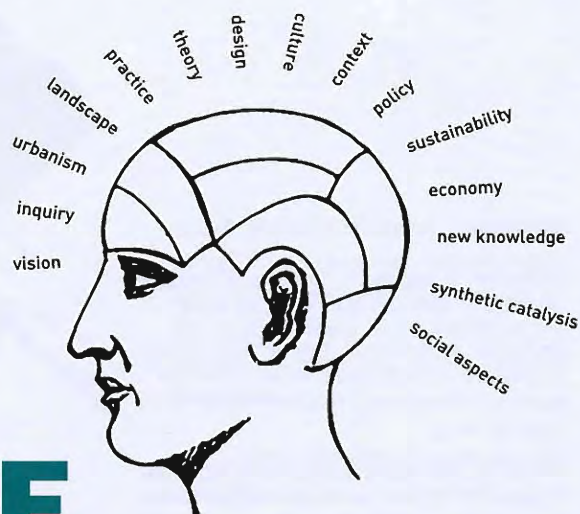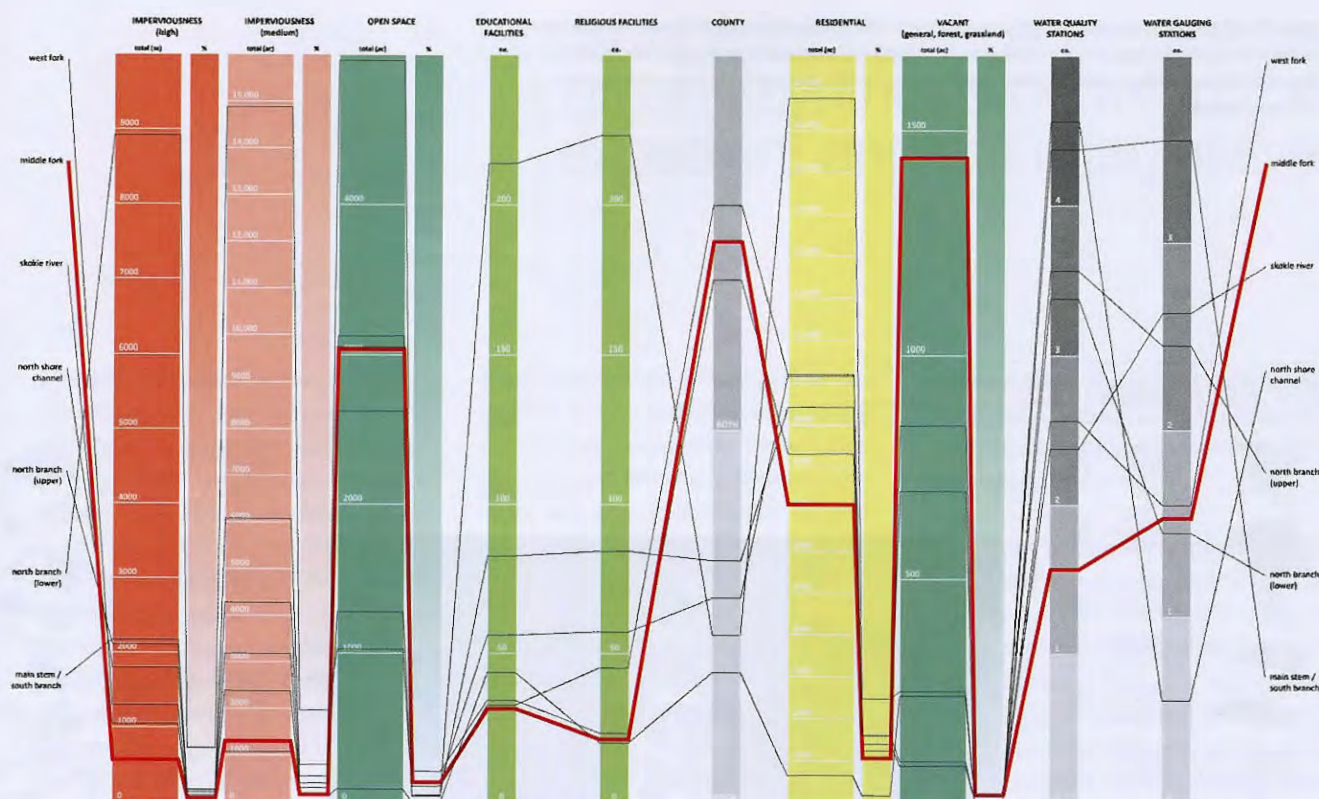Gale Fulton

TOWARDS LANDSCAPE INTELLIGENCE

"The professional world is changing quickly, but designers are, ironically, the slowest to change. They may dress creatively, and they may draw creatively, but their thinking is very conservative, stolid, and entrenched. Designers fail to understand the foreshadowing of the challenges we face today, let alone to grapple with the magnitude of conditions lying ahead. Think about the complexity of current issues: Take the usual conditions of program, use, cost, public-private constituencies, factor them by disaggregated systems of infrastructure that are falling apart, and then top them off with budget crises, carbon urgency, climate change, and population migration. We're not in catastrophe mode or a doomsday scenario, but we're confronted with complex challenges with many variables that require strategic, systemic thinking." [1]

"Cherishing the ancient conviction that the architect is first and foremost a public intellectual, an activist synthesizer of diverse forms of knowledge, an eloquent commentator on the world, our schools must go beyond themselves. The figure of the designer has to be redesigned – now." [2]

| IMPERVIOUSNESS (high) | | IMPERVIOUSNESS (medium) | | OPEN SPACE | | EDUCATIONAL FACILITIES | RELIGIOUS FACILITIES | COUNTY | RESIDENTIAL | | VACANT (general, forest, grassland) | | WATER QUALITY STATIONS | WATER GAUGING STATIONS |

This essay is a brief introduction to the concept of *landscape intelligence* which is suggested as a possible theoretical and practical supplement to traditional models of landscape design education and practice. The need for such a discursive and practical update stems from a belief that the various genres of landscape design, as with any discipline interested in growth and development, require perpetual reimagining in the face of new knowledge and practices, disciplinary realignments and mutations, cultural shifts and upheavals, and environmental uncertainties. Today, we are faced with precisely such a context – scientific advances occur at a pace which often defies serious reflection as to the benefits or costs; technical practices are radically reshaped by ad-

vances in computation; disciplines overlap, intermingle, and cast about in search of clearer boundaries or goals; new disciplinary hybrids such as *landscape urbanism* and *landform building* emerge as the mutated offspring of architecture, landscape architecture, ecology, and possibly civil engineering; and all of this proceeds against a larger sociocultural context of global climate destabilization, urbanization, and population gain.

Coming to terms with such 'wicked problems' and 'unknown unknowns' requires not only *knowledge* – an acquaintance with facts, figures, and theories – it demands intelligence and imagination. Intelligence is herein understood as the ability to activate knowledge, to put it to work. Landscape intelligence, by extension, suggests a catalytic agency that is

Bram Barth, MLA thesis at the University of Illinois at Urbana-Champaign, 2011. This thesis articulated a synthetic vision and strategy for managing stormwater at the watershed level in the City of Chicago.

Haley Heard, Riparian Urbanism: Riparian Drainage System as Urban Armature, MIT, 2010. Heard won an ASLA Honor Award (student) for her development of an infrastructural strategy for Mumbai. The project develops a resilient, synthetic strategy based on exhaustive analysis of the area's complex socio-ecological systems.

Buffer Acquisition **Land Transfers & Development Feasibility**

landscape intelligence argues for a greater synthesis between the expedient and the imaginative

informed and guided by the properties of landscape that have only relatively recently come to the fore – a synthetic, indeterminate, organizational and infrastructural field or surface – combined with a speculative imagination capable of escaping the gravitational pull of the merely sustainable in order to project alternative social-ecological organizations of the future. Landscape intelligence argues for a greater synthesis between the expedient and the imaginative, which requires a renewed examination of the increasingly troubling split between humanistic concerns and strategies and the instrumentalist thinking of the sciences and engineering. Lastly, landscape intelligence extends beyond landscape urbanism in a key area that might best be understood as the strategic. More specifically, this suggests a willingness and ability cultivated in landscape intelligence to embrace the economic and policy side of landscape issues in a way generally lacking in both landscape urbanist and landscape architectural approaches to date. Both disciplines have tended to remain 'site-focused' and 'downstream' in the design process even though what is of increasing importance today is an 'upstream' ability to identify future physical and programmatic territories for exploration and then utilize the full range of its imaginative and instrumental capacities to actualize such scenarios.

Landscape urbanism attempted to engage in this process by reconfiguring disciplinary boundaries, evolve new practices, and invent new theories, concepts, and ideas to help guide the process. Through such machinations, landscape urbanism has unquestionably altered the trajectory of landscape practice in the 21st century towards an expanded scope and greater efficacy in matters primarily related to urban ecological systems. But landscape urbanism has fallen victim to various territorial spats and origination disputes between individuals and disciplines, and, perhaps even more problematic, has failed to advance an imaginative or projective agenda to offset its instrumentalist tendencies. Without this imaginative project, the 'emergent discipline' quickly becomes little more than a vehicle for the service side of the profession to advance green infrastructural strategies in the name of sustainability – an undeniably necessary project but insufficient for the maintenance and development of a robust discipline. In short, it has evolved into little more than fairly traditional landscape architecture using a fake id. This suggests a need to push beyond what landscape urbanism has shown itself to be capable of, and, despite landscape architecture's apparent robust health (which has benefitted greatly from the efforts of the landscape urbanists and the popularization of

sustainability), it will likely continue to be seen as a minor discipline compared to architecture, urban design/planning, and regional planning.[3]

Landscape intelligence suggests a malleable field of inquiry in place of what is often a rigid, professional training; a heuristic device launched into a sometimes moribund field as a way to provoke reconsideration and change and thereby continue the recovering process that was begun in the 1990's in the work of James Corner and others, but which has since lost some of its focus and force. Despite the prodding of Corner and the landscape urbanists, much of the landscape architecture community has yet to recognize that its overreliance on its professional traditions and conventions – in both practice and the academy – all too often blinker its ability to see the full range of topics, strategies, and tactics that it might engage in or employ if only it could leave behind its identity as a narrowly defined, anti-intellectual, service profession which somewhat slavishly adheres to what have perhaps retroactively become its conservative foundational principles of public 'health, welfare, and safety.'

Such a renovation of the landscape architectural imagination requires a significant rethinking, and perhaps even more importantly, a *revaluation*, of land-

the idea of the architect is once again refigured into an agent of synthesis and strategy to leverage 'intelligences' for realizing projects beyond the scope of any single discipline

scape-related practices with an eye towards a rigorous reimagining of the field so as to more fully engage with the issues, needs, desires, and dilemmas of our global social-ecological situation. This will not be an easy process and will no doubt cause many in both the academy and the profession a good deal of discomfort since systemic change of this sort should never be too easy. But the sort of reorganization required in order to escape landscape's minority standing must go deep in both the academy and professional practice if it is to be anything more than an exercise in rebranding. Fortunately, several threads or 'stems,' to borrow from Wikipedian language, have already begun making inroads into this metamorphosis.

Drawing on analogies to modern day terrorist networks which exhibit an 'operational athleticism' unlike earlier cold war era tactics, design theorist Michael Speaks argues that the rules of the architectural game have changed and that to adhere to the old ways of playing is to risk obsolescence.[4] Speaks identifies what are known in intelligence communities as 'asymmetrical threats' – those threats that are difficult, if not impossible, to confront in a simple, 1:1 manner, as one might understand the relationship between the US and the USSR in the cold war, or, for that matter, the offense and defense of a football team. Instead of this rough symmetry, many

of today's most pressing social-ecological issues are often wildly asymmetrical to any precise disciplinary knowledge such as that traditionally imparted in landscape architecture or architecture. Such asymmetry was charted earlier in Rem Koolhaas' discussion of 'bigness' in which he said that the important projects for architects to begin engaging were those that extended 'beyond signature' or beyond the notions of autonomy that have consumed so much architectural thinking since the 1960's.[5] Such projects force new collaborations and dependencies between engineers, architects, ecologists, graphic designers, and government officials, among others, as their scale and/or scope transcend any notion of a discreet site or object. As a result of such complex collaborations, the idea of the architect is once again refigured into an agent of synthesis and strategy that is able to leverage these 'intelligences' in order to speculate and realize projects beyond the scope of any single discipline.

Speaks argues that this indicates a "transformation in knowledge and in the standards used to determine its relevance."[6] This suggests that not only is our traditional disciplinary knowledge potentially out of date and therefore ineffective, but that our present manner of collecting and interpreting data forming knowledge needs to be fundamentally rethought as well. It does us no good

to collect good intelligence (in the sense of data) if we still evaluate it through what may be, gauged by the complexity of today's projects, a somewhat narrow professional or disciplinary lens. Landscape architects might think of this in terms of the shifts in ecological thinking that have been underway in the last few decades. In an ecology based on an understanding of complexity theory, it is of little value to get reams of new ecological data if we are simply going to fit it into the straightjacket of an outdated conceptual paradigm such as that based on stability and climax. Instead, we must work to develop new design theories, strategies, and techniques that allow us to engage the complexity that underlies all contemporary design problems.

Landscape intelligence also leverages the fact that design is constantly gaining ground as a form of knowledge in its own right – one that is perhaps uniquely situated to bridge the ever widening gap between the sciences and humanities. Design theorist and historian, Paola Antonelli, argues that designers are increasingly central to a form of interdisciplinary collaboration that is different from the multi-disciplinarity of the past. Designers are now being actively sought out for collaboration in projects that at one time might never have enlisted a designer, or by potential collaborators that did not traditionally understand the value of design beyond its mere 'styl-

Systemic Design Diagram. Created by Alan Berger, Case Brown, of P-REX lab at Massachusetts Institute of Technology. The bottom zone represents a regional framework approach (ignoring site). The top represents a local site framework (ignoring regional flows). Between them are spindles linking all the regional flows through space and time. Small dots represent the packets of flows and energy bouncing between site and region (labeled on right). Where the spindles and packets bundle together, they form systemic bundles of intelligence. Inside each bundle you'll find a project's genesis.

LOCAL SITE *Framework*

ing' capacities. Antonelli argues that designers are beginning to be understood as not merely form-givers but as "fundamental interpreter(s) of an extraordinarily dynamic reality; one increasingly informed by science and mediated by technology." [7] For landscape architecture, a discipline that has often considered itself a mediator between culture and nature, this suggests an opportunity for its practitioners to rethink their over-reliance upon the increasingly tired discussions of 'what is natural' and move on to a position that accepts the fundamental artifice of the contemporary condition and begins to mediate not merely between culture and nature but between culture and science.

Also contributing to the need for a reconsideration of (landscape) design that moves away from its object-oriented (site-focused) twentieth century history is the shift towards an expanded territory often described as 'design thinking.' [8] Those promoting a shift to design thinking argue that designers must escape their traditional position 'downstream' of the important decision making in the design process too often left to engineers, marketers, or in the worst (and increasingly common) cases – bureaucrats. This implies that designers have traditionally been relied upon for their form-giving or ornamental abilities as opposed to their conceptualizing, synthesizing, and programming abilities.

> SYSTEMIC BUNDLING

Systemic Flows

- *capital*
- *water*
- *pollution*
- *waste*
- *development*
- *vacancy*
- *animal migration*

Systemic Feedbacks

BUNDLE **1**

BUNDLE **2**

BUNDLE **3**

REGIONAL *Framework*
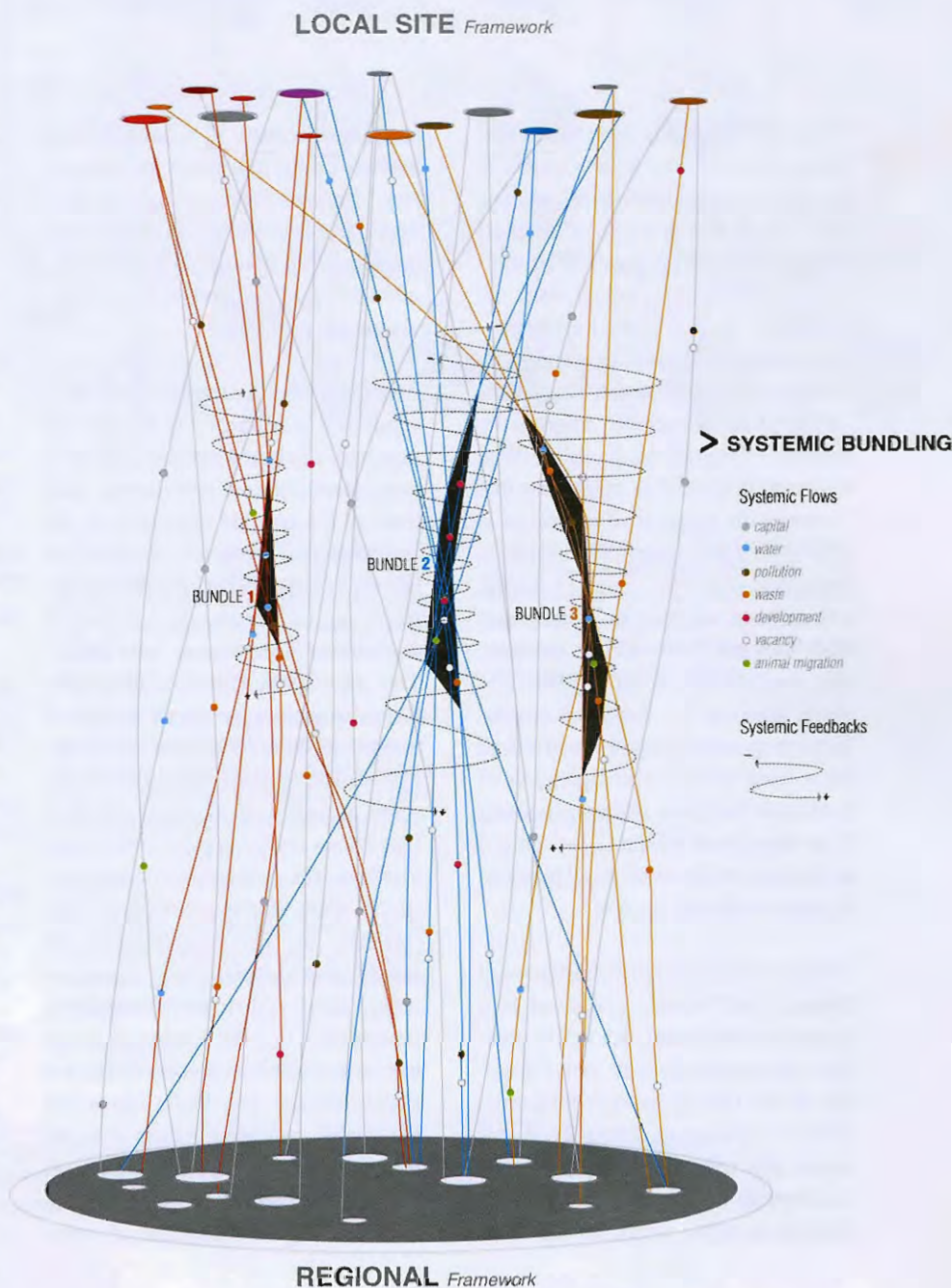
landscape designers and theorists should steer clear of the sentimental, nostalgic, and unproductive yearnings for a mythical time when the profession exhibited better health

Sanford Kwinter has even speculated about a future in which there architects as we have known them no longer exist – or at least that this type of architect will be an increasingly marginalized figure. Instead, Kwinter muses about the possibility for this type of architect – those that are primarily concerned with the design of buildings and their details – to be at the service of "program designers." [9] Program designers are those designers that come to understand that "because the material of the world is generated largely through administrative apparatuses (or what is more benignly referred to as 'organization')", they must shift "their role from building, traditionally conceived, to being organizers of social relations." [10] Kwinter's emphasis on programming reinforces the need for a comprehensive re-figuration of landscape designers, and programming at its most broad should be recognized as another fundamental intelligence to be achieved in this process.

Like it or not, landscape architecture and design is still mostly perceived as a somewhat ineffectual, decorative practice concerned more with 'artful' planting design than large-scale infrastructure or engineering. Chris Reed, has traced this (d)evolution of landscape architecture from an important role in large-scale public works projects in the early 20th century to a marginalized position falling into one of two categories: "decorative art, invoked to dress up a site or cover over a problem; or as science-based planning methodology, often co-opted for purely economic development purposes." [11]
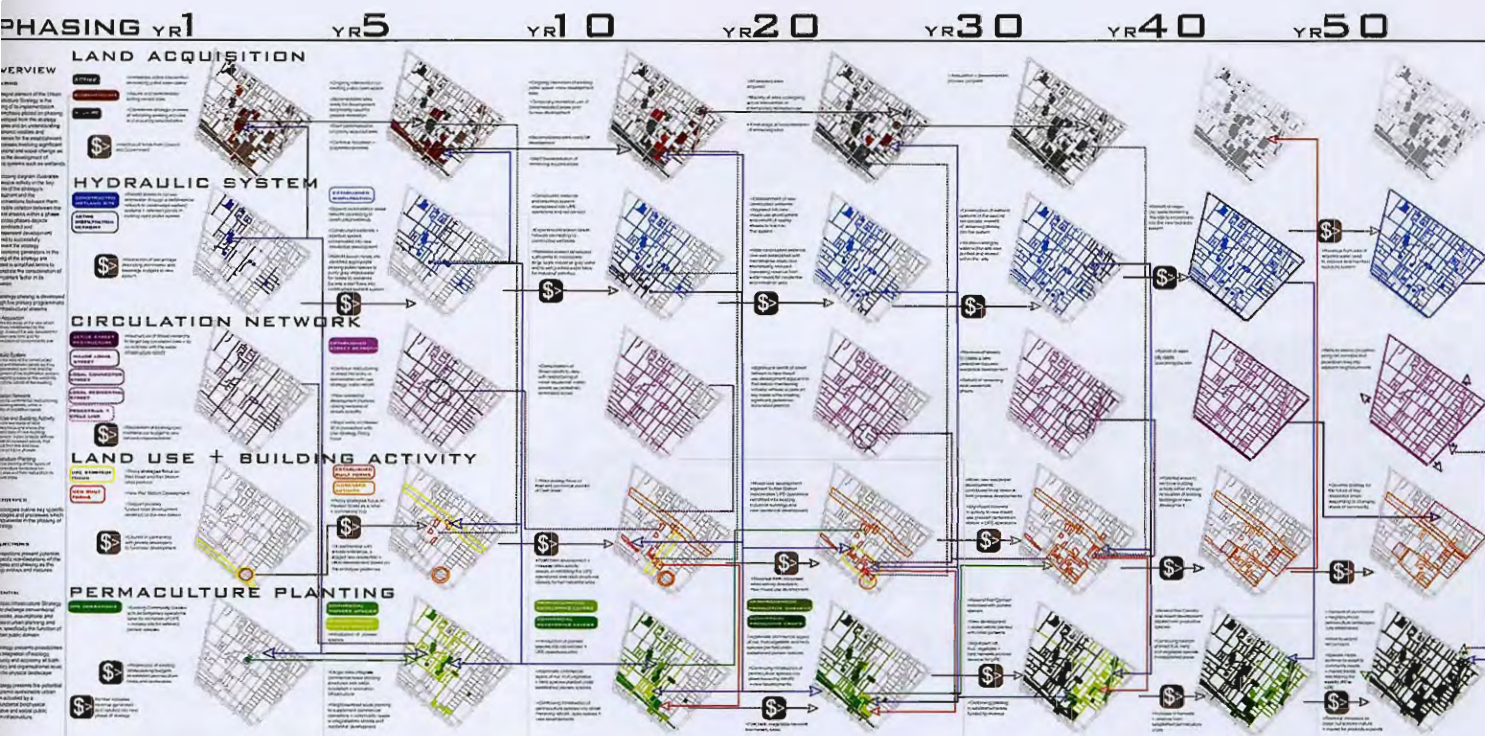
Faced with identity crises of this sort, a significant portion of any discipline's members will beat a hasty retreat into a reactionary game of considering what Sanford Kwinter has referred to as the 'constitutional question' – the idea that one must clearly identify the skill or ability or set of abilities that defines a discipline's 'expertise' or 'core skills'. This line of questioning is at the heart of those discussions lamenting the loss of traditional skills believed to be fundamental to professional architects or landscape architects in the good old days (*back when everyone could draw...*). In a critique of contemporary design education, Mark Wigley echoes these sentiments in his assessment of architecture's professional education accreditation system, and it should be remembered that the landscape architecture accreditation process works in a nearly identical way. Wigley argues that the 'highly regulated' nature of architecture schools as a result of professional accreditation works to preserve "the myth of a singular shared core of exper-

tise in the discipline. We ask our least gifted colleagues to draft these requirements and apply the lowest common denominator so strictly that schools have difficulty doing anything else." [12]

Today, landscape designers and theorists should do everything in their power to steer clear of the sentimental, nostalgic, and unproductive yearnings for a mythical time when the profession exhibited better health. Instead, we should spend our time thinking about where else the discipline can go as a result of the incredible potentials of the medium upon which it is based. In order to better achieve this, we may need to rethink landscape (and perhaps all design) as a discipline without interior or *essential* foundation – as a platform or infrastructure from which to explore a wide range of cultural issues. This might suggest that of primary importance to the discipline's future is to cultivate a synthetic intelligence par excellence – a 'lateral' rigor which allows one to move across disciplines in a horizontal, lateral, or crosscutting way, and which is analogous to a surfer riding or carving across a wave.

Landscape as *synthetic catalyst*. This is the potential of landscape intelligence. To be continued.

PHASING YR**1** YR**5** YR**10** YR**20** YR**30** YR**40** YR**50**

OVERVIEW

LAND ACQUISITION

HYDRAULIC SYSTEM

CIRCULATION NETWORK

LAND USE + BUILDING ACTIVITY

PERMACULTURE PLANTING

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3. The notion of landscape urbanism and landscape architecture as 'minor' disciplines is derived from Stan Allen. See Stan Allen and Mark McQuade, *Landform Building* (Lars Muller, 2011).

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9. Sanford Kwinter, "4 Arguments for the Elimination of Architecture (Long Live Architecture)," in *The State of Architecture at the Beginning of the 21st Century*, Bernard Tschumi and Irene Cheng editors, (New York: Monacelli Press, 2003) p. 95.

10. Ibid. 95.

11. Chris Reed, "Public Works Practice," in *The Landscape Urbanism Reader*, ed. Charles Waldheim, (New York: Princeton Architectural Press, 2006)p. 270.

12. Wigley, 38.

Sky Allen, University of Adelaide, 2004. Allen developed this infrastructural strategy for a post-industrial area of Adelaide, South Australia. The matrix represents an 'ecological' approach to infrastructure in which complex feedback loops are integrated seamlessly into the site's evolution.

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