

Ravenous Urbanism

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RAVENOUS URBANISM

Ravenous Urbanism proposes an alternative approach to urban densification in the City that capitalizes on existing natural systems as an untapped infrastructure that might propel ecologies, economies and experiences. It begins by confronting the traditional understanding of the ecumene, situating the spaces that lie beyond the habitable and civilized, in a contradictory manner within the City – and then asking: How might a reconsideration of this internal wilderness as a terrifying, fecund, and elusive space become an agent that restructures the form of the city as well as our expectations of civic life? The Toronto Ravine system becomes both the site and the organizational strategy for this proposal, via an unexpected accomplice: the agglomeration of built form and the manufacture of new public space types that attend densification, and an open ended proposal for a series of sequential adjustments to the fabric that attends the ravine edge. *Ravenous Urbanism* levers the current policies of the various levels of government currently dictating treatment of this edge, and opens questions for the manner in which similar strategies might be deployed in other urban centers to capitalize on the potentials of the natural seams that exist within the urban fabric as a catalyst for urban, social and environmental change.

LOCATING THE THIRD FRONTIER

As the modern metropolis expands, it loses track of its territories. Infrastructures shorten urban connections and the appreciable time required to transit between them. Simultaneously, their footprint binds, confines and demarcates the ground. The areas of land that are over passed, bypassed,

and leftover from these network processes drop into the urban unconscious. Although these spaces occupy the physical space in the interior of the city, they remain for the most part outside of the experience of everyday use and life. These terrains persist and evolve then, not by the rules of the city, but by the codes of the wild – the uncivilized, the disorderly, the dangerous and the unrestrained.

Author Richard Louv identifies the Third Frontier as the cultural condition that defines the current generation of North Americans' relation to their environment. The First Frontier, which ostensibly came to a close near the end of the 19th century, was characterized by the idea of the civilizing transformation of the savage landscape and by the pioneer activities of land acquisition and the conquest of the wilderness through farming and industrialization. The Second Frontier, which has been identified with the majority of the 20th century, was largely marked by the parallel conditions of the instrumental use of the land by the family farm contrasted with the romantic attachment to the idea of the pristine landscape made manifest in the large scale national and urban park systems, with this contradiction being subsequently captured in the conception and proliferation of the postwar subdivision and development. Louv defines the Third Frontier, which has emerged in the last decade, as an embodiment of at least five not necessarily logical trends: "a severance of the public and private mind from our food's origins"; "a disappearing line between machines, humans and other animals... and an end of biological absolutes"; "an increased intellectual understanding of our relationship with other animals" and natural systems, in the context of a decreasing degree of lived experience in nature; "the invasion of our cities by wild animals (even

as urban/suburban designers replace wilderness with synthetic nature); and “the rise of a new kind of suburban form” defined by shrinking open space and severe land use restrictions.¹ Louv cites research from the fields of psychology, sociology and early childhood education to make the case that an encounter with the nature is central to the development of a young person – central to one’s capacity to “be in the world”, learn, and sympathize with the other.

Fifteenth-century European world maps portrayed a single landmass divided into three continents in the northern hemisphere of a spherical planet. Those three continents constituted the ecumene, or habitable earth. Beyond the ecumene, lay the wilderness, an unknown region characterized by either savage nonhuman creatures or an idyllic paradise beyond the reach of human culture. Wilderness, has always been associated with both origins and infancy, and with the Armageddon that lies in wait at the end of culture.² In his essay, “Habitable Earth: Wilderness, Empire, and Race in America.” Denis Cosgrove tells us that Thoreau used “wild” synonymously with “wilderness”³, as the classified and bounded zone beyond civilization – however, “wilderness” is rather the officially sanctioned wild; the culturally constructed realm of the wild as classified and permitted to exist. What if the wild did not ask permission, and had entered the space of the City?

SECRET WORLD

In 1992, Architect Larry Richards whispered “Toronto has a Secret” is his essay on the spaces constitutive of the city, alluding to Kahn’s notion of a treasury of places, Richards cites the observations of Michael Hough to describe the geological / psychographic anomaly that defines Toronto:

“the deep densely wooded ravines of Toronto that were cut from tableland by streams following the last ice age are part of a major system of river draining south to Lake Ontario. Twenty-one metres below the flat, urbanizing plateau of the growing city, they formed a unique system of remnant southern hardwood forest and streams, a habitat for animals and birds within an urban area, a place where the original forest and natural history of the land could still be experienced. It was where the sounds of traffic could no longer be heard, where smells and tactile feelings were enhanced by the utter contrast of the enclosing woods, suddenly experienced as one reached the valley floor from the level of the street...Today they [the ravines] are recognized for their significance to the environmental and social well being of the city. Within the urbanized environment, they have become one of the key elements that make Toronto different from other places.”⁴

The ravines of Toronto constitute a specific type of urban space, as whilst they might physically and psychologically occupy a condition of terrain vague,⁵ they are also latent with geological, physiological and mythological presences and rich



FIG. 1 (centre) Plan of Toronto illustrating the presence of the ravine system and its interconnectivity with other informal ecologies -the Don River on the East, and the Humber river to the West (right) images of the official: Don ravines and its crossings, (left) the Humber ravines as residue - surficial and internal conditions.

with the memory of the city. Here, ecologies and processes from millennia past continue to operate, and relics from past occupations continue to persist. Like the imperial sewers buried yet still functioning beneath the streets of Rome, the ravines also have a central function within the city's ecological and hydrological processes, as well as offering tremendous civic and recreational amenity for the citizens that dare to transgress their boundary. (fig 1)

FLOOD AND FEAR

For many, the Humber River Ravine constitutes an abandoned or forgotten space in the city of Toronto stretching northward from the mouth of the river west of the downtown core, through to the city's north-western outer suburbs. This system occupies 2370 ha of area, and was at one time, a significant natural feature around which the city developed. (fig 2)

On October 15, 1954, Hurricane Hazel descended upon the region with 110 km/hr winds and more than 200 millimetres of rain in less than 24 hours. In Toronto, bridges and streets were washed out and scores of homes and trailers were washed into Lake Ontario. Thousands were left homeless, and 81 were killed.⁶ The Humber River was the site of

particularly tragic events with extensive destruction occurring along its full length. In the wake of this event, intensive stormwater infrastructure including an extensive series of dams, reservoirs, and floodplains were engineered and erected to prevent similar situations from occurring in the future. Ownership and management of the ravines was organized under the Toronto and Region Conservation Authority, and a boundary around the high water mark of the flood was inscribed, defining the footprint of the ravine as a volatile force to be managed. No construction was allowed to occur within this boundary, around which successive waves of private residential development coalesced, for the most part enshrining the ravine system within a cloak of private ownership, and under an intensively managed set of developmental constraints. The ravines were designated as open space, and while they would remain publicly accessible, only few selected areas were designated as parkland and sanctioned for public use.

During the 1950's and 60's, market-based high-rise housing was constructed on numerous sites adjacent to the ravines as part of a great boom of residential growth within Toronto. Although these structures were given a remarkable proximity to the ravine system, their location was actually considered to be on the periphery relative to central-

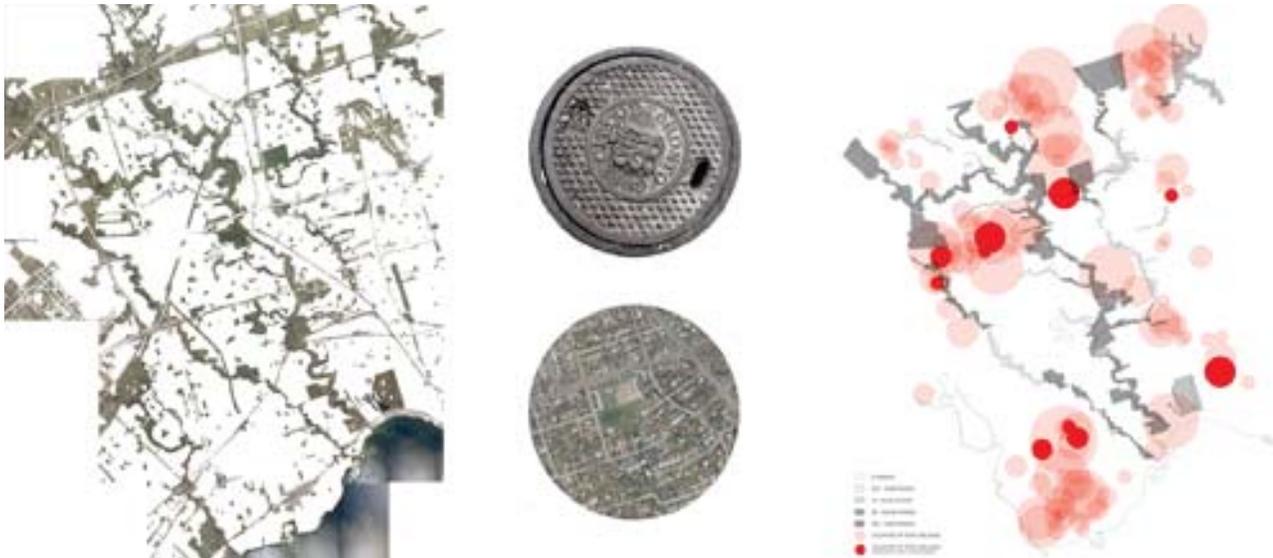


FIG. 2 (left) Erasure mapping indicating Humber Watershed figure relative to adjacent networked ecologies associated with rail, highway and hydro infrastructures. (middle) catalytic systems: stormwater and centre-centric platting patterns locate dense housing at the ravines margins and fuel the flow of contaminants into the ravine system (right) Mapping of carcinogenic contaminant release sites into adjacent soils.

ly located parks and schools surrounded by low density single family residential fabric arranged in the familiar platting plans of suburban planning. High-rise residential types were in most cases effectively separated from the ravine system by multi-storey walls of parking at their base, with no direct access to the ravines. Although visible from individual apartments, these spaces have failed to become an actual amenity for most residents.

Today, the Humber Valley is one of a system of watersheds that thread through the cultural mosaic that comprises the city of Toronto. It remains for many constituents surrounding the river an unknown, and inaccessible place. The ravines maintain a sense of mystery and the uncivilized, being not only the abode of countless of the city's homeless residents, but also serving as riparian linkages that bring birds, deer, beaver, foxes and coyotes from the forests to the north into the heart of the city. They remain a territory that few are able to engage on a regular basis, but one that offers the possibility for unexpected encounters with the 'wild' within immediate proximity of the urban populous. In fact, one may count more locations of unmediated stormwater outflows into the system, than formal points of public entry.

MYTHOS: A LITERARY HISTORY OF THE RAVINE

For Toronto's authors, the ravines have emerged as a landscape of memory, myth and self-discovery.⁷ Margaret Atwood's characters enter the wilderness of the ravines as a space of transgression where their violent tendencies emerge.⁸ In Michael Ondaatje's *In the Skin of a Lion*, the hero Temelkov must hurl himself into the void to rescue innocence from entering the ravine.⁹ In these works, the ravine is an uncivilized place, a place to be feared, a place where the wild carries its traditional sense of being beyond the ecumene. For a more recent generation of authors, however, the ravines have taken on a new role. In Anne Michael's *Fugitive Pieces*, the ravine becomes a place of healing and transformation for the immigrant outsider, a place of the other where the outsider may find recognition and thus a form of solace:

" These explorations of the ravines were escapes to ideal landscapes; lakes and primitive forests so long gone they could never be taken away from

us. On these walks I could temporarily shrug off my strangeness because...every human was a newcomer."¹⁰

In her 1993 novel *Minus Time*, Catherine Bush describes the protagonist Foster, who flees his home to disappear into the Don River Valley. The forgotten wilderness of the ravine becomes a kind of sanctuary and escape from the realm of civic life, and the wilderness of nature conflates with the wilderness of the undersides of the city's infrastructure that bound it.

"Beside them the river shone, quiet and viscous ... between its cement banks, seeping toward the lake, toward the thick, tall pillars that held up the Gardiner Expressway as it ran beside the lake. They dashed across the road beneath the highway, under the leached stains and the rusted pipes protruding from the pillars, this crumbling stretch of concrete sky."¹¹

In the cultural and poetic imagination of the city, the ravines thus maintain a position of being outside and beyond the city, a para-natural form of infrastructure, not playing by the same rules as the spaces of the city's officially recognized parks and recreation areas. As with the space beyond the ecumene in ancient maps, and the terrain vague of Solà Morales Rubió, these spaces of otherness have served to provide a fundamental cultural identity for their constituents.

URBANIZATION & COMMUNITY INFRASTRUCTURE

In a country whose only form of population growth is immigration, the Greater Toronto Area receives some 80% of new Canadians on an annual basis. In the past decade, the social support network for which Canada was well known in the 1970's has been eroded. The Toronto Community Housing Commission has ceased to produce new social housing, and educational and training programs are in a state of decline. Demographic data reveals a pattern of settlement in which successive waves of immigrant communities have formed around residual spaces such as the Humber, due to their proximity to industrial uses and resultant low real estate values. A large percentage of this population has been accommodated in the high-rise housing built along the Humber Ravine in the middle of the last century. It is likely that the parcels at the edge of the ravines may continue to

densify as the city receives new immigrants, and Neo-liberal think tanks such as Neptis have identified the ravine edge as having "excess capacity" for growth.

Despite the emphasis within Canada on its policies of multiculturalism and the promise of a network of community services to support cultural difference and sustenance, an ever increasing load on existing programs and spaces to facilitate community support and foster civic life has stressed existing social infrastructures to the breaking point.¹² In the past decade, after school programs ranging from athletics to cultural activities have been eliminated from the provincial public school system - simultaneously, funding for local community centre programs has been drastically reduced. The free market has been left to mediate this condition.

Current Provincial policy statements require the provision of an expanded network of 'community infrastructures' attendant to the provision of physical infrastructures and increasing residential density within the GTA. The character and form of this new network of service provision remains undefined and unexplored. Many believe that increased access to outdoor recreation opportunities and natural environments will help to mediate the social impacts of high density immigrant living conditions.¹³ Interestingly, in a recent set of informal interviews with a group of high school aged young offenders, it was revealed that of the 18 young men in the group, none had ever visited the ravines, or could even think of a reason why one might go. All of the interviewees had grown up within 300 meters of the ravine's edge.

ENVIRONMENT & TOXICITY

20% of the world's fresh water lies within the national boundaries of Canada. 30% of the nation's population resides within the great lakes watershed, and 80% of these, estimated to be some 11,000,000 people by 2025, reside in the Greater Toronto Area, and draw their freshwater supply from Lake Ontario.¹⁴ The ravine watershed system feeds this source. A combination of passive rural and urban runoff and the active dumping of waste and landfill has elevated toxicity within the ravine watersheds to an alarming rate. Samples of water from the Humber River contain toxins from around the globe and the toxic contami-

nants the surround the river range from identified synthetic carcinogens to less volatile but equally problematic biological compounds.

The adjacency of the Humber River Watershed to the CN / CP Western Rail corridor has also allowed for the proliferation of a range of formal and informal industrial grounds that had for years been using the river as a kind of sewer drain. While many of these obvious sources of pollution have been curbed, toxicity from industrial lands continues to permeate the ground and infiltrates the watershed. Federal and Provincial agencies have been slow to act on these conditions within Canadian cities when compared to American and European counterparts, however action is imminent. The resultant injection of funding and large scale mobilization of remediation technologies provide a significant opportunity for design to intervene in the future of these edges relative to the character and condition of the ravine.

Recently, tremendous attention has been lavished upon the official spaces of Toronto's interface with its waters. Master planning and remedial landscape initiatives have spawned a series of high-profile design competitions that will radically transform the spaces of the Lower Don, The Portlands, The Leslie Street Spit, and the city's waterfront along Lake Ontario. These initiatives now anticipate a range of internationally recognized design practitioners each proposing a new vision for these civic landscapes.¹⁵ These projects, however, are concentrated in two primary territories, the Official Spaces of urban waterfront parks, and the management of existing landscapes at the mouth of the Don River.

PHYSICAL INFRASTRUCTURE: INSTRUMENT OF INFLECTION

Across the province the ageing physical infrastructural systems are in a state of crisis due to deferred maintenance and necessary repair work. The crisis is of such a magnitude, that an entirely new Ministry of Public Infrastructure Renewal was created in 2003 to strategically plan, implement, and manage these projects.¹⁶ In proximity to the Humber Ravine, a range of transportation, stormwater, water processing, sanitary, hydro electric, recreational and ecological infrastructures are in a state of decay. Current plans call for significant

reinvestment and injection of funds and action into the area to support these infrastructures.

This circumstance could offer a profound opportunity, especially when considered in conjunction with the (secondary) agenda of community infrastructures outlined within the plans to re-imagine a synthetic vision of civic works that might not only draw into confluence a range of economies and capital flows, but also attend to related social issues that aggregate around the Humber River Valley. The kind of speculative projects that might emerge from such consideration may well be beyond the capacity of existing authorities and agencies - specialized in the management of highly particularized territories, but rather call upon the capacity of a transdisciplinary approach to such issues that will without question be central to forward looking synthetic urban design thinking and strategic design practice in the years to come.

**MINING THE SEAMS:
RAVENOUS URBANISM**

It is this conflation of civic, economic, ecological, social and cultural systems that Ravenous Urban-

ism approaches. Recognizing the ravines as a unique natural system in need of infrastructural and ecological remediation, as well as a site of tremendous social and physical amenity potential, Ravenous Urbanism is a proposal to expand and amplify the ravine systems within the city. The proposal begins by developing new ravine-like landscapes within the 300m perimeter of the existing Humber River that are connected to and feed into it with remedial ecologies that extend into the city as horizontal fingers processing waste, stormwater, and soil in situ. Maximization of the edge condition will also afford increased opportunities for physical proximity and experiential contact with the ravines. This proliferation of ravine edge condition is to be accompanied by a densification of built form at the edge, and conceiving of new tower and urban space types. (fig 3)

In so doing, an economic and development model is introduced that would locate community infrastructure, transportation networks and population growth adjacent to the ravine edge and will provide a cultural infrastructure to the intensified periphery. A distributed network of social and civic spaces as sites for interpretation and cultural

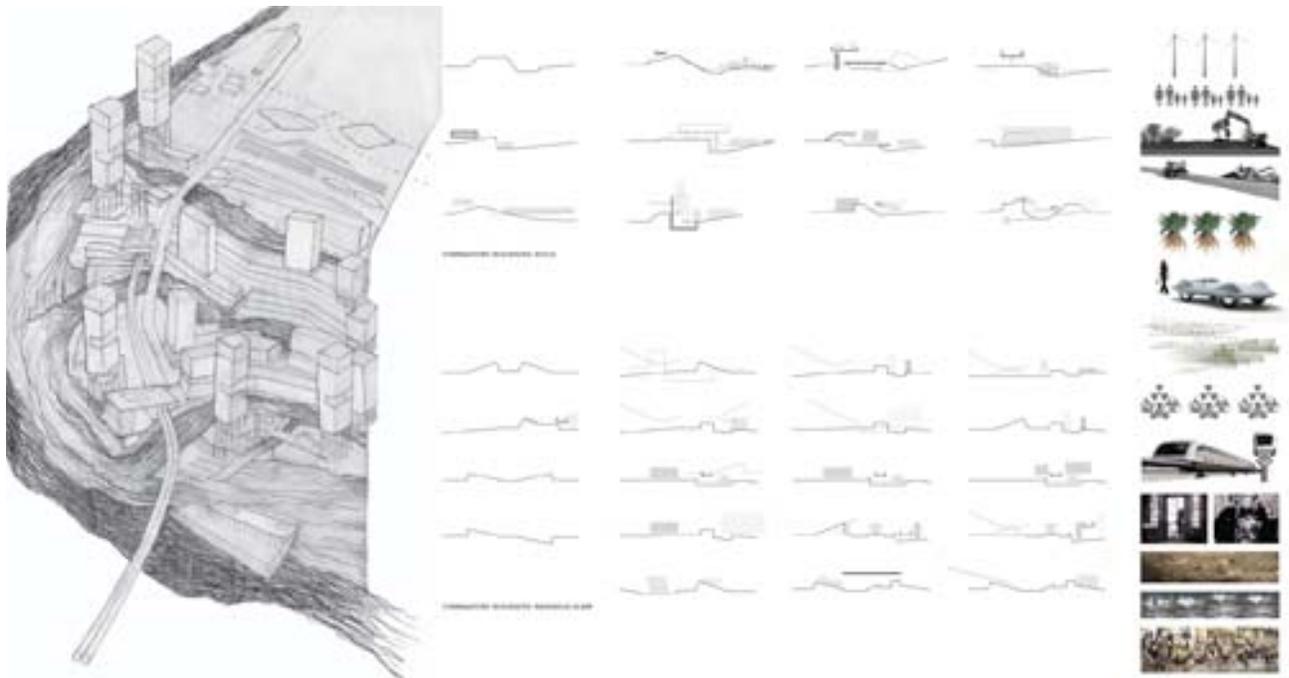


FIG. 3 (left) Axonometric drawing of various components of Ravenous Urbanism at work: Circulation and built form concentrates public amenity at the highly densified ravine edge and biases its occupation. (middle) topographic operations that borrow from the typological language of ravine edge formation to construct new social topographies and ecologies (right) Thematic sequences and programmes for the amplification of the ravine edge.

emergence attend the legible manifestation of remedial technologies.

ECOLOGICAL AND SOCIAL AUTOCATALYSIS

It is clear that a single masterplan would not be adequate to anticipate or forecast the time based choreography required to orchestrate such changes. Rather, a series of tactical interventions that anticipate systemic totality would need to be initiated that might introduce, episodically at first, Ravenous Urbanism.

Once the engine of development is initiated, remediation legislation with respect to toxic soils and existing stormwater outflow systems determines the sites of initial activity. Radical urban remediation that impacts the ecologies of the ravine system would be necessarily required as part of federal and provincial mandates, and in light of the increased residential population, the provision of community infrastructures such as a school, community centres and cultural facilities, all currently driven by population density would be provided under existing policies all to be conceptualized as part of the thickened edge.

The social space of the urban thus enters into dialogue with the self-organizing, autocatalytic biological network of the ravine and will evolve by drift. Within a field of ongoing remedial operations and infrastructural adjustments, significant sectional displacement will occur to the profile of the land. The resultant terrain, will be mediated through its seams. In-situ soil composting through the figure of windrows initiates an orientation of planometric morphology perpendicular to the ravine edge. New systemic infrastructures associated with storm water and sewage processing¹⁷ would be positioned below grade in proximity to parking structures associated with new high density parcels. Successive Phytoremediation will parallel the deep surface's capacity to process runoff and sewage, and generate a landscape of new natural systems and connection linked to the ecologies of the ravines. These systems will manifest themselves along the space of the edge as a new form of public infrastructure. The opportunities afforded by a banded arrangement of succession landscapes, perpendicular to the ravines, form systems of public pathways and ecological linkage. (fig 4)



FIG. 4 Images of the Socle Mat: The constructed landscape of the socle replete with water filtration and public space systems, multistorey landscape infrastructures that support community infrastructure programmes, and specific program nodes as points of formal entry into the ravine system.

TORONTO URBAN FORM: SOCLE, AND TOWER

The form of the built development of Ravenous Urbanism reinterprets the existing Toronto tower and socle typology and re-imagines the socle as an active thick urban landscape mat capable of supporting social, cultural, and environmental programs and mediations. In 2005, Toronto's planning department adopted legislation requiring that 4-6 storey commercial bases to be designed as part of every new tower constructed in the city. This base must perform a whole host of performative functions related to conservative visions of street and related programs and "good planning". Indeed. Within the framework of Ravenous Urbanism, the narrowly defined socle as base, is re-imagined as a thick landscape mat that not only liberates the tower from the ground plane, but becomes that site of a new and emergent public realm, facilitating access to the ravine landscape and also providing a site for the community infrastructure that will attend densification. Existing transportation systems will be intensified, adding skybound alternatives to linear surface based systems locating hubs at key interface points along the ravine.

In the version of this future that we have illustrated, extended ecological imperatives include agricultural production, assuring access to a healthy and affordable food supply for members of the community. The towers of Ravenous Urbanism will be equipped with productive greenhouses that form a verdant amenity attendant to domestic life. Some towers may also be equipped

with the capacity to internally generate energy either through photovoltaic systems, or turbine based wind harvesters. (fig 5) Ravenous Urbanism takes what was once considered outside of the official city and internalizes it to be central to the city's future. The new proliferated ravine system will, on one hand serve as a landscape amenity in the traditional sense of recreation and encounter for the residents of the city. On the other hand, it is likely that the ravines, functioning as a part of the city's hybridized and emergent infrastructural network, their operational systems and landscapes transforming as their ecology evolves, will maintain their sense of 'otherness' and will continually resist the forces of taming and beautification, becoming part of a protean landscape that interrelates human, ecological and urbanizing processes.

Whatever one thinks of this vision, it is clear, that in attempting to address the complexities of natural systems within urban contexts, much more is at stake than the provision of quantities of "green". For most industrialized North American cities, such ecological systems have been suppressed within the field of urban morphology that surround their figure. What is of great interest in the Toronto example, is that highly particularized cultural and demographic conditions attend these territories - conditions that, if not already constituting urgent territories of action, will become increasingly potent site for intervention as urban densification continues. Within the Canadian example, an astonishing array of policies attend the introduction of development mechanisms that, if implemented, may in fact provide the political

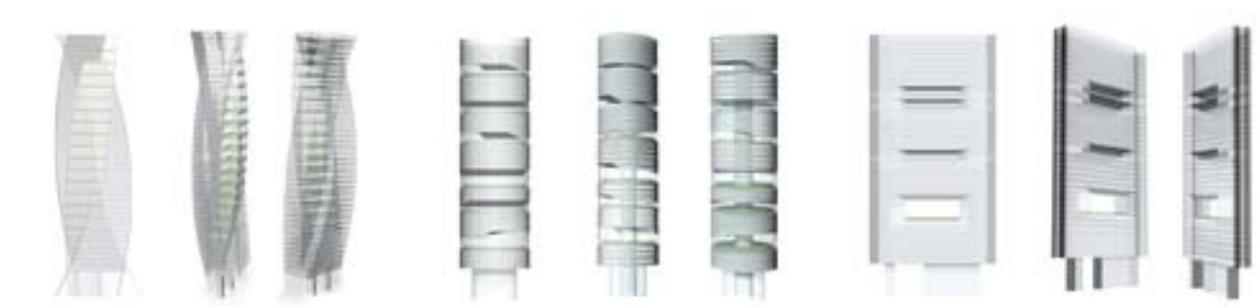


FIG. 5 (left to right) Three tower typologies proposed within the Ravenous Urbanism framework. Within tower mass, a variety of unit sizes and tenure types are accommodated including vertical greenhouse spaces and terrarium types with photovoltaic skins, and turbine types that generate energy to drive public amenities in vertical configurations, or at the space of the socle landscape below.

and economic lever for introducing a radical reformulation of these existing edges, having the dual capacity to further agendas of both ecological, environmental, civic and cultural potentials within our cities.

Note: *The detailed design work of Ravenous Urbanism will be presented during the ACSA conference in Houston permitting extensive graphic illustration not allowed for in this paper format that instead, provides a background for the project.*

ENDNOTES

1. see Richard Louv, *Last Child in the Woods: Saving Our Children from Nature-Deficit Disorder*, (Chapel Hill: Algonquin. 2005) The third frontier is spatialized as defining the territory where the 'natural' resides in the urban, suburban and ex-urban contexts examined by the cultural studies undertaken by Louv et al. This territory has affinity with the *Terrain Vague* of de Solà-Morales, the *Dross* of Larup and Berger, but ultimately more so, with the *Zone* of Tarkovsky, insofar as the overwhelming presence of the natural realm within ambiguous, unresolved, marginalized, and residual conditions is essential for its inclusion within Louv's definition.
2. see Dennis Cosgrove, *Apollo's Eye: A Cartographic Genealogy of the Earth in Western Imagination*. (Baltimore MD: The Johns Hopkins University Press. 2001) : ix-78
3. see Dennis Cosgrove, "Habitable earth: wilderness, empire, and race in America", in *Wild Ideas* ed.D Rothenberg (University of Minnesota Press, Minneapolis, MN. 1995) : 35
4. see Larry Richards citation of Michael Hough in "Toronto's Treasury". *Toronto Places*, ed. Larry Richards & Marc Baraness (Toronto: University of Toronto Press. 1992) : 11-17
5. see Ignasi de Solà-Morales Rubió, "Terrain Vague," *Anyplace*. Ed. Davidson, Cynthia E. (Cambridge, MA: MIT Press.1995) : 122-123
6. see John Bentley Mays, "Binding and Loosing the Waters", *Emerald City: Toronto Visited*, (Toronto: Viking Press.1994) : 38-53.
7. see Robert Fulford, 1996. "The Invention of Toronto: A City defined by its artists". William Kilbourn Lecture, Toronto Historical Board, 12 June 1996. (<http://www.robertfulford.com/kilbourn.html>), Geoffrey Thün, "Reading Toronto: Collective Consciousness, Imagination and the Emergent City" (2006: *forthcoming*),
8. see Margaret Atwood, "Journey to the Interior" *The Circle Game*. (Toronto: Contact Press.1966) : 64-68
9. see Michael Ondaatje, *In the Skin of a Lion*, (Markham: Penguin International. 1988) : 31-32
10. see Anne Michaels, *Fugitive Pieces*. (Toronto: McClelland and Stewart. 1996) : 102
11. see Catherine Bush, *Minus Time*. (Toronto: Harper Perennial Canada. 2000) : 276
12. see *A DECADE OF DECLINE: POVERTY AND INCOME INEQUALITY IN THE CITY OF TORONTO IN THE 1990S* a report prepared jointly by The United Way of Greater Toronto, and the Canadian Council on Social Development. Toronto: 2002
13. see Louv : 280-322
14. see Ontario Ministry of Public Infrastructure Renewal "Vision for 2031" *Places to Grow*. (Ottawa: Government of Ontario. 2005) :12
15. For a summary of recent landscape initiatives in Toronto see www.waterfrontoronto.ca. A range of exemplary design practices that have proposed new visions include Michael van Valkenberg and Associates, West 8, and Field Operations.
16. OMPiR op. cit.: 5
17. Primary sites for the *Ravenous Urbanism* project are situated immediately adjacent to, or comprised of existing sites of industrial decampment, or at one of the 2250 locations of existing storm water outfalls that deposit their contents directly into the Humber. Although the performative measures associated with this approach are most profound from the standpoint of total and systemic deployment, incremental adjustments associated with new development at priority locations generate the initial nodes of change from which the network configuration of the ravine system might generate broader systemic effects.