VERTICAL STUDIOS
FALL 2018

LARC  Uprooting Stowe
Designing new histories for the 18th century English landscape
Fionn Byrne

ARCH  Gaining altitude
Airborne modernity
Chris Doray

ARCH  Bildung block
Architecture’s role in shaping public life
Joyce Drohan, Kari Dow + Caner Oktem

ARCH  Coast
Detailing narratives
Joanne Gates

ARCH  The room
Structures of perception and time
Michael Leckie + Thomas Schroeder

LARC  Fluid geographies
Liquid plans for the Missouri River Basin
Kees Lokman

ARCH  Affordability 2.0
Mining density
Chris Macdonald

LARC  Out of site
Resilience in rural BC
Sophie Maguire

ARCH  Wonder wood
Prefabication and robotics in wood architecture
AnnaLisa Meyboom
This studio asks that you design an alternative to one of the landscape or architectural works completed at Stowe during the 18th century, and in so doing, that you explore the relationships between aesthetics and ethics.

The year is 1731, and you have just received an invitation to submit a design proposal to Sir Richard Temple, 1st Viscount Cobham, the owner of Stowe House and Landscape Gardens. It has been said that Lord Cobham is frustrated with his architect James Gibbs and garden designer Charles Bridgeman, and he is losing interest in the formalism of the Georgian style. The search is on for a new aesthetic, one which can symbolize the transformations taking place in English society and can serve as an ambitious marker to direct social progress.

As we will learn in this class, it is well documented that the physical formation of landscape and architecture had moral significance in the 18th century. Hence, new forms have the potential to signify new ethics. Today we live in a time of rapid social transformation. Many designers who enter academia are motivated by a desire to lead social change and support movements such as #MeToo, Black Lives Matter, LGBTQ initiatives, 350.org, the Water Protectors, Idle No More, and the Occupy Movement, amongst others. In class you will think about these movements in juxtaposition to the social landscape of the 18th century in which women could not vote, slavery was legal, gender roles were rigidly defined, the environment was an owned resource, and the poor were commonly dispossessed of their land. In that century even the least radical student would find many of their opinions rejected by popular society. Someone designing with today’s mores would be considered an activist. With the studio set in 1731, students will observe the powerful links between physical formation and social function, forcing contemporary design to be seen in new ways.

While this studio places a strong emphasis on developing a compelling final design project, it also dedicates substantial time to research. It is through this research that students, working in groups, will explore multiple sites and programs for their design potential, before ultimately investing more time in a single proposal. The course will proceed through four research tasks, followed by a quick charette and a comprehensive design proposal. The rapid, iterative design research method presented in this advanced studio will aid to prepare students for their forthcoming thesis work.
GAINING ALTITUDE
AIRBORNE MODERNITY

ARCH 501|520|540 | SALA UBC | SKYSCRAPER STUDIO | FALL TERM 2018

GAINING ALTITUDE is about an exploratory methodology with the use of autonomous design tools and forecasting futuristic scenarios on how swarms of unmanned aerial vehicles [UAVs] will collectively generate a new physis in architectural practice. Aerial highways will form these enormous and invisible nomadic infrastructures, and these migratory devices will eventually become our [humans] elevated consciousness.

STUDIO LEAD: CHRIS DORAY is the principal and founder of Chris Doray Studio [chrisdoraystudio.com], an international multi-disciplinary design studio with offices in Vancouver and Shanghai. CDS operates at the intersection between the fields of architecture, art, technology and the social science. His research-based studio focuses on the relationship between form and behaviour as well as the New Sciences. Chris will be assisted by Puya Khalili who is a senior designer at CDS.

THE FREDERIC LASSERRE BUILDING, home to SALA celebrates its fifty-six years since it’s opening in 1962, when architecture was defined as a material practice in which the cultural logic of an era translated into the physicality of the human environment. But today, how would this digital age with the absence of material tangibility manifest itself in new spatial and structural forms? Could a new phenomenon of digital materiality be emerging where the interplay between data and material is no longer simply a consequence of a design process but a fundamental expression of architecture itself. Adapting to this mind-set, students will explore the interaction between data and material and between programme and design and challenge the norms set by modernity less bound to a priori of form and function. SALA will reposition itself as an exemplary learning hub where a vertical school could be designed from the top down rather than bottom up!

THE BIG RE-THINK: This Fall, the Skyscraper Studio will begin to investigate two new cultural paradigm shifts, concurrently. Firstly, they will be asked to reconsider and reinvent the premise of architectural education — a shift in knowledge culture where material space and digital technology are exponentially weaved to become one entity. Secondly, the studio will begin to examine how visions of the future found their form in architectural practices of the mid-late 20th century, when architects rejected the binaries of inside/outside and nature/technology, proposing more dynamic models to better suit the [then] ever-changing nature of contemporary urban life. This will form the second paradigm — a shift in spatial culture.

Week 2-4 I Drone-Scaping I Students will develop operational skills for the use of UAV to alter their observation skills through the medium of aerial photography.

Week 5-6 I Studio Trip I New York

Week 7-8 I Tectonic Thinking I During this phase, students will focus on design experimentation and develop a renewed understanding of the performative and behavioural qualities of vertical space.

Week 9-10 I When a Plan becomes a Section I Students will use a variety of ‘perspectives’ to understand their observations and to question the norm by unravelling under-represented information while continuously remaining critical towards dominant information.

Week 11-12 I Internal Logic I During this phase, students will be shifting their attention from tectonic strategies to the coupling of a variety of programs. They will experiment combinatory clustering, possibilities of incomplete planning and challenge predictable notions of hierarchy.

Week 13-15 I Standing Tall I In the final part of the term, students will express their project’s ‘immanent corporality’ and develop a visual language spanning the term’s portfolio, which should be approached as a project on its own.
Cities are shaped by multiple and diverse forces – natural, human and technological. This studio is about understanding the nature of these forces, how they influence the shape and fabric of the city, and learning how architecture can embrace and evolve these forces as the city matures and changes. In other words, what kind of architectural responses to this critical moment in Vancouver’s evolution, can embrace and support the changing urban circumstances to enhance the city’s future? The Studio will have a specific focus on how buildings and public realm together provide the framework for public life. Working across urban scales from building to block to district, the Studio will explore the interdependencies between these scales and how each supports transformation of the city’s image.

Industrial evolution in the Core

The architectural focus of the Studio will be on three blocks of a 9 acre area recently designated as ‘The Innovation Hub’. Part of the former industrial area known as False Creek Flats, the Hub is intended as a model for evolving approaches to city-building - in its diverse mix of uses from industry to art to food production to technology, in its focus on resilience and carbon neutrality and in its future as a flourishing community for working, living and creating. The site is the current focus of an international competition (C40 Reinventing Cities), the parameters of which will be considered in the work.

SCHEDULE: When: Fall Semester, Tues and Fri afternoons – 1:00 to 4:00pm
Intro week: Students participate jointly with MUD Studio participants to consider district wide base conditions of the Eastern Core, exploring Chinatown and the False Creek Flats.
• Fri Sept 7 - Bicycle tour of Eastern core and two districts – All Tour includes Southeast False Creek (Olympic Village), Innovation Hub (western Flats), NEFC, new St Paul’s neighbourhood including Hogan’s Alley and Chinatown; Innovation Hub site including tour of Arts Factory
• WEEKEND ‘bildung/building’ brainstorm’ – sketches – early ‘big ideas’ for a concept: plan, section, massing
1 DISTRICT (UD Focus) : UD overview/analysis/methodology/principles/big ideas – includes introduction of performance indicators tool; exploration in groups; Lead: Kari Dow
• Key deliverables: site analysis, performance metrics and key direction(s)/big ideas for the District
• Milestones: PIN-UPS – Sept 11 early big ideas (building); Sept 28 early big ideas (district)
2 BUILDING (Architecture Focus): detailed site analysis/early scenario-testing and design statement/ building concept graphically represented; group or individual work developing the architectural concept; Lead: Caner Oktem
• Key deliverables: building/site concept described with site plan, key floor plans with an emphasis on program, key building sections and vignettes to support the built form/public realm concept
• Milestones: PIN-UP – Tues Oct 9: program testing, plans, sections; INTERIM Review (building concept): Fri Oct 19
3 LOCAL NEIGHBOURHOOD (Public realm:building focus): integration of building with immediate neighbourhood fabric with a focus on the interface between building and public realm; group or individual work; Lead: Joyce Drohan
• Key deliverables: building/site plan with a focus on interface between public realm and building program, aerial rendering/section(s)/vignette(s)
• Milestones: PIN-UPS – Fri Nov 2 and Tues Nov 6; OUTLINE FOR REPORT – Tues Nov 13
Final week: Report curating above deliverables to support the proposed UD/Arch concept. Supporting text including: Overview (including vision), Design Principles, Design Rationale, Performance indicators
• Milestones: REPORT FINAL DRAFT - Tues Dec 1.
The focus of the studio is detailing. Rooted in the pragmatic - site, material, structure - detailing is a place of invention through assembly and joinery. Aiming to satisfy both technical and aesthetic criteria, detailing involves a complex negotiation between performance, function, and architectural intent. It can be argued that detailing is like grammar, and the resulting narrative weave the making of buildings and the cultural quilt of our communities.

The studio will toggle between detailing an artefact and detailing a building - a canoe and a boat house. The narrative is in four parts, although not necessarily in linear order - site, material, structure, assembly.

Our artefact - the canoe - was perfected over time by the Coast Salish first nations. Accrued knowledge of the land and its resources passed down generation to generation, adjusted with circumstance, has made a canoe that is resilient, suited to its purposes, embedded in the culture. Perhaps we can learn something from listening and making? We will be joined by a couple Coast Salish canoe makers who will teach us about the land, about cedar, and about making. An old technology for sure, yet one with the capacity to ask us to critically think about site, material, structure, and assembly.

Our building - the boat house - is envisioned as one of a public network that link Salish Sea and Howe Sound communities, tapping into historical hunting and trading routes and their settlements. The broader vision is a coastal canoe/kayak network, with this term focussing on the design of one of the boat houses.

Guided by the way of thinking developed through the artefact, the design of the boat house will begin with detailing, the four part narrative forming a loose framework. Narrative media including maps, perspectives, orthogonal drawings, and models will be used to probe site, material, structure, and assembly...a shift from an oral tradition, or perhaps not? We will be joined by one or two local practitioners at key points in the term to discuss detailing, and translations from artefact to building.

schedule:
The canoe and boat house projects are over the course of the term, with input from our guests interspersed. The studio will meet on Tuesday and Friday afternoons, 1:30 - 5:30 pm.

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…the canoe is the single most important physical manifestation of Northwest Coast culture. They go back to the Great Flood myth, and exist at the nexus between technology and living beings. They are spiritual objects which garner great respect. The hulls are constructed of once-living trees that survived centuries and sustained the lives of innumerable birds, insects, mammals and other plants. Prior to European contact, and with painstaking precision, these trees were felled (or even occasionally harvested from the forest floor or beaches) and transformed into vessels, without drawings, calculations, or engineering as we know them today. (excerpt from the Bill Reid Centre website)

Fehn has said in numerous interviews, “For me, there is no architecture without construction. We work with our alphabet materials such as wood, concrete, bricks with them, we write a story which is inseparable from the structure. And the structure is supported by the poetic idea.” (excerpt from Sverre Fehn, biography, The Pritzker Architecture Prize)
Overview
This studio is as much about the notion of being an architect as it is about the act of shaping the world through the practice of architecture. The departure point for the work is an analysis of Andrei Tarkovsky’s philosophical cinematic masterpiece *Stalker* (1979). This multivalent work of metaphysical cinema explores themes of time, landscape, freedom, mortality, and legacy. These themes are unavoidably present in architectural practice - within both client and practitioner.

*Stalker* depicts an existential journey through a haunting post-apocalyptic territory known as The Zone. A guide, the Stalker, escorts his two patrons, a Writer and a Professor, to the heart of an enigmatic landscape and into The Room - a place where each visitor’s deepest desire becomes manifest. Each of the characters embody a spiritual dimension - the Writer seeks meaning from within, the Professor strives for knowledge and certainty of the physical world, and the Stalker navigates them through the (meta)physical landscape.

Our perception of the natural world and our understanding of our place in it has shifted through the last part of the twentieth century, creating mass movements of conservation and ‘getting back to nature’. Over the course of human civilization, advances in science and technology have largely been used to modulate our relationship to nature - to protect us from it, to exploit it, to reconstruct and preserve it. Ideas and forms of basic human shelter have evolved from the primitive hut to hermetically isolated and controlled artificial environments. We frequently plot our ‘escape’ from urban environments to find respite in the natural environment. But what are we really after?

Site + Context
The platform for testing ideas and methodology is a 3.8 acre rural site that fronts onto the Salmon River in coastal Oregon. The site has many distinct features, including a slowly eroding oxbow, floodplain, and wooded areas. It has several micro-climates, including riparian and upland ecosystems.

Program
There are two versions of the architectural program - an initial residential program and a secondary institutional one. The initial program is a house for a couple - both neurologists and nature enthusiasts - planning to retire from professional practice and inhabit the site full-time. They are very interested in the relationship between sensory perception and experience, and how they can understand architecture as a lens for their engagement of the site. They plan to ultimately donate the property to a local land conservancy, and the house will become an interpretive centre that is open to the public - the second program.

Structure
Module 1 – Film Screening / Analysis / Discussion (1 week)
Module 2 – Site Visit / Site Documentation (2 weeks)*
Module 3 – Program Analysis / Precedent Study / Analytic Drawing (2 weeks)
Module 4 – Design Charette / Architectural Fragments (1 week)
Module 5 – Schematic Design - (3 weeks)
Module 6 – Design Development - (3 weeks)

*Note: this studio will involve a field trip to Otis, Oregon (Sept 14-16)
Fluid Geographies: LIQUID PLANS FOR THE MISSOURI RIVER BASIN

Instructor: Kees Lokman (klokman@sala.ubc.ca) | Fall 2018 | LARC 504/505 | UBC SALA

OVERVIEW
Covering over 500,000 square miles and extending across ten U.S. states and two Canadian provinces, the Missouri River Basin is one of the most important interior watersheds of North America. In addition to holding a wealth of natural resources, the basin provides nearly half of U.S. wheat, a quarter of its grain corn, and holds a third of its cattle with an annual value of $100 billion. The basin has been drastically altered during the 20th century for the purposes of flood control, water supply, irrigation, energy developments, navigation, and recreation. In the process of these physical transformations many indigenous communities were violently displaced.

A number of recent events, including the Missouri River Flood of 2011, record droughts in 2012, and protests surrounding the construction of the North Dakota Access Pipeline in 2016, have underlined a growing need to reevaluate how natural resources are managed. This becomes the charge for the studio, which will organize itself as the Missouri Valley Authority—a trans-boundary and visionary agency directed to coordinate and rethink the relationships between competing land uses and developments within the basin.

The studio questions the designer’s role and agency in operating, representing and (re)designing issues at the scale of the watershed—and how this can be translated and implemented at a site scale. We will engage the work of early regionalists, including John Wesley Powell, Patrick Geddes, Benton MacKaye, Lewis Mumford and Warren H. Manning. In particular, we will deploy MacKaye’s notion of “liquid planning”—organizational strategies whose boundaries and networks are porous and flexible in order to accommodate the spatial and temporal complexities of landscape, infrastructure, urbanism and ecology.

The first half of the semester involves design research into the cultural, environmental, economic and spatial conditions that have emerged, or were erased, over the past century in the Missouri River Basin. Attention will be given to the relationships among water, energy, food and infrastructure networks with indigenous and colonial ways of life. This historic understanding provides the foundation for exploring alternative spatial configurations and protocols for reorganizing the territory, which will be the focus of the second half of the semester.

The studio aims to produce provocative proposals that balance form-making with the implementation and orchestration of scenarios and spatial processes over time. This means students will have to negotiate when and where to exert, or relinquish, control in order to generate desired outcomes. Collectively, the work seeks to contribute to discussions surrounding the means and implications of designing at the watershed scale, and how this knowledge can be applied to territories around the globe with similar challenges.
Affordability 2.0: Mining Density

This studio looks to understand some of the logics of building cost and development options that underpin contemporary production of housing in Vancouver. We will begin by consulting with a quantity surveyor to get a clearer picture of the costs of a mid-rise residential building here and, more importantly, to determine where there might be opportunities to discover possible economies.

With the most glaring cost item being property – across the lower mainland – the notion of mining density provides a tactic for locating situations which might not immediately suggest their use for housing, but in fact are likely to increase both population and physical density. We will be particularly interested in seeing if this tactic might lead to more diversity in both building typology and unit resolution. Practitioners and developers will offer insight into how such tactics might play out locally.

Following consultation regarding building costs we will begin with a tight infill site that is as wide as the length of a conventional parking space – an otherwise largely bereft space in the city. A second site will observe the ‘left over’ density in past generations of housing construction, substituting new housing structures overlaid against the remnants of amenity landscapes such as tennis courts and pools.

Finally we will explore a particular facet of mining density in the example of existing institutional projects freeing up adjacent lands for housing, with the inclusion of some additional or upgraded facilities for the institution in question. For this project we will be considering the church site to the north of University Boulevard as a context for affordable – perhaps student oriented – housing.

Beyond an interest in the decidedly local emphasis of the topic, we will also be observing projects from elsewhere that might assist in sharpening our curiosity and knowledge base.
Site + Provocation
Where the Trans-Canada Highway crosses Highway 97 stands the small town of Cache Creek. Getting its name from its early colonial use as both an outpost and stowaway location for fur traders, Cache Creek is seldom known by Vancouver city dwellers. In 1989, Wastech, via its parent company Belkorp Environmental Services, opened the Cache Creek landfill and began accepting approximately one fifth of the Lower Mainland’s trash. Reaching capacity in 2016, the landfill closed, laying off approximately 150 employees; shortly after, the province granted the right to an expansion, currently set to open in early 2019. Since the closing of the landfill much of the trash that was once trucked to Cache Creek has been rerouted to Washington State.

Flooding is part of Cache Creek’s archived history; however, rapid snow melt, heightened summer temperatures, and the acute transition from inundation to depletion have turned floods, fires, and flow slides into common events. The ground itself has weakened.³ The continual occurrence of aggressive environmental happenings in Cache Creek calls for an exploration of the meaning, use, and narratives of ecological and infrastructural resilience.

This studio will use Cache Creek as a test case, representing the current challenges of many rural towns on the outskirts of urban centers. Students are asked to seek their own definition of resilience given the histories, ecologies, and practices that converge at Cache Creek. The studio seeks to question the role of landscape architecture in rural areas as related to the infrastructural implications of rapid urbanization and habitability in the face of increasingly destructive climatic conditions. What ‘natural’ processes should be left untouched and which should be managed? How are identity, agency, material, and design articulated in ‘non-city geographies of urbanisation’?⁴ What responsibilities do cities have to rural communities that support and operate key urban systems? In what ways can designers reconcile the agendas of “super-urban” and “sub-urban” models?⁵

With attention given to human and non-human actors, the studio will question the appropriate scales at which rural strategies and practices should be considered through a gradual process of elemental analysis, precedent exploration, practice / actor identification, and site finding. Students will be asked to work iteratively through processes of re-drawing in which representations are continuously rearticulated in order to incorporate new research findings. Oral presentation of studio findings will be a practice throughout the semester to cultivate new design narratives. Students are expected to propose supplemental representations that suit their inquiries and theories.

Schedule
STATE OF THE MATTER(s) / Two Weeks / Students will break into groups to research the narrative, scope, agency and scale of EARTH, AIR, WIND or FIRE as related to the town of Cache Creek.

PRACTICE, MATERIAL + SITE / Three and a Half Weeks / In the same groups, students will explore the current practices associated with their elemental analysis while cataloguing the materials and sites used and affected by these practices.

FINDING SITE + DESIGN THEORIES / Six Weeks / Working in small groups or as individuals students will use the collective catalogue of practices, materials, and sites to hone in on a scale upon which their definitions of resiliency can be tested. Students will develop an approach and design thesis addressing rural resilience in Cache Creek throughout this period.

wonder wood

PREFABRICATION & ROBOTICS IN WOOD ARCHITECTURE

As innovation in technology enables architects and engineers to design and fabricate a wider range of forms and details as well as engage with the complexities of the natural material, the potential of wood is becoming accessible, leading to a new material language. Innovation in material results in innovation in architecture. Technology both supports the development of new materials, and changes how we use traditional ones. In parallel, these innovations bring about a change in how the building is made, and in many cases, how the building is designed and conceived. Wood is of particular renewed interest these days due to its sustainable characteristics including the fact that it actually not only produces little GHG emissions in its production but also stores carbon. As such, it is seen by many as the material of the future.

+ TECHNOLOGICAL INNOVATION

Research on innovation has pointed out that the building industry, while on par with other industries in relation to incremental innovations with minor changes in the product, are laggard adopters when it comes to systemic innovations (product and process innovations that require multiple firms to change their processes) (Taylor 2006, 16). Systemic innovation diffuses slowly in project-based industries such as the construction industry today (Taylor 2006, 9) since it requires multiple firms acting together to implement the change. Systemic innovations such as the one being investigated in this studio - a major change in the conceptual approach to wood design – would thus require not only an innovation in the actual development of the technology but also a re-examination of the process of design and building in order to avoid the friction inherent in the conventional building industry of today.

Part of the innovation brought to the construction industry by the new technologies is the speed of construction brought to projects through the prefabrication of building elements. The speed of construction can be significant if elements are factory manufactured and brought to site with instructions for fabrication embedded within the elements. Another aspect of innovation with robotic fabrication is the accuracy of the technology: the tolerances for robotically fabricated wood are within millimeters, allowing minimal seams and better performance of the constructed building.

+ STUDIO FOCUS

This studio seeks to experiment with the emerging language of wood and the potential of current innovations to change how we design in wood. In particular it will look at robotic and prefabricated structures and what opportunities these combination of innovations can bring to design. The processes involved in material production in turn influence design processes and how we design in wood, bringing it full circle. As such, although the studio begins its inquiry with the fabrication and construction of materials, it will use this research to inform the design process.
+ STUDIO PROGRAM

The program for the studio will consist of the following:

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>FABRICATION WORKSHOP</td>
<td>+ Robot Made: Large-Scale Robotic Timber Fabrication in Architecture (Weekend of October 13-14)</td>
</tr>
<tr>
<td>01 SMALL PREFAB</td>
<td>+ Lake Evans Camp: Tree Viewing Shelter</td>
</tr>
<tr>
<td>02 SYSTEMS DEVELOPMENT</td>
<td>+ Development of prefab systems in small groups</td>
</tr>
<tr>
<td>03 LARGE PREFAB</td>
<td>+ Applications of developed systems in housing with a scale defined by the prefab systems</td>
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</tbody>
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