We often learn through the perspectives of others. Finding value in what has been valued before, forming positions out of predefined agendas, and producing outcomes already seemingly predetermined before we even begin – these forms of mimetic engagements with historical knowledge compose accepted methods of scholarship that nevertheless risk repeating what we already know without offering any of the benefits that come with introducing greater degrees of intellectual uncertainty.

The architecture programme at HKU disrupts the process of seeking and embracing predetermined answers. In an effort to destabilize the idea of knowing with certitude what may be the discipline’s most enduring or relevant questions, our educational strategy is situated in identifying new forms of discourse. Responses are not reliant on simply duplicating exemplary paradigms of the past, but instead offer a reflection upon them to extract meaning from history without replicating the ideology of what has come before.

An enduring education provides opportunities to learn from the incipient. Positions developed at HKU interrupt our presumptions regarding how architecture might address ethical, cultural, sociopolitical, financial, and environmental questions, postulating possible futures informed by each individual architectural proposition. Through the MArch program at HKU, what once may have appeared predetermined is revealed to be self-determined.
The Master of Architecture Program aims to influence architectural and urban discourse regionally and internationally. It is committed to taking on the most pressing issues affecting architecture and urbanism today. The creation of unique spatial conditions brought on by the interplay of urban dynamics between political, social, cultural and environmental forces, have led to a diversity of challenges that must be addressed by a new generation of future architects. This is intensified in the context of Asia, as rapid and expansive forms of urbanisation re-shape the ground, alter communities, build infrastructures and change ecological systems. These urgencies act as a framework for the curriculum that drives the content of design studios, technology workshops and history and theory seminars. Issues also reflect the research interests of faculty and are broad in scope and ambition; including the impact of big data, digital craft, informal settlements, toxicity, extreme density, peripheral urbanisation, rural transformation, and our changing ecology.

Over the course of the MArch Program, students will delve into a range of these topics and acquire techniques for design and research inquiry, building up expertise in order to formulate and test their own unique position. This culminates in the thesis project that synthesizes the student’s approach and critical contribution to the discipline. It operates both as a conclusion and more importantly as a beginning of the student’s future career as an architect.
The Department’s location in Hong Kong enables it to be a hub connecting academics and practitioners from across the globe. Forums for discussion and debate bring together multiple voices from the US, China, UK, Brazil, Australia, Europe and Asia. In 2019, we initiated the first Visiting Professor Programme where we invited 5 visiting professors from around the world, selected for their emerging significance to the discourse, to lead our design studios. This together with our international lecture series and exchange programme with leading institutions, maintains the Department’s unique position as a leading voice and interface for the exchange of ideas.

Looking to the future, we will also offer a new 3 Year MArch in 2019-20 for students wishing to study architecture who have a degree in another subject. This encourages the development of new perspectives on architecture, enabling HKU to work with talented individuals who have the potential to make a valuable contribution to the field and to practice.

As the world around us transforms, we aim to enrich and influence the future of the discipline as it responds to these new challenges.

Joshua Bolchover
Associate Professor
Department of Architecture
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Infrastructure has been a key tool to project urban processes into rural territory. As Brenner articulates in his thesis on “Planetary Urbanism”, the concept of the city as a bounded entity has become superseded by a differentiated, yet continuous landscape organised to “support the continued agglomeration of capital, labour and infrastructure”. This concept is explicitly spatialized in the urbanisation of the countryside in China: the territory has become co-opted to facilitate growth, primarily through industrialisation. Infrastructure, via highways and high-speed rail, has been the conduit for this process of “projection”. The roads and rail connect raw materials to factories, labour from villages to urban areas, and products to sites of consumption or for export.

The construction of infrastructure creates a series of displacements: agricultural land is destroyed, villages erased; people relocated; and vast amounts of earth and rock are removed. Slopes and hillsides are made vulnerable to erosion and collapse and local forms of connection can be disrupted and settlements bisected. On the other hand, new economic drivers are created including roadside commerce, real estate, manufacturing and logistics.

The studio reacts to the current construction of a new highway in Liuyang Village, Changsha, to design a series of prototypes that respond to the volatile displacements occurring in this transformation process.

The government has already started the construction of the highway and the demolition of people’s homes. The villager shown in the photograph is heralded as an example by the government to encourage others to leave their homes, claim their compensation, and rebuild. However, the sites that the government has offered the villagers for the resettlement are not attractive to some who desire plots as close to the highway as possible. This has stalled redevelopment creating an urgency to create design alternatives that can mediate the needs of both villagers and government. The studio develops projects for housing and programmatic catalysts that can respond to the demands of the new context.
The Urban Ecologies Studio aims to confront conventional urban renewal practices with alternative sustainable architectural design strategies for the contemporary city of accelerated (re)development. By understanding the city as a synthesized ecosystem comprised of Environmental (resources and services), Social (people and communities), Economic (costs and effects) and Constructed elements (buildings and infrastructure), this line of investigation proposes architectural interventions that negotiate the relationships among these elements. This design research methodology expands upon existing analysis and design techniques utilized within the field of architecture by introducing important understanding from knowledge fields such as history, landscape, geography, sociology, economics, and political science. The agenda is to create an architecture that is not overwhelmed by the complexities of the city, rather to view the multiple resources and conflicts as agencies of effective design.

Keywords
INFORMAL SETTLEMENTS
URBAN VILLAGES
URBAN RENEWAL
COLLECTIVE HOUSING
ARCHITECTURAL ETHNOGRAPHY

Location of Project
NANSHAN DISTRICT
SHENZHEN, CHINA

Process of Material Transportation in Pingshan village.
A new paradigm of urban redevelopment has begun to emerge in creative cities across the globe, one betting squarely on design en masse and its retailer beneficiaries – the design district.

Seoul is one of the most dynamic and innovative retail environments in the world. Like many frenetic consumer markets, it also nurtures a rich creative community of artists, designers, filmmakers, musicians and beyond. And where the creatives go, the retailers soon follow – a tenuous, but all too predictable arc of development from frontier to gentrification.

Historically, such an evolution might take decades to fully arrive. Neighborhoods are, after all, broad swaths of plots and parcels, typically under different ownership, different motivations, different outlooks from one to the next. So change is slow.

But the design district inverts all that. In this emerging model, ownership is consolidated and assembled into large plots. Masterplans are drawn and enacted in a matter of years. Change is near instantaneous. What previously was an organic transformation is now made a synthetic, real estate driven response. Anchor tenants are introduced. ‘Traffic drivers’ placed strategically. The district is an economic engine camouflaged under a thin veil of architecture.

Design is wielded as a signifier of culture, rather than an outcome of it. Presto – an overnight neighborhood.
This studio focuses on applied design & research in order to address the urgent local issues for immediate impact. The pedagogical goal of this studio is to fill in the gap between the academic design which focuses on certain academic idealism, and the professional design which frustrates with the lack of innovation and in-depth reflection upon the critical issues. This time the project is to collaborate with the Peace Experimental Primary School (PEPS) to investigate new form of school environment and spatial mechanisms which support the school’s vision in diversified and inspiring learning. Through engaging with the real users, students are expected to understand the complexity of design process in generating valuable design ideas, as well as to get inspiration from the stake holders outside the architectural discipline. We investigate how to codify the new forms of learning in today’s context with the environmental factors that affects the learning outcomes, in order to generate new design possibilities and to evaluate design feedback. Our design objective is to address a series of dualities including Nature and Culture, Safety and Adventures, Collaboration and Independency and, Resources and Demonstration.
The PRD metropolitan area (currently “the Greater Bay”), the largest and densest urban area on earth, has been explosively erected on the ground of a continuous delta landscape. History and material tradition are substantially erased by the rapid wave of urbanization, especially in large cities. The hyper progressing modernization is becoming a flux of pure capital and political operation.

We believe architecture is related to and built upon history; or, it ought to be a history. Therefore, in order to effectively intervene to the “flux modern” condition, we must re-construct a site history, literally, and culturally and spatially. The new architectural intervention seeks to articulate between the site and the surroundings, between the hidden past and the visionable future and between the steady and the mobile.

“The aim .... is to change “landscape” 風景 from a noun to a verb. It asks that we think of landscape, not as an object to be seen or a text to be read, but a process by which social and subjective identities are formed.

(W. J. T. Mitchell, Landscape and Power)”

We are hence thinking of the possibility of Fung King 風景, Chinese term for “Landscape”, revival in the city and architecture, and asking whether Fung King, incorporating both the Chinese tradition about “sceniology” and the contemporary study on “landscape” worldwide, is able to be developed to a certain practical approach in architecture and urban design.

Fung King has the triple meaning in the studio:

1. Retrospective conception of Fung King about the ecological relationship between the city and the landscape, between the built and the natural.

2. Rediscovering Fung King’s Chinese Literati tradition which refers to personal and situational interaction to the space and environment.

3. Understanding about Fung King on its contemporary (mostly) art and social function to the super networking urban reality.
We investigate an alternative approach in urban design. We remain critical to a deductive reasoning which presuppose particular solutions to problems around the study site according to preferred modes of functional zoning. Alternative methods are sought considering urban analysis, objectives and urban space.

We are doubtful of compositional unities which affirm order and stability. We encourage multiplicity and indeterminacy with all their forms of divergence, ambiguity and transformation.

Urban form is portrayed as an accumulation of information, material substances and time, forming compacted or loosely arranged agglomerations. We observe this phenomenon, which has existed for centuries and which this project is imposed upon.

We emphasise less on the notion of place-making as genius loci than on space production. Producing space is characterised by a dispersion of events which remains strategically open. Architecture design does not submit to finite conditions but circumscribes fields of possibilities, open to entice other forms of ‘reading and writing’.

The studio is built on three basic urban issues: place, infrastructure and envelop. The traditional linear sequence of analysis and design is abandoned to allow working in parallel. Thinking on several levels and across many scales is required in each exercise.
HOLGER KEHNE

The podium tower has gained hegemony in Hong Kong and all over Asia due to its basic fitness in combining the needs for housing and commercial spaces at maximum GFA. On the positive side this contributes to a dense and compact urban fabric, even loads on transportation and other infra-structures and the round-the-clock liveliness of many areas. Yet it is rightly criticized for a wide range of urban, environmental and social problems. Tectonically, the notorious transfer plates- necessary to shift the loads from densely distributed vertical shear walls of the residential towers to a much sparser series of columns within the commercial podium beneath- are not only wasteful and cumbersome but also separate what happens below from the above. The studio focuses on exploring integral three-dimensional structural and massing solutions that in turn enable continuities, connectivity and new architectural potential and expression.

Programmatically, the bipolar banality of private residential repetitive units above a shopping mall is in dire need for revision: can the vertical combination be expanded to include all necessary ingredients for a self-sustainable urban fabric and respond to specific needs and potentials of their location?

Urbanistically, the podium needs to engage properly with the public realm, its neighbours and the various datums around it. For air flow and other kinds of movement, additional porosity and connections are necessary.

From a hands-on comparison of various load transfer systems such as arches, vaults, trusses, frames, and Dougong systems, students work in groups to project a range of experimental, paradigmatic building systems, that are applied to various sites in Macau. The tiny SAR has even less available buildable land supply in comparison with Hong Kong and Singapore while at the same time needs to keep growing and diversifying its highly successful casino and integrated resorts economy and provide housing and amenities to a growing population. In addition to reclaimed land from the sea, it appears that more radical steps are required: students develop a range of idiosyncratic sites with a diversely layered mix of programs and spaces. Examples are the existing airport terminal, the old Maritime Terminal, one remaining casino/resort plot on the Cotai Strip and the Gongbei border crossing facilities. In addition to employing density to project architecture, the aim is also to coalesce the currently separated realms of tourism and inhabitants and to replace Macau’s borrowing of 1980s Las Vegas with a new iconicity of diversity and coherence aligned with the dynamics and sensibilities of the New Millennium.

Location of Project
MACAU

Keywords
STRUCTURE
MATERIAL
SLAY
LAYERING
TOWARDS A NEW ARCHITECTURE

DEEP STRUCTURE / TRANSVERSAL ARCHITECTURE

The podium tower has gained hegemony in Hong Kong and all over Asia due to its basic fitness in combining the needs for housing and commercial spaces at maximum GFA. On the positive side this contributes to a dense and compact urban fabric, even loads on transportation and other infra-structures and the round-the-clock liveliness of many areas. Yet it is rightly criticized for a wide range of urban, environmental and social problems. Tectonically, the notorious transfer plates- necessary to shift the loads from densely distributed vertical shear walls of the residential towers to a much sparser series of columns within the commercial podium beneath- are not only wasteful and cumbersome but also separate what happens below from the above. The studio focuses on exploring integral three-dimensional structural and massing solutions that in turn enable continuities, connectivity and new architectural potential and expression.

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With the increase of nomadic population, the model proposes the clustering of portable living units. Gathering of individual min/max living modules. Instead of renting or buying a space to live in, the community will co-produce to sustain itself. Minimize private space and maximize social space. A hanging structure held all the living units above the collaborative co-work/co-production space.

This is a design studio that places special emphasis on the use of ‘field over cross and mix use of methodology’ while studying the phenomena of coliving in the discipline of Architecture.

In this studio we discuss initially issues of research and design, methodology, discourse and debate in architecture, related to both praxis or academia. Then we explore and map other ways of working and modes of thinking by interviewing those in the field of Architecture and other fields at the University of Hong Kong. We collect, map and compare thought models and methodologies generated and use them in our study of the phenomenon of coliving. Learning from this investigation we develop a position and a thesis to coliving, and learn how to place this thesis into a relevant debate. This translates into a proposition, conclusion, or suggestion that would need to have a spatial proposition to coliving.

Note: This would not be a course for someone looking for a prescribed site, a prescribed issue, or a prescribed set of methods, and hands on guidelines. This is a course addressed to someone who is curious to look behind the curtain of ‘site’, ‘house’, or ‘room’, and someone who wants to get savvy in using method, argument and debate to develop his or her own position in the discipline of Architecture. You need the hunger to discuss any question – or at least you need the want to give it a shot. You would need to work independently, and be willing to contribute to the content and thus the enrichment of the course and the group. Guidance would only be given if needed. You need to have the urge to engage and participate, to sometimes stretch your mind and to let it flow, to play with thoughts and ideas, to pull in all the information and references you can find that are related to the studio, and you need to be willing to share. You would have to be respectful to any thoughts or comments thrown out to the studio and appreciative of the fruitful discussions the group would generate.

Keywords
COLIVING
FUTURE OF LIVING AND WORKING
CONTEMPORARY ARCHITECTURAL RESEARCH AND DESIGN PRACTICE
FLIPPED CLASSROOM ENVIRONMENT
FIELD OVER CROSS AND MIX USE OF METHODOLOGY
The history of architecture is primarily based on a model of parts-to-whole. One of the oldest building materials that is the ultimate embodiment of this concept is the brick. The brick was until modern times the standard component to build mundane buildings around the world. It represents a building material that can be flexibly assembled, is good in compression, and though it’s based on a standardized logic has within its system a large range of architectural expression. Originally bricks were made through slop moulding. Today, most industrially produced bricks are made through a die extrusion process, a method that is fast and economical but has its limitations in complexity achievable.

In the past decade, 3D printing technology has become more and more advanced and has made its way into architecture. Many of the professionals in the industry driving the development are dreaming of full-scale production with large-scale printers that print entire houses, which can take on any form. Though, there are quite a few promising developments on the horizon, I believe that this trend is only one trajectory of how we think about new technologies to drive contemporary architectural production. The studio therefore focuses on the brick and tries to understand how recent technologies can rethink this 7000-year-old building material.
The studio not only explores how a concept of a building can be transformed into a real built experience but also experiments with materials in practice as well as suitable building technologies for rural construction in China.

Rather than focusing on broader village revitalization issues, we specifically rethink architecture’s relationship to nature in the countryside by developing a prototypical house. Located between mountains and farming fields, the chosen site for the house is a sloped terrain, initiating a productive tension between ground and roof.

To prototype (‘first-strike’ in Greek) a house in this specific context has the potential to open up a series of chain changes in larger rural areas and to generalize more pragmatic results; benefiting the local industry, injecting new social and cultural resources in the area and promoting new economic conditions.

Through hands-on experimentation with materials and their active properties (e.g. formwork for concrete casting), the studio seeks novel construction procedures able to influence the project outcome and direct its design process and methodology.
With more than 250 islands, mostly uninhabited, and fifty percent of the territory composed of water, Hong Kong has the potential to re-invent a positive future where human economies are re-balanced with new territorial ecologies. In this context, islands are fragments of land that are barely used, or rather, their various forms of occupation have often been kept secret by the successive Hong Kong governments. Rehabilitation center for drug addicts, low-nuclear waste management plant, isolated refugee camps, islands have since long been used for hosting the leftover of our societies.

The main objective of the studio is to re-territorialize those forgotten or invisible territories by defining a liquid trajectory starting from Cape d’Aguilar and HKU Marine biology department, passing through Stanley to join the Po Toi Islands. Those various sites opportunities should allow the development of multiple possible futures, beyond simple capitalistic and other materialistic perspective.

Keywords
NETWORKED ECOLOGIES
BORDER INFRASTRUCTURE
TERRITORIAL SEA
ISLAND LABORATORY
SUBSISTENCE
ARCHITECTURAL ETHNOGRAPHY
COASTAL LANDSCAPE
SEASONS, TIDES AND MOON

Location of Project
CAPE D’AGUILAR
PO TOI ARCHIPELAGO
SOUTH CHINA SEA
HONG KONG / CHINA
In Laurence Stephen Lowry’s painting “Saturday Afternoon” (1941) from Pendlebury, Lancashire we see the looming presence of the factory amidst the festive leisure of a sporting event on a Saturday afternoon. The image is haunting, and has for the better half of the 20th Century been the antithesis of an ideal relationship between industry and the city. Yet, industrial architecture has served as inspiration for architects since the beginning of modernity, it has always to some extent been regarded as 'incomplete'; its building elements only becoming high-art when applied elsewhere.

Hong Kong has a significant industrial and manufacturing history dating back to the 19th Century. But since the 1970-80’s the industries moved out of the city and was largely replaced by the financial services. There is now an explicit goal to re-industrialize Hong Kong in order to diversify the economy and take part in a growing technology sector. At the same time the perception of industry in the city is changing as we are seeing clean technology companies moving into the center of cities in order to attract staff and encourage synergy effects of being around universities, research centers and commercial enterprises. Thus, today’s factory is perhaps also gallery, a club, a school, a research center, think tank, far removed from the dusty, polluted ancestor.

The studio aims to place industrial architecture in the centre with the ambition to use architecture as a critical tool to conceive of spaces for a new kind of interaction between industry and the city. In this pursuit we work from within the discipline of architecture, employing drawing, models and text as the primary tools.
Nothing as tool to uncut the Hong Kong - Shenzhen border

Landscape as a city's security barrier

"This morning I arose to see glimpses of the New Territories and family, the polluted sky of Shenzhen. I have to be in heaven!"

Goods, services, and cultural symbols can cross the border, but the urban landscape is not the same on both sides. Until now, the artists and photographers have not been able to capture the essence of the unique landscape on the other side. How can we solve this issue? What tools do we need to uncut the boundary and to explore the real landscape on the other side?

The new tool that I have created is a tool that makes it possible to peel off the surface of the landscape. This tool can be used in the following way:

1. Use a smartphone or camera to take photos of the landscape on both sides of the border.
2. Use the tool to peel off the surface of the landscape on one side and see the other side.
3. Use the tool to explore the real landscape on the other side.

This tool can be used to explore the real landscape on the other side, but it is not a cure-all solution. We need to work together to solve this issue.

The tool is a metaphor for the need for more collaboration between the two sides. We need more tools to uncut the boundary and to explore the real landscape on the other side.
SHT happens, every day. We make it happen every day. But do we ever think about it? This studio thinks about it and works on it. We first explore the spatial, social and technical issues involved in the toilet design, and develop a new composting toilet system for an elementary school and the individual families in a Yunnan village. Beyond the rudimentary project dealing with human excretion, we also work on human communication. We try to use the toilet upgrading as a catalyst to trigger a spatial-social campaign to improve the entire village's public space system.

Keywords
COMPOSTING TOILET
PUBLIC SPACE

Location of Project
YUNNAN, CHINA
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"The Digital" is no longer simply a tool for the production of architecture, but the context in which architecture is conceived. This shift calls for a fundamental rethinking of some of our most commonly used tools and techniques. For example, digital renderings were once an expedient way of depicting (soon-to-be) “real” buildings through photorealistic, computer-generated images. With improvements in processing power, software, and virtual reality, rendering now happens in real-time, through immersive, interactive environments. This shift from static to dynamic is more than a simple shift in perspective, it is an invitation to rethink how architecture is conceived, produced, and experienced.

In this studio, we take up rendering as a means of visualizing the built environment, but also as a framework for design and experience. This approach collapses distinctions between physical and digital, and turns visualization tools into generative ones. Thus, the components of rendering (UV mapping, mesh topologies, and so forth) are the material we author as architects.

Our site is Detroit, a city accustomed to digital mediation. Students study Detroit remotely, utilizing digital tools such as Google Earth to form a basic understanding of the city’s topography. Mid-semester, students travel to the site, gathering information for the design of a building to be designed in a virtual Detroit.

**Keywords**
- Rendering
- Postdigital
- Virtual Reality
- Photogrammetry
- Experience

**Location of Project**
DETROIT, MI, USA
The current worldwide rural challenges are being manifested in China’s recent rural reconstruction efforts. This class investigates rural villages and provides analysis of the current rural society including its agricultural production and construction systems. A discussion of new development strategy in the rural site aims to reconstruct its physical environment and its social fabric. A series of studies into building methodology examine aspects of location, ecology, natural materials, construction collectives, tectonics, forms, and shelters. A comprehensive solution to the selected place is discussed, through architectural prototypes, intervention strategies, and media dissemination. These chain link events contribute to the reconstruction of village collectives in the future.

Keywords
RURAL COUNTRY
CONSTRUCTION AS COLLECTIVE
FIELD RESEARCH
NATURAL BUILDING
REINVIGURATION

Location of Project
BISHAN, HUIZHOU REGION/
YANGSHUO/
SHANGHAI CENTER

HAORU CHEN

FIELD RECONSTRUCTION
Sam Jacob

Amalgamated Architecture Studio (or difficult wholes and rough beasts)

Hong Kong is a city where cultures intersect. Forces of colonialism, politics, ideology, and economics have exerted themselves to shape the city in extreme ways. Urban form, architectural character, programme and even geology have been moulded, trained and bent by these forces into a unique urban ecology. Our studio investigates and speculates within this culture of ultra-hybrid urbanity.

It does this in two ways: First by ‘reading’ Hong Kong through close observation. This produces a series of ‘portraits’ of existing architectural phenomena. These act as studies but also as potent manifestos of architectural potentials. These explore and explain how unique forms of architecture have thrived within the Hong Kong ecosystem. From very small to very large, historic and futuristic, global and local, individual and collective, we use the act of drawing and modelmaking to articulate our readings as positions.

Secondly we work with elements of architectural culture, raiding history for ingredients and tactics that we can use ourselves to create alternative histories and possible futures. These give us disciplinary foundations that shore up our speculations.

Keywords
Hybrids
Collage
Representation

Location of Project
Hong Kong
An arms race is on in the worlds of computation and architectural fabrication research. Robots with increasingly large, fast, and powerful capabilities are available and can produce outputs with military-grade precision. The assumption is that, through the use of these advanced tools, architects also advance the production of outputs, but can these tools be developed with traditional forms of human engagement still in mind? Robots are not particularly adaptive. They do not integrate changes with ease—at least, not yet. Humans, on the other hand, exhibit great capacity for adaptation but lack the precision of robots. How could precision and adaptation be combined in architecture, specifically within the context of Japan, where imperfections are embraced as part of an ideal form?

Exploring this question, we investigate human centric digital fabrication as a primary vehicle to conceptualise, design and build a design proposal.

Keywords

DIGITAL FABRICATION
HUMAN CENTRIC DESIGN
INFORMAL URBANISM
POST-CONSUMER SOCIETY
URBAN MINING

Location of Project

TOKYO, JAPAN

DEMOCRATISATION OF ARCHITECTURE: WALLS IN TOKYO REVISITED BY HUMAN CENTRIC DIGITAL FABRICATION

YUSUKE OBUCHI
This discipline seeks to research the use of shade as a public program generator. The shade, in areas of strong heat, not only provides shelter, but also enables multiple occupations. It functions as a transition element between public and private spaces and also as a generic space, waiting for a specific use.

I possess no specialized knowledge of architecture, but I understand that in the Gothic cathedral of the West, the roof is thrust up and up so as to place its pinnacle as high in the heavens as possible—and that herein is thought to lie its special beauty. In the temples of Japan, on the other hand, a roof of heavy tiles is first laid out, and in the deep, spacious shadows created by the eaves the rest of the structure is built.

Tanizaki, Junichiro - In Praise of Shadows, Leete’s Island Books, 1977

Traditionally, shaded spaces are used as transition zones between the inside and the outside, like the varandas in Brazil or in Japan. These spaces create an expanded boundary and a more fluid connection between programs.

This studio intends to study these spaces as a central element of the work and discuss its use in a broader context, without neglecting the ephemerality of the shade and its spatial qualities.

Keywords
- SHADOW
- UNPROGRAM SPACE
- PUBLIC AREAS
- ATMOSPHERE

Location of Project
- HONG KONG
“Man must realize the precariousness of his situation and immediately develop the processes for food, water, and clothing production which his researches show as feasible. Our human resources in brain and man power are being misapplied. . . . This is where the architect comes in. Not only will the responsibility lie with him of producing the shelter, that the new way of life and the new processes required for the maintenance of life will demand, but he will also be responsible for ensuring that the environment in which all this occurs sustains the dignity and the finer aspirations of man as a human being.”


Design thesis occupies vital if precarious terrain within the discipline of architecture. It figures both as a capstone experience for graduating MArch students and prepares them for future experimentation as a professional designer. Students must establish a degree of expertise in relation to their selected mode of inquiry, but it’s also important that they imagine ways of conceptualizing and making that may be unfamiliar and new. Through thesis, a student demonstrates an ability to anticipate and adjust to as-yet unforeseen demands placed upon them as designers and the practice of architecture itself. By asking that students develop specific yet open-ended methods for experimentation, speculation, and risk-taking, thesis—in all of its various forms and incarnations—ensures the discipline’s continual regeneration.

Professor W.G. Gregory’s 1964 text, “The Architect and Survival,” reminds us that precarity is not a new condition for architects, nor for architecture in general, particularly in Hong Kong. The Department of Architecture at HKU has grappled with the uncertainties of the built environment since its founding in 1950 amid a rapid and unexpected population boom fueled by Chinese refugees fleeing mainland China and its civil war. These realities imbued architectural education at HKU with a sense of public service and urgency, particularly the department’s thesis program, which offered a platform for testing new design methods and strategies capable of quickly and economically supporting the city’s unstable and transient population.

Design thesis at HKU has evolved over time, and in accordance with broader shifts taking place within the city, the region, and the discipline itself. As architecture schools, departments, and programs around the world currently debate how to best prepare students for architectural practice in a rapidly changing world, important questions emerge concerning design’s particular modalities relative to conventional academic research. Design thesis lies at the heart of these issues.

Themes of urgency, experimentation, and a commitment to public life will remain hallmarks of what thesis is and
how it is taught at HKU, even as the program continues to adapt to the realities of our dynamic global systems. Ultimately, it is important that we understand design thesis as an important but fluid part of perpetual inquiry into the ways we inhabit the world. Today, design thesis at HKU provides students with an opportunity to formulate an architectural design-based proposition on their own, develop creative methods for testing that proposition, and synthesize those methods into an iterative and convincing process of design, thus demonstrating a particular and defined form of expertise. Thesis projects are not finished products but remain works in a state of productive precarity—a condition that we hope ensures students will continue to engage with thesis as part of a lifelong engagement with architecture.

Ideally, the work on display straddles the boundary between the real and the fictional, the established and the speculative, and the unfinished and the complete to produce a vision so compelling in its notional totality that we all are obliged to believe it. It is work that takes architecture’s power seriously and, in so doing, challenges preconceptions of what architecture is in favor of what it could be.

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THE DRAWING GAMES

The project questions representations that focus on the physicality of matter, and introduces a representation that sees architecture in new spectacles. Exploring how drawings capture architecture that is invisible to the eye, through the lens of sports. And further on how the drawn lines connect things, and allow that to become a basis of the author's thinking, questioning and proposition.

The project aims to bring in discussions on architecture's strength as an intellectual act instead of a built object. How drawings work as a methodology instead of an artefact. Where drawing as the translation of our thinking, is itself architecture in action.
My thesis is about challenging existing sports complex buildings with a proposal of a sports hybrid, where sports become the driving program that helps generate synergetic relationships.

What differs a hybrid from a complex is the potential of the relationships between programs to produce interesting and intriguing spatial experiences. And what differs a sports hybrid from any other hybrids is the usage of sports as both circulation and the protagonist program at the same time.

And what differs a sports hybrid to any other hybrid is the usage of sports as both circulation and the protagonist program at the same time.

My design methodology involves using the specificity of dimensions of sports courts, sports rules, the inclination of 50 degrees angle of the audience seating for example to produce components of forms, and start to allow landscaping of the hybrid building. The process moves from form finding to program arrangements, in which generates the structure naturally, throughout which models are my main design medium. A matrix is set to categorise the relationships between programs.

There are mainly two characteristics of my chosen site which is Sham Shui Po in Hong Kong. 1) programmatically, according to the government urban planning department and the ratio of people to sports facilities, this district is two sports complexes deficient, therefore one of the aims of the project is to house these extra facilities in the plot of the hybrid. 2) how the density of this district gives spectatorship to the sports programs in my hybrid, which intensified the relationship between the urban fabric and the hybrid.

In conclusion my thesis is to hybridise programs and to hybridise space, at the same time celebrating sports as the driving force that achieves the hybridisation.
HOUSE RULES

The thesis attempts to challenge the homogeneity of public housing by proposing a "rule-based design method", within which inhabitants are given the autonomy to extend their living envelopes under the control of the architect. Compared to the "catalogue" method, which provides inhabitants with only a handful of options by the architect, the "rule-set" enables great range of possibilities within the defined spectrum.

Under this system, the role of the architect is changed, apart from designing the static hardware-infrastructure, including sky gardens, lift core and prefabricated shell units with different values, he also has to create a rule set, that is a software-infrastructure that governs further dynamic alterations by the inhabitants.

Apart from existing planning regulations, the rule set should also include stylistic rules from architect’s subjectivity, which brings coherence to the building’s outlook amidst the complexity.

The effect of the ruleset on the overall building massing and façade is simulated by both computational and manual means in this thesis project.

With parametric tools, encoded rules were able to be applied in vast quantity, creating a rough overall image of the building created by the ruleset.

On the other hand, plans are manually drawn, acting as a qualitative means to apply the rule set from perspective of the inhabitant at a greater resolution.
IN THE UNIVERSE OF SMALL

“For our house is our corner of the world… our first universe, a real cosmos in every sense of the word. If we look at it intimately, the humblest dwelling has beauty.”

Poetics of Space, Gaston Bachelard 1958

‘In the Universe of Small’ seeks to reconsider the overtly utilitarian and automatic thinking of multi-residential design. Specifically, it responds to a new housing typology emerging in Hong Kong where apartments are approximately the size of a standard carpark space. Despite its physical constraint, they continue to act as miniature houses, containing a private bathroom, kitchen, living and outdoor area. The thesis questions this current practice of repetitive individualisation and aspires to liberate architecture from the functional stacking of units. Three canonical houses are chosen and then interpreted through writing, iterative drawings and physical models. This methodology allows for a theoretical ground to produce a cross dialogue between the chosen projects and the micro domestic condition of today. While discovering architectural strategies for unravelling the universe of the small, the project simultaneously evaluates the challenge for a new notion of unit in the city.
ISLAND DEFENDER; AN ARCHITECTURE FOR ECOLOGY

A proposal for the protection of desert islands, and learning to coexist with Hong Kong’s unique landscape, 263 islands that make up the city. These fragile, unprotected islands are seemingly fallen of the face of the Earth. Stonecutters Island, Harbour Island, Junk Island, Pillar Island, Mouse Island... Reclamation killed them off one by one.

This thesis is a critique of the existing environmental policy of protecting these ‘Geographical Heritage’, against which an eco-border is set up to perform multiple functions, a Cultivation Border, an Island Archive and a Reclamation Guideline.

Taking the shelter for cultivating shellfish at the border’s structure across a fictional timeline, it eventually forms an ecological enclave in the middle of the sea, which also serves as a filter to purify the polluted seawater for the protected buffer. Throughout the life cycle, shells can be collected, and lime can be extracted as the building material for urban development.

This work recalls the role of architecture as a defender, to defend the island against human activities, and it also suggests alternative act for architecture in the Anthropocene, which teach us how to develop in relation to our environment while transforming the earth’s land.
BLADE RUNNER

Blade Runner (1982) and its sequel Blade Runner 2049 (released in 2017) are set in a dystopian future where humans live in a high-tech but low-life environment with synthetic humans called replicants as their slaves. The film is regarded as one of the best science fiction films for speculating a retrofit future. Similarly, architects always concern with contemporary issues and project a future. The thesis explores the potential of a film serving as a site of analysis and speculation for an architectural proposition. If both film and site can become a territory subject, what are the implications of relying on a fictitious territory as a generator for the design of spaces?

Based on the film context, the analysis focuses on the timeline, storyboarding and scenes where the story plays out and then a missing scene is identified as the potential of an expanded story. The design is to construct a narrative with a greater scope than real projects. It is a design of the universe, a speculative reality with urbanism, architecture, interiority along with characters all serve as components of the narrative.
THE PARLIAMENT OF THE GREATER BAY AREA UNION

The thesis resists the top-down planning and data control from the Central Government at the Greater Bay Area. The project is designing a moving vessel that contains a parliament and a data center based at the international waters.

Politically, China has assigned the 11 cities at the Area each with a specific role without the consensus of its local citizens. Economically, China is using the data collected from its citizens as an instrument for surveillance, and control.

Instead of seeing the Area as 11 cities, the vision of the thesis is to see the Area as 131 individual districts. Each district will elect representatives to join the parliament at the vessel according to the proportion of population. This is to ensure an equal say between districts.

The vessel constantly travels around the Area, collects data through cables, and retreats back to the international waters. Data collected will be shared at the parliament as a reference for making democratic decisions for the Area.

The floating vessel would be a heterotopic space as discussed by Michel Foucault. It would be a new site for law making and a site that resists data dictatorship. It would be a self-contained city, referencing Le Corbusier’s Ocean Liner and Unité d’habitation.
DIMENSION–ED LIVING VS. DIMENSIONS OF LIVING

The thesis examines the spatial potential in furniture that has been indicative about our domestic language. Where given a basic shelter as architecturally perceived as the “wall, floor and ceiling” construct, furniture leads a human-scale perspective into our “behavioural spaces” and its inherited spatial characteristic has been specifying architectural spaces for living.

As studied in subdivided units in Hong Kong, my thesis begins to observe a phenomenon which the role of furniture is becoming more dominant over the architectural elements of wall-floor-ceiling, as the dense environment forces people to reduce their physical “living dimensions” to the minimal - “Dimension-ed Living”. The term captures how people “create living” in scale of “furniture-defined spaces”, which not only compromises with extreme density but also sacrifices the fundamental sequencing of space that constitutes the idea of “living”.

“Living” is not defined by walls but it is within itself an “informed space”. The thesis speculates the role of furniture as a “spatial activator” that enables a more humanistic scale and bottom-up approach in specifying, not figures but spatiality of “living dimensions”. By studying the room spatiality articulated by furniture of different cultures e.g. tatami realizing “floor of functions”, Middle East rug “interiorizing a room” etc., the thesis incorporates these spatial traits into a demonstrative design to illustrate how furniture as a volumetric element interact with domestic movements, sculpts an architectural context for living environment that responds to not only needs but also fundamental spatial transitions – “Dimension of Living”.

HO SZE NGAR
TIFFANY
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THE UNIVERSITY OF HONG KONG
DEPARTMENT OF ARCHITECTURE M ARCH REVIEW 2019

THESIS 2018/19
3D PRINTED CLAY: FORM-WORK FOR PRE-FAB CONCRETE VAULT STRUCTURES

This thesis sets out to explore the possibility of concrete pre-fabrication by the use of clay form-work, with a core focus on robotic pre-fabrication, study of material and prototyping. By the use of a robotic arm, clay would be 3D printed through direct ink extrusion to provide a form-work for the pre-fabrication of concrete vault structures. The use of this method of making introduces a new and unique aesthetics to concrete structure and finishes, which also allows structural efficiency. Different from tradition concrete form-work, the clay form-work allows a relatively straight forward construction of complex surface geometry, and is recyclable upon uncasting of the concrete structure by reintroduction of water. The thesis evolves around a series of experiments starting with simple geometries to complex vaults. Through the series of geometric evolution, studies and observations on the behavior and performance of 3D printed clay form-work are analyzed and adjusted to better the prototypes. By continuous and rapid prototyping, test results are put into a feedback loop for comparison and advancement in the prototypical form. The final prototype of the concrete vault structure, an end result of a series of geometric evolution, is structurally analyzed with computational tools, resulting in a combination of unique aesthetics and structural efficiency.
FIBROUS DIMENSIONS — ROBOTICALLY WOVEN STRUCTURES

My thesis examines the possibilities of carbon fiber as a structural element. It aims to reduce the potential hazard brought by the deficient structures after the earthquakes by capitalizing on the lightweight and fibrous nature of carbon fiber.

This thesis departs from the fibrous system as enclosure in the four architectural elements suggested by Gottfried Semper in 1851. By understanding the limitations of the woven system of fibrous materials, this investigation is to challenge it to be a structural medium rather than merely a building envelope.

Carbon fiber has been commonly used in the automobile and aircraft industries since the 1980s, but rarely used in architectural construction due to the cost and scale. With the aid of digital simulation and robotic fabrication, the thesis investigates on the articulation of carbon fiber to achieve a higher structural stability for architecture.

The investigation of carbon fiber as a structural element consists of few stages. It begins with the testing of the thread pattern in both digital and handcraft ways, followed by the prototyping of the looms as the medium of the woven structure. At last, analog and robotic fabrication are implemented as the method of achieving the high weight-to-strength thread structure.
THE DELIVERY CITY

The thesis seeks to explore the value of airspace through architectural interventions based on the future drone delivery system in an urban context.

The development of e-commerce causes heavy load on the delivery system, which mainly relies on lorry and manpower to fulfill the online shopping orders. In the coming decades, pilotless technology could take over the delivery works and become the urban infrastructure to connect households in a timeless way. To facilitate the drone navigation, the design of architecture should respond to the technological advancement by creating a relationship between architecture and airspace. The project is going to design an Air Delivery Centre in Kauon Tong that provides functions such as sorting, packing and storage of goods and droneport. Different from the traditional warehouses, the Air Delivery Centre would focus on vertical footprint to provide sufficient airspace for the drone circulation. The design is going to define the airspace as internal and external which would be shaped by architecture to enable the logistics of air delivery. Subsequently, the design makes use of the unmanned aerial vehicle to explore the new architectural typologies.
In the city of Hong Kong where its urban space is densely packed with high-rises, the image of buildings composes a large part of the urban scenery and our daily experience. Yet, the form and façade of contemporary buildings – mostly being utilitarian solutions and only meeting basic functional needs for the internal occupants – are leading to a homogeneous urban environment. They fail to perform their role as urban interface and are not flexibly responding to the dynamic environment.

This thesis explores the image of architecture as urban interface with reference to specific urban conditions underlying the perception of buildings from the exterior, which address the viewer’s perspectives and movement in encountering the façades. Through deploying architectural elements to create specific effects of perception and connection, this thesis seeks to re-define the interface between architecture and city and proposes the new façade system that articulates relationships with its exterior environment and performs to the public.
BUILDING WITH PRESSURE —
INFLATABLE CONCRETE FORMWORK

Casting a concrete slab with an inflatable formwork is essentially carving out excessive material from the bottom of the slab with air pressure. This idea of removing material resonates with Pier Nervi’s waffle slab, as well as Robert Maillard’s mushroom slab. This thesis, however, also extends beyond the structural and construction realm, and becomes a design tool which uses the ceiling to articulate the spaces below.

The design of the inflatable formwork is inspired by the technique of upholstery; a method to provide structure to a sheet of PVC by pinning it down to a checkered grid and applying air pressure. The grid is defined by the position of the columns, and the sheet of PVC provides the concrete with a form active structure. Because of the nature of the fabric like material, ribs are formed around the columns and capitals, behaving as a second layer of structural supports against buckling. With increasing height, pressure, and corrugation in the formwork, a Gothic imagery emerges and the slab has the potential to become a vault-like structure.

This thesis begins with a building method that is both material and cost efficient. And as it progresses a style emerges, it acts as a tool to help us rethink the ceiling as an architectural form, using its arrangement, depth and weight to convey the spaces beneath it.
MINIMAL PAPER

The thesis is dedicated to the material on which this text is printed - paper. Paper is associated with fragility and rigidity at the same time. Its dual properties contribute to its humanistic touch. Though uncommon, use of paper as a literal material in architecture is not novel. From the Japanese shoji which exhibits planarity and translucency of paper, to the innovative use of rolled or folded derivatives of paper (honeycomb, origami structures, Shigeru Ban’s paper tube systems), paper remains in its pre-defined form. The thesis goes one step backward to the paper pulp and embraces the versatility of its geometric potential. The technique of Molded Pulp Packaging is taken as a key reference for opening up more formal possibilities and bringing breakthroughs to the application of paper in architecture. Specifically, the thesis introduces the making of paper with minimal properties in various aspects through iterative designs of wood-and-fabric-based paper-making formwork and techniques.

Minimal materials / The comparatively isotropic properties of paper pulp and the self-bonding properties of cellulose fibers upon drying allows the fabrication of physical minimal surfaces which locally minimize the surface area bound by a given network of boundary curves. Papers in the form of minimal surfaces obtain rigidity through their anticlastic profiles. Undulation and corrugation of the edges and stress lines give further reinforcement. The geometric manipulation in both the global and local geometry gives strength and intactness to the fragile paper. Spatially, it offers thinness and doubly-curved surfaces.

Minimal connections / The monolithic and self-connecting properties of paper pulp allow minimal connections among numerous pre-fabricated paper modules. The artefacts can come seamless and jointless.

Minimal waste / The recyclable nature of paper and the abundance of wastepaper around us makes this material perfect for fabricating temporary space without creating much waste. Paper components can be easily reduced to pulp again and serve another architectural life. Formworks produced are also reusable. As a side note, all the pulp used in the thesis originates from locally-collected wastepaper.
My thesis revitalizes the full length of a 20-kilometer old canal in Beijing as a new urban axis by introducing a series of small scale urban infrastructure as the “fragmented continuum” other than merely landscaping the whole canal bank or do large commercial development on selected spots.

Historically, the canal was essential in transporting commodities between counties and cities. The series of stopping points such as water locks and piers alongside enhanced the prosperity of surrounding villages. But since the railway system became dominant, the canal was gradually forgotten and abandoned. However, since the setup of the new sub-center of Beijing, there is the urgency and potential to revitalize the old canal to activate the linear urban space between the two centers.

The main challenge is to tackle the extremely large scale and the universal context. My overall strategy is to overlay a regular frame system on the canal and pick one spot per kilometer. Then I compress all of them and compose a new collaged fictional site. After that, I propose a linear infrastructure on the fictional site, consist of two main types of program which are homogeneous exhibition space and local-specific community spaces. Once everything settled in the linear infrastructure, it is divided into 20 pieces again and redistributed to the actual location. The canal itself would be activated as the stretched internal circulation and space of the proposed fragmented infrastructure. By doing so, the whole canal can be revitalized and act as the backbone of its surrounding linear urban space.
The thesis criticizes the government’s proposal of building an artificial island at the eastern coast of Lantau Island as land reserve for housing supply and another core business district. The research analysis looks into current land distribution in Hong Kong, housing supply and demand, average living area and rent and housing development trend in order to reflect on the necessity of expanding the land territory into the ocean for additional land supply.

Comparing the current land use in Hong Kong and the zoning plan, 8.8% of the total landmass is unplanned while 24.3% is built up land and 40% is country park. It is estimated that there are about 1300 hectares of brownfields in the New Territories. Part of them have been included in the new development areas but there are still more than 700 hectares of brownfields not included in any development plans. On the other hand, comparing the number of domestic households and the number of residential flats in the current market, there is in fact a surplus of 200,000 flats. This indicates that land supply or housing supply is not the real issue that we should look at.

Inspired by Rem Koolhaas’s ‘Delirious New York: A Retrospective Manifesto for Manhattan’, in which Coney Island is used to solve the problem of pleasure and becomes a testing ground for Manhattan, the thesis carefully evaluates stages in the evolution of Lantau Island and projects its future development in conjunction with Hong Kong in order to open the discussion between political and social ideology, architectural discourse and city development.
LIVING CITY

The superimposition of programsstitute the city making it a great living computer. The city is made to expand fully serving as a connector between the new and old. This is achieved constructively, and most importantly, the architecture and its inhabitants.

According to John McHarg the ordinance of the city is a system of values which urban planning must not impose but is also a system of values which urban planning must not impose.

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The city is made in a way that serves as a connecter between the new and old, the city is not a system.
MISUSED ARCHITECTURE

The thesis deals with the problem of Sanhe Masters/Legends (三和大神) within Shenzhen, an industrialized city and also a polarized city with numerous wealthy people, but at the same time a lot of destitute laborers who have no future and no way out.

The young laborers in Sanhe are falling into an endless loop that they keep finding temporary jobs, quit the job after one day or two, then quickly spend their wages and start searching for jobs again. Even though they have a destitute state of living and ridicule themselves a lot, they keep a high degree of self-esteem and self-respect. Sanhe Masters are desperate to find jobs only if the job is tidy and decent. Otherwise, they would rather stay hungry and wait.

To address this social problem, the project uses a series of amenities and fictitious facilities as a tool to highlight the issue. It does not need to be real. The thesis radicalizes, exaggerates, and fantasizes the scenarios where these Sanhe Masters (三和大神) occur to arouse awareness and catch public attention towards the social issue.
A NEW AGEING ERA — “MOBILE AGEING” AS AN OPTION FOR THE 2050 BEIJING ELDERLY

Promising high-quality lives for the senior population has an inherent conflict with human societies’ economic developments. Losing opportunities to generate values, the elderly may be doomed to be deprived of living spaces and resources under the oppression of the outside world.

Like the protagonist in the movie <Up>, some elderly have wishes deep inside but never get a chance to pursue because of the daily trifles hindering. When the 80s and the 90s are retired, they finally enjoy maximal freedom. Being oppressed by the rapid urban development and attracted by the wishes, these senior dream chasers adopt the “Mobility” as a keyword to trigger the second lives. The desires of proper living spaces, infrastructure, and urban intervention arise for forming the “Mobile Ageing” lifestyle.

The thesis discusses how the architecture disciplinary can open choices for the elderly in the 2050 Beijing, bring them to see the “Vast Land” and cover the entire ageing experience through system design. The architecture disciplinary is helpful in providing customized spaces and proper infrastructure at all levels for the “Mobile” and “Ageing” group. Living in “MOBILE HOME”s, experiencing colorful lives in their golden ages and ageing in the “SECOND LIFE CLUB”s peacefully, the 2050s elderly will find “Mobile Ageing” as a decent option for their ageing process.