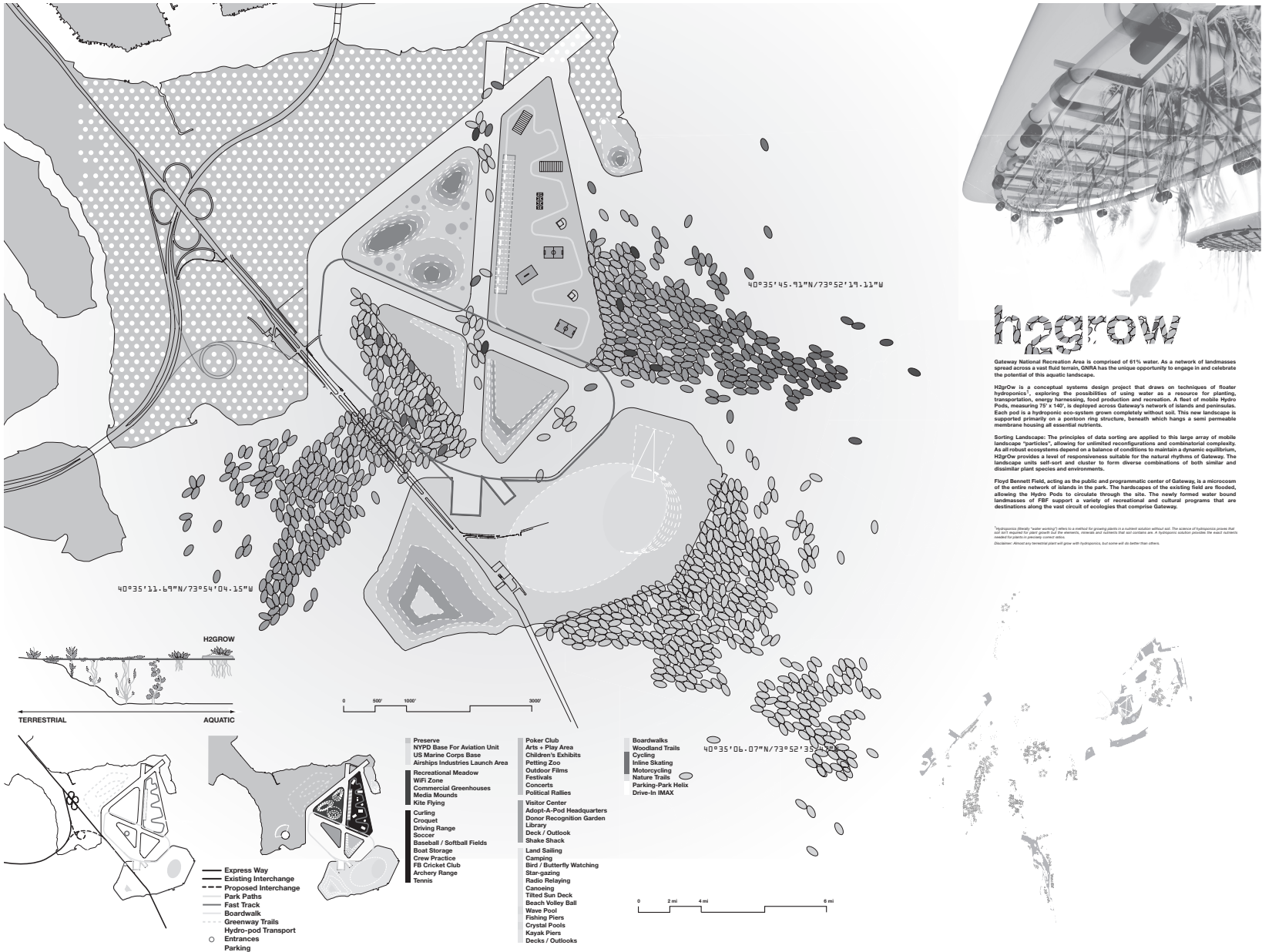


Eclogue for the Metropolis: Entrepreneurial Environments *Jane Amidon*

The Classical eclogue was a literary form used to magnify and translate aspects of the agrarian landscape into the upper reaches of popular culture. A revived eclogue, one for today's working ecologies, speaks of a contemporary Arcadia that is entrepreneurial—both productive and seductive, it is a consumer oriented, synthetic culture of environmental systems and information technologies.

As revealed in recent conferences and competitions, a number of design practices are exploring entrepreneurial environmentalism: the reconciliation of nature and technology as an integrated application. This entrepreneurialism stems from a surfeit of data about, and a desire to engage ecological and social conditions. It imagines nature not as a passive condition but as one that uses its own material performance to provoke the public's interest and advocacy. Its complement, today's environmentalism, is the latest phase of a long and complex relationship between progress and protection that inextricably links definitions of nature (a resource? a retreat? a victim? an aggressor?) to technological advancement.¹ Together the two offer a fresh view of the metropolitan condition: a collection of entrepreneurial environments—contiguous landscapes and architectures—that scale inward, toward the (relatively) micro scale of material management, and outward to the macro scale, where the mapping of resources and demographics reveals “the physical manifestation of information” through “a process driven by...a greater social and environmental awareness.”²



h2grow

Gateway National Recreation Area is comprised of 61% water. As a network of landmasses spread across a vast fluid terrain, GNRA has the unique opportunity to engage in and celebrate the potential of this aquatic landscape.

H2gOw is a conceptual systems design project that draws on techniques of floatier hydroponics¹, exploring the possibilities of using water as a resource for planting, transportation, energy harvesting, food production and recreation. A fleet of mobile Hydro Pods, measuring 75' x 140', is deployed across Gateway's network of islands and peninsulas. Each pod is a hydroponic eco-system grown completely without soil. This new landscape is supported primarily on a pontoon ring structure, beneath which hangs a semi permeable membrane housing all essential nutrients.

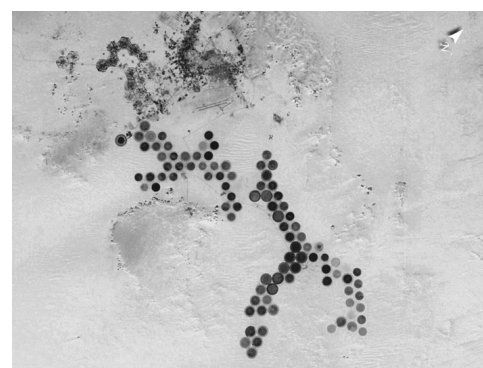
Sorting Landscape: The principles of data sorting are applied to this large array of mobile landscape "particles", allowing for unlimited reconfigurations and combinatorial complexity. As all robust ecosystems depend on a balance of conditions to maintain a dynamic equilibrium, H2gOw provides a level of responsiveness suitable for the natural rhythms of Gateway. The landscape units self-sort and cluster to form diverse combinations of both similar and dissimilar plant species and environments.

Floyd Bennett Field, acting as the public and programmatic center of Gateway, is a microcosm of the entire network of islands in the park. The landscapes of the existing field are flooded, allowing the Hydro Pods to circulate through the site. The newly formed water bound landmasses of FBF support a variety of recreational and cultural programs that are destinations along the vast circuit of ecologies that comprise Gateway.

¹Hydroponics literally "water working" refers to a method for growing plants in a nutrient solution without soil. The absence of hydroponics proves that soil isn't required to plant plants but the nutrients, mineral and vitamins that soil contains are a hydroponics solution provides the water solution needed for plants to growing without soil.

²However, almost any growing plant will grow with hydroponics, but some will do better than others.

Architects Hayley Eber and Frank Gesualdi of EFGH describe their entry for the Van Alen Institute Gateway competition as follows: "H2grOw is a conceptual systems design project that draws on techniques of floatier hydroponics, exploring the possibilities of using water as a resource for planting, transportation, energy harvesting, food production and recreation. A fleet of mobile Hydro Pods, measuring 75' x 140', is deployed across Gateway's network of islands and peninsulas. Each pod is a hydroponic eco-system grown completely without soil. This new landscape is supported primarily on a pontoon ring structure, beneath which hangs a semi permeable membrane housing all essential nutrients. ...[It is a] Sorting Landscape: the principles of data sorting are applied to this large array of mobile landscape "particles", allowing for unlimited reconfigurations and combinatorial complexity."



Land machines, a precursor of entrepreneurial environmentalism's ecologically-based but consumer-oriented productivity.

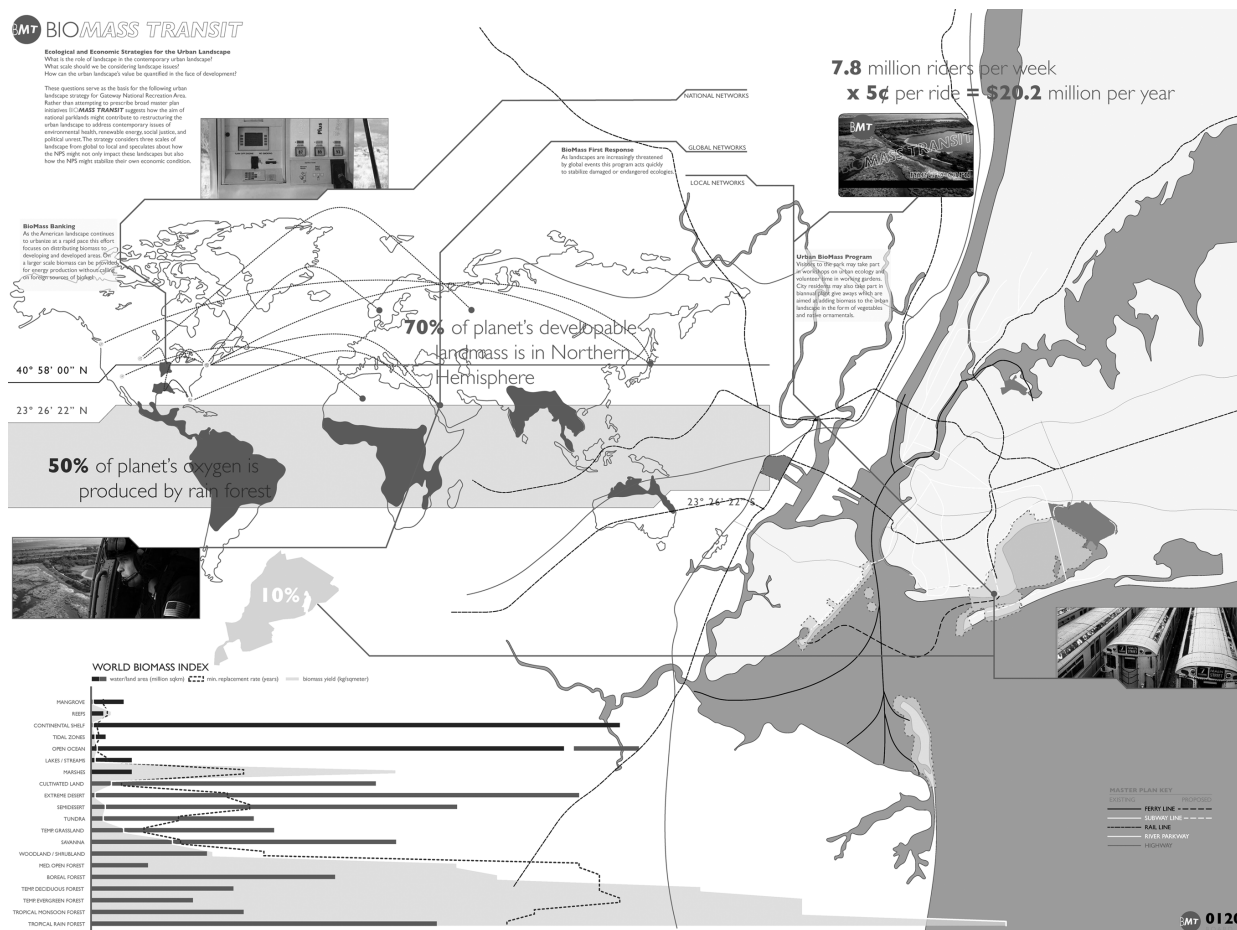
left: Hebron State fish hatchery in Ohio; right: Al Khufrah Oasis in southeastern Libya, as seen from the International Space Station.

In response to satellite imagery of the oasis, pruned.blogspot asks, "What will Google Earth tourists see when they point their vigilant eyes towards an electrified North Africa? Will they come upon vast plantations of coronal fields, perfect geometries arrayed in similarly perfect arrangement, irrespective of terrain but nevertheless finely attuned to the sky? And what about the people on the ground? Where once was desert, might they now enjoy newly sprouted oases, which are fed with water from solar-powered desalination plants? An Emerald Necklace of Olmstedian design inscribed in the Saharan landscape?"

Evidence of this shift in design agendas exists in the work emerging from numerous competitions over the past several years, including the Envisioning Gateways competition for the New York/New Jersey Harbor (2007) and a series hosted by the Toronto Waterfront Revitalization Corporation (now known as Toronto Waterfront) culminating in 2007. Organized by a consortium of academic, cultural, and conservation organizations—Columbia University Graduate School of Architecture, Planning and Preservation, the Van Alen Institute, and the National Parks Conservation Association—the Gateway competition, rather than establishing a primarily remediation-driven brief, addressed a nearly 27,000 acre chunk of land, right under Manhattan's nose, as "one of the first units in the U.S. National Park System established to sustain both natural and urban ecologies."³ Similarly, the Toronto Waterfront competition, at approximately 2,000 acres divided into multiple contests (four major pieces of which were awarded to teams led by West 8, MVVA, Field Operations, and Claude Cormier Architects), called, as opposed to programmatic singularity, for "a Toronto-specific concept...a model of how economic development, environmental protection, and cultural and recreational growth can complement each other."⁴ Like earlier large park competitions such as Fresh Kills (Staten Island, 2001)

and Parc Downsview (Toronto, 2000), a re-engagement with nature not as a scenographic backdrop but as a metropolitan protagonist are at the core of the winning proposals for Gateway and Toronto Waterfront. But while the earlier generation envisioned technology as a vintage maintenance tool for a powerful ecological remediation of urbanism (OMA's "Tree City" recipe for Downsview called for bulldozers and Field Operations' "nature sprawl" for Fresh Kills outlined relatively conventional management protocols for ecosystem succession), more recent competitions invent a high-tech nature that is less about regenerating urban conditions and more about introducing aberrations—that is, highly productive "land machines" and living architectures that fuse social and ecological production. Two submittals to the Gateways competition, BioMass Transit and H2Grow, rework existing, degraded estuary lands at the metropolitan periphery with a pro-active rather than re-active stance: site, city, and architecture are seen as continuous states, endemic but technologically enhanced living systems linked into supply and demand networks.⁵ This is a materially factual, hybrid condition, a projective design discourse linked with the populism and pragmatism of the green movement.

Looking forward, the intersection of information and building



Jason Kentner's entry for the Gateway competition, *BioMass Transit* explores a scalable strategy: the decline of the world's biomass is indexed globally while the public is incorporated locally as a funding source. In the New York metro region, riders swipe a "biomass transit card" each time they ride the bus or subway, putting five cents toward nearby marshland and forestry conservation efforts. The public collaborates in the socio-ecology as part of its daily routine, using remote pur-

chasing power to increase water and air quality and reduce the region's dependence on outside energy sources by creating more harvestable biomass. Collective benefit is derived from pro-active land management practices; individuals encounter a productive urbanism diversely receptive to the affective properties of an enhanced nature that serves multiple ends. Does the scheme emanate optimism and altruism? Or the urgency of survival, the most innate and selfish of instincts?

"Global Warming/Local Freezing," proposed by GROSS.MAX. for the 600 Miles Exhibition, Glasgow, 2005. It is a translat-
tional project geared toward the delivery of live content and
phenomenology of working landscape matter. Effort is
placed on the accrual of experience and meaning using tech-
nological and ecological means, and less on the cultivation of
program. This kind of work presents an argument for a re-
alignment of self in relation to a post-20th century nature/
technology hybrid, including fine-tuning cultural mores to
allow botanical, geological, hydrological, and related agen-
das to compete with human priorities.



technologies—from burgeoning GIS/GPS applications to BIM⁶—offers a new notion of “live content” that is redefining social space to include, rather than protect against/exclude, ecological matters. To the YouTube generation, accustomed to viral information habitats and unbridled individuation, the responsiveness of entrepreneurial environments offers fluid modes of participation as a means to synch with ambitious social and environmental identities. To some degree, it is a reaction to today’s technological advancement, a cultural urge to create a more resilient metropolis that informs, transforms, and seduces. A recent example is the proposal from the 6000 Miles exhibition in Glasgow, by the Scottish landscape firm GROSS.MAX., for a nuclear-powered iceberg set in the town square, “to combat global warming, local freezing.”⁷ The iceberg exemplifies the engagement of living systems (the new local) while apprehending, and participating in, the vast (which is described by Paul Shephard as “the terror of the new sublime”).⁸ The project suggests the exaggeration and displacement of nature’s innate characteristics to gain public advocacy for the relatively abstract concept of climate change. Heightened material states and properties (ice, steam, melting, freezing) enable productivity (transformation) and seduction (participation) by being demonstrative but not deterministic. This in turn engenders an assimilative confrontation between subject(s) and content(s).

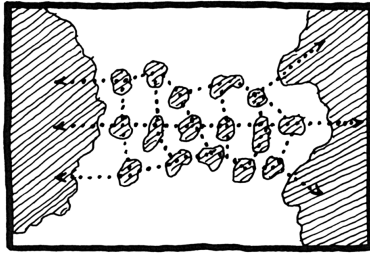
Urbanism and open-endedness

This contrasts sharply with the preceding generation of systems-based urbanism, which championed the segregation of technology and nature to some degree—the former as a basis for representation and communication and the latter as feral infill at the territorial scale. The work emerging from the discourse of infrastructural/mat/landscape urbanism from the mid-1990s onward imagined complexly adaptive scenarios for abandoned air fields, obsolete landfills, contaminated waterfronts, and entire new cities. But many of the projects it inspired turned out to be something quite different: monolithic design strategies. Schemes for instrumentalization and emergence, rooted in

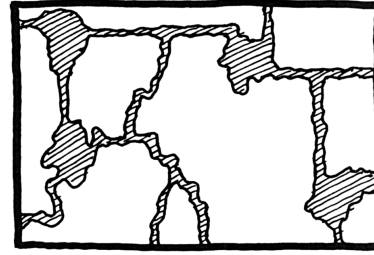
the Deleuzian paradigms of bodies-without-organs (potential collections “permeated by unformed, unstable matters, by flows in all directions”⁹), rhizomal networks and planes of immanence, ironically echo the failures of modernism’s master plan, with a low aptitude to accommodate anomalous, as opposed to unanimous, bottom-up pragmatism. What does it mean, really, to coolly “differentiate unassigned flows,” to effectively “inhabit aggregate taxonomies,” or succeed by “mapping performative regimes?”¹⁰

The dialog which coalesced around infrastructure/mat/landscape as armature was fed initially by the work of various post-structuralist European and American urbanists.¹¹ Proto-translators of Landscape Ecology theory into urbanism received the discipline’s clear message that patterns and processes—read infrastructures and material flux—are co-dependent while operating at varying spatial and temporal scales; further, that the focus had shifted from delimited sites or buildings to the dynamics of complex networks. James Corner’s essay, “Ecology and Design as Agents of Creativity” (2002), for example, called for open-endedness, ambiguity, and multivalency in place of dualities and concretism.¹² Around the same time, in writing about infrastructural urbanism, Stan Allen made direct reference to landscape ecologist Richard Forman’s field research.¹³ A fusion of these interests (and design practices, as Allen and Corner formed Field Operations) into a widespread embrace of landscape as “the lens through which the contemporary city is represented and the material from which it is constructed” led to the claim that “a disciplinary realignment” was underway, “in which landscape [was] usurping architecture’s historic role as the basic building block of city making.”¹⁴ These ideas manifested in three formulations, all represented in the proposals of finalists in the Parc Downsview competition:

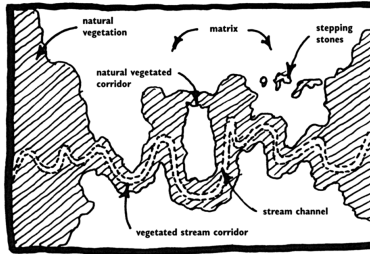
1. *The thick (infra)structural surface* manifest in Allen’s field conditions diagram and FOA’s Parc Downsview Plan, promoted as the choreography of field operations. Alex Wall described these as the

**C7. Cluster of stepping stones**

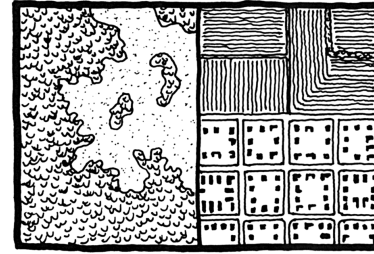
The optimal spatial arrangement of a cluster of stepping stones between large patches provides alternate or redundant routes, while maintaining an overall linearly-oriented array between the large patches.

**M6. Dispersal and small connected patch**

Small patches or nodes along an existing network are effective in providing habitat in which individuals pause and/or breed, resulting in a higher survival rate for dispersing individuals and, hence, more dispersing individuals in the network.

**M2. Loops and alternatives**

Alternative routes or loops in a network reduce the negative effects of gaps, disturbances, predators, and hunters within corridors, thus increasing efficiency of movement.

**E6. Natural and human edges**

Most natural edges are curvilinear, complex, and soft, whereas humans tend to make straight, simple, and hard edges.

Diagrams from Landscape Ecologist Richard Forman's research. Proto-translators of Landscape Ecology theory into landscape/mat/infrastructural urbanism echoed the scientist's turn toward non-equilibrium models and championed the shift from delimited sites or buildings to the dynamics of material process at varying spatial and temporal scales.

programmed urban surface with a "functioning matrix of connective tissue that organizes not only objects and spaces but also the dynamic processes and events that move through them."¹⁵

2. *The script*: Both the cabbage morphology and OMA's Tree City diagram, deployed parametric algorithms for non-linear, non-equilibrium material organization; modeled on the computational biologic of flocks, flora, and phyla and described by Andrew Kudless as "methodologies of performative integration through geometric and material differentiation."¹⁶

3. *The smart matrix* of Field Operations' proposal for Parc Downsview relies on a meta-site process, where spatio-formal practice (the site plan) is replaced by a geo-temporal matrix of ingredients (a phasing of material states). As Kristina Hill points out, "If the related notions of bounded sites and bounded bodies [cease] to function as useful concepts because of a theoretical emphasis on the open nature of systems in space, then new conceptions of demarcation in space [are] more dependent on the density (and intensity) of biological interactions that occur over time."¹⁷

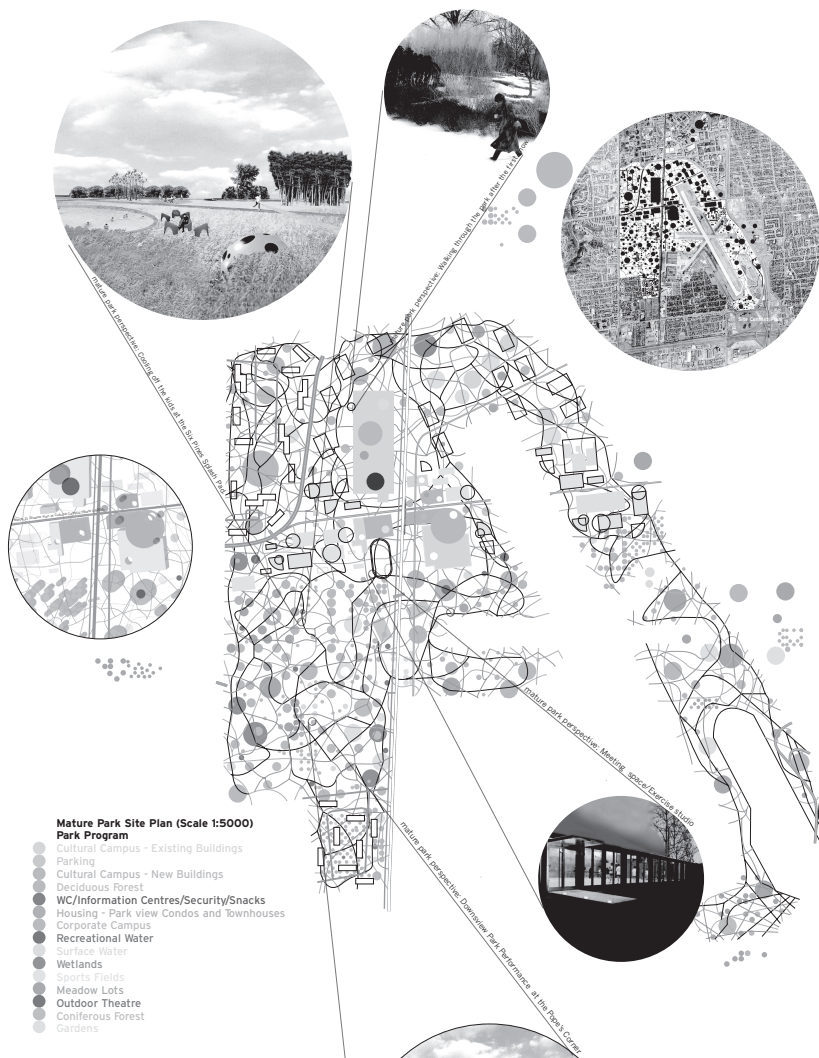
To some degree all three methodologies offer a model for process in which indeterminacy is the goal, but also the problem. Some critics have pointed out that vague program and ambient figuration/organization are not the same thing as indeterminacy but instead are "terminal" forces.¹⁸ The process-plus-time incrementalism of these projects results in a lack of precision that public attention spans, and budget cycles, find difficult to sustain. At the same time, the pure instrumentalization of materials and systems risks designer-less design; the matrix simply replaces the hegemony of the master plan. There is a risk here too of editing out the "smartness," or resiliency, of ecological models. Matrices and scripts are capable of responsiveness based upon given coordinates, positional and temporal values, material properties, and so forth, but have little ability to mutate in unpredictable directions/dimensions; although results are not controlled, the inputs and relationships, to a significant degree, are. For exam-

ple, in OMA's Tree City proposal, there is little opportunity for variation outside the loose but strictly linear sequence of material, figural, and programmatic development (fix the soil + 1000 paths + trees). In OMA's project description, the scheme offers an attempt

"to do more by building less, producing density with natural permeability, property development with perennial enrichment... This will be staged as three long term phases: (1) site and soil preparation; (2) pathway construction; (3) cluster landscaping. The outcome is a matrix of circular tree clusters covering 25% of the site which is supplemented by meadows, playing fields and gardens. Tree city treats the park as if it is an adult soon capable of sustaining itself rather than a child in need of eternal care. While most infrastructures decrease in value over time, Tree City's natural network will appreciate as the park matures."¹⁹

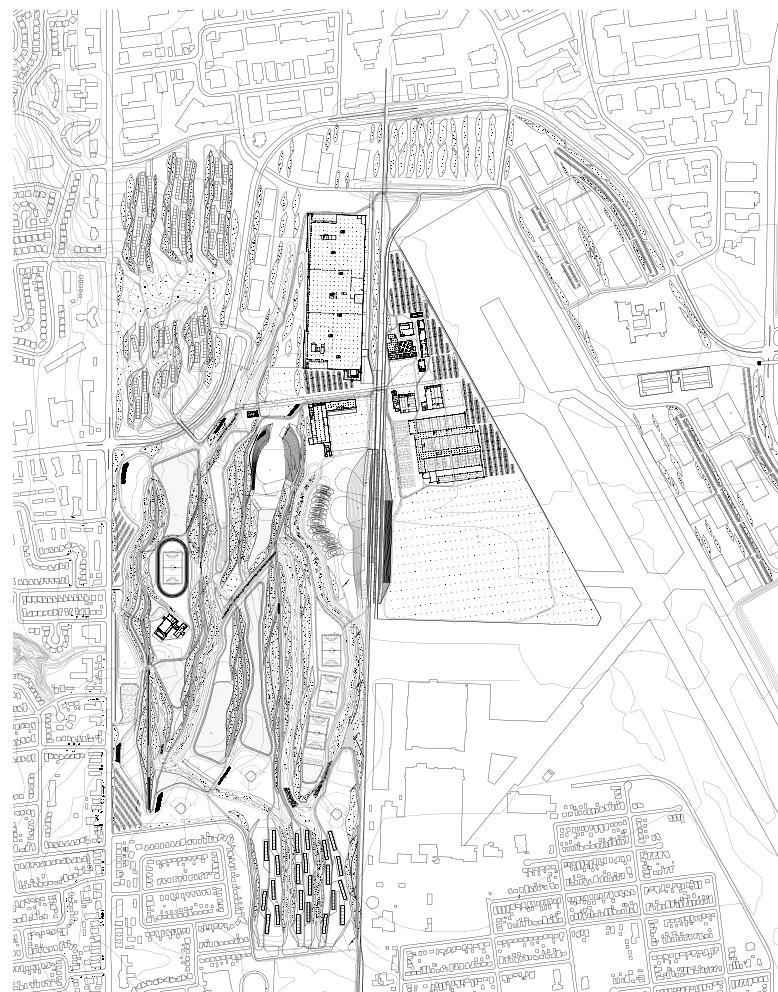
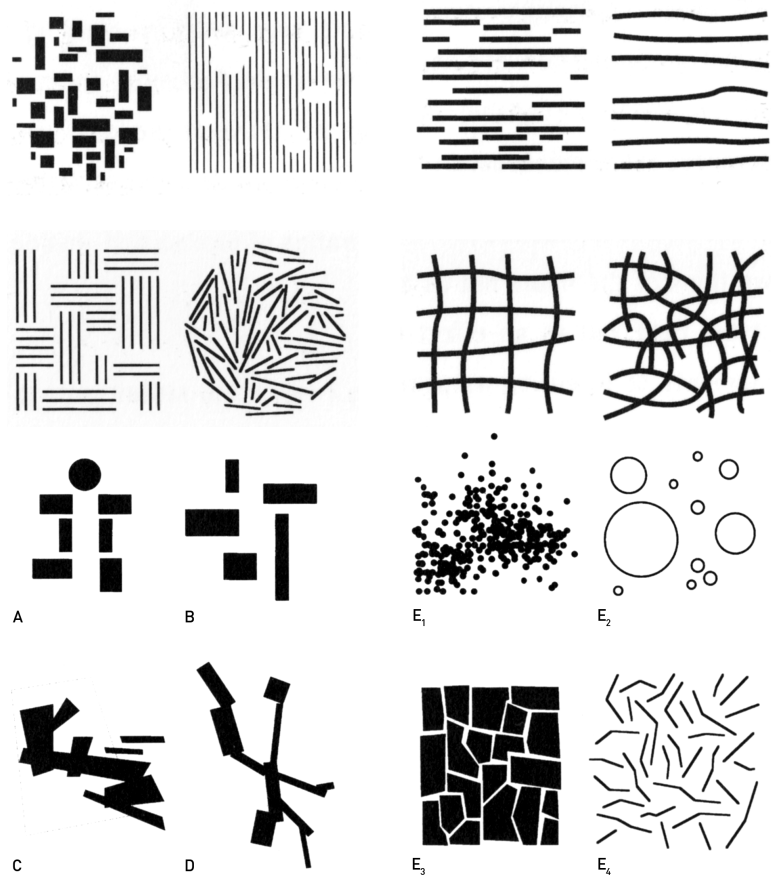
Major disturbances would be castratophic rather than catalytic. There is a bit of Oedipal irony here as urbanism at the turn of the millennium, so deeply rooted in the theories of landscape ecology, reveals its desire to sublimate applied ecology in order to get into bed with the post-Fordist metropolis.

That infrastructural/mat/landscape urbanism endorses a leakage between techniques of representation (sampling, indexing, montage, exaggeration, animation) and modes of speculation (meta process, adaptive program, material protocols) is one of its most salient attributes. Its tactical aesthetics are reminiscent of super-realism, a term first used by art critic Malcolm Morley in the mid-1960s. According to Tissot in *Myth and Ideology in American Culture*, aspects of super-realism include: "aggressiveness, tension; fabricated reality; representation on representation to constitute an everyday, heroic iconography."²⁰ (Super-Realism has also recently been aligned with the literary style practiced by writers such as Raymond Carver, Richard Yates, Richard Ford, Zadie Smith, Tobias Wolff, and others.) The



Grow the Park

Tree City plants the seed for environmental expansion. In the broadest sense, Tree City is a campaign to **Grow the Park** beyond Downview's boundaries and into the urban realm. It is the antithesis of the token green space. Rather than setting itself apart from the city like a trophy of environmentalism, Tree City trades a degree of toxicity for greater presence.



above and top right: Tree City diagram from OMA's winning entry for the Parc Downsview competition and field conditions diagrams from Stan Allen's *Points + Lines* (1999).

right and far right: Architect David Wade's drawing of the morphology of a cabbage head as an example of system-based form. The topographical parametrics of FOA's Parc Downsview proposal are derived from the ergonomics of bodies in recreational movement.



web site www.artandculture.com points out that “writers of Super-Realism allow their characters’ consciousnesses to enter into the game. The characters pause, reflect, wonder, and even obsess. In these writers’ hands, revelations emerge from daily happenings, and daily happenings become revelations.”²¹

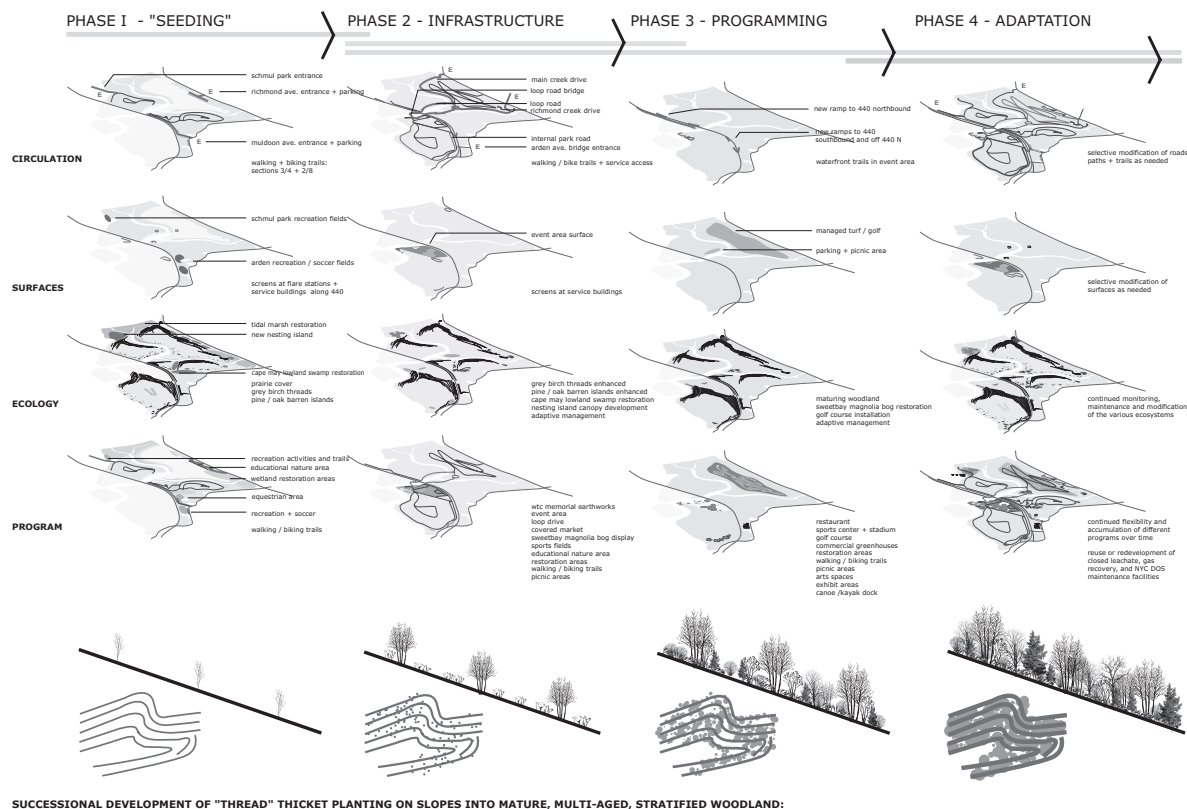
It is not a far leap to make to imagery that reassembles a mediated but explicitly “realistic” narrative structure, one that frames its characters in everyday, transient moments. Through the lens of Photoshop, Illustrator, Rhino, and Flash, and not without parallels to reality television, the banality of trees growing, squirrels nesting, and families picnicking gains programmatic status in the conveyance of design proposals from leading firms and schools. Super-realist compositional methods proffer candid-driven content and densely juxtaposed activity in place of design details, creating an expectation of similarly intensified levels of actual performance and experience, condensed into a single frame or moment. This method places extraordinary demands on conventional typologies that operate within real time and real space—the civic scape, the private scape, the education scape, the pleasure scape—and challenges our capacity to participate in an exponentially programmed lifestyle in the exponentially-programmed city.

Big Nature

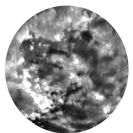
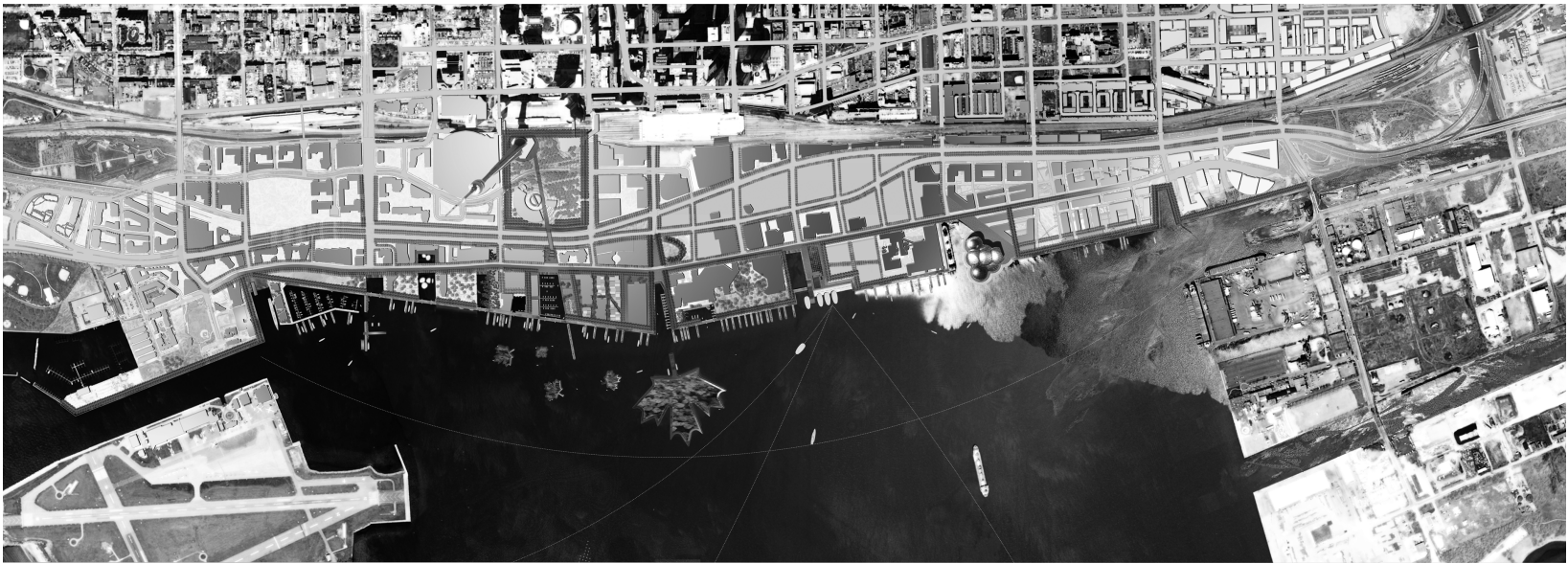
It’s clear that the germination of entrepreneurial environmentalism occurred in the lacunae of infrastructural/mat/landscape urbanism. Using data-driven information technologies such as GIS alongside desire-driven platforms like social networking, entrepreneurial environments are real-time systems that promote ecological production and social seduction as twinned efforts. Related to, but more provocative than, technologies like

smart skins that respond to temperature, light, wind, etc., entrepreneurial environments create demand for change rather than simply responding. They are social devices as much as technological constructs, much like the advent of the Toyota Prius was a mechanism to solve an environmental problem, but one that stimulated a shift in consumer patterns—from the SUV to the hybrid lifestyle. For the metropolis, the emergence of entrepreneurial environments signals a shift from technology as a proxy for nature that shuns social status (such as HVAC or irrigation), toward an integration of information and environment as a technology/nature hybrid that seeks social activism (GROSS.MAX.’s nuclear powered iceberg).

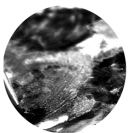
Although critical theory has moved far beyond sustainability as a provocation, practical practice in many ways is just embarking on it. Realizing that dematerialization, decarbonization, and life-cycle design are now economically feasible and culturally rewarded strategies, entrepreneurial environments recast the activities of resource capture, distribution, and post-user consolidation as inter-dependent modes in which the output (waste) of one process is harnessed as the input (nutrient) for others. In this shift toward entrepreneurial environments, one aspect is clear: matter matters. Increasingly it will be the locus of culture, to a degree that nature is not docile and controlled, but rather governed by a potent interaction of natural and human forces. Typological silhouettes are blurring, shifting from objectified spatial terrain to subjective states substantiated by the capacity to produce localized benefits and experiential atmospheres through active management of ecological media. But as a collection of translational disciplines concerned with the health and functionality of the metropolis, do entrepreneurial environments offer sufficient vitality to overcome the deep anathema toward the



Landscape diagram from the Field Operations winning proposal for the Fresh Kills park competition.



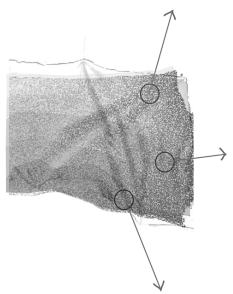
VAST
Potential Program=
open playing fields



CREATION
Potential Program=
painting



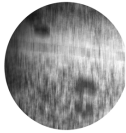
WIND
Potential Program=
kite flying



TOUCH
Potential Program=
prairie grasses



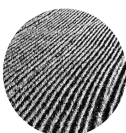
GROWTH
Potential Program=
new tree grove



FOOTPRINT
Potential Program=
walking or jogging trails



TEXTURE
Potential Program=
willow tree grove



PRODUCTIVITY
Potential Program=
cultivated field



WATER
Potential Program=
kayak and canoe launch

top: Extroverted, consensual, and plural: West 8's 2006 winning scheme for one portion of the Toronto Waterfront fuses social elements such as pedestrian routes, transit hubs, and recreation staging with ecological components, including massive, floating maple leaves that house phytoremediating plant materials. Toward the upper right of the image, the mouth of the Don River exaggerates the urban/environmental interface to capture the public's attention for this "repository for undesirables" as a palpable metropolitan matter.

above: Super-Realist imagery by the Scottish landscape practice GROSS.MAX. In urban, landscape, and architectural design, Super-Realism's compositional methods of sampling, collage, and amplified texture create candid-driven content of high-detail and densely juxtaposed activity. Super-Real imagery creates an expectation of similarly intensified levels of actual performance and experience, condensed into a single frame or moment. When we envision the exponentially-programmed city, what will determine our ability to participate in this lifestyle promised by the super-real? A likely answer: by taking on the behavioral and organizational characteristics of both ecological and informational systems, such as: assimilation, surveillance, and migration.

left: Location, information, sensation: Irishtown Bend competition, park proposal by Elizabeth Lagedroste.

tree-hugging, 1970s-style compensatory environmentalism? (Until recently, design's mistrust of green activism limited the speculative utility of ecologic models to a sanitized analog for complexity and emergence.) In any event, recent work suggests that the debut of entrepreneurial environmentalism has several common character traits:

EXTROVERTED

If "the failure of earlier urban design and regionally scaled enterprises was the oversimplification, the reduction, of the phenomenological richness of physical life,"²² entrepreneurial environmentalism must produce extroverted content. In the race for consumer attention, it must exacerbate its identity and stake claim to user participation or lose relevancy.

CONSENSUAL

Entrepreneurial environmentalism is equally social and operative. Fixes for global issues of poverty, health, and education are merging with environmental solutions—we can't solve one without paying attention to others.

PLURAL

Entrepreneurial environmentalism results from the collusion of architecture, urbanism, and landscape is not a post-disciplinary condition, but a mix of super-disciplinary roles that cross-pollinate information and technique. Pervasive info- and eco-tech fuse buildings, sites, and cities into contiguous environments that are responsive and resilient.

All this points toward fresh cultural terrain in which our performance—how we consume, how we waste—is incontrovertibly connected to the state of the world. Rather than serving as a maternal membrane that insulates users from external impact, architectures and ecologies are derived from the looping of diversely productive environments. A kind of comprehensiveness results: call it a Big Nature. At the core is a societal prerogative born from consumerism: like Big Pharma (read: Pfizer) embracing our collective health paranoia, like Big Tech (read: Apple) thriving on our appetite for intelligence and connectivity, Big Nature raises consumer desire by tapping into growing fears of demise at the hands of advancing climate change or cataclysmic culture clash. Each successive Katrina, tsunami, melting ice cap, and drought binds the social aspirations of first, second, and third world economies into a common predicament of limited resources. Taken at face value, entrepreneurial environments are about the collective gain of planetary health. In reality though, its popularity is driven by mass protectionism—individuals concerned about the preservation of their lifestyles. Today, consequently, there is a formative moral component to choices about how and why we relate to our environments. We are coming to recognize at the macro scale that our activities have tipped the balance. Survival of consumerist society, and thus the metropolis, is tied to a technological nature both beneficent (productive) and angry (destructive). In short, the environment has become a social enterprise, and society, an environmental enterprise.

NOTES

1. For a full discussion of the contested relationship of progress and protectionism relative to cultural views of nature in the U.S. see Leo Marx "American Ideals of Space: the Primitive, Pastoral and Progressive" in *Denatured Visions*, ed. William Howard Adams and Stewart Wrede (New York, NY: Museum of Modern Art, 2003), INSERT PAGE NUMBERS OF ESSAY..
2. Darcy Frey, "Crowded House," *New York Times*, June 8, 2008. Frey describes MVRDV's MetaCity/Datatown project as "a serious investigation: by translating the chaos of the contemporary city into pure information...MVRDV set out to reveal how our collective choices and behaviors come to mold our constructed environments."
3. See <http://www.vanalen.org/gateway>
4. See <http://www.toronto.ca/waterfront>
5. See Liat Margolis and Alexander Robinson, *Living Systems: Innovative Materials and Technologies for Landscape Architecture*. (Basel: Birkhauser, 2007).
6. GIS = geographic information systems; GPS = global positioning system; BIM = building information modeling. BIM tools have been used primarily for architectural projects but are increasingly applicable to landscape and urban projects. BIM technology models embedded cost, material, implementation, environmental, and demographic factors throughout a project's life cycle, and can be integrated with GPS, GIS, and in situ information systems that provide live data on moisture, light, wind, temperature, traffic, events, etc.
7. <http://www.grossmax.com>.
8. Paul Shephard, "Sensational Landscapes," *TOPOS Journal*. 57 (2006): 96.
9. Gilles Deleuze and Felix Guattari, *A Thousand Plateaus: Capitalism and Schizophrenia*, trans. Brian Massumi (London, New York: Continuum International Publishing Group, 2004).
10. For alternate verbiage, see the incisive Landscape Urbanism Bullshit Generator at <http://www.ruderal.com/bullshit>.
11. Among others, well used references for this work include Manuel De Landa, *A Thousand Years of Non-linear History* (New York, NY: Zone Books, 1997) and the writings of Gilles Deleuze.
12. James Corner, "Ecology and Design as Agents of Creativity," *Environmentalism in Landscape Architecture*, ed. Michel Conan, (Washington: Dumbarton Oaks, 2000).
13. Stan Allen, *Points + Lines: Diagrams and Projects for the City*. (New York, NY: Princeton Architectural Press, 1999).
14. Charles Waldheim, "Landscape Urbanism: A Genealogy," *PRAXIS journal of writing + building* 4 (2002).
15. Alex Wall, "Programming the Urban Surface," in *Recovering Landscape*, ed. James Corner, (New York, NY: Princeton Architectural Press, 1999).
16. From Kudless's website: www.Materialsystems.org/?page_id=2
17. Kristina Hill, "Shifting Sites," *Site Matters*, Burns and Kahn, eds. New York: Routledge, 2005.
18. See Robert Somol, "All Systems GO! The Terminal Nature of Contemporary Parks," *CASE: Downview*, ed. Julia Czerniak (New York, NY: Prestel Publishing, 2002).
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