The Great Undoing

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"What have they done to the earth? What have they done to our fair sister?"
When the Music's Over, Jim Morrison, The Doors, 1967.

THE BIG PICTURE

The empire of consumption and exploitation that has characterized the popular culture of the developed world is rapidly declining. Adverse impacts on the environment and society will not likely attenuate as quickly. Pollution, resource depletion, destruction of natural habitats and extinction of species, along with anthropogenically induced climate change are the legacy a handful of generations will bequeath to so many that follow.

Most conspicuous in its consumption and the intensity of it exploitation is the Baby Boom generation, who in their youth aspired to peace, love and a return to nature. The transformation from Hippie to Yuppie, much like the transmutation of Dr. Jekyl into Mr. Hyde, was drug induced but not of the psychedelic kind. Instead, mass consumerism became the universal addiction heightened by selfishness and greed, afforded by unprecedented affluence in developed nations. That so few former idealists could harm so many faceless innocents reinforces the cogent observation that, "*The road to hell is paved with good intentions*."

How all this came to be is well documented by history and a vast archive of dismal statistics, but for the most part remains irrelevant. The recent sub-prime mortgage crisis in America reminds us that even in old age, the Boomer lust for easy money and something for nothing has not been quenched. Unlike Europe, the collective realization the party is over has not dawned in North America. It is little wonder nobody is interested in cleaning up the mess.

But there is still hope for salvation if the most affluent generation in the history of mankind acknowledges the moral imperative to make restitution for attitudes and behaviour that may never be forgiven. This process of rehabilitation, remediation and regeneration, that may some day be termed *The Great Undoing*, is an ethical obligation that will test our moral fiber more than any war or disaster in recorded history. It may eventually restore the world to a former state so that successive generations can hopefully preserve rather than plunder nature's bounty, and gracefully migrate from a religion of consumption and exploitation, to a culture of conservation and cultivation.

This essay examines but one facet of our dysfunctional, inherited technologies, namely *urban stormwater management*. Suburban sprawl, the myopic American dream of the single family detached house projected onto the languishing landscapes of nowhere, as found in the various persuasions of consumer cathedrals, such as 'smart' or 'power' centers, is the logical conclusion to a pathological obsession with driving and shopping. It is also the most significant factor degenerating our water resources. A binge of golf course expansion catering to a Boomer gone Zoomer demographic often marks a final tipping point in the hydrological balance that is suburbia's unwitting euthanasia by dehydration. Somehow, a critical disconnect occurred in our attitudes toward the management of water resources and it was allowed to advance unchallenged over the past half century in North America, along with the largest urban development expansion since the time of Columbus. More than all of the reclamation and rehabilitation efforts put together, the most significant challenge by far is the necessary shift in attitudes and the re-framing of the human organizations whose enterprise must now be one of environmental stewardship informed by the science of sustainability. The notion that absolution can be purchased belongs to a consumer ideology precariously perched on the edge of a slippery slope leading to a point of no return.

It is difficult to speculate on the underlying causes of this critical disconnect because so many things happened at once following World War II in North America. The shift from agrarian to urban culture, the expansion of cities and hence sewer and water works, accompanied by the explosive growth in per capita water consumption, exacerbated by industrial processes that consume water wastefully. Turning a valve on and off is different than drawing water from a stream or a well and it is likely when compared to city dwellers today, our agrarian ancestors were much more in touch with water as a precious resource to be conserved, if for no other reason than to minimize the burden of labour associated with carrying water in pails.

Before this critical disconnect, only in urban areas was stormwater an agent for transporting pollutants from impermeable surfaces to receiving water bodies. In the countryside and hinterland, runoff was part of an environmentally benign hydrological cycle that was witnessed with each rainfall event and the spring snowmelt. This phenomenon could last for days or weeks, unlike the city where efficient stormwater management technologies rapidly flush the urban watershed in a matter of minutes, sight unseen in an underground network that usually discharges far from where its impacts can be witnessed by inhabitants.

The double-edged sword of progress is another factor in this critical disconnect. While we must be thankful water borne diseases have been virtually eliminated by sanitary engineering, it may be that a good thing has gone too far, not so much in terms of technology, but in the form of cultural expectations that others with specialized knowledge and skills will tend the urban machinery and make decisions in our best interests. Farmers are generalists who look after all aspects of their domain and must learn to cultivate their ecosystem for a sustainable yield. Urbanites, by definition, perform specialized tasks along disciplinary and trade lines. Dentists don't do plumbing and plumbers don't do dentistry. Engineers, architects and planners look after municipal infrastructure, guided by a mantra of progress, a.k.a. unabated economic growth, as promised and promoted by politicians, yet another specialized occupation. That the ecological footprint of most great cities extends hundreds, often thousands, of kilometers beyond the city limits is another indicator of environmental disconnectedness.

Challenging the attitudes that stem from disconnectedness is probably a more daunting task than reconfiguring disciplinary boundaries or deploying appropriate technologies. For over half a century, water pricing has reinforced this disconnectedness by rendering it almost worthless.

From the beginnings of civilization, human settlements have fashioned control over nature, adapting her features to serve our human fascination with comfort, convenience and above all, certainty. Human settlements are deliberate interventions that attempt to bring order to the chaos of the natural environment, both to improve the odds of survival and the quality of life. This desire to predict outcomes precisely is widely considered the underlying foundation of modern engineering as it emerged from the Industrial Revolution. Ideas of progress were nested in a mechanistic Newtonian universe whose workings were believed to be as determinate as the movement of a clock. If something was not understood or failed to behave as predicted, this merely indicated insufficient application of the scientific method to practical inquiry, or a failure to account for all the relevant variables.

Engineering, thus fashioned, was eventually extended beyond the physical realm and applied to social spheres after it became apparent the behaviour of people was an uncontrolled variable in the equations governing interactions between infrastructure and social organization. Despite all the various experiments conducted by societies around the world, Utopia failed to materialize. In fact, as technology advanced, it appeared to have the opposite of its intended effects, with environmental degradation, resource depletion and reduction of biodiversity escalating parallel to the growth of engineering prowess. The state of the world as we know it today is not an indictment of engineering, but testament to our deeply flawed notion of progress, founded on the naïve premise of certainty in a chaotic universe.

All disciplines fell victim to the enchanting spells cast by progress, everyone imagined an endlessly rising future trend, no one listened to what observations of natural systems had been telling people for time immemorial.

Figure 1. Progress is inimical to the concept of ecological carrying capacity, explaining why technology ignored environmental thresholds. [Image: American Progress by John Gast (circa 1872).]

THE INFRASTRUCTURE OF NOMENCLATURE

It is worthwhile speaking to so much of the oxymoronic doublespeak that accompanies the ideas surrounding sustainable development and environmental stewardship. That 'words are important' is an understatement of rapidly dwindling significance in a world dominated by digital media, in particular the sound bite and the video clip. Nomenclature is the non-visual infrastructure supporting ideas and often frames their outcomes. The words that deserve scrutiny in advance of any meaningful discussion in this essay are *de-engineering* and *landscape infrastructure*.

De-engineering cannot be properly discussed without looking at engineering. It is important to note engineering has subtle but different meanings over time and among cultures, and this is very noticeable in the comparison between the French and English forms of the term. *Ingénieur* is derived from the French word *génie*, meaning spirit, which is based on the Latin *genius*, meaning guardian spirit. The French term strongly recognizes the notion of ingenuity operating within a civic conscience. *Engineer*, as it is understood in the English language, means: *one who is trained or professionally engaged in a branch of engineering; one who operates an engine; or one who skillfully or shrewdly manages an enterprise*. As a verb, *to engineer* means: *to plan, construct, or manage as an engineer; or to plan, manage, and put through by skillful acts or contrivance; maneuver*. There is no French verb equivalent for *to engineer*, and it becomes apparent that somehow the social meaning of engineering is different between French and English cultures, with the latter generating meanings that take on pejorative connotations (e.g., value engineering). In Canada, an officially bilingual country with indigenous peoples' roots, the symbol of engineering is the beaver, a large, semi-aquatic species of rodent known for its ingenious construction of dams to support a domestic architecture that provides shelter from a harsh climate and protection against predators.

Figure 2. Is it naively romantic to think engineering can be as closely harmonized with nature as the works of beavers? Beavers were nearly eradicated from parts of Canada in order to reclaim land that lay under water to promote the agricultural ambitions of a rapidly expanding population of settlers. It is not inconceivable nowadays that many urban citizens would find interventions, such as bio-retention basins, as much a nuisance as our ancestors found flooded woodlands engineered by beavers. [Image: Britannica Student Encyclopedia.]

De-engineering has therefore different meanings depending on the connotation ascribed to the term engineering. This is not a semantic discussion, but a critical consideration if the situation of throwing out the baby with the bath water is to be avoided. When the French or the Canadian symbolic meanings are adopted, de-engineering has entirely different consequences than if the pejorative English meanings are selected. Assuming the latter meaning is one that is no longer considered appropriate to any form of sustainable development, then we are left with de-engineering meaning a departure from ingenious design, or the dismantling of engineered interventions. Let's put the word into a clearer context: What does it mean to de-engineer a bridge? Does it mean taking out all the ingenious refinements in bridge design that have evolved over several millennia? Does it simply mean to dismantle the bridge? Perhaps the term could be used to suggest that building structures to accommodate the automobile is inappropriate, but what if the bridge was used exclusively for public transit and pedestrians? Without dwelling on all the shades of meaning that may be inferred from the term de-engineer, it is clearly a fuzzy and ill-founded concept that serves no constructive purpose in the discussion of urban remediation and environmental reclamation.

What about the term *landscape infrastructure*? Landscape is a fairly enduring and universal term so its connection to infrastructure becomes the point of interest. Infrastructure is simply a general, encompassing term for a number of services and amenities that are also

referred to as urban site technologies. These site technologies are typically substitutes for the ideal site conditions that would have supported a pre-industrial era domicile. A woodlot would have provided a renewable source of energy, and a river or stream would not only serve as a source of drinking water, but could power a water wheel to mechanize tedious chores. The surrounding landscape was the source of all food, farmed, gathered or hunted and it not only managed stormwater, but also received and processed human waste. Garbage had not been invented as we know it today, with most discarded items being re-used or incinerated. Transportation was either local, using horses to pull wagons and sleighs depending on the season, or regional/international requiring a train or ship to cover the distances now routinely traversed by automobiles and planes. The stars and the moon were the only source of outdoor lighting, and also assisted wayfinding. Given the low densities of agrarian settlements, the environment was able to cope with human interventions, whose ecological footprint remained much smaller than nature's carrying capacity. All of this changed when large urban settlements came into being. That which had been provided by nature to each building site now had to be artificially delivered through urban site technologies. Infrastructure was a prosthetic device enabling humans to occupy densities that were otherwise unsustainable, and dysfunctional infrastructure has caused environmental entropy to afflict urban settlements that have passed a critical threshold in relation to their supporting ecosystems.

The term *landscape infrastructure* is potentially redundant, but perhaps a necessary transitional metaphor to reconnect urban site technologies with nature. It is refreshingly different than *de-engineering* because it describes an intellectual construct in a non-judgmental and culturally unbiased way. It denotes a hybridization of purpose using landscape as an artificially manipulated means of providing infrastructure, typically in relation to stormwater management, where human interventions have upset the natural balance. The term does not imply it is dominated by any form of architecture or engineering, and can be precisely parsed without losing its intended meaning. So it may be considered a 'keeper' until such time as the term landscape is understood in a deeper sense, beyond how it is portrayed in glossy magazines and gardening shows. Eventually, landscape may be seen in its broader context as the obvious sum total of the interactions among all physical and living systems, including human beings and their technological extensions, such as highways, golf courses and landfill sites.

The quandary for landscape infrastructure is that it will always remain an urban site technology, completely redundant and notably inferior in natural settings. It will necessarily serve two masters: one being the ecosystem it seeks to sustain; and the other being urban processes that operate through site technologies such as roads, sidewalks and parking lots. How can roadways cleanse water, grow food, capture energy and host biodiversity? This is a far more interesting idea than tearing up roads and banning automotive vehicles, or conversely, embedding highly sophisticated eco-technologies into inferior buildings as a means of absolving their fundamentally flawed premise as sustainable shelter.

Does landscape infrastructure occupy a middle ground between design aesthetics, ecology and engineering efficiency, or is it an entirely different transdisciplinary mutation? It may simply be a resurfacing of design DNA that goes back to a time when individuals dealt with whole problems, as opposed to a disciplinary collective focusing on singular aspects of these whole problems. Currently there are variant strains evident in the emerging explorations of landscape infrastructure research and practice, and it may be premature to predict the survival of the fittest.

The way forward with the concept of landscape infrastructure, then, is to furnish it with a nomenclature that is clear, objective and precise. There is always a tendency to develop a counter-culture lingo or to advance proprietary agendas with hype. The latter technique has been particularly evident in the language promoting globalization, but it cannot be allowed to take root in the common fields enjoining landscape architecture, engineering, hydrology and biology. A common language, one that is not muddied by political agendas or driven by flawed notions such as unbounded progress, is key to fostering a constructive dialogue between all stakeholders involved in the reclamation and restoration of our water resources.

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Figure 3. The elevation of the manhole access to the sewer indicates how much fill was eventually deposited before Clendenan Avenue was completely constructed across a ravine just north of Toronto's High Park. The nomenclature regarding this intervention employed by today's environmentalists would likely be in sharp contrast to that used by advocates of municipal progress almost a century ago. How would landscape architects and engineers approach this design problem today? [Image: City of Toronto Archives, May 14, 1914.]

DOING THE UNDOING

As an educator, it is almost an automatic reflex to advance the landscape infrastructure agenda through educational interventions. But what should we teach? Before the time of universities, licensed professions and job descriptions, were people with fundamentally different skills and outlooks engaged in the manipulation of soils, rocks, plants and waterways? Is the splintered disciplinary landscape we have today a natural formation or a cultural mutation driven by a linear, mechanistic notion of progress, and the belief that understanding is achieved by the subdivision of knowledge into narrow streams of specialization? There is no reason to suggest the intellectual processes and cultural aspirations, underlying all of the allied disciplines associated with landscape infrastructure, would differ any more significantly than the arrangement of DNA among individual human beings.

Returning to the question of education, it may be considered a necessary but insufficient condition of undoing. Insufficient because unless a collective consciousness is supported by common ideas and language, there is no opportunity to operationalize what is being learned. This reality is most evident in the glaring disconnect between sustainable architecture and contemporary building development. The technology is proven and available, and the

economics are favorable, but the social and business models are incongruent. The social model, as embodied in legislation and minimum standards, lags far behind because it fails to embrace a larger meaning of health and safety that goes beyond the immediate inhabitants. And the business model is not integrated, continuing to operate in a schizophrenic mode where one entity is solely interested in capital expenditures, while the other must live with operating budgets that are determined in absentia. Under this current state of affairs, universities could incubate the most sophisticated of design practitioners only to strand them in a shadowland where the pivotal commitment to inter-generational equity simply does not exist. Leaving these larger social, cultural and political issues aside for now, the undoing will require conscious and comprehensive changes to pedagogy, research and practice.

It is now arguable that universities represent the leading edge of theory and practice in transdisciplinary fields. This is quite so simply because professional practices cannot afford to profitably organize such a large and diverse number of related disciplines, populated by individuals of extraordinary intellectual capability (faculty and students), and supported by state-of-the-art research tools. The potential for avenues such as landscape infrastructure to be pursued vigorously in order to advance critical public agendas, such as sustainability, is enormous. However, this will require a shift away from normative practices in the commercialization of research, and more importantly, the funding and tenure review of faculty in these emerging transdisciplinary fields. At present, the university is a reflection of the fractionated knowledge base that rewards depth rather than breadth, and publicly funds researchers within narrow and traditional boundaries. Until such time as the melding of several disciplines to apply for a single grant from a public research agency is not viewed as academic anathema, there is very little hope of nurturing a grassroots movement in landscape infrastructure.

Time – The Overlooked Dimension: Unlike buildings and inanimate infrastructure interventions, the behaviour and impacts of landscape infrastructure change over time. This change is influenced by natural growth and interactions with related systems. Dynamic, longitudinal models of evolving performance are essential to intelligent interventions, and these need to be researched, demonstrated and conveyed through the academy.

- Time is a variable that seldom informs design thinking that widely continues to be driven by imagery, much more than process. The measure of time must be taken as seriously as physical scale and characteristics.
- Service life, time to maturation, frequency of interplanting, are examples of critical measures of time that need to be reasonably and reliably forecast at the design stage.
- Design is a time consuming activity that is not properly rewarded in a society whose economy is driven by the consumption of commodities. The time needed to properly educate landscape infrastructure designers, and subsequently, the time needed to properly design effective landscape infrastructure interventions, are the most overlooked aspects of this invisible dimension.

Connectivity – Trans-Boundary Phenomena and Whole System Behaviour: Landscape infrastructure interventions are necessarily interconnected with other landscape infrastructure interventions to form an integrated urban ecology. Working in isolation from, or the absence of, a larger system context (i.e., bio-regionalism) makes it difficult to avoid potentially trivial or dysfunctional interventions. Whole system models must form the basis of inquiry and education.

- Property boundaries do not represent system boundaries, yet these establish the area that may be influenced by landscape infrastructure interventions. There is a need to promote planning practices for new developments that consider the entire system, regardless of how many property lines it crosses. Notions of dealing with stormwater within the boundaries of each property are highly flawed, even though we possess technologies that are capable of achieving this objective. There is also a staggering backlog of existing conditions based on this flawed model that will require reconciliation.
- The connections between trans-boundary phenomena and whole system behaviour are not always critical, but in some cases hypercritical, as in the erosion of soils leading to excessive turbidity in fragile aquatic ecosystems. The ability to identify key sites and critical interventions is the only means of effectively targeting limited resources. One size fits all solutions, like green roofs or bioretention basins, will one day be viewed as landscape architecture's snake oil.

Performance – Prediction, Feedback, Adaptation: Performance in its broadest sense, inclusive of social, cultural, economic and environmental phenomena, demands metrics that can be commonly understood and meaningfully assess the outcomes of design intent. Societal aspirations for sustainable urban settlements must be grounded in theories and measures of landscape infrastructure performance that bridge across all engaged disciplines. This is not the present situation and until such time as the concerns of hydrologists, biologists and related environmental scientists are reflected in design metrics, landscape infrastructure cannot emerge as a 21st century concept responsibly guiding our interventions.

- Performative landscapes imply performance metrics that can be incorporated reliably into predictive design tools. Key to the utility of this applied research agenda is determining critical performance parameters.
- Measuring performance is the only way to reconcile predicted versus actual performance. The refinement of theories and predictive design tools is not possible without extensive, longitudinal monitoring of performance.
- Post-intervention surveys are essential to gauge human reactions to landscape infrastructure interventions. Designers cannot call an intervention a social amenity if a majority of the users do not perceive it as such. Similar to post-occupancy evaluations for buildings, these surveys represent a practical means of connecting design intent to public perception, in keeping with the civic nature of these projects.

Alternative Models and Practices: Assuming the academy can work with the professions to develop effective solutions to remediate urban stormwater systems, there is no guarantee these solutions will be adopted as the new standards for municipal works. Policy and decision makers must also understand the implications of a 'business as usual' approach to stormwater management. Specifically, it is critical to advance a number of parallel agendas in support of landscape infrastructure:

- Transdisciplinary education and integrated professional practice must be pursued by the educational sector so that comprehensive design studios involving all of the allied disciplines form compulsory credits in each discipline.
- Performance-based research that is bio-regionally specific is needed to reliably predict the behaviour of landscape infrastructure interventions over time, in particular, seasonally and during extreme events.

- Economic measures for the valuation of natural resources (i.e., water, biodiversity, etc.) are essential and will require extensive research by environmental economists so that decision and policy makers can compare water with water.
- Comprehensive life cycle costing techniques must be embedded in online tools that allow all stakeholders to measure among stormwater management alternatives over their entire projected service lives. This implies that all data associated with public works and natural resources is shared among all citizens.
- Differentiation between politics and physics is the final frontier of rational stormwater management practices. The maze of regulations, by-laws, and rules-of-thumb that have no basis in physical reality have to be identified and culled from the collective codes and standards that have so misdirected municipal works. Landscape infrastructure must be phenomenologically driven.

These challenges are also opportunities to extend landscape infrastructure beyond such oxymoronic concepts as 'low impact development' to be used as a means of judging whether any development at all is permissible on the basis of water resources. It may teach us that despite our best management practices, some regions must be left alone from humans. We do not have a manifest destiny to inhabit every corner of the world, and our intrusiveness must be carefully guarded.

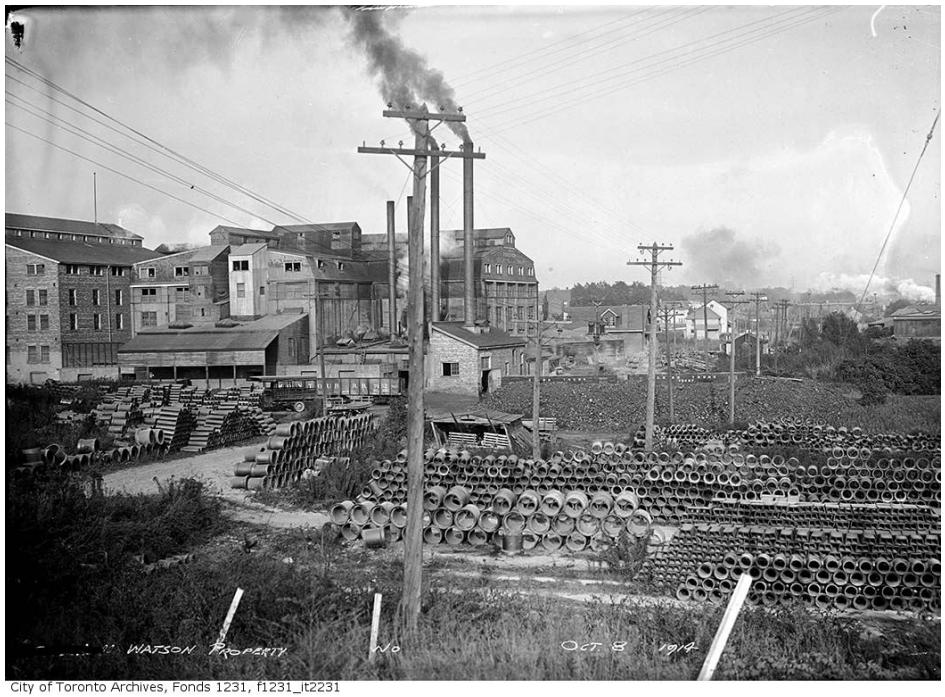

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Figure 4. The Dominion Sewer Pipe Company in the Swansea neighbourhood of Toronto was part of a larger movement of smokestack industries whose ultimate purpose was unquestioned by a society avidly interested in the amenities of municipal infrastructure. The war that had begun being waged against stormwater across North America would have more far reaching effects than the one that had started in Europe a few months before this picture was taken. These deeply ingrained societal notions have to be undone before the concept of landscape infrastructure can be planted and take root in our collective consciousness. [Image: City of Toronto Archives, October 8, 1914.]

Stormwater management as it is conventionally practiced in most North American cities is highly questionable in terms of its environmental utility. In virtually all cases, conventional stormwater management techniques accelerate the rate and quantity of runoff which then becomes a discharge containing concentrated contaminants that are conveyed into receiving water bodies. Historically, this aggressive approach to removing stormwater from urban streets involved the automobile. At the time of its inception, automobile technology lacked sealed electrical systems and splashing water could cause cars to stall or breakdown. The response by municipal engineers was to design systems that would rapidly drain water from roadways and parking lots. Standing water, in any form, was viewed as a nuisance that had to be eradicated in the name of progress. Current adherence to past practices is a reflex that is no longer needed now that automobile technology has advanced, and societal views on the relative importance of automobiles' contribution to our economy and quality life are undergoing massive change. The same is true for so many other outdated reasons to fear stormwater.

Figure 5. *Eco-Terrorism Recipe #1:* Using polluted rain and melting snow, convey all the dirt, oil, tar, gasoline, cigarette butts, rubber, plastic and metal particulates, dissolved fertilizers, herbicides and pesticides, road salt, and antifreeze, and concentrate this toxic brine in secret underground networks, and then release it directly into streams, rivers and lakes that feed urban water supplies. [Image: City of Toronto Archives, February 26, 1931.]

UNDOING OR UN-DOING?

Undoing has two meanings. It can represent the unraveling of things that are worthwhile preserving, or it can signal the reparation of things gone wrong. The Great Undoing has many dimensions and this essay on the movement in support of sustainable urban stormwater management practices deals with but a single thread in a tapestry of modern North American civilization that is knotted and crazed, and whose weft and warp have become too tangled to weave anything more than destructive chaos. Our cities can ill afford delays in 'undoing' not only what now exists, but also what may come to be unless a softer, kinder, and more thoughtful path is taken.

City of Toronto Archives, Series 372, s0372_ss0077_it0015

Figure 6. The R.C. Harris water treatment plant in Toronto is a notable example of beneficial technological interventions that continue to serve the public good. A looming question as municipal infrastructure deteriorates is whether centralized water treatment is preferable to distributed systems? Regardless, the need for safe drinking water, like fresh air, will not go out of style.

Ideas such as healing and regeneration are derived from the world of living things and self-organizing systems. These systems are infinitely more resilient than artificial mechanisms because they 'feel' and respond accordingly. Inappropriate responses are fatal, hence behaviour has consequences an inanimate object can never know. Self-organizing systems, like all things living today, represent the survivors of an evolutionary process that can never be emulated by inanimate systems that have no internal drivers. In reality, the softer, kinder and more thoughtful path is tougher and more adaptive than purely artificial interventions. The symbiosis between landscapes and infrastructure marks the critical path that will eventually lead us to The Great Undoing.

This essay was written in 2009 as a contribution to a publication that was being planned by Professor Pierre Bélanger of Harvard University. As colleagues at the University of Toronto prior to his move to Harvard, Pierre Bélanger and I had exchanged ideas about the nomenclature that was emerging in the landscape architecture field. My civil engineering background attracted me to terms like de-engineering and landscape infrastructure, and so I undertook a critical examination of the terminology and its related issues and implications.

In developing this essay, I came to realize it had parallels in architecture and urban planning. The notion of transdisciplinarity as a necessary construct to enable sustainable development continues to gain traction as single and multi-disciplinary fields fail to grapple successfully with phenomena like urbanization and the post-carbon economy.

The most important realization stemming from this essay was the importance of cultural constructs and how these were embodied in design education and professional practice. The lens of intergenerational equity reveals the heavy handedness of the Industrial Revolution and the deployment of powerful technologies to impose economic, social and environmental infrastructures that greatly restrict freedom of choice among succeeding generations. What makes "The Great Undoing" so difficult is not only obsolete physical infrastructure, but completely outmoded intellectual processes. Unwittingly, we have created a built environment that has enslaved our way of thinking, in turn punishing those who seek to question its fundamental premises and break free of its grip.

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