HOW FOOD SHAPES OUR CITIES - CAROLYN STEEL (TED)

We often ignore where food comes from, it seems to magically come out of nowhere. In fact we are more dependent on the natural world and we change this world as we move more into the seed. More grain is fed to animals than humans. Extraordinary landscapes form which are used for agriculture and farming to feed our planet.

Hong Kong is one of the densest cities in the world

By 2050, twice the people now will live in cities. Meat and urbanism is growing and at the same time we are losing our rainforests which are cut down to feed 6 billion carnivores on our planet. 19 million hectares of rainforest are lost every year.

Agriculture and urbanism happened about 10,000 years and they are bound together. This is because agriculture could produce large enough and stable food to support a large city.

Ancient cities are traits with roads where food came in

- Rome for example had 1 million citizens by the 1\textsuperscript{st} Century and it used seaways and ships to import food into the cities from other places in the world
- London is another case, its main food markets and trade centres are located in places where the source came in to the city.

Railways however changed cities which were constrained by geography and the system changed completely. Animals no longer walked into the city but transported into the city on carts and rails. This allowed cities to grow without restriction of size as more food can come into cities easily.

Food which had been a social centre of the city, where selling and buying had been a main event, now changed completely to become anonymous purchasing for sustenance.

Now we don’t value food. Half of food produced in USA is thrown away as rubbish. Interesting to see capitalism where 80% of global food trade is now run by 5 multinational corporations..

Sitopia - food place

Utopia - can be translated into two meanings; one is the conventional good place but it can also mean ‘no place’

Utopia is a conceptual tool that there is not much use; does not think about local communities.

We want to see cities to be more productive and organic. Reconnecting with nature is very important using permaculture in cities is a reasonable method. Relationship between cities and the country is important; cities look after the country, country looks after cities.

Ambrogio Lorenzetti - what would it be like to draw the Allegory of Good Government now?
“...shift of orientation in architectural theory and practice, from what the building is to what it does, defining the first by means of the second”

Conventionally, there are two ways designers and critics view buildings:

1) Objects that result from design and construction techniques
2) Objects that represent various practices and ideas

There perhaps needs an attention to the ways buildings act and contribute to a new understanding but this will not result from the development and deployment of new techniques alone. Technical dedication to performance will only lead to an ‘uncritical reaffirmation of old-style functionalist thinking.

Architectural Performance
Aldo Rossi - “Uses change throughout the life of the building... inconstant criterion as functional use cannot be applied to define the building itself.”

If we give buildings predications in terms of its use, we only use them as they exist and assume the outer appearance to be the extent of the function and expect no more from the building.

The theme of performance is a key to the building’s internal definition or pre-predicated existence

There are two common ways of missing the reality of the architectural work:

1) To see building as nothing but a system of components intended in design
2) To see the building as a system of representations outlined in composition and experienced in perception

These points make buildings only into intentional objects either resulted from technical reasons or aesthetic expectations.

Architecture, compared to dance and musical expression or even films, are motionless and inactive. Buildings await and remain still until an occupant gives its purpose. It is often impossible to understand although of its inertness it can depress and delight us. Architectural performance should not be describe IN architecture but as the performance OF architecture.

We give experiences the name ‘event’ when it is unforeseen or is more than what was expected of them. The same thing should be applied to architecture; performative architecture is not the outcome of building or design technology. All that does is enhancing its functionality

Device Paradigm
One obvious answer to performative architecture would be a building’s movement or a moveable mechanism. Movements can be reactive or human/environmental prompted. This is thought to be only up to the extent that approximate movement can be intended but settings can also yield, respond, or react to unforeseen events.

Renzo Piano’s Aurora place demonstrate such aspect of a performative architecture
Maison de verre Chareau, Paris Elaborate use of screen doors and ladders etc to move internal space into different compositions

Economy of performance
‘...is always an exchange between forces and counterforce’

Topography Paradigm
‘Movement here is not change of position, but of state’ Peter Zumthor says buildings become beautiful and enriches when traces of life are ‘sedimented’ onto their surfaces - the trait of resistance - such as stains and cracks. This aspect of performative architecture refers to buildings moving away from its static permanence and their fullness. This movement or architectural performance can be described as unscripted.

‘The true measure of a building’s preparedness is its capacity to respond to both foreseen and unforeseen developments. Stated in reverse, bad buildings are those that cannot respond to unexpected circumstances, because they have been so rigidly attuned to preestablished norms.’

Architecture should not be restrained to given measures of ‘given conditions’ or such following intentions. Architecture performs within the given circumstance often unexpectedly with technical and contextual contingency.

Sean Ki Beom Park
SOFTSPACE

From a representation of Form to a Simulation of Space

‘Procedures of generative design were based on form evolution as a consequence of evolutionary design.’

Digital Baroque
There are similarities between 17th Century Baroque architecture and contemporary architecture. Contemporary design is the advanced interpretation of the Baroque. There is morphology, geometric articulation and formalistic approach expressing this link. However it is perceived that the two periods have different interpretation on similar ideas. Contemporary architecture integrates modernist ideas as well as information in digitized world.

The implementation of geometry and morphology in Baroque reacted against Renaissance spatial idealism - linear perspective etc - whereas contemporary morphology refers to Modernist idealism of geometry and space.

When Baroque architecture used mathematical processes in geometric articulation to end up in ornamental representations, contemporary considers performance and parametric procedures. ‘Form is considered a matter of evolutionary processes, simulating those in nature’, it is not just imitating nature into a functional form.

Unlike Modernist architecture, the desired function is not universal. It does not follow a particular function, but integrates precise informational systems according to individual and specific needs.

The new tools of the contemporary are used to achieve the optimized production through parametric design. It is the use of digital technology for ‘optimisation of the architectural tool as a means of informational configuration of differentiated function’.

Scientific phenomenology
Phenomenization of the scientific procedure is about thinking ways for optimization that negotiate between form and information.

‘Design processes would embody an approach that initially examines the phenomenological traits of the design problem.’

This considers the program and functionality of the project as well as bringing in information systems to generate design and also the events that form temporal structures of the whole. This integration avoids creating a single feature that leads the design process. It rather creates an optimized solution where several aspects, which are not distinguished or ordered in any hierarch, leading to the product left ‘open-ended’.

ISO-MORPH, OSA

Optimization of the singular

Competition for the Israel Gas Company; OSA proposed a ‘smart skin’ structure which integrates ‘data derived from the immediate surroundings into programmatic component of the evolutionary procedure.’

Sean Ki Beom Park
Further examples of OSA

**P-CLOUD / MEMORY CLOUD**

‘P-cloud is a proposal for the design of a Holocaust research building on the University of Maine campus at Augusta. Addressing the question of the inability to represent the memory of the Holocaust, the design of the building blurs the difference between life and commemoration, knowledge and experience, architecture and nature. A computational procedure tracks and registers the collision of two streams of particles, each representing major axes within the campus. The trajectories of the particles are recorded, creating the form and intricate structure of the building. The resulting interior space creates a large light filled research room, located on the second floor while the more private administrative offices are located on the lower floor’

[http://www.o-s-a.com/print/P-cloud.pdf](http://www.o-s-a.com/print/P-cloud.pdf)

**ECOSCAPE - Ecological hyper-surfacing**

‘Ecoscape is a prototypical mountain cabin located in the extreme climate conditions of the California Mountains. Ecoscape is based on the principles offered by energy self reliant systems. The building form is responsive to solar conditions, developing a surface area that maximizes exposure to collect energy and heat. Ecoscape is generated out of an algorithm that tracks solar positioning in order to intensify absorption in specific locations on the roof surface. The surface consists of ETFE thin membranes that integrate thin film photovoltaic cells to generate energy’


Sean Ki Beom Park
SHIGERU BAN
CARDBOARD ARCHITECTURE

While reading the WorldArchitectureNew.com, I came across Shigeru Ban who proposed the ‘cardboard cathedral’ to replace the Christchurch Cathedral which was damaged from recent earthquakes. To serve as a spiritual centre for the citizens of Christchurch, Shiberu uses cardboard, which is the Architects’ expertise, to quickly erect this temporary structure which will be finished by 2012.

Shigeru Ban is most famous for his innovative work with paper, especially with cardboard paper tubes used to quickly erect structures that were destroyed in disasters.

Making Cardboard Waterproof

How Professionals Waterproof Cardboard
Cardboards can be laminated with plastic films or added with layers of wax coating etc. to strengthen and coat the exposed susceptible layers.

Wax Waterproofing Methods

- Wax cascading over the cardboard pass through the layers of exterior flat sheets of the cardboard. This is also done by actually dipping the cardboard into the wax preparation

Other Waterproofing Techniques

- Laminating cardboards with waterproof film is also another method generally on the plan sides therefore does not completely block humidity.

A New Waterproof Product

“Recent developments in waterproofing cardboard may soon render previous applications obsolete. The development of a biodegradable waterproof coating made from the pulp of sugar cane could change the face of the paper coating industry. The new process would allow the recycling of treated cardboard, which is not possible with conventionally coated board. The result would be a huge reduction in the billions of tons of harmful cardboard waste found in landfills worldwide.”

http://www.shigerubanarchitects.com/

Sean Ki Beom Park
My first drawings thinking about sustenance; how much food would a table withstand?

A floating toilet, on a pedestrian island

Toilets are one of the most necessities in a public space especially at night. It could incorporate amenities, advertisements and meanings with visual aesthetics or functions.

I found that there were no public toilets in our site compared to the relatively high number of pedestrians during the day (at least around all areas that I have looked through the site). There were public spaces that were not used for any purposes. Some pedestrian and traffic islands came to my attention as they were the most accessible and the least unpleasant space for public use.

A thought-in-mind would be a structure to be walked onto like a throne which is built with cardboard structure earlier on.

The key ideas discussed in a tutorial sessions were the isolated feature can be seen as a celebration of the moment of sustenance. I also want this structure to be temporary, which could serve significant use during a busy period of time such as the Rugby World Cup.

Sean Ki Beom Park
I have read the current issue of the ArchitectureNZ magazine and found interesting references to the recently built public toilet in Hobsonville’s War Memorial Park. This design shows how public toilets can be more than just a box with toilet seats.

The metal poles that extends from each wall does not touch the roof but is long enough to be reflected off the reflective material of the roof, hence creating a surrealistic look as if the roof is hovering over them. The southern façade has a photograph of the air force with holed metal panel which creates an effect of an old pixelated photograph emphasizing the past and meanings of the Memorial Park.

I have chosen a particular pedestrian island to start my ideas to get running. It was on Beach Road across the road from UniLodge building. I have made rough measurements from the GIS Viewer and sketched different ways that a toilet could sit on it (or should I say, float over it).

Thinking about:
- Pedestrian Access, Movable Entry, Privacy
- Cardboard Structures, Lifting up

Some of us looked at furniture and other design magazines to broaden our thinking.
1:5 MODEL MAKING
ATTENTION TO DETAIL

I have made the detailed view of 1:5 model where the curtain-like sliding doors open up into the toilet from the stairs. I will be using cardboard as my primary material.

First, the slit for the sliders were made, using two layers of cardboard strips with the top one slightly wider.

The folding screens were linked with corrugated cardboard which will be reviewed with more detail in a larger scale model.

At the bottom of the sliding doors I have pinned small pieces of cardboard so they will keep in track inside the slit.

Floors and wall details were added to the model afterwards (Above). Photograph of the 1:5 Model (Below)

Click the link below to watch the sliders
http://www.youtube.com/watch?v=HDEWS_buVxl

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