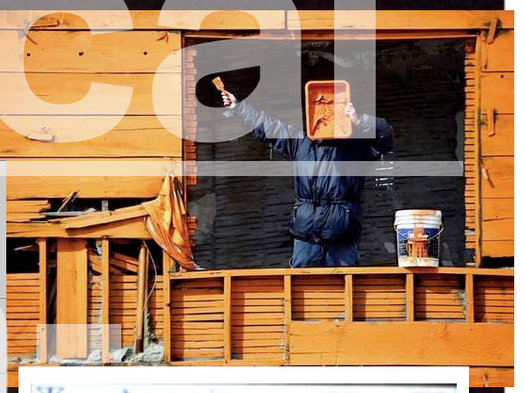
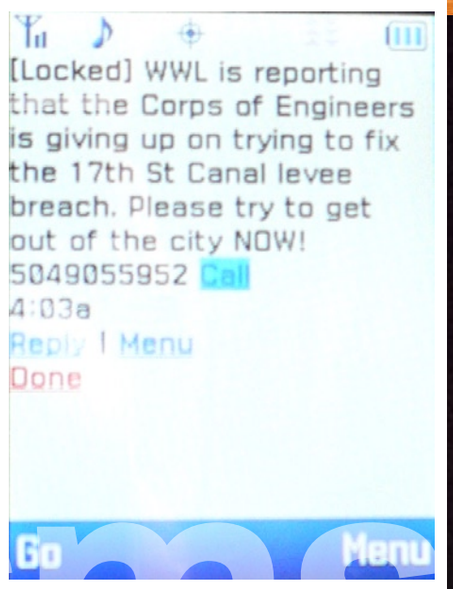
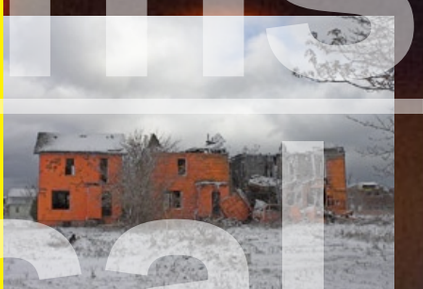
Most of all, we need to preserve the absolute unpredictability and total improbability of our connected minds. That way we can keep open all of the options, as we have in the past...Maybe computers can be used to help in this, although I rather doubt it. You can make simulation models of cities, but what you learn is that they seem to be beyond the reach of intelligent analysis. This is interesting, since a city is the most concentrated aggregation of humans, all exerting whatever influence they can bring to bear. The city seems to have a life of its own.
– Lewis Thomas, 1973





In a landscape of disarray, disassembly, dissociation, disclamation, the attraction of Bigness is its potential to reconstruct the Whole, resurrect the Real, reinvent the collective, reclaim maximum possibility.
– Rem Koolhaas



This alternative and intensely politicized way of looking at cityspace, combining both macro and micro perspectives without privileging one over the other, has been much less frequently explored in the literature on cities, for too often the views from above and below have been defined as separate and competitive empirical and interpretive domains rather than interactive and complementary moments in our understanding of urbanism and its spatial specificities.
– Edward Soja. Post-Metropolis. Critical Studies of Cities and Reigons, 2000

Communication and transport infrastructures (motorways, railways, airplanes) emerge as the most evident lines of the current 'urban-territorial' system.
– Manuel Guasa

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—productive and seductive—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 ecological and social conditions, and a desire to engage those conditions. It imagines nature not as a passive condition but 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~~ism~~ that inextricably links definitions of nature (~~is it a~~ resource? A retreat? A victim? An aggressor?) to technological advancement. 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 ~~mobility,~~ resources and demographics reveals "the physical manifestation of information" through "a process driven by ... a greater social and environmental awareness."

Evidence of this shift in design agendas ~~has been demonstrated~~ in the work emerging from numerous competitions ~~in~~ the past several years, including the the Envisioning Gateways competition for the New York/New Jersey Harbor (2007) and ~~the Toronto Waterfront design competitions (culminating in 2006)~~. 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 — Gateways competition addressed a huge chunk of land, nearly 27,000 acres, 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" as opposed to a primarily remediation-driven brief ~~(vanalen.org/gateway)~~. Similarly, the Toronto Waterfront competition, at approximately 2,000 acres divided into ~~four separate contests (and awarded to four different design firms)~~ West 8, MVVA, Field Operations and Claude Cormier Architects, called for "a Toronto-specific concept ... a model of how economic development, environmental protection, and cultural and recreational growth can complement each other" as opposed to programmatic singularity (~~intowaterfront.ca/waterfront~~). Like earlier large park competitions such as Fresh Kills (~~Staten Island landfill to landscape park,~~ 2001) and Parc Downsview (Toronto, ~~revitalization of an abandoned airfield~~, 2000), ~~the core of the winning proposals for Gateways and Toronto Waterfront is~~ a re-engagement with nature not as a scenographic backdrop but as a metropolitan protagonist. 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, seeders ~~and irrigation circles,~~ Field Operations' "nature sprawl" for Fresh Kills outlined relatively conventional management protocols for ecosystem succession), more recent competitions invent a high-tech nature is less about regenerating urban conditions and more about introducing aberrations ~~that~~ is, highly productive "land machines" [figures 1 and 2] living architectures that fuse social and ecological production. Two submittals to the Gateways competition, BioMass Transit and H2Grow [~~figures 3 and 4~~] rework existing, degraded estuary lands at the metropolitan periphery with a pro-active rather than re-active stance: site, city and architectures are seen as continuous states, endemic but technologically enhanced living systems linked into supply and demand networks. 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 technologies — from burgeoning GIS/GPS applications to BIM — offer 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 offer 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 warning, local freezing" [~~figure 5~~] The ice-berg exemplifies the engagement of living systems (the new local) while apprehending — and participating in — the vast (which is described by Paul Shepheard as "the terror of the new sublime"). 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 (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 ~~figuration~~ 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 ~~the translation of systems logic to~~ 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: ~~a metabolization of globalizing culture into~~ design strategies that are monolithic ~~and invasive. Its~~ schemes for instrumentalization and emergence, ~~based~~ in Deleuzian paradigms ~~such as~~ bodies-without-organs (~~potential~~ collections "permeated by unformed, unstable matters, by flows in all directions," 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?"

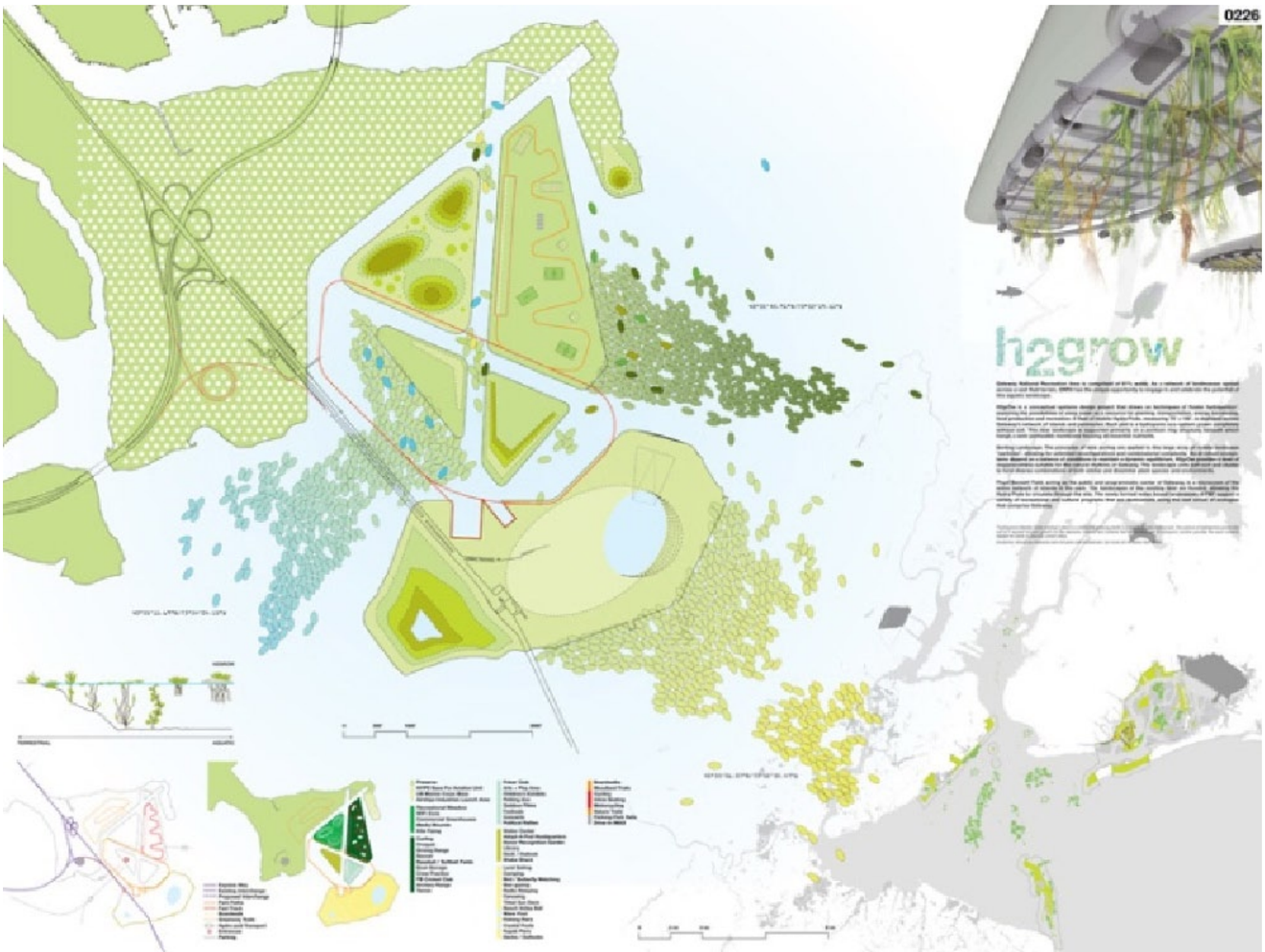
The dialog which coalesced around infrastructure/mat/landscape as armature was fed initially by the work of various post-structuralist European and American urbanists ~~and later by explorations in non-linear systems.~~ Proto-translators of Landscape Ecology theory into urbanism received the discipline's clear message that patterns and processes — infrastructures and material flux — are co-dependent while operating at varying spatial and temporal scales; ~~and~~ further, that the focus had shifted from delimited sites or buildings to the dynamics of complex networks. ~~For example,~~ James Corner's essay "Ecology and Design as Agents of Creativity" (2002) called for open-endedness, ambiguity and multivalency in place of dualities and concretism. Around the same time, in writing about infrastructural urbanism, Stan Allen made direct reference to Landscape Ecologist Richard Forman's field research ~~as a possible model for emergent surface conditions and adaptive urban systems [figures 6 and 7]~~ The 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 con-

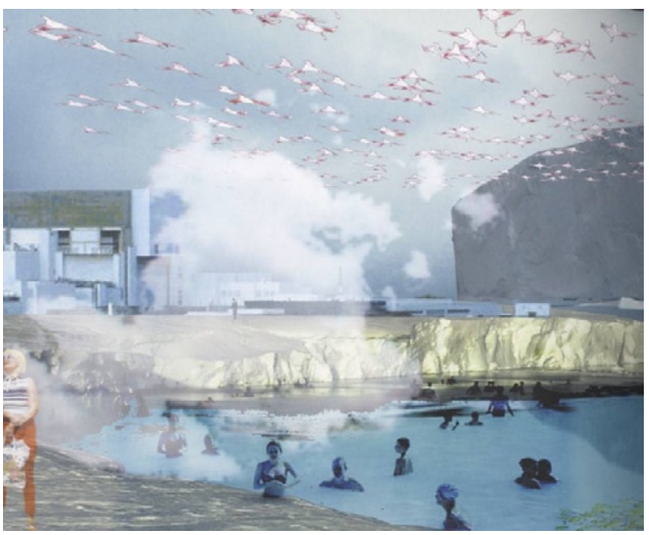
t[illegible]mas Struth, "Pergamon Museum I, Berlin, 2001." Denying the perfection and completion of the museum's staging of the scenario, at the lower right corner of the image, the carefully reassembled antiquity gives way to a hodgepodge of unpainted surfaces, exposed wire, duct tape, rope and scaffolding.

bottom left: Thomas Struth, "Sommerstrasse Dusseldorf" (1980).

bottom middle: Thomas Struth, "Lake Street (The Loop), Chicago" (1990).

bottom right: Thomas Struth, "Shibuya Crossing Tokyo."





top: Thomas Struth, "Kunsthistorisches Museum III, Vienna" (1989). Despite its simplicity, the photograph sets into motion a series of displacements of view that navigate relations between the museum visitor, the portraits and the viewers of the photograph.

bottom left: "Eleanor and Giles Robertson, Edinburgh" (1987).

bottom middle: Thomas Struth, "Giles."

bottom right: Thomas Struth, "Smith Family."

structured" led some to claim that "a disciplinary realignment" was underway, "in which landscape [was] usurping architecture's historic role as the basic building block of city making." These ideas manifested in three formulations, all represented in the proposals of finalists in the Parc Downsview competition:

> The thick (infra)structural surface [figures 8 and 9: Allen's field conditions diagram and OMA's Tree City logo], promoted as the choreography of field operations; described by Alex Wall as the 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."

> The script [figures 10 and 11: cabbage morphology and FOA's Downsview topo map], parametric algorithms for non-linear, non-equilibrium material organization; modeled on the computational bio-logic of flocks, flora and phyla and described by Foreign Office Architects as "[no quote]."

> The smart matrix [figures 12 and 13: Downsview ecological footprint diagrams and Field Operations matrix], or meta-site process, where spatio-formal practice (the site plan) is replaced by a geo-temporal matrix of ingredients (phasing of material states). [no quote]

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. But the process-plus-time incrementalism of these projects results in a lack of finitude that critical inquiry, public attention spans and budget cycles find difficult to sustain. At the same time, the 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, i.e., although results are not controlled, the inputs and relationships are to a significant degree. For example, 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). More precisely, from OMA's project description, the proposal 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" (www.oma.eu). 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, revealed its desire to sublimate applied ecology in order to get into bed with the post-Fordist metropolis.

That the infrastructural/mat/landscape urbanism era endorsed 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 salient attributes. These 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." (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 web site 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" [www.artandculture.com].

It is not a far leap to make from these tactics 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 gained 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 [figure 14]. This method places extraordinary demand on conventional typologies that operate within real time and real space—the civic scape, the private scape, the education scape, the pleasure scape—challenges forth our capacity to participate in an exponentially programmed lifestyle in the exponentially-programmed city.

Big Nature

It's clear the germination of entrepreneurial environmentalism occurred in the deficiencies of infrastructural/mat/landscape urbanism, and will have the opportunity to escape its predecessor's problems by creating conditions of specificity and adjustability. 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., the entrepreneurial environment creates 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 S.U.V. to the hybrid lifestyle. For the metropolis, the emergence of entrepreneurial environments signals a shift from technology as a proxy for

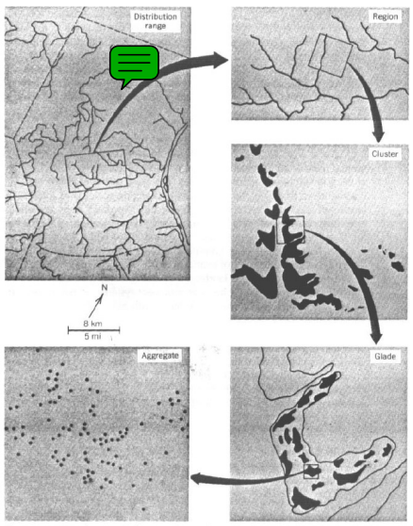


Figure 1.9 *Distribution of Clematis plants showing the effect of scale. Plants were mapped in the Ozark Mountains of Missouri, United States. (After Erickson, 1945; credit Missouri Botanical Garden.)*

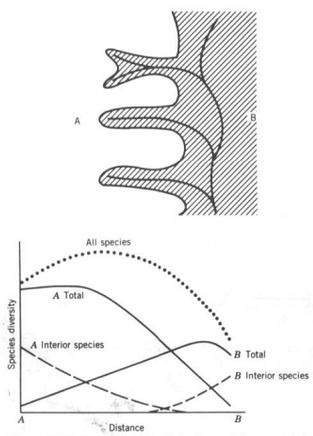
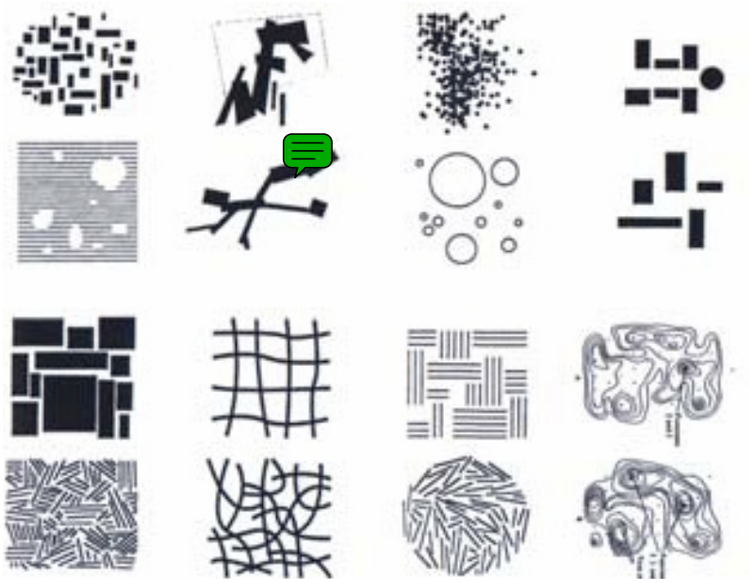


Figure 11.6 *Peninsular interdigitation and the expected species diversity patterns. A and B are two ecosystem types, say upland and lowland, respectively. The graph indicates the expected average species diversity (number of species) based on the sampling of many horizontal lines across the area. In this example A arbitrarily has a higher diversity than B.*



nature that shuns social status (~~example:~~ HVAC or irrigation), toward an integration of information and environment as a technology/nature hybrid that seeks social activism (~~example: a~~ nuclear powered ice berg).

And although critical theory has moved far beyond sustainability as a provocation, ~~in many ways~~ practical practice 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 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 ~~[figure 15]~~:

EXTROVERTED

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

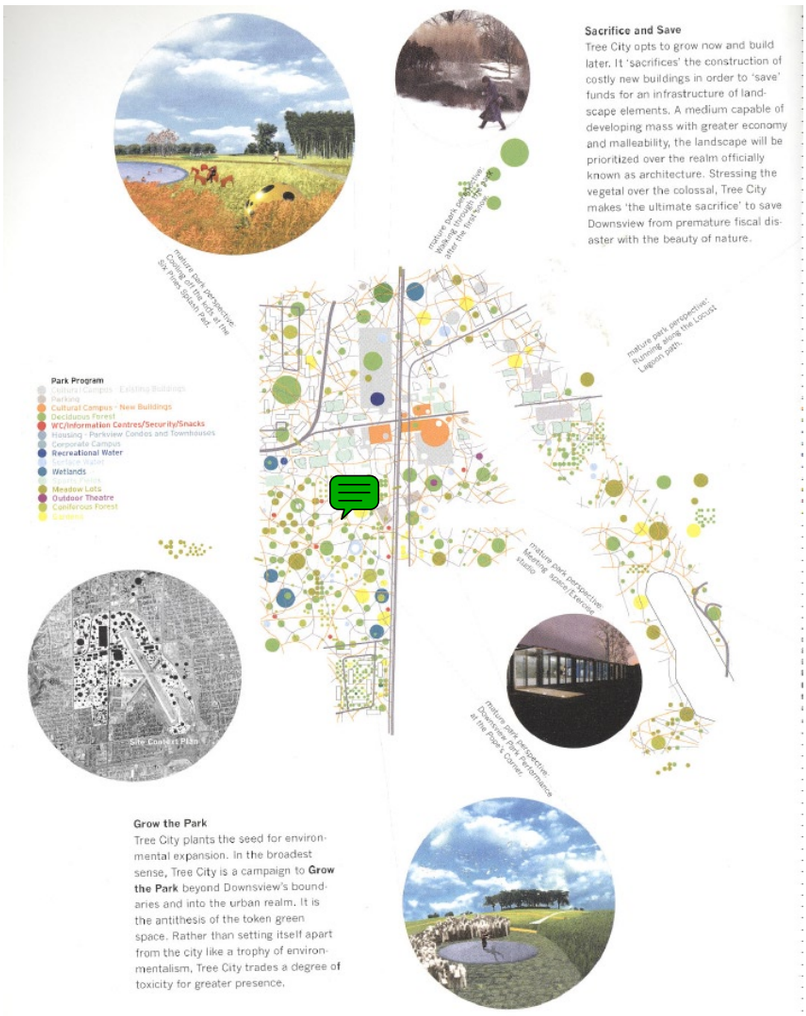
CONSENSUAL

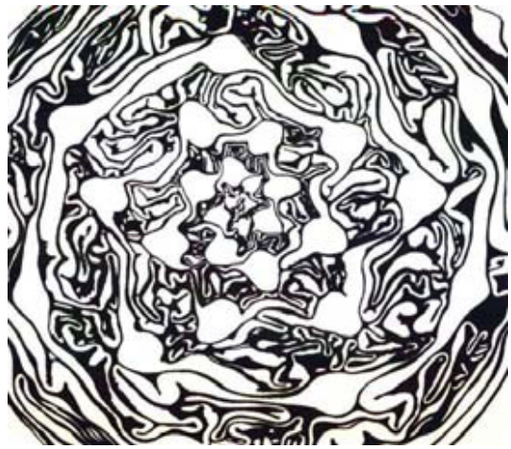
~~The ubiquity of connectivity plus the opportunism of eco-tech and building tech results in super-customizable program habitats capable of responding in real-time by prioritizing information as sensation, and vice versa.~~

PLURAL

A 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.

All this points toward fresh cultural terrain in which our performance – ~~w~~ we consume, how we waste – ~~n~~controvertibly 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, ~~it~~ popularity is driven by mass protectionism – individuals concerned about the preservation of their lifestyles. ~~C~~onsequently, ~~today~~ there is a formative moral component to ~~the~~ 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





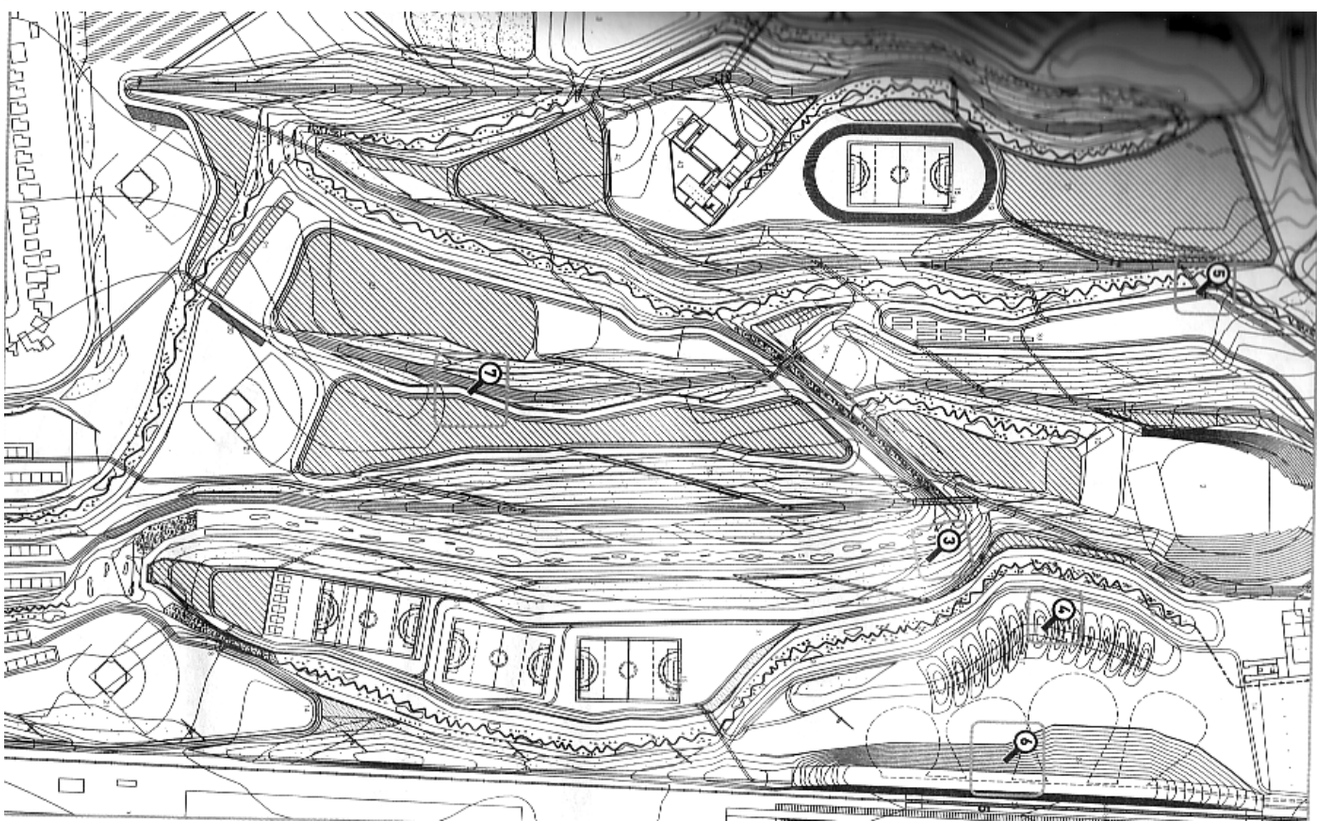
top: Thomas Struth, "The Restorers at San Lorenzo Maggiore, Naples" (1988). Struth repositions an activity associated with the museum—painting restoration—into another venue—the church.

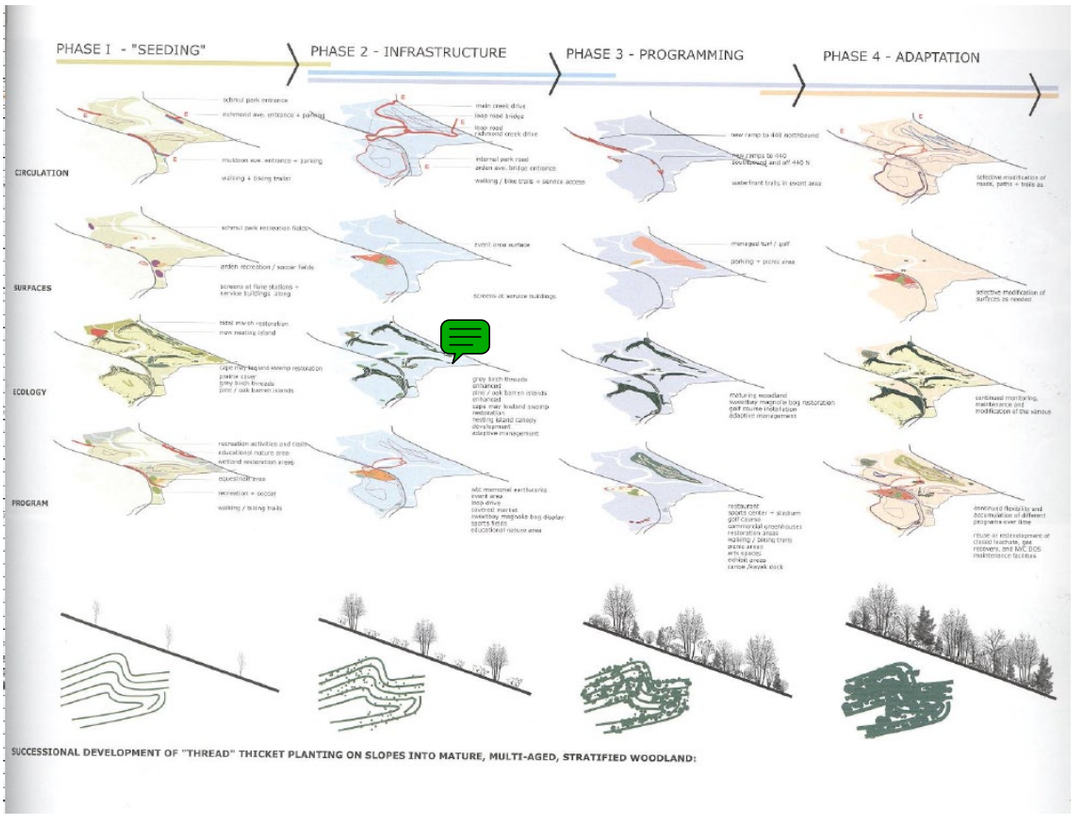
bottom left: Thomas Struth, "Garden on the Lindberg, Winterthur" (1991).

bottom middle left: Thomas Struth, "Cornfield."

bottom middle right: Thomas Struth, "Paradise."

bottom right: Thomas Struth, "Paradise 1 (Pilgrim Sands), Daintree, Australia" (1998).




PHASE I - "SEEDING"
PHASE 2 - INFRASTRUCTURE
PHASE 3 - PROGRAMMING
PHASE 4 - ADAPTATION
CIRCULATION
SURFACES
ECOLOGY
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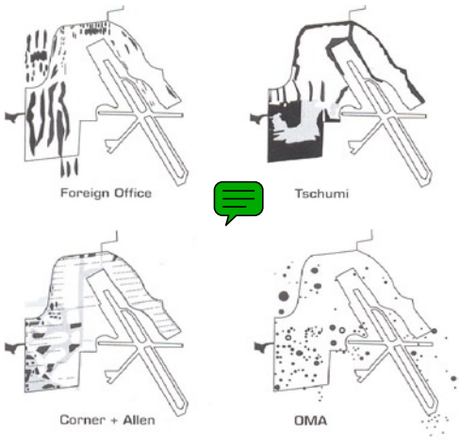
SUCCESSIONAL DEVELOPMENT OF "THREAD" THICKET PLANTING ON SLOPES INTO MATURE, MULTI-AGED, STRATIFIED WOODLAND:


Foreign Office
Tschumi
Corner + Allen
OMA

...o Marx's essay "American Ideals of Space: the Primitive, Pastoral and Progressive" in Denat... Visions, Wrede and Adams, eds. for a discussion of the contested relationship of progress and protectionism relative to cultural views of nature in the U.S..

Darcy Frey, "Crowded House," New York Time Mag... June 8, 2008 describe MVRDV's MetaCity/Datatown project as "a serious investigation by translating the chaos of the contemporary city into pure information. ...DV set out to reveal how our collective choices and behaviors come to mold our constructed environments."

For information on a broad range of living system technologies and projects, see Liat Margolis, and Alexander Robinson, Living Systems, Basel: Birkhauser, 2007.

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, imple...ation, 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.

See grossmax.com .

Paul Shepheard, "Sensational Landscapes," TOPOS Jou...: 57; 2006. P.96.

Gilles Deleuze and Felix Guattari, A Thousand Plateaus: Capitalism and Schizophrenia. Paris: Minuit, 1980. Translated by Brian Massumi (...uum, 2004).

See the incisive Landscape Urbanism Bullshit Generator at www.ruderal.com/bullshit for alternate verbage.

Among others, well used references for this work include Delanda's, A Thousand Years of Non-Linear History (1997) and Deleuze's writings.

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