FRESH TURF+

A CULTURAL ATLAS OF THE GREAT LAKES BASIN

and a Studio Great Lakes urbanism workshop

EDITED BY ELIZABETH GEORGE & SCOTT SØRLI

FRESHTURF+

A CULTURAL ATLAS OF THE GREAT LAKES BASIN

FRESHTURF+ is a Cultural Atlas of the Great Lakes Basin, based on a proposal by Studio Great Lakes for a Freshturf region, which challenges existing North American regional forms through a critical territorial assessment of Economy, Environment, Technology, Society, and Geopolitics. It is an initial step to a reconceptualization and reconstruction of the Great Lakes to strengthen an evolving and expanding identity for the region's urbanism and culture.

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STUDIOGREATLAKES

FRESHTURF+

A CULTURAL ATLAS OF THE GREAT LAKES BASIN

EDITED BY ELIZABETH GEORGE & SCOTT SØRLI

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F R E S H T U R F

unofficially obtained territory

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Freshturf was a special topic workshop inserted within an architectural studio on the theme of collaborative practice. It provided a distinct experience with a visiting critic who framed their own work with respect to the overarching collaborative agenda of the studio. This workshop supported an inter-disciplinary perspective which was formalized within Ryerson University's MArch Department of Architectural Science curriculum.

A thesis position relies on a developed lexicon and expanded relational database. This workshop was an opportunity for students to test the strength of their critical thinking and to gain muscle based within the following posits:

1. The World Economic Forum's Global Risk Report areas:
Economic, Environmental, Technological, Societal, Geopolitical
2. The Studio Great Lakes Manifesto

Students explored the methodological concept of 'mapping' inspired by the work of Gilles Deleuze and Félix Guattari, James Corner, and Perry Kulper. Their design research developed to the format of a final triptych drawing and 400-word statement for a contribution to the **Freshturf+ Construct Atlas**.

The Great Lakes is a dominant 'figure in ground' within North America.

Studio Great Lakes Manifesto

The divide of the Great Lakes Basin could be the most culturally accurate cartographic line for a new North American region – Freshturf.

Political boundaries were established at the centerline of Great Lakes water masses. At the Earth's surface, however, social, cultural, and economic lines blur. Value systems within the Great Lakes Basin are relational, celebrating and relying on this major environmental system. Thus, political borders are fundamentally 'soft' in nature and compromise otherwise rich regional cultures. As we look to maintain and preserve these significant natural resources, and where technology (which defies physical boundaries) evolves, Studio Great Lakes seeks to design strategies and urban frameworks (GLurbanism) to support a diverse and expansive regional culture while challenging definitions of locale.

—Elizabeth George

A FEW MASSES IN FRESHTURF

microorganisms

waste mound **land mass**

school of fish

gas mass

production mass

consumer demand **hive** mass of farming

think tank herd
alternative energy field flock of birds campus
community body of **water**

a building mass

mass of plants

mass of housing

mass of

people

mass transportation

industrial park

Mass of Matter

In this workshop, students investigated and translated risk factors from the World Economic Forum Global Risks Landscape report as it related to Freshturf. With risk factors as territory, students chose to either...

Expose: Make obvious what already exists / is acting in a specific location

Impose: Displace/relocate what already exists, active or not, in a new location

Propose: Locate a new mass of matter

...within Freshturf. They could choose whether the mass was animal, vegetable, or mineral, whether it was to be lasting, ephemeral, or transient, and determine its appropriate size and location. If the mass was not located within a town or city, it had to have a relationship with two or more urbanisms, where 'urbanism' is the combined actions of a population that are critical to its interpretation as a place and/or to its identity.

As the students strengthened their sensibility towards a territory and Freshturf, this workshop asked:

1. What is a starting point within a multiplicitous middle?
2. How do you define context and what are the limits, if any?
3. What defines a relationship? What defines a mass?
4. What is your position or, rather, where do you stand on our future in the Anthropocene?
5. What defines "risk" as a territorial term: Intensity. Speed. Weight. Metric.

For humanity to survive in the Anthropocene, we need to learn to live with and through the end of our current civilization.

-Roy Scranton

We see the earth as client; this brings with it long-lasting responsibilities. Architecture is the play of light, sun, shade, moon, air, wind, gravity in ways that reveal the mysteries of the world. All of these resources are free.

-Yvonne Farrell and Shelly McNamara

Architecture has always been subservient to the ruling authorities in human society. To realize built architecture, architects have to explicitly or implicitly, consciously or unconsciously, comply with the priorities of the power system in force. Architects whose principles oppose these priorities find themselves unable to realize their architecture and can only postulate, by means of projects, conjectures anticipating an alternative regime. Often they are the harbingers of the future.

-Pier Vittorio Aureli

Whether they're real or imaginary, animate or inanimate, you have to form your mediators. It's a series. If you're not in some series, even a completely imaginary one, you're lost.

-Gilles Deleuze

Reality is a construction.

-Sigfried Kracauer

What distinguishes the map from the tracing is that it is entirely oriented toward an experimentation in contact with the real. The map does not reproduce an unconscious closed in upon itself; it constructs the unconscious. It fosters connections between fields, the removal of blockages on bodies without organs, the maximum opening of bodies without organs onto a plane of consistency. It is itself a part of a rhizome. The map is open and connectable in all of its dimensions; it is detachable, reversible, susceptible to constant modification...

—Gilles Deleuze and Félix Guattari

Great Lakes Relational Structure, Elizabeth George, 2016

89.9°

101.6°

116.2°

138.8°

199.5°

304.3°

464.5°

676.7°

787.9°

796.6°

798.7°

Mapping is key here for it entails processes of gathering, working, reworking, assembling, relating, revealing, sifting and speculating. In turn, these activities enable the inclusion of massive amounts of information that, when articulated, allow certain sets of possibility to become actual... Thus mapping differs from 'planning' in that it entails searching, finding and unfolding complex and latent forces in the existing milieu rather than imposing a more-or-less idealised project from on high. Moreover, the synoptic imposition of the 'plan' implies a consumption (or extinguishing) of contextual potential, wherein all that is available is subsumed into the making of the project. Mapping, by contrast, discloses, stages and even adds potential for later acts and events to unfold. Whereas the plan leads to an end, the map provides a generative means, a suggestive vehicle that 'points' but does not overly determine.

—James Corner

Ultimately, by challenging norms, and by varying the material, atmospheric and situational conditions of the motel, this project establishes a sense of familiar strangeness through the juxtaposition of distant realities in this metaphorical and real floating motel'ish proposal for birds.

—Perry Kulper

Sky Writer: Floating Bird Motel, V.03, Perry Kulper, 2018

The Great Lakes is a set of contiguous and iterative systems with social, economic, and cultural implications that reach around the Earth. Its coastline, a seemingly cultural edge, is, as Deleuze and Guattari would say, a multiplicitous middle.

Coasts of water bodies are under constant change as water levels rise and fall. This ephemeral quality exposes the coast's relationship to larger structures and is also a tangible reminder of the expanse and continuity of the land. When one stands at the water's edge, one feels connected to systems at greater distances.

It is with contradiction that the Great Lakes coast and water masses act as political dividers, thereby compromising the rich regional identity. When the local inhabitants take borders 'to heart' the result is an obfuscation of cultural and economic similarities, common values, and natural and geographical interrelationships that, coupled with an inability to accept difference, lead to the divisive situations currently occurring at multiple scales.

Colonizers settled across the Great Lakes with varied traditions and rituals for food, dwelling, labor, ethics, recreation, and leisure. New communities developed from practices inspired by the geography of place and/or the economies that brought the settlers to a particular location. Festivals held to celebrate and share these values, such as the Bay Port Fish Sandwich Festival, rely on the health and thus maintenance of the Great Lakes.

Lines drawn by Western explorers illustrated their sensibility in relation to an undetermined landscape. In the Anthropocene, the land once explored in this fashion is hacked, morphed, eroded, smoothed, and replaced by humans, organizations, and networks. Methodologically, *Freshturf+* encourages the design community to acknowledge and respond to these altered forms with new design techniques.

Changes to regional forms in and around the Great Lakes reorient to offer new lines, geometries, and reference points. Altered spatial relationships can lead to new interpretations and translations of context for contemporary visioning. *Freshturf*, a construct of the Great Lakes Basin, considers a landscape of relational values where the critical assessment of modern culture, economic networks and practices, technologies, and social systems is based on their environments.

Identity Great Lakes: GLurbanism

Elizabeth George

*A Narrative by Way of Maps:
Identity Established by Governments*

Canada

Map indicates the five regions (with ten provinces and three territories) established by the Government of Canada. Divisions are based on 'geography', which stops at the Canada / United States border.

United States

Map indicates five official regions established by the United States Government and is used by the Census Bureau (serves as a leading source of data about the United States' people and economy). Divisions are based on census data rather than geographical, historical, or cultural bonds.

Based on cultural values, the Great Lakes, currently considered a part of the Midwest Region, could be its own region and constructed by subdividing states. For example, Illinoisians value various water resources including the Great Lakes, the Illinois River, and the Mississippi River. Unlike Chicago, southern portions of the state value the Mississippi River and all that it has to offer.

Sub-Regional Identity

Cities in the Rust Belt and the Golden Horseshoe of the Great Lakes region evolved primarily from industrialization and profited from the connectivity of the Great Lakes. When industrial sectors started shrinking and relocating, many of these cities went through economic decline, population loss, and urban decay. Fighting for decades, these cities have entered a revitalization.

Although it is geographically the name of a sub-region of Southern Ontario, the (Greater) Golden Horseshoe is also used today to describe the metropolitan region that stretches across the area in totality, including smaller centres outside of the core region. It is recognized as the most densely populated and industrialized area in Canada.

Identity by Models and Methodologies

The Great Lakes MegaRegion: Expected Regional Growth Potential

The Great Lakes megaregion is exploring ways to grow its economy in the face of the shrinking role of the manufacturing sector. The region's assets include the environmental resources and amenities of the Great Lakes and a strong research and cultural tradition tied to its leading public universities.

—Regional Plan Association, America 2050

The Nine Nations of North America

In his book *The Nine Nations of North America* (1981), journalist Joel Garreau mapped his experiences while travelling around North America. He argued for bioregionalism, and suggested that everything from politics to urban planning should be redesigned to match evolving regional sensibilities. In his opinion, state, provincial, and national borders were mostly artificial and irrelevant. He argued that his regional divisions better represented the actual values of people and that nine fundamentally different worldviews were, in their current configuration, pulling each other apart.

The Foundry, a former industrial heartland of North America, included the Great Lakes region and the US Northeast. Its coal-based and unionized economy was closely tied to the fortunes of the Rust Belt.

Soft Space

Space and matter are held together by one's perception, based on norms, customs, traditions, and institutions. Soft Space is latent within this space/matter configuration. When one questions the values, meanings, and ontological form of some thing, soft space becomes active. In this charged moment in space and time, fragments are revealed. Deleuze & Guattari would refer to this as an 'event' and Agamben would call this putting something 'into play'. One cannot physically occupy soft space. It is phenomenally formulated, materialized, and bound, but can affect the physical condition.

—Elizabeth George

Freshturf

A woman busker appeared in front of the Cameron House on Queen Street on an autumn afternoon in 2012. The façade of the Toronto bar, a canvas for its ever-changing murals of famous women in film, had been neutralized for its next goddess. With typewriter in lap, the artist translated donations — a loonie and three words — into stories. Her animated ambition against the blank white wall temporarily re-contextualized the bar and street corner. The emergence and submergence of this *Store for Spontaneous Prose* is evidence of Soft Space: the product of a theoretical concept and method that destabilizes and challenges the mind and its tendencies for critical thought.

The nuances of daily life are not simple but are rather a physical manifestation of relationships within a larger, more complex substructure or rhizomic 'Relational Structure'. These moments can play major or minor roles in the built environment. They may be ephemeral or lasting but are, nevertheless, significant context. Interpretations of context are critical to one's understanding of place and identity.

Within its relational structure, the busker is quickly related to certain things and more broadly to others. The degree to which these relationships result in something physical (detectable by the senses) depends on the translation from their relational construct and how the notion of status (popular, mainstream, subculture) is applied.

The method begins with the dissection of 'hard space', or previously interpreted conditions. Unpacked 'fragments' now independently legible, no longer fused by pre-conceived notions and common knowledge, and with their own subset of fragments, are organized into logical adjacencies. The deconstruction of hard space is purposefully disorienting as it reveals other fragments surrounding a single fragment, thereby demanding a method for interpretation. The process of assimilation heightens a reader's sensibilities and challenges critical thinking skills. The new configuration, a construct with spatial and formal dimensionality, enables one to consider each fragment and its confluence with others to imagine anew. The ambition for new translations, or 'Soft Space', is the defiance of subconscious boundaries.

Soft Space is either blatant (a physical manifestation of a fragment) or an abstracted byproduct (an incidental or secondary result) of several relationships within the structure. Overtly speaking, writing stories by donation might be the busker's role within her milieu. Alternatively, the squatting poet might be a physical consequence of a bet that occurred between a patron and a musician who covered Two Tickets to Paradise at the Cameron House on the previous Saturday. Relative fragments in this case might be street vendors, hot dogs, etymology, Audrey Hepburn, Eddie Money, writing tools, the "e" key on a typewriter, etc. Both blatant and abstracted results are contextually significant as they affect one's interpretation of place. The byproduct example requires a more complex reading of the relational structure.

One is often not able to get out of their own way to defeat the power of pre-conceived notions for method, mode, and interpretation to push the imagination. The relational structure allows one to do so and to work towards a more expansive conceptual territory.

METHODOLOGY SOFT SPACE

ELIZABETH GEORGE

RELATIONSHIPS

Proposal for a Chicago waterfront design competition.

*100 Mile Tunnel
National Hockey
Henry Ford Museum
Alternate Transportation
Corridor
Las Vegas*

*Conflated + Conjured
Thoughts for Grid and
Lake Access*

*Ice Monsters
George Lucas Museum
Invasive Species
Gordon Lightfoot*

*Conflated + Conjured
Thoughts for Water
Wayfinding Structure /
Mooring Field*

*Fish Futures
Hunters
Nurturers
Bears*

*Conflated + Conjured
Thoughts for
Sturgeon DayCare*

TERRITORY

PROGRAM

RELATIONAL GREAT LAKES

ELIZABETH GEORGE

With freedoms granted by many cultural producers who have preceded me, namely those who have combined unlike elements in their work, the *'Sky Writer: Floating Bird Motel'* utilizes collage-thinking, programmatically, reframing the familiar human-centric program of a motel. Tactics deployed in a loose method for working, are linked to utilizing loaded programmatic elements — a float/ shrine, a theater, an honorific bird, or talisman, dispersed houses and house fragments, the construction of an artificial weather systems garden, and a translation of Marc-Antoine Laugier's primitive hut, 1755. In combination with a site undergoing constant construction and reconstruction as evidenced by a 'log', this hypothetical project reroutes human non-human relationships, deploying mixed technologies, rangy programs and material formations to rethink human dominance over other life-forms.

The images for the project are kinds of digital model/image-making composites, enabling heterogenous ideas to co-mingle in search of a synthetic, but indeterminate whole. In addition to the aforementioned interests in programmatic mixes, interests in the project include: the development of non-perspectival space, perhaps tuned to birds' ways of seeing (and parenthetically, to Wallace Stevens' 13 Ways of Looking at a Blackbird); mixing natural and machine technologies; articulating artificial and real temporalities; and thinking about multiple aerial lifestyles, all for the birds — and perhaps for other aerial species. Ultimately, by challenging norms, and by varying the material, atmospheric and situational conditions of the motel, this project establishes a sense of familiar strangeness through the juxtaposition of distant realities in this metaphorical and real floating motel'ish proposal for birds.

SKY WRITER: FLOATING BIRD MOTEL, V.03

PERRY KULPER

The AR8103 Studio in Collaborative Practice – the second term core of the Master of Architecture program at Ryerson University – focused on the development of an individual process of design enquiry that integrated issues of current and pressing importance to humanity. From the outset it was determined that research, analysis, and design, as modes of architectural practice must be undertaken concurrently throughout the term, and were dependent upon both individual and collective contributions to an ongoing critical discourse. Collaborative practice was deployed within this studio setting to purposefully challenge the accepted conventions of operation ingrained within the AEC (Architecture, Engineering, and Construction) industry.

Activities throughout the term were structured to nurture each student's dependence on both individual commitment and collective responsibility for success at all scales and to undermine the traditional student-teacher relationship tropes that tend to invite passive reception of knowledge and permission-seeking, reactive operation. Everyone had a literal 'seat at the table' of idea exchange and each member of the studio (students, instructors, transitory participants, guest reviewers, the public) was expected to use their positions of privilege and responsibility to give voice to their beliefs as a way of contributing to the success of all involved. The only required validation for the importance of any idea was its presentation from a 'seat at the table'. Each student produced design work that was based upon their personal architectural position but they regularly, publicly, and formally subjected their architectural position to critique and discussion that collaboratively advanced individual agendas within the broader studio context.

This group of twenty-eight student design researchers focused their investigations through the lens of Urbanism in the Anthropocene. From the studio syllabus: Even as COP24, the 2018 UN Climate Change Conference in Katowice, Poland, has demonstrated once again that it is now politically as well as scientifically accepted that climate change is underway, there remains, as Etienne Turpin writes, a “fundamental ambivalence about the value of the concept [of the Anthropocene] from the point of view of both cultural theory and design practice”.

The first four weeks of the term were consumed by speculative design research on the application of anthropogenic conditions to a near-future world. The initial speculations were iteratively extended, by way of Deleuze and Guattari’s Rhizome discourse, into the World Economic Forum’s Global Risks Report 2019 risk categories (economic, environmental, geopolitical, scientific, and technological). The last seven weeks of the studio allowed each student to mature the development of their individual architectural positions within the collectively established anthropogenic frame — but now explored through projects (Institutions) distributed strategically across the City of Toronto as a kind of political acupuncture.

This FreshTurf workshop was a two-week intermezzo set between these two conceptualizations of action. Conceived as intrinsic to — yet discreet from — the rest of the term’s activities, FreshTurf operated as an ‘intensifier’ of the conceptual trajectories that each student had already committed to pursue. The FreshTurf workshop also allowed collaborative practice to take some unexpected turns. Scott Sørli and Arthur Wigglesworth (formally designated as course instructors) destabilized the traditional teacher-student studio structures by inviting Elizabeth George to fold aspects of her ongoing Great Lakes basin investigations (GLurbanism) into the developing individual and collective discourses. Individually declared architectural positions that had previously been framed within abstracted discourses were now run through data- and geography-driven realities.

The idea that an architectural position might be of interest, let alone that it could be declared in design-terms, was novel to many of the students. Being challenged to explore their declared architectural position through different sets of criteria, at different scales, etc. — but without abandoning their core theses — accelerated the maturing of everyone’s abilities to operate on important ideas through the medium of architecture.

FRESHTURF WITHIN THE ACADEMIC CONTEXT

ARTHUR WIGGLESWORTH

Constructing Freshturf

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Cultural Pollution

Cultural Retention

A Mass

The body of the Great Lakes is water, and the human body and the bodies of fish are also two-thirds to three-quarters water. As such, the white pixilation of the map softens boundaries and begins to capture the density of relationships between these communities topologically. In linking them this way, their common vulnerabilities become apparent.

Architecture and Technology

The responsibilities of architecture include dwelling, which entails a responsibility not only to shelter but also to emotional wellbeing. Today, both architecture and technology mechanize, codify, and organize the environment in forceful ways to bring human beings into ever greater proximity. However, they have also started to distance us emotionally by facilitating escape and apathy to our environment and each other.

The use of social media technology is highest in dense urban areas according to the data of twitter, facebook, flickr, instagram, and so on. The force/vulnerability mappings respond to the correlation between the increase in use of social media and the increase in depression over the last 15 years. These mappings were created by using tweets and texts from social media posts as data. They demonstrate or educate about depression and anxiety; or represent cyberbullying and the stories of the vulnerable.

The use of anti-depressant and anxiety-managing pharmaceuticals, such as Zoloft, Prozac, Celexa, and Sarafem, produced in locations indicated on the map by X's, continues to escalate. These biotechnologies, used by approximately 12% of the population, are expelled by the body as excrement. The drugs and their metabolites are not among the items waste treatment facilities screen, and are consequently released untreated into the Great Lakes. Areas of high concentration are identified on the mappings by scaled and coloured circles, based on their quantities.

This cultural pollution expelled into water is leaving traces in fish, with certain species found to contain 100–400 nanograms of toxin per gram of brain tissue. While scientific data is still limited, hypothetical fish specimens extracted from polluted locations are described as demonstrating realistic ranges of drug traces found in fish brains, livers, muscle tissue, and gonads. These specimens also reference data collected on East Coast shrimp that are exposed to similar metabolites, hypothesizing test scores based on 'suicidal' shrimp exposure-induced character changes. The 'suicidal' shrimp are not interested in food, demonstrate increased attraction to sources of light, and have limited fear of predators. These behavioural changes have serious implications for ecosystem balances, underscoring mutual influences and emotional resonances resulting from the experience of shared environments.

CULTURAL POLLUTION

MAYA ORZECOWSKA

HUMAN SPECIMEN

code: H5X727538
time: 2023/01/08-19:05:07
Zakut, Sweden

LARGEMOUTH SEABASS SPECIMEN

code: LMB0311541
time: 2025.01.05.07.00.01
ctalogram, ventraline traces
+/ 187 nanograms/gram brain tissue
lumiphile CCF score: 45%
glutathione CCF score: 90%
predation anxiety GF score: 95%
weight/age ratio: 10th percentile

SMALLMOUTH SEABASS SPECIMEN

code: SMB03065227
time: 2025.01.03.04.15.02
diphenylhydramine, nonsteroidal
traces +/- 35 nanograms
/gram brain tissue
lumiphile CCF score: 22%
glutathione CCF score: 87%
predation anxiety GF score: 91%
weight/age ratio: 81th percentile

ROCK BASS SPECIMEN

code: RB0310850
time: 2025.01.07.11.45.05
diphenylhydramine, ventraline, biupropion,
traces +/- 350 nanograms/gram brain tissue
lumiphile CCF score: 50%
glutathione CCF score: 45%
predation anxiety GF score: 55%
weight/age ratio: 57th percentile

BOWFIN SPECIMEN

code: B03081211
time: 2025.01.02.08.00.01
nonsteroidal, paroxetine,
traces +/- 389 nanograms/gram brain tissue
lumiphile CCF score: 65%
glutathione CCF score: 40%
predation anxiety GF score: 70%
weight/age ratio: 55th percentile

WALLEYE SPECIMEN

code: W0036060
time: 2025.01.08.19.03.05
ventraline, biupropion traces
+/ 55 nanograms/gram brain tissue
lumiphile CCF score: 65%
glutathione CCF score: 35%
predation anxiety GF score: 27%
weight/age ratio: 24th percentile

STEELHEAD SPECIMEN

code: SY0306539
time: 2025.01.36.15.42.07
paroxetine, ctalogram,
ventraline traces
+/ 218 nanograms/
gram brain tissue
lumiphile CCF score: 55%
glutathione CCF score: 45%
predation anxiety GF score: 35%
weight/age ratio: 44th percentile

YELLOW PERCH SPECIMEN

code: YP03457587
time: 2025.01.04.05.03.05
biupropion, ctalogram,
ventraline traces
+/ 375 nanograms
/gram brain tissue
lumiphile CCF score: 79%
glutathione CCF score: 30%
predation anxiety GF score: 22%
weight/age ratio: 45th percentile

RUDD SPECIMEN

code: B0006587
time: 2025.01.09.19.03.07
nonsteroidal, ventraline, biupropion,
ventraline traces +/- 354 nanograms
/gram brain tissue
lumiphile CCF score: 80%
glutathione CCF score: 1%
predation anxiety GF score: 23%
weight/age ratio: 34th percentile

WHITE PERCH SPECIMEN

code: WP0306539
time: 2025.01.06.18.20.10
ctalogram, ventraline, nonsteroidal,
ventraline traces +/- 433 nanograms
/gram brain tissue
lumiphile CCF score: 86%
glutathione CCF score: 34%
predation anxiety GF score: 20%
weight/age ratio: 10th percentile

WHITE BASS SPECIMEN

code: WB0308567
time: 2025.01.05.19.03.13
nonsteroidal, paroxetine
traces +/- 388 nanograms
/gram brain tissue
lumiphile CCF score: 87%
glutathione CCF score: 41%
predation anxiety GF score: 55%
weight/age ratio: 35th percentile

ROCK BASS SPECIMEN

code: RBXY108550
time: 2025-01-07-11:45:05

diphenhydramine, venlaxine, bupropion
traces +/- 350 nanograms /gram brain tissue

luminophile CGF score: 50%
glutonomy CCF score: 45%
predation anxiety GF score: 55%
weight/age ratio: 67th percentile

you're a manipulator
and you know what you look likest in it
it's something and you can't tell if you
probably don't like it anywhere to
it's your depression

code: LMBXX311541

WALLEYE SPECIMEN

code: WX98680
time: 2025-01-08-19:01:0

venlaxine, bupropion tr
+/- 352 nanograms/gra

luminophile CGF score:
glutonomy CCF score: 3
predation anxiety GF sc
weight/age ratio: 29th p

code: SKY986539

code: RXY956587

code: WPX986539

code: MBXX986567

traces +/- 389 nanograms/gram brain tissue

luminophile CGF score: 65%
glutonomy CCF score: 40%
predation anxiety GF score: 70%
weight/age ratio: 55th percentile

ce
n brain tissue

5%
%
re: 27%
percentile

Chronic Depression is a chemical
imbalance in the brain. Even with
medication we can release for us

life problems can
be regarded as a chronic
disease. The problems I did not
anticipate as a child.
Physical Interacts with the
the brain, and the body
the brain
everywhere
anxiety and
anxiety

[code: YPXX457587]

YELLOW PERCH SPECIMEN

code: YPXX457587
time: 2025:01:04:05:03:05

bupropion, citalopram,
sertaline traces
+/- 370 nanograms
/gram brain tissue

luminophile CGF score: 79%
glutonomy CCF score: 30%
predation anxiety GF score: 22%
weight/age ratio: 45th percentile

RUDD SPECIMEN

code: RXY956587
time: 2025:01:09:19:03:07

norsertaline, venlaxine, bupropion,
sertaline traces +/- 354 nanograms
/gram brain tissue

luminophile CGF score: 88%
glutonomy CCF score: 17%
predation anxiety GF score: 25%
weight/age ratio: 36th percentile

Chronic Depression is a chemical
imbalance in the brain. Even with
medication we can release for us

WHITE PERCH SPECIMEN

code: WPXY986539
time: 2025:01:06:18:20:10

citalopram, venlaxine, norsertaline,
sertaline traces +/- 435 nanograms
/gram brain tissue

luminophile CGF score: 84%
glutonomy CCF score: 32%
predation anxiety GF score: 25%
weight/age ratio: 10th percentile

WHITE BASS SPECIMEN

code: WBXX986567
time: 2025:01:05:19:03:13

norsertaline, paroxetine
traces +/- 389 nanograms
/gram brain tissue

luminophile CGF score: 87%
glutonomy CCF score: 41%
predation anxiety GF score: 55%
weight/age ratio: 35th percentile

Chronic Depression is a chemical
imbalance in the brain. Even with
medication we can release for us

my boobs were his profile
pic. I started cutting. I
everyday I think why am I still
here?

my boobs were his profile
pic. I started cutting. I
everyday I think why am I still
here?

Spatial Relation of Urban Development to Context

Only three percent of the water on Earth is fresh water, and about 2.8 billion people are urgently in need of clean drinking water. How long can we maintain intense levels of urban development in the Great Lakes region and what would happen if this resource is depleted through the consequences of human activities?

Explosions of urban development are happening near freshwater resources, adding substantial stress to water quality by introducing pollution such as microplastics, industrial chemical elements, and alien species. Urban developments are chained together by web-like freeways that sever the landscape into small patches of land, segregating movements of wildlife. Fertile soils are converted to industrialized agricultural media that maximizes production by the spraying of fertilizers, herbicides, and pesticides, which contaminate groundwater and lakewater.

Thriving urban development is accompanied by environmental damage. As we further segregate ourselves from the natural environment, not only are we reducing the space for other living organisms, but also de-futuring ourselves.

HUMAN FOOTPRINT

BENYI HU

Map of Human Footprint in the Great Lakes Region

Mapping of Human Population and Environmental Stress

Chicago

Not everything in the Great Lakes is water. The toxic products of the Anthropocene are relentlessly being discharged into the lakes, sealing the indissoluble molecules in their calm waters for decades and longer. Currents that carry these toxic products from shore to shore are not affected by geopolitical borders; they connect the two nation states that control the region in their collective mode of occupation. The regional and local mappings abstract the source pollutants across the border, recording the changing states of toxins and their mutations.

Plastic: As the most persistent and widespread of pollutants, plastic defines the current footprint of the Great Lakes. Its mapping reveals the autonomy of plastic from its origin in urbanized areas. Water currents and winds give the plastic geography a life of its own, revealing concentrations in the most vulnerable areas of the region.

Mercury: Mapping mercury contained in waste water that coal-powered stations in the US discharge into the lakes reveals a resting place of this toxin on the shores of Southern Ontario, a territory that is now free of coal-power generation. This connection highlights the vulnerability of thought confined to constructed geopolitical borders.

Pesticides: Toxic social and political practices mapped through time and space bring out the permanent nature of poisons that both nations have banned from agricultural use two decades ago. These chemicals continue to manifest in remote parts of Lake Superior and Lake Erie as the processes of bioaccumulation continue despite federal laws.

PBDE: The products used to fireproof steel by both nations form toxic clouds around urbanized areas, leaving consistent chemical footprints in the water from shore to shore. These footprints represent tangible geographic manifestations of social and economic pressures on urban areas to build more and to build at a higher density.

Mapping the toxic identity of the Great Lakes region suggests a consistent approach by the two nation states of occupying and developing this territory. It prompts questions: Who are they? What is their claim to this land? Are they hosts or are they foreign? The toxicity of their socio-political practices highlights the absence of a holistic understanding of geographical processes that transcend borders, and a withered spiritual connection to the land and the water. The power structures that enforce conditions of occupation of the land are a force that poisons the host's land in lieu of celebrating it.

TOXINS IN THE WATER POLLUTION AND SOCIAL NORMS

KATE KOROTAYEVA

Toxins

- Mercury - poisonous metal
- Polybrominated Diphenyl Ethers (PBDE) - flame retardants
- Lindane - agricultural insecticide
- Phosphorus pesticide
- Plastic pollution
- Polychlorinated biphenyl (PCB) - fluid coolant

Point Source Pollutants

- Coal-powered plants that discharge water into Great Lakes; extrusion height = number of violations
- Flame retardant production plants

Non-point Source Pollutants

- Corn fields, 1 extrusion = 5000 acres
- Durum and winter wheat, 1 extrusion = 5000 acres
- Urbanized areas

- Route of change for toxins
- Watershed Boundary
- Rivers known to carry toxins
- Identified areas of concern
- X Change of state

Map Legend - Isolated

Detroit and Cleveland

West Shore of Lake Superior

Toronto

*currents carry lindane
from Lake Ontario to
Lake Superior*

CHICAGO

N

The Cartesian grid allows for the manifestation of difference as it prescribes a legible abstract boundary, a frame within which complexity can exist. The regularity of its growth allows for non-hierarchical expansion, meaning that a point on block n20 is not formally privileged nor suppressed with respect to a point on block n1. However, this rationalist ideal shatters in two ways: one being the moment where the urban grid collides with external forces of global infrastructure or geological obstacles; the other consists of political and economic zoning strategies that compromise and break the grid into hierarchical patches, a recipe for segregation in the name of order. The grids of the cities within the Great Lakes region are comprised in these manners.

At the mega scale, what is seen are the lines drawn by “man” based on the forces of necessity and efficiency, a centrifugal network of distribution channels overlaid onto the grid, blind to the traces of the sociocultural ideologies integrated into the initial urban plans. The forms of cities of the Great Lakes region such as Detroit, Chicago, and Toronto illustrate a similar network of highways, roads, and rails branching out from city cores. These vectors are based on constructing the most efficient relationship from point A to B. What distorts their path are geological obstacles. The invasion of these vectors to the city centres divides the grid into isolated segments.

This process sets the stage for the implementation of class divisions. It is important to note that the division between the city core, suburban sprawl, and industrial zones correlates with the boundaries drawn by these mega vectors. The spatial residues resulting from these vectors are not comprehensible from a local perspective, since their mode of operation goes beyond the form of a particular city to begin with. The question is, if contemporary modes of displacement demand the transformation of our cities, what structural DNA can be implemented retrospectively? Will it be immune to the forces of mega vectors, or can it demonstrate the capacity to integrate their formal impact systematically? However, if all formal systems of planning are conceptually open and interconnected, is an aesthetically legible planning possible?

CITY-FORM: FAILING URBANISM

AMIR TEYOURI

TORONTO

Toronto Map of Number of Houses 2018

There is a similarity between housing distribution patterns and the density of folding in the map. Hypothetically, this could be the relationship between living standards and the state of the economy where organizations acquire each other to evolve to a higher position.

Merging of Fulfillment Centres

Lessons learned from the Rust Belt and 19th century Japanese production methods suggest that economic organizations risk survival while pursuing scalar growth and that physical shrinkage can ease them through adversity.

Economic reproduction is examined as analogous to morphogenetic processes within natural selection. When a supplying territory reaches its peak and becomes saturated with smaller and specialized domains (especially where natural resources are limited) sub-territories seek to collapse their inherent borders and exploit the advance of synergies.

Parallel to the geographical and physical terrain, virtual economic territories emerge and are delineated by time and space rather than by conditional resources. This post-economy escapes from natural constraints and germinates in a new domain, which is supported by advanced technology and creative management.

In that evolution, businesses become flexible, elastic, and versatile; they shrink substantially while maintaining or even exceeding their existing capacities as long as they accelerate actions of mutuality. The goal of any business is no longer to follow profitability; rather, it is to give and to share in order to discover a state of “becoming”. To take that to the extreme, an economy could vanish and return in new and different configurations.

FULFILLMENT CENTRES

NGAN PHAN

2 Level of Evolution

6
The area of highest
attraction

Initial Mapping

*Merging potential
emerges within
space and time.*

Sub-territory Level 2

Sub-territory Level 4

Sub-territory Level 3

Sub-territory Level 1

Design Approach

The question of affordable housing in low density cities like Toronto, Chicago, and Detroit has accelerated urban sprawl far into the countryside. The problem of sprawl is then framed largely in terms of commute times and housing prices. But we ought also to be thinking of the environmental impact posed by this mass of housing, and how it reflects a failure to mitigate or adapt to climate change. The phenomenon of urban sprawl is a synecdoche of a fundamental human problem of resource consumption of this planet.

Urban sprawl is caused by social factors that concentrate economic opportunities disproportionately in some cities, and by stakeholders who stand to profit from the destruction of natural environments (Thün et al, 2015). Talk of easing development restrictions in Toronto's surrounding Greenbelt reflects this web of causes and effects (Rieti, 2018). And Toronto is only one part of a Great Lakes megaregion that is both an interconnected ecosystem and a transnational centre of industry and economy (Thün et al, 2015). The social values that we cultivate and implement today with regard to land use will continue to have a transformative impact on the Great Lakes megaregion as populations are projected to increase (Methot, Huang & Grover, 2015).

In this capacity, it is useful to think about each city as a plateau, as something that is always in the middle – and not at a beginning or an end. Gregory Bateson refers to a plateau as a “continuous, self-vibrating region of intensities whose development avoids any orientation toward a culmination point or external end” (Deleuze & Guattari, 1980). The city has no end, but this does not mean it should expand without limits. Rather, we must situate ourselves in the middle and develop housing solutions that are in balance with our ecosystem, and which facilitates human flourishing.

URBAN SPRAWL

MAX KOMYSHENKO

There may be unintended environmental risks associated with a softening of boundaries, a bridging of community and culture.

Prince Edward County is a sizable island located two hours east of Toronto. Historically the area has been primarily agricultural, and in the mid-1990s began to develop a reputation for winemaking. The upper left corner of the mapping along with the red triangles locate vineyards both geographically and in time. As tourism began to boom in the area, so did the wine business. The density of vineyards created wine tourism, something that was otherwise only found in the Niagara region. The county's infrastructure was not structured for an influx of tourists, and has had to rapidly adapt. In once close-knit farm communities such as Wellington, every other house has become an Airbnb, playing host to GTA tourists who want to experience grassroots culture. The tourist with enough capital may decide they like the area so much that they construct a seasonal home. This is artificially raising the costs of property, displacing County natives. This mapping indicates these changing demographics, and as an unintended side effect it exposes potential environmental degradation.

The environmental risk associated with soil is twofold. First, there is increased demand on the area to produce food as tourism swells. Second, Torontonians have become infatuated with County culture and demand that it be offered up to them. Both of these factors are putting great pressure on the county's soil. In the face of such pressure, poor agricultural practices may lead to infertility and desertification. In the meantime, the desire of tourists to experience County culture is overrunning locals who are the source of that culture. Soil that provides food to its surrounding communities is instead becoming overwhelmed by the demands of outsiders to bring the county to their doorstep.

The county is replete with the nutrients required to grow grapes for wine and crops for food but the sudden pressure put on that soil may be enough to strip it of those nutrients. The draw to Prince Edward County is a risk, and the cause of that risk is the people drawn to it.

SOIL

MITCHELL CAIRNS-SPICER

What happens when economic risks affect urban regions? How will the resulting social fabric of a city's waterfront change?

For this critical study of Great Lakes waterfronts, the Fresh Turf is the lower Great Lakes sister cities of Toronto and Chicago. This turf encompasses a mass of people and the social and economic fabric of their downtown waterfront regions. Expose: the differences and similarities of development between these sister cities over time, as well as the relations to the economic-urban history of the waterfront. Propose: the results of risk factors to the city and the impact on the social and economic fabric. Risks: such as job loss, trade tensions, unemployment, private ownership, economic inequality, loss of identity, and global recognition have an impact on the tightly intertwined social and economic fabrics.

The waterfronts of Chicago and Toronto may differ in land ownership, type of development, and percentage of open space. However, they share demands on the waterfront for economic and resulting cultural and social impacts. The relationship of a political economy along the Great Lakes should be one of resilience, where society can deal with economic risks that penetrate the urban realm.

MASS OF PEOPLE: SOCIO-ECONOMIC FABRIC

BIANCA VERWAAYEN

As urban centres and their peripheries grow, so do imagined gaps between the natural world and the ones we build. Disregard for the natural environment is inscribed in the way our cities develop, revealing an ecological relationship that emphasizes consumption, ultimately creating a false sense of entitlement for society.

Seeking to apply control over the natural environment, a water and waste system was domesticated out of the natural world through acts of covering, diverting, and deflecting. This infrastructural network creates a multiplicitous system, one that draws pollutants and waste through an expansive network of drains, sewers, covered creeks, and rivers, ultimately contaminating the fragile lake ecosystem. Combined sewage outflows amalgamate both the masses of runoff from our hardscaped urban soil as well as waste from our sewers, releasing them into the lake during rain pulses. This antiquated system, combined with the growth and sprawl of city boundaries, leads to increased infrastructural stress, resulting in tens of billions of gallons of raw, untreated sewage to enter the Great Lakes system every year.

State boundaries and imaginary borders on a map amount to nothing in this connected web of masses, currents, and systems. We must redefine the relationship between our cities and the natural environment, posing the question whether it might be possible for our cities to ecologically benefit the health and conservation of their lakes.

WASTE

CHRISTIAN IANNANTUONO

PRELIMINARY MAPPING

How do we determine and understand the scale and impact of societal global risk events between individuals and communities based on facts and biases of various human outlooks? The impact and intensity of profound social instability as a major global risk factor is due in part to increasing polarization of society and rising wealth disparity. These trends lead to the likelihood of the spread of infectious disease. To mitigate the symbiotic relationships of these risks, cooperative proposals are provided to understand where these locations are affected and how to address them. Urbanisms are described by relief services within communities situated in Toronto juxtaposed to similar communities in Detroit.

COMMUNITY

ANTHONY YU

MULTIPLE COMMUNITIES
BUSINESS ASSOCIATIONS
SOCIAL SERVICES

100% HOUSEHOLD POPULATION FOR VISIBLE MINORITIES 0%

MULTIPLE COMMUNITIES
INDIVIDUAL & FAMILY SERVICE

NEIGHBOURHOOD RE-DEVELOPMENT

SINGLE COMMUNITIES
INDIVIDUAL & FAMILY SERVICES

MEDICALLY UNDERSERVED AREAS

100% HOUSEHOLD POPULATION FOR VISIBLE MINORITIES 0%

ICES

The source of an experience comes not only from within a built form but also from its relationships to the surrounding environment. As light is one of the most essential elements of an architectural experience, the mapping concentrates on the relationship between light, urban settlement, and human perception. This pursuit expanded in the form of geomagnetic storms and its implications on urban settlements in the Great Lakes region. With data collected by the Royal Observatory of Belgium (2016) and the Geomagnetic Storm Vulnerability Simulation conducted by Ilonidis (2010), the implications and perceptual experiences of geomagnetic storms are presented to demonstrate that, beyond leading to aurora lights, geomagnetic storms impose great stress on power grids and can cause grid failures and blackouts.

Geomagnetic storms that can be seen in less light-polluted areas were explored through the second portion of the triptych. Light-polluted areas, mainly high-density urban settlements such as cities of Chicago or Detroit, were contrasted with less polluted areas of Manitoulin Island and the north shore of Lake Superior. The imposed paths of geomagnetic storm intensities ranging from $k_p=3$ to $k_p=9$ (extreme) showcased the locations that aurora lights can be seen (depending on light irradiances).

The final portion of the triptych illustrates the human perception of aurora lights depending on light pollution and light irradiance in the sky. Suggested travel paths portray the inverse relationship between urban settlement and the scenery of aurora lights.

AURORA LIGHTS GEOMAGNETIC STORMS

SENA KASKA

Sky Brightness for Aurora Lights and Stargazing

Bortle 7 Bortle 5 Bortle 4 Bortle 3 Bortle 1

City: Bortle 7 Suburban: Bortle 5 S/R: Bortle 4 Rural: Bortle 3 Dark Sky: Bortle 1

On September 13, 1882, the ship Asia left the port of Owen Sound under the command of Captain John Savage. It left the harbour filled with passengers, cargo, supplies, and provisions. Just a few hours later, close to Lonely Island in Lake Superior, the ship sank due to bad weather. All was lost except for two souls: Christy Morrison and Duncan Tinkiss. The poem inspired by the incident later became a song that was sung by sailing crews for years to come.

This map represents three dimensions of the lake: the surface, the depth, and the connections to people and their urbanisms. Usually, when we think of navigation, we think only of the surface of a body of water: for example, the Great Lakes Seaway System that stretches 3,700 km from Duluth to the Gulf of St. Lawrence. In fact, Lake Superior has as much water as all the other lakes combined. It has a depth of 400 metres and is the resting place of over 350 shipwrecks.

Navigation is a collection of flows and nodes, of people and resources. It includes the 200M tons of goods that cross the lakes: iron ore, coal, limestone, grain, steel, machinery, cement, and salt. It also includes all the Great Lake bulk carriers and ocean ships. Navigation is also all the 6000 shipwrecks and the 30,000 lives lost within them. It is the ice, the rocks, the storms, and the man-made objects that participated in these accidents.

Let us not forget that any technological activity includes risks and residues. This is intensified on the surface and the depths – on the surface as the waterways deterritorialize into land and in the depths as shipwrecks deterritorialize into water, and become part of the fish, algae, and microbe environments. If technology is a collection of methods and processes of production to accomplish human objectives, its remains can be found within and outside the lakes.

NAVIGATION

ANDRES GUZMAN ROMERO

A photograph of a terrarium with a glowing blue border. Inside, there is a small, dark, spiky plant growing from a bed of light-colored substrate. The background is dark.

*Loud roared the dreadful thunder,
And stormy was the day,
When the Asia left the harbor
To cross the Georgian Bay.*

*One hundred souls she had on board,
Likewise a costly store,
But on her trip this gallant ship
She sank to rise no more.*

*Windjammers,
Songs of the Great Lakes Sailors.*

Examining the notion of technology as progress: is progress for humans the same for other actors or agents within the Great Lakes? Take as an example the St. Lawrence Seaway, which connects the Atlantic Ocean to the Great Lakes via the St. Lawrence River. By way of transoceanic ships that release ballast water, the Great Lakes have been ravaged by over 180 invasive species.

We only notice alterations once they have affected us, when the relationship is made tangible. One example is the tremendous infrastructural damage to water pipes (due to the overpopulation of nonindigenous zebra mussels) that many towns and cities around the Great Lakes require as necessary infrastructure.

To a large degree however, equilibrium is an idealistic notion. These invasive species of the Great Lakes have become part of the ecosystem. Analogously, new forms of technology will also be introduced to urban frameworks. We cannot determine whether this technology is favorable or detrimental in its totality. This brings both paradoxes and opportunities.

INVASIVE SPECIES

KHALIQ AZIZI

CHICAGO

1960
CITY POPULATION = 3,550,000

1985
CITY POPULATION = 2,894,000

2018
CITY POPULATION = 2,720,000

TORONTO

2041
CITY POPULATION = 3,912,000

2018
CITY POPULATION = 2,929,000

1998
CITY POPULATION = 2,385,000

A tale of two cities: one that is growing and one with an uncertain future.

The city of Toronto's population is growing. Since the year 2000, the Greater Toronto Area has seen a 37% increase in population and is expected to see another 41% increase in the next two decades. A large percentage of this growth has been the result of immigration to the city.

This growth in population means that Torontonians are going to have to fabricate land. Over the past twenty years, fifty towers over 500 feet tall were added to the Toronto skyline. 44 of these towers were residential, in response to an increased demand for housing. As residential towers slowly take over the city form it may be time to reevaluate the quality of spaces within this design typology.

Until recently the population of Metro Chicago has continued to grow. From 1960 to 1985, sixteen commercial towers and six residential towers over 500ft were constructed. Since 1985, another 28 commercial and 23 residential towers have been constructed, reflecting the high demand for downtown real-estate. In more recent years immigration to the region has declined and net domestic ex-migration has been on the rise, contributing to a shrinking city population and also a shrinking suburban population. There is uncertainty surrounding future population projections for the city of Chicago and the surrounding area. If the population continues to decline, can the city see new vertical growth?

GLOBAL POPULATION RISE, MASS URBAN MIGRATION, SEA LEVEL RISE

ALEX CASKEY

There are indications that the current generation is experiencing significant decreases in mental health. These mappings explore the intersection of mental well-being with the environment, which includes both the natural environment and the social environment.

Multiple layers of mental health, encompassing factors such as mental illness, crime rates, homicide rates, robbery rates, suicide, and substance use have been mapped. The natural environment includes lake stressors such as tributary dams, zebra and quagga mussels, and phosphorous loading. It also includes toxic chemicals that are released into the air, water, sediment, and in the food web of the Great Lakes. The cumulative effects of a toxic environment, in children especially, can cause physiological disruptions that lead into impairments of physical and mental health.

Areas with the highest ranking for both recreational use and for environmental stress occur primarily along Lake Ontario, the southern shoreline of Lake Erie, and the eastern shoreline of Lake Michigan. Lakes Huron and Superior generally have lower stress and recreational use. Counterintuitively, in this case the inverse relationship of recreational health and environmental health delinks natural and social benefits.

MENTAL HEALTH, NATURAL ENVIRONMENT, SOCIAL ENVIRONMENT

NONA AREZEHGAR

FREEDOM IS SLAVERY

Proposed before you, a triptych as a form of subjective foretelling. Past global risk reports state an increase in conflicts, likelihoods of disasters both economic and environmental. It is only appropriate to consider what we have left worth protecting. The Great Lakes basin can be regarded as a source of fresh water that has suffered abuse.

First, a depiction of tree coverage and extent of the approximately 60,000 km² of dense forest is shown within the basin. The Great Lakes are a main source of wetlands that is home to more than one hundred species. Humans, as the only invasive species capable of mass managerialism of the environment, continue to develop and expand urban and agricultural areas, forcing the forest boundary further and further north.

As an extension of current trends, the initial proposal offers a blind capital opportunity of replacing the forest with 100% development. The milling of 6 million hectares of forest can accumulate \$1.48 trillion dollars of profit. Infrastructural development will offer a further \$50.1 trillion dollars of jobs and will house an approximate population of 19 million people within the basin.

A counterproposal. The solution is to drop 132 megatons of explosive energy within the affected areas to initiate the revitalization process for the next century. As a comparison, the nuclear bomb dropped on Nagasaki called Fat Man had 22 kilotons. To put this into perspective, we will need to detonate the equivalent of 6000 Nagasaki Fat Man bombs. For the sake of efficiency of scale, five 22-megaton hydrogen bombs will have to be dropped at an altitude of 10.2 km from the surface of the earth at the highest stress levels indicated on the map south of the basin, and two 11-megaton bombs will have to be also detonated north of the basin. There would have to be four flight missions of 15–20min duration to complete this task. The impact of each 22 megaton bomb would incinerate everything within a 100km radius and severely damage most physical structures within a 200km radius. The post-affected zones would stretch beyond the impact zone. This will prevent most invasive species from migrating to this area, allowing nature to take its course for a future Freshurf.

FOREST COVER: BIODIVERSITY LOSS

MATEUSZ BLEDOWSKI

IGNORANCE IS STRENGTH

WAR IS PEACE

GLORY

Mateusz Bledowski

Freedom is slavery
Forest wetlands grow
Fresh water feeding felony
What you have, have you no more

War is peace
As the saying goes
Waste abundant! Forever disease
Why not? Hydrogen mushroom! What a wonderful breeze

Ignorance is strength
Take what is yours
For you, whatever the length
That's the definition of the Great Lakes War

DETROIT DEMOLITION TIMELINE

Along the Rust Belt, a domination over what humans call nature evolved into extraction, agricultural production, colonization, globalization, and property ownership. All of this culminated in the industrially-inscribed economic framework within which the discipline of architecture operates. The term sustainability has long since been appropriated by this political economy. The question that is being explored is, can architecture or buildings be designed and constructed outside an extractive capitalist framework?

Tailings are what remain after the extraction of a valuable fraction from an uneconomic mass of material, and that term is a record of a material ideology.

In Detroit, the thousands of demolitions over the past five years have been marked sequentially. Each point represents the demolition of a single building — most of them residential, and most of which were constructed before the 1970s. Conventionally, the salvage value of these buildings is non-existent, due to a combination of both lamination of material layers, and the clear absence of careful deconstruction. Some of this material has scrap value, but what doesn't is sent to the Carleton Farms Landfill and two other sites outside Detroit. This is, not coincidentally, the same site to which Toronto ships its consumer waste.

These demolitions are saturated by sites of failed emissions tests for hazardous air pollutants, principally lead and asbestos (illustrated as transparent blue regions). The U-shaped formation of X's are schools with elevated levels of water contamination. This condition of re-materialized contaminants is present not only in Detroit, but in Flint and Chicago, among other locations.

Vacancy presents an opportunity via the displacement of people, which precedes the displacement of building material. In Chicago, the Large Lots Program identifies neighbourhoods with a proliferation of abandonment, and permits the purchase of these properties for a single dollar and a few conditions. The boundary of this region is drawn near the edge of South Side Chicago. The colours mark the likelihood of a resident population to be further displaced within the next several years, based on housing vulnerability and rent increases. This has agency, because each of these lots can be purchased today.

Without economic or political interference, structure might last several decades, services maybe twenty years, stuff, a few months, but site is ultimately eternal. The remnants of these buildings are the rematerialization of the demolished mass. The eternal nature of the constructed building is a fallacy.

DEMOLITION

MICHAEL MAZURKIEWICZ

Opposite top

A triptych of demolition in Detroit: toxicity, vacancy, and temporality.

Opposite middle

Dispersion of demolished homes within the Detroit urban boundary, saturated by poor air quality, as defined by NESHAP testing.

Opposite bottom

Chicago's Large Lots Program, in relation to neighbourhood displacement risk.

ONTARIO *Soil Composition*

Technology has continually evolved alongside architecture, tending toward a process with as little input from people as possible. Robots, artificial intelligence, and large-scale manufacturing are displacing the work of individuals in favour of industrialization. Every innovation seems designed to further distance the architect from the process of creation. Craft theory serves to reacquaint the architectural object and the building process, not nostalgically but as a mining of memories in order to extract what is beneficial.

This is concluded in three major relations, the first being the sharing of explicit knowledge, the second being the transfer of tacit knowledge, and finally in the relationship of material and methods of construction done well for its own sake.

Craft is deployed to challenge ideals of industrialization and Fordism. Technology, becoming more prevalent than ever, is susceptible to failure. A world where mass manufacturing cannot sustain us will configure a return to create with what we have locally, mining things that no longer serve us, to create anew in the development of regional culture and society.

BRICK

GREGOR TRATNIK

- JUMBO
- MODULAR
- NORMAN
- PREMIERE PLUS
- STANDARD
- CHICAGO COMMON
- KING
- QUEEN

- JUMBO
- MODULAR
- NORMAN
- PREMIERE PLUS
- STANDARD
- QUEEN

- JUMBO
- MODULAR
- NORMAN
- PREMIERE PLUS
- STANDARD
- KING
- QUEEN
- ONTARIO

- JUMBO
- MODULAR
- NORMAN
- PREMIERE PLUS
- STANDARD
- QUEEN

- JUMBO
- MODULAR
- NORMAN
- PREMIERE PLUS
- STANDARD
- QUEEN

- JUMBO
- MODULAR
- NORMAN
- PREMIERE PLUS
- STANDARD
- QUEEN

The territory of this mapping is the capacity for images to generate thoughts, connections, and associations; how this relates to an understanding of place; and the uniqueness of this to the individual.

These drawings are not concerned with tracing or analyzing data sets but rather with an opposite tactic of stripping data away from the map. The project is concerned more with the image itself and the possibility of the image to hold meaning beyond data. The “maps” become images that spawn other meanings, associations, and interpretations.

The three image sets are each generated in a different manner, as variations of similar ideas. The use of a consistent frame and scale for each set allows each image to stand nonhierarchically alongside the others, with the possibility of endless rearrangement. Each singular image represents a specific place in the Great Lakes region. They may be thought of as snapshots or “plateaus” of the macro-region.

Each image set is an evolution of the previous, and together work as a triptych. In the first two sets, typical mapping data (topography and roadways) is used and manipulated to generate and abstract a place. All other mapping information such as labels and scales are eliminated, making them become more abstract and iconographic. This asks the viewer to consider the image by other means, making associations, comparisons, taking lines of flight.

Heterogenous connections are made for each image by means of captions, opening them up to multiple readings and cognitive possibilities. The first drawing set has a famous individual associated with each image (born in the location); the second set has a line from a well-known film (shot in the location). This adds a cryptic layer of meaning to each image, while the connection between both elements is not made explicit. The last drawing set inverts the first two, showing an image of the place itself, while the text provides the mapping information. Another source of interpretation may be uncovered, as each image is a shot from a famous film.

Underlying this project is the position that as we map the objective world, we also inevitably produce cognitive maps — maps of our own thought processes. This project embraces, exposes, and explores this through iconographic mappings of place; points of departure for one’s cognitive rhizome.

THE MASS MONUMENT

TAYLOR SLADE

Alex Trebek

Tom Selleck

Bob Dylan

Kid Cudi

Kid Cudi

Chris Farley

Margaret Atwood

Tom Cruise

*Ever notice how you come across somebody
once in a while you shouldn't have fucked with?
That's me.*

*One shot is what it's all about. The deer has
to be taken with one shot. I try to tell
people that. They don't listen.*

*I love the smell of commerce
in the morning.*

Those aren't pillows!

This is my house, I have to defend it!

That is so fetch!

Get busy living or get busy dying.

*Well, what if there is no tomorrow?
There wasn't one today.*

*Forty-five degrees, seventeen minutes,
forty seconds North; Ninety-two degrees,
fifty-nine minutes, five seconds West*

*Forty-two degrees, ten minutes, thirty-one seconds
North; Eighty-seven degrees, forty-seven minutes,
twelve seconds West*

*Forty-two degrees, eighteen minutes, thirty-six
seconds North; Eighty-eight degrees,
twenty-six minutes, forty-one seconds West*

*Forty degrees, five minutes, twenty-seven seconds
North; Seventy-nine degrees, forty-three minutes,
twenty-four seconds West*

*Forty-two degrees, ten minutes, twenty-five seconds
North; Eighty-seven degrees, forty-seven minutes,
seven seconds West*

*Forty-two degrees, twenty-four minutes,
seven seconds North; Eighty-three degrees,
five minutes, twenty-seven seconds West*

*Forty three degrees, ten minutes, seventeen seconds
North; Seventy nine degrees, fourteen minutes,
one second West*

*Forty two degrees, five minutes, fifteen
seconds North; Eighty seven degrees, forty-two
minutes, twenty-nine seconds West*

What does it mean for one ship to be delayed per day?

The St. Lawrence waterway is a strategic transportation and trade corridor. It is part of the cross-border relationship between Canada, the United States, and to overseas markets. In 2017, 230.9 million metric tons of cargo was moved through Great Lakes ports. That port activity supported 329,000 Canadian and American jobs and \$60 billion CAD in economic activity.

The St. Lawrence Seaway's navigation season generally extends from late March to late December. Icebreakers open routes for the coming seasons. What happens when the St. Lawrence corridor gets blocked? What are the causes of the delay? What happens if the delay for one cargo ship is one day? What happens if multiple cargo ships are delayed multiple days?

There are two historical events as starting points to interrogate these questions. In 2011, The BBC Steinhoeft swerved off course at Montreal, causing traffic to stall for ten hours before tugboats dislodged it. The ship was 138m long, almost the same width as the canal. At least five other ships were delayed. In 2019, an ice jam formed 140km northeast of Montreal, causing sixteen ships to hold up in ports around the province.

How do these delays affect the political economy of the river?

TRADE

ARPY KATRJIAN

There is a disconnect between what the Great Lakes appear to be and what they actually are. In people's minds, lakes are beautiful and tranquil natural landscapes. But in reality, they are far from static: they are in constant flux. Beneath the surfaces rage arenas of chaotic battle. The Great Lakes are rich with histories full of beauty and biodiversity but also tell stories of colonization and displacement — at first culturally, and later organically and biochemically.

European colonization of the Great Lakes region wreaked havoc on its native inhabitants. Accelerated by human activity, more than 180 non-indigenous species have invaded the Great Lakes, damaging ecosystems and displacing native forms of life. As one example, the Zebra mussel was introduced to the region only a few decades ago, but it is now the dominant mussel species. This organism adheres to soft and hard substances. Latching onto native organisms, Zebra mussels reduce their ability to move, feed, and breed, and eventually kills them. Their consumption of zooplankton reduces the primary food source of native fish, compromising their survival as well as the economic success of local fisheries. Feeding on tiny organisms, they remove biomass from the water column which increases water clarity, and promotes the growth of bottom dwelling nuisance algae that washes up on shore in rotting clumps. Shorelines are ruined by these algae as well as by razor sharp mussel shells, damaging tourism. Through various forms of displacement, this single species has completely distorted the food web, ecosystem, and economy of the Great Lakes.

Permanence is an illusion. Water rises and falls. Wetlands swell and shrink. Natural boundaries shift organically amidst political demarcations. Temporary solid ground forms as ice covers the lakes in winter — creating a new kind of wild-space, alien to conventional human experience, a disorienting landscape, where navigation relies upon rare fixed points. The ecosystem is transformed by the tightly tangled web of cause-and-effect relationships imposed by invasive forces on native lives. Displacement and non-permanence are constants in this territory.

FRESH BIOMASS: INVASIVE SPECIES

SIMON GORDON

The automotive industry has been a prominent supplier of goods and employment in the Great Lakes region since the turn of the 20th century, creating flourishing and economically dynamic communities around them. The aquatic border between Michigan and Ontario is set in the hypothetical middle of Lake Huron and Lake Erie, with the closest land connection at the 0.5 to 2.5-mile wide Detroit River. Crossings have been constructed of the Ambassador Bridge in 1929, the Detroit Tunnel in 1930, and the proposed Gordie Howe bridge in 2024. These account for three million delivery trucks annually, transporting products with a value of approximately \$100 million USD per day.

The automobile has made claim to space in our lives and in our cities. There are trends toward the reduction of cars in major urban centers. Globalization has led to Detroit shrinking as companies moved manufacturing to the south side of “Auto Alley”. This reduction, along with revitalized manufacturing techniques, has allowed for the rehabilitation of a once polluted stretch of water. The Detroit river once again is host to wildlife and has reclaimed its ability to provide drinking water. This stretch now provides a new form of social cohesion along the waterfront, as seen in the Detroit River Walk, prompting further investment by businesses and communities.

MASS PRODUCTION

DANIEL JULIAN FILICE

Large cities around the Great Lakes such as Toronto, Chicago, and Detroit share pollution among vectors of transport circulation, air circulation, and water circulation. To look at a segment of transportation alone, there are 90 daily non-stop flights between Toronto and Chicago, and another 75 between Toronto and Detroit. This alone causes major international air pollution hovering above the Great Lakes.

A quarter of Canada's population obtains its drinking supply from the Great Lakes, which holds one-fifth of the world's freshwater. In the 1960s, Lake Erie was popularly described as "dead," which would also have impacted human health. Agricultural pesticide use around the Great Lakes is also circulating in the ecosystem, and along the shoreline of the Great Lakes is major polluting industry providing its externalizations. These circulatory systems require reconfiguration away from these threats of danger to the ecosphere.

CIRCULATION AND POLLUTION

SHAMIM KHOSRAVI

Nayaano-nibiimaang Gichigamiin

Like any and all Indigenous peoples, the Anishinaabe participate in a rich cultural heritage of diverse languages, histories, and homelands. Their traditional home and territory spans what is delineated today by Canadian provinces and American states. The Anishinaabe traditionally orient themselves to the East, which is why that appears at the top of the maps.

The traditional compass is a medicine wheel, a symbol to designate the four directions. It is an interconnected system of teachings relating to the seasons, directions, elements, colors, and cycles of life. Through identities, territories, and languages, this mapping communicates the stories of communities that have been deprived of their homes. This mapping of five freshwater seas speaks of the continuous formation, destruction, and evolution of Indigenous home. Prior to European colonization of the Great Lakes region, native territory was vast, boundless, and unbounded. Bands and tribes have been forced to migrate farther away from their traditional homes and establish themselves in small controlled areas.

Due to the violent assertion of authority over territory, Indigenous names of many cities, places, lakes, and regions have been erased. Acknowledging the names demonstrates recognition of and respect for Indigenous history, land, and identity. The mission of residential schools was to separate Indigenous children from their culture, identity, and language.

The increase in the urban population of Aboriginal peoples has been taking place for decades. Indigenous identities in urban centers are diverse, scattered, and often vulnerable. Two key characteristics of this population are emphasized: they are both young in age and growing in number. However, many still encounter considerable barriers to opportunities or supports, such as education, employment, social services, and housing. There is an urgent need for greater cultural competency, understanding, and awareness of the diversity and the distinct realities of Indigenous communities in urban areas.

INDIGENOUS COMMUNITIES

MARIE-HÉLÈNE LESIÈGE

South of the city of Sarnia, along the river, is the Aamjiwnaang reserve, a fence line community and a sacrifice zone of staggering proximity to the refineries. This is a place where, when leaks from the adjacent facilities occur, it is common to see employees wearing hazmat suits complete with helmets on one side of a chain link fence, while on the other side the children of the reserve play outdoors. Once, the reserve covered all of Sarnia and Chemical Valley, but over time the First Nation was forced to sell their lands “for the greater good of the community” as stated in the Oliver Act of 1911, and have become confined to the boundaries highlighted in black on the drawing.

This is a drawing of separation, isolation, and inequality. Here the territory of Sarnia and the Aamjiwnaang reserve face the challenges of failed urban planning, where one community is being invaded and damaged by the pollutants of Chemical Valley and the other community watches this occur with blind eyes. This image shows the journey through the reserve and the impact of Chemical Valley on the reserve. It begins to the north, where by the lake the fortunate people live away from the Valley, a tight knit community that always remains within their comfort zone, never crossing their boundaries. And as you approach Chemical Valley a denser, low-income neighborhood acts as the buffer between the Valley and the north side of the town. There are two roadways to the reserve: one directly through Chemical Valley and the other, longer route, through the countryside. However, no matter which roadway is taken the outcome remains the same: Chemical Valley, encroaching on the reserve, restricts the movement of the people in the space.

CHEMICAL VALLEY: FAILED URBAN PLANNING

GULMEENA BARLAS

Map of the Journey to the Aamjiwnaang Reserve

The journey begins with the grid of northern Sarnia along Lake Huron: a tight knit community. In the third drawing, and as one travels South towards Chemical Valley, low-income areas become more and more visible. This section of Sarnia acts as a buffer zone between Chemical Valley and high-income areas. The sightlines of Chemical Valley in the fourth drawing (and with its associated symbol) illustrate its expansion, stretching and encroachment on the Aamjiwnaang Reserve land. The next three images tell the story of the Reserve: polluted upon release from Chemical Valley, attacked on three sides of the territory, a community limited from movement. The last image highlights the Reserve as an isolated polluted community that was left to its state.

Shaping Community through Additive Iteration
 + Crime
 + Negative Experience Index

Centre for Change
 + Community
 + Critique the Consumerism

**Where are the Children:
 A City within a City**
 + Children's Development
 + Playing Facilities

The Perverse View of Affluence
 + Social Injustice
 + Inequality of Wealth & Power

Salutogenic Architecture
 + Aging Population

Interlace
 Blending Thresholds +
 Over-indulgence of Boundaries +

Monuments of Mass Culture
 + Pop Culture
 + Media Technology

Geometries of Mobility
 + Transportation Infrastructure
 + Environmental Health

**Recolonizing Chemical Valley:
 The Invasion of the Sacrifice Zone**
 + Reclaiming of Land
 + Public Health

Flights of Reserved Urbanism
 + Forestation
 + Farming

From Urban to Civic
 + Against Urbanization
 + Space of Appearance

Light, Identity, Dwelling
 + Lack of Light and Isolation
 + Community

Plastic Control
 Plastic Pollution +

Wishing Well
 + Pharmacy for sanction
 + Pharmacy for culture

Aesthetics of Disruption
 Aesthetics of Disruption +
 Methods of disruption +

A Forest of Infinite Stories
 + Linguistic & Cultural Diversity
 + Death of Languages

Re-Wilding Urbanism
 + Biodiversity
 + Urban Fabric

Urban Flood Reservoir
 + Climate Change
 + Urban Infrastructure

**Homelessness:
 Revealing the Invisible**
 Homelessness +
 Invisibility +

Rethinking Vertical Growth
 Under-Utilization of Vertical Real Estate +
 Population Growth +

The Future is Intangible
 + Data
 + Body

AgriCultIure
 + Land use
 + Food

Bodies of Water
 Re-framing of Urban Myths +

**Cleaning up Bathtubs:
 A Garden of Unproductive Expenditure**
 + Production of hygiene
 + Landscape domination

A Machine For Living
 + Urban Waste
 + Discomfort

Neo-Ludite Refuge
 + Electromagnetic Waves
 + Technical Wreckage

Civic Condenser
 + Civic Agency
 + Climate Migration

The Urban Gold Mine
 + Capitalistic & Industrialized Values
 + Material Resource Extraction

Ally
Agonist
Guilty Pleasure

COLLABORATIVE RELATIONAL MAPPING: URBAN ACUPUNCTURE IN TORONTO

MASTER OF ARCHITECTURE COLLABORATORS

“The amount of CO₂ locked up in Alberta tar sands is enormous,” notes mechanical engineer John Abraham of the University of Saint Thomas in Minnesota, another signer of the Keystone protest letter from scientists. “If we burn all the tar sand oil, the temperature rise, just from burning that tar sand, will be half of what we’ve already seen”—an estimated additional nearly 0.4 degree C from Alberta alone.

—David Biello, contributing editor of Scientific American, January 23, 2013

It’s progress. It’s important. As I said on the very first trip to the oil patch back in 2012, no country would find 173 billion barrels of oil in the ground and just leave them there.

—Prime Minister Justin Trudeau’s keynote address at the CERAweek Global Energy and Environment Leadership Award Dinner in Houston, Texas, March 9, 2017

Alberta Oil Sands #6, Fort McMurray, Alberta, Canada, Edward Burtynsky, 2007

Daylilies and Asphalt, Scott Sørli, 2020

This book came out of a two-week workshop within a design-research architecture studio on collaborative practice with a focus on working through the question of how to act in relation to the Anthropocene. The Anthropocene is a hyperobject, as Timothy Morton refers to it, because we exist within and among; it is said that fish don't know water, birds don't know air, and we can't know the Anthropocene. It is of us, we are of it, and we cannot act relationally other than in part.

This inability to understand completely has led to the possibility of disbelief among quarters: how could something as small as a person be capable of affecting something as large as the Earth? This is the problem Bruno Latour identifies when he says that “the notion of the ‘environment’ began to occupy public consciousness precisely when it was realized that no human action could count on an outside environment any more: there is no reserve outside which the unwanted consequences of our collective actions could be allowed to linger and disappear from view.”

Donna Haraway's efforts to articulate this incomprehensibility has led in a plural way to other definitions, Chthulucene among them — borrowed from H.P. Lovecraft's monstrous half human Cthulhu, Haraway reinserts the first h to make the link to chthonic (underworldly) explicit. By a less weird pulp-fantasy route (or perhaps just as weird and pulpy and fantastic?) Haraway has attempted to further explain the Anthropocene by embedding the term Capitalocene within it.

Timothy Mitchell's Carbon Democracy references the fantastical 1997 statistic that “organic matter the equivalent of the earth's entire production of plant and animal life for 400 years was required to produce the fossil fuels that we burn in a single year” — or to put it another way, we light the entire planet on fire and burn it up every single day to keep our carbon-based economy functioning. This is how we affect the Earth's temperature: by generating a world's worth of heat a day. Capitalism's creative destruction lab is having a heyday, and no elected politician, no democracy, stands in its way.

2020 might be the year that the sea ice extent of the Siberian Arctic drops to zero — if not this year then soon enough, and the rest of the Arctic will likely follow within the next generation, the generation of our students. Given that it takes 1 calorie of heat to raise the temperature of 1 gram of water 1 degree Celcius, but 80 calories of heat to melt 1 gram of ice into 1 gram of water, the phase change property of the ice caps to provide global thermal inertia becomes evident. Once the ice caps are lost, we won't live in a 1.5, or 2.5, or even a 5 degree world. We won't be here at all.

UNKNOWN UNKNOWNNS

SCOTT SØRLI

Soft Time

*meditative Anthropogenic speculation...
in a multiplicitous middle...
this is by no means a beginning or end...*

RELATIONAL SPECULATION
Elizabeth George

DUNDAS STREET 2020 - LOOKING EAST

DUNDAS STREET 2020 - LOOKING SOUTH

Rhizome, Deleuze + Guattari

infra eco logi urbanism, RVTR

Koyaanisqatsi, Godfrey Reggio

Manhattan Transcripts, Bernhard Tschumi

Third Coast Atlas, Daniel Ibanez, Charles Waldheim, Clare Lyster, Mason White

Intracultural MapMaking by First Nations Peoples
in the Great Lakes Region: A Historical Review by G Malcolm Lewis

Laura Kurgan, Close Up At a Distance: Mapping, Technology and Politics

James Corner, Taking Measures Across the American Landscape

James Corner, The Agency of Mapping: Speculation, Critique and Invention

Edward Burtynsky, Manufactured Landscape

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