (both in analysis and design synthesis) is favoured over a static end form.

CRITICAL FRAMEWORKS

The broad working definition was expanded further, through the examination of the main critical frameworks which support and qualify the emergence of landscape urbanism. These were identified as: the move to consider the city as landscape; the dissolving of the contemporary city into its territory; the associated critical shift from considering the object to considering the field; the consideration of buildings as landscape; and the conceptual shift from the representative to the operative. Key threads that run through these frameworks relate to indeterminacy and the consideration of process. Just as the conceptualisation of spatial frameworks for cities only emerged and evolved in the middle of the 20th century, the complex nature of models which synthesize

human interactions, temporal events and natural processes is only beginning to be understood. The positioning of landscape as medium and tool to understand these processes is clear and persuasive.

DOMINANT MODES

While various themes (infrastructure, water management, programme, biodiversity) run consistently across the field, a specific difference in mode in relation to scale and ethos was identified. The difference can be summed up in basic terms as *city as landscape* and *buildings as landscape*. While both modes propose a reading of urban development and city as landscape, how these readings might then be translated into projects are quite different. Two dominant modes were defined: the *machinic landscape* mode and the *field operations* mode.

The *machinic landscape* mode works to use the forces identified in the analysis of a site to feed an abstract mechanism that creates architectural forms; the *field operations* mode creates complex and intertwined soft systems as a programmatically active and healthy ecologically balanced environment through the application of various design and planning tools in combination. Both modes offer a similar approach to the analysis and synthesis of the contemporary urban situations with which they are concerned, identifying and manipulating forces, processes and patterns from a wide range of underlying structures. Ideas of movement, events, interactions, supporting services and infrastructure are common to both modes, but the way that each then synthesises the raw information is quite different.

The main difference in these modes relates to the outcome at the end of each project. Projects that support the field operations mode appear uneasy to fix on a particular outcome, preferring to resolve complex problems through intricate diagrams that ultimately produce indeterminate pathways towards multiple scenarios. The interest is in the processes that can be identified across the site, sometimes at a scale beyond the territory. In contrast, the machinic landscape mode seems determined to fix the same indeterminate forces in some type of architectural form.

Figure 73: Monfalcone steelyard. Monfalcone, Italy

Another major difference is in the representational methods employed by each mode. While both clearly use computer power for both modelling form, organisation and presentation, the machinic landscape mode seems most comfortably fixed with computer modelling as the main way of progressing design. The field operations mode is more open, showing a concern for the engagement of people with the sites themselves and encouraging creativity that comes not only from computers, but from the use of other media and from interaction with other agents that might be engaged in the urban scene.

The embrace of the poetic and the creative positions the *field operations* mode in a quite different way to the *machinic landscape* approach which seems determined to use the data of the field to create fixed infrastructures. The dynamism of these field conditions is in the design process and organisation of the method, but not necessarily reflected in the final built form.

Figure 74: Solitary Tree. Boscat, Italy

HYBRID FIELDS

In the final broad-scale chapter, hybrid fields and parallel practices were critically examined and contrasted with specific modes of landscape urbanism. A number of these hybrid practices share common ground and can offer techniques and approaches that might benefit the various modes of landscape architecture. In particular, the modelling power that is evident in cellular automata and the resultant fractal cities offer fascinating insight into how future systems of landscape and urbanism might be tested before being applied to the real world. Furthermore, the concise and consistent language developed in phylogenesis offers pointers to a very specific way that the thickened surfaces of contemporary urbanism might be defined and understood. The unduly complicated use and application of language in landscape urbanism has frequently resulted in its rejection: the injection of clarity by the use of a specific model of terms and conditions might prevent this happening further.

WHERE NEXT?

Generally it can be concluded that the indeterminate nature of much of landscape urbanism theorizing makes any manifestations reliant on a sympathetic client who is willing to take such a risk. However this should not distract from the power landscape urbanism has to not only bring about a greater awareness of the impact of human will on land, but also embed rejuvenating natural process back into the contemporary city. Landscape urbanism is one of the few contemporary practices that not only integrates the human role in our city system, but also identifies and empowers other systems that, whilst not 'natural' in the sense that many people might understand, can be powerful transforming forces in the city. Comparing the two main modes, it might appear that the machinic landscape mode, because of its finite and reasonably recognisable end form is the more likely to emerge; this is somewhat borne out by the few built examples that might be considered as such. However, as the historic context study brought out, when landscape urbanism operates in a way in which long term, structured open space-making is the end goal, it bears close resemblances to examples of strong city space making that endures today, such as Olmsted's Central Park. Beyond park design, landscape urbanism when in the mode of field operations masterplan offers a long-term, large scale approach which not only is specifically able to deal with complex natural systems, but can also deal with programmatic changes in the long term. The importance of the poetic and the artistic in such a practice is clear, and with the potential for further cross-disciplinary development from parallel disciplines, an approach may yet emerge somewhere between landscape and urbanism that is capable of a careful treatment of the contemporary city that benefits both the city, its territory and the people within it.

Appendix

DEFINITIONS

"Landscape urbanism describes a disciplinary realignment currently under way in which landscape replaces architecture as the basic building block of contemporary urbanism. For many, across a range of disciplines, landscape has become both the lens through which the contemporary city is represented and the medium through which it is constructed."[1]

"Landscape Urbanism's methodology is multidisciplinary by definition. Expanding from the legacy of landscape design to consider the complexity of contemporary urban dynamics, it integrates knowledge and techniques from such disciplines as environmental engineering, urban strategy, landscape ecology, the development industry and architecture."[2]

"Landscape Urbanism constitutes a collective endeavour to construct a new mode of practice where techniques and modes of operation historically described as landscape design can be integrated into the domain of urbanism. Landscape is incorporated primarily to provide a thematic and scalar opportunity to engage directly with the systems of forces that continuously reconfigure the city. It offers the double opportunity to re-frame urban problems and to re-contextualize the practice in general"[3]

"[landscape urbanism is] a call to turn the traditional practice of urban design inside out, starting with open spaces and natural systems to structure urban form, instead of buildings and infrastructure systems."[4]

1 Waldheim, Charles (ed). The Landscape Urbanism Reader. New York: Princeton Architectural Press, June 2006, p11

2 Architectural Association. *Graduate Prospectus 2005*. Landscape urbanism. p74

3 Architectural Association School of Architecture. "Graduate Design: Landscape Urbanism". <http://www.aaschool.ac.uk/graduate/lu.shtm> accessed on 19th May 2006

4 Durack, Ruth. "Shrinking Smart: the Promise of Landscape Urbanism". Cleveland Urban Design Collaborative Quarterly 3:3/4 - Winter 2004

"The objective [of landscape architecture] is to create a seamless green urban fabric: fusion, rather than division, is the order of the day."[5]

"this emergent discipline [landscape urbanism] is not primarily about a sort of landscape gestalt – making cities look like landscape – but rather entails a shift in emphasis from the figure-ground composition of urban fabric towards conceiving urban surface as a generative field that facilitates and organizes dynamic relations between the conditions it hosts."[6]

"a complex amalgam, landscape urbanism is more than a singular image or style: it is an ethos, an attitude, a way of thinking and acting. In many ways it can be seen as a response to the failure of traditional urban design and planning to operate effectively in the contemporary city."[7]

"Increasingly, landscape is emerging as a model for urbanism. Landscape has traditionally been defined as the art of organizing horizontal surfaces. It bears an obvious relationship to the extended field of the contemporary city, and also to the newly emerging interest in topological surface. By paying careful attention to these surface conditions – not only configuration, but also materiality and performance – designers can activate space and produce urban effects without the weighty apparatus of traditional space making."[8]

5 Bunster-Ossa, Ignacio. "Landscape Urbanism". *Urban Land*. July 2001

6 Hensel, Michael. "Ocean North – Surface Ecologies" in Mostafavi, Mohsen and Najle, Ciro (ed). *Landscape urbanism : a manual for the machinic landscape*. Architectural Association, London, 2003, p111

7 Corner, James. "Landscape Urbanism" in Mostafavi, Mohsen and Najle, Ciro (ed). *Landscape urbanism : a manual for the machinic landscape*. Architectural Association, London, 2003, p58

8 Allen, Stan. "Mat Urbanism: The Thick 2-D" in Sarkis, Hashim (ed). *CASE: Le Corbusier's Venice Hospital and the mat building revival*, Munich ; New York : Prestel, 2002. ISBN: 3-7913-2538-8, p124

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