Dear All,

Last week’s light-hearted blog poking fun at overly form-focused crockery designers was intended to stimulate and lighten debate on how we treat abstraction in our design teaching and research. From one conversation arising it seems that there has been little open discussion on this subject recently in the Faculty. There are some down sides to this, such as colleagues feeling under pressure to adapt their approaches when their work is perfectly defensible as it is.

Focusing on abstraction is one way of normalizing this issue, by which I mean interpreting it as an issue faced by all scholars in every discipline. Normalisation should help us approach the issue dispassionately and engage in rational debate that appeals to reason and facts. Read last week’s Dean’s Roundup for an introduction.

I have Olivier’s permission to use one of my favourite recent design research and teaching projects in the Faculty as an illustration.

Olivier Ottevaere’s concrete columns on display in the Faculty Office have three principal research objectives as far as I understand them: (a) to explore a contemporary extension to the classical lexicon of column design; (b) to allow a new lexicon to emerge, shaped by natural form-finding techniques of fabrication; (c) to provoke new ideas about tower-podium design by analogy. All three are world-class generic architectural design questions and Olivier pursues them with great rigour and finesse in my estimation.

The experimental columns are pieces of art that should fetch a high price at auction; but as research products they are abstractions. In respect to objectives (a) and (b), they are, I would suggest, roughly 1:2 to 1:5 scale-reduced abstractions. The abstraction is on the spatial scale in three dimensions. This is necessary to make the experiment feasible. The scale-abstraction allows the designer to experiment with form-finding molding processes and to discover a new class of column orders. It also allows him to experiment with beauty within the constraints of the scale.

With respect to objective (c) the columns are a scale abstraction at about 1:100. They also abstract from structure in a way that they do not in respect of the first two research objectives. Concrete gets weaker as mass gets larger. This is partly due to its poor performance under tension and to the non-linear relationships...
between 2D and 3D dimensions, mass and the forces of gravity and tension. To scale-up the experimental columns to the size of a residential tower, therefore, requires a shift in materials and a technical analysis of structure.

At the moment, the method employed in pursuit of research objective (c) is to use an analogue model that abstracts from scale, materials and structure to provoke thought about new tower morphologies. Without the three types of abstraction, the work could not have been done as powerfully as it has been. It could arguably have been done with advanced 3D computer modeling, but some of the results achieved using the analogue of concrete would not have been realized through computational simulation and visualization alone.

Researchers always face a choice of methods and an extension of the column research could be a comparison of analogue and digital methods. If neither can be definitively said a priori to be superior to the other in pursuing objectives (a) and (b), then this is a legitimate subject for methodological design research. If it is clear from the outset that one method outperforms the other on all the important experimental dimensions, then it may not be a legitimate methodological research project (why test a question you already have a reliable answer to?).

All researchers and teachers have to work with models, be they scale models of buildings, mathematical models of housing sub-markets, diagrammatic models of a land development process, algorithmic models of wind-flow through an urban canyon, or semantic models of social history or cultural evolution. An art teacher describing, explaining and critiquing a post-Raphaelite painting or romantic novel will have to make use of models – the idea of the romantic movement is itself a semantic model. Marxism is a semantic model with an underlying philosophical model. All intellectual endeavor abstracts from the complexity of the real world. Only an intellectual working under the influence of hallucinogenic substances, as Oxford mathematician Charles Dodgson was prone to do (Lewis Carroll of Alice in Wonderland fame), would suggest creating a 1:1 scaled map model of the whole world. Had he done so (in his fuelled dreams), however, it would still have been an abstraction from most of the real world’s attributes, if not from scale.

All models are abstractions and the clearer a researcher is about the abstractions employed, the more likely they are to make truly significant contributions to knowledge. The more likely they are also to be rated as good teachers, win competitive research grants and be published in the best journals and book publishing houses.

The easier, too, will it be to sustain, develop and articulate a compelling research agenda and associated teaching narrative. The column I like best among Olivier’s lexicon is the one with the parametrically curved triple void halfway up the column. Taken as a suggestive new tower morphology, the voids could revolutionize structured urban ventilation in tower design. Rather than the unimaginative rectangles emerging from the application of our CUHK friends’ urban climate modeling to HK building codes, HK could be a sculpture-park of sublime forms and imaginative sky-gardens. To have imagined this and communicated the imagination in such beautifully crafted concrete forms is a valuable enough research output in and of itself in my view.

To take it further in pursuit of objective (c) requires teaming up with structural and materials engineering researchers. Talks are underway in the Faculty of Engineering. Researchers there will be looking for applications for new
discoveries in concrete chemistry and mechanics, experimental forms of concrete reinforcing, high-strength flexible steel compounds, geometric structures and so on. Without an architecture design researcher, the engineering researchers will apply their new ideas to old problems. Olivier’s scholarly provocation poses a new set of research questions to professionals and other research disciplines: Can we discover a method of building this? Bringing design, materials and structures research together produces true innovation in human habitats.

Better understanding, reasoning and communicating the abstractions we adopt in our research and teaching, whatever they are, can only help in building a more robust knowledge base in the theory and practice of built-environment production and critique.

I would love us to have some open discussion about the levels and kinds of abstractions that we are currently working with and to constructively test out each other’s justifications. This would be useful in all disciplines, not just design. If there is interest, I shall host a sandwich lunch workshop on ‘how I use models in scholarship’. We could have personal 5 minute trigger presentations selected from each of the departments/divisions.

Congratulations on the achievements listed below.

Chris
1. ACP Alumni won UNESCO Awards

- Results of the 2015 UNESCO Asia-Pacific Heritage Awards for Cultural Heritage Conservation were announced on 1 September 2015 (see: http://www.unescobkk.org/culture/heritage/awards/previous/2015/) and the following ACP MSc(Conservation) alumni have been honoured:

Dr. Selia Tan (2007 graduate), as the project initiator and leader, won the Award of Merit for the conservation project “Cangdong Heritage Education Centre.” As described on the UNESCO website, “The village contains noteworthy architectural typologies dating to the Ming Dynasty which the project has selected for conservation, resulting in the sensitive restoration of two ancestral halls, a defensive watchtower and the Furen Temple.”

Derek Chan (2010 graduate), as a project team member, won the Award of Distinction for the conservation project “Saltpans of Yim Tin Tsai.” As described on the UNESCO website, “The project overcame the lack of historical records by using a field-based methodology of in situ investigation to inform the conservation process.”

Raymond Chan (2003 graduate), Diana Choi (2008), Ivan Ho (2002), Eva Kwok (2008), Wilson Lee (2010) and Terence Lo (2012), as members of the project team, won the Honourable Mention for the conservation project “YHA Mei Ho House Youth Hostel.” As described on the UNESCO website, “The conservation work is commendable for its nuanced approach to retaining the hallmarks of period architecture while sensitively inserting contemporary amenities catering to the building’s new function.”

Dr. Hoyin Lee
Appointed PhD External Examiner in the Department of Architecture, National University of Singapore, for the thesis: “A Social Capital Integrated Approach to Urban Conservation of Historic Quarters: Towards Social Sustainability.” The PhD Oral Exam was carried out on 4 September 2014.

Prof. Lynne DiStefano
Appointed World Heritage Technical Evaluator by the International Council On Monuments and Sites (ICOMOS) to carry out in situ evaluation of the Republic of Korea’s application of nine sites for inscription on the UNESCO World Heritage List under the nomination title “Neo-Confucian Academies of Joseon Dynasty.” The technical evaluation mission took place from 11 to 20 September.
The Tree of Design, *Arbor intentionem*

Gavin Coates

‘The Tree of Design’, admittedly not quite in the same league as its proverbial precursor ‘The Tree of the Knowledge of Good and Evil’, is here presented as a metaphor for the landscape design process. One aim is to address the apparent contradiction that faces every student and practitioner of the subject, namely that he or she is expected to be ‘creative’, while simultaneously being ‘practical’. Another is to consider how the various components of the design process, from the sublime to the mundane, are inter-related.

Let us take a little arboreal tour. Below the soil surface lies the realm of reality, above it the world of dreams. Our tree is anchored in reality, while its crown reaches up towards the sunlight of dreams and aspirations! The air represents inspiration, art and humour. The rain of curiosity and research waters the roots of knowledge. As plants convert light energy into chemical energy by photosynthesis, so our ‘Tree of Design’ can convert dream energy into reality.

The primary tap-root is enquiry into human interaction with the landscape, with history at its deepest extremity. The two main lateral roots are technical knowledge and site knowledge. These converge at the root collar of observation, corresponding with the survey stage of design development. The trunk is the design analysis stage where the different aspects impacting the design are integrated, leading to the formation of design criteria. The trunk divides into four design-decision branches: Do nothing; Retain existing site features; Demolish them, and; Formulate new proposals. Various design ideas flower in the sketch design foliage above.
Some are pollinated by the bee of useful criticism (which can also sting of course!), some fall away as they are reassessed against the design criteria. The remaining flowers develop into the fruit of final proposals in the detailed design foliage, maturing into competent contract documentation! Aerial roots may be sent down from the design branches at will to seek more knowledge.

Some seeds fall to the ground and germinate as projects, implemented, maintained and managed under the watchful eye of the wise old site-supervision owl. The debris of fallen leaves and ‘failed’ design ideas metamorphose into the compost of experience further nourishing the roots of knowledge. So it is that the design process, like the learning process, is not linear but cyclic!

Things can go wrong. The root of government regulation may become a girdling root that strangles the design process. If the sun of aspiration does not shine, the breeze of inspiration not blow or the rain of curiosity fails, then the tree will be stunted. The design process may be cut down to the ground in the case of a project being abandoned, but if the soil and root system are healthy, a complete new tree can grow back. The moral of the story? Never stop dreaming. Never stop learning. Never stop growing. Be the Tree of Design!

http://www.archives.nd.edu/cgi-bin/words.exe?arbor+propositum
1. Professor Anthony Yeh

- Prof. Anthony Yeh was presented the Advisor certificate by the Hong Kong Institute of Urban Design (HKIUD) in their Annual General Meeting dinner on 14 September 2015.
A Plan Comes True

Part of the Conceptual Master Plan (CMP) for the Western Harbourfront prepared by the Department of Urban Planning and Design with the Central & Western District Council in August 2013 for revitalizing the Western Harbourfront is finally implemented. The Conceptual Master Plan aimed to provide a short, medium and long term plan to regenerate the past glamour of the Western Harbourfront to become an attractive, vibrant and accessible water front by improving its public open space and converting it into a Western Gateway – a new landmark of Hong Kong. The Kick-off Ceremony was held on 12 September 2015.
2. Dr. Roger Chan

- Served as member of an international adjudicating panel on the Design competition of “Macau Pavilion 2015 SZ & HK bi-city biennale” on 19 September 2015. The event was organized by the Cultural Affairs Bureau, Macao SAR Government.

3. Dr. Mandy Lau

- Presented a paper entitled “Landlord-tenant policies in Hong Kong: how have they changed, and why?” at the International Sociological Association RC-43 Conference, in Chicago, USA, from 17 – 19 September 2015.