設計事件與創作
Event Versus Operation
of Design

研究生 趙尉翔
指導教授 張基義

中華民國九十八年七月
Abstract

Creativity is independent from the exchange between individuals arising an original thinking of certain value.

We have to think about this world through a different of sensing and experience. Visual, sound, movement, text and language. To understand this variety from abstract terms and operations. Architecture is to think through the design.

Across from the small to large, the multi-level. The interaction between personal consciousness and operation of object. And to face the real physical conditions for the application and coordination. Also discuss about the history, geography texture, structure and culture issues. The possibility of using variant of methods and technology as media to observe and create a topic in different design.

Learning to modify the phases variances, and different perspective in every fields. From a wide range of creative and conceptual thinking, as well as the depth of the profession and to reach a balance between accurate.

Architecture, design as a way of thinking. Space as a way for expression.
Event Versus Operation of Design 設計事件與創作
Index

<table>
<thead>
<tr>
<th>Episode</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Episode_01</td>
<td>Virus - methodology</td>
<td>001</td>
</tr>
<tr>
<td>Episode_02</td>
<td>Windstone - another approach</td>
<td>017</td>
</tr>
<tr>
<td>Episode_03</td>
<td>Collective housing</td>
<td>039</td>
</tr>
<tr>
<td>Episode_04</td>
<td>Mobile boundary</td>
<td>043</td>
</tr>
<tr>
<td>Episode_05</td>
<td>Expand modern art</td>
<td>045</td>
</tr>
<tr>
<td>Episode_06</td>
<td>Interpretation and operation</td>
<td>052</td>
</tr>
<tr>
<td>Episode_07</td>
<td>Sustainable strategy</td>
<td>054</td>
</tr>
<tr>
<td>Episode_08</td>
<td>Information architecture</td>
<td>060</td>
</tr>
<tr>
<td>Reference</td>
<td></td>
<td>063</td>
</tr>
</tbody>
</table>
Episode _01
Virus - methodology
Episode _01

Project Name: Recombinant Complexity

Site: Dunhua S. Rd., Da-an Dist., Taipei City

Project Brief: Recombinant architecture is radical re-questioning of the most fundamental programmatic assumptions about the logic affordances of built space. When both architecture and the bodies that inhabit it are themselves both organic and inorganic, when both are materially alive and not-alive, when the nature of both are understood as artificial and artifactual, the first premises of their interactions in space and over time are reopened.

Design Thinking: Focuse on the relationship of architecture to molecular biology. From research to design, synchronized two field of knowledge. The importance is the translation of internal genetic codes to the external architectural expression.
Amino acids are usually classified by the properties of their side chain into four groups. The side chain can make them behave like a weak acid, a weak base, a hydrophile if they are polar, and hydrophobe if they are nonpolar. The chemical structures of the 20 standard amino acids, along with their chemical properties, are catalogued in the list of standard amino acids. The place of amino acid can be re-arrange into a route map depends on the complexity of its chemical formula.
Mapping programs into amino acid’s route map based upon the complexity of programs. By using these properties, a structure of relationship among programs could be defined.
By architectural analyses obtained the series of programs. Through the progress of reverse-translation and reverse-transcription to get the internal genetic codes.
Take site as an outside environment and main program as “host”. Insert the required program type into the main one as the way of the virus integrate into a host DNA.
The conformation of ‘DNA series’ and programs is based on the site’s influence and position of codes.
This is an era of incoming changes. The concept of future architecture also becomes different. The studio is going to find the relationship between genetics and architecture, recombination the complexity of architecture. We put a focus on the internal genetic info, thus generates external spatial expression. This method sets a new way for approaching architectural design.
Epsiode_02
Windstone -another approach
This site is located in the middle of a road which is along the river side in Taipei county. As a temple of God of ground, keep worship by Han people. Through research of this historical underground temple, from a view of an archaeologist, to know its original relation with Austronesi, a tribe that expanded through the whole Pacific Ocean. The stone worship and ways of thinking in their cultural spirit with nature, is the main concept. In the connection with environment and tradition, an approach from spatial and time.
Map showing the distribution of Austronesian languages, which lie in the green area.

The Austronesian languages are a language family widely dispersed throughout the islands of Southeast Asia and members spoken on continental Asia.
Other gods fill smaller niches, including one who, according to some accounts, could be either the Hindu deity Durga or a legendary Japanese woman turned to stone for refusing

The Ojibwa believed the circle to be sacred because the roundness of the circle is a symbol of the earth. Trees are in round except saples. There is the sun and moon. The sky is circular, the earth is round. Shiled, though the sky is deep blue and dark. Everything that breathes is round, like the stem of plant. Since the gods and spirits have eyes and ears and can see and hear, everything is round. Even the earth is round. The earth is the symbol of all things in nature except stone. It is the symbol of the circle that makes the sky, earth, and the shapes of the four winds that travel there. Consequently it is also the symbol of the year. The day, the night, and the moon go in a circle above the the sun is the chief. Therefore the circle is a symbol of these divisions of time and hence the symbol of all time.

Another restricted cult is that of the Nukuki, a secret initiation ceremony for youths, performed on a rock platform area with a stone pyramid in the manner of a Phoenician mason. There were three degrees of initiation for men, women, and priests, and the rite consisted essentially of the instruction of secrets and receiving a kind of ancestor worship. The formal ceremony was accompanied by a song and recital of a similar licentiousness in the Tahitian rituals. The concept of mana associated with the ancestor cult is strong in the native pattern of thought. According to the concept of mana is the spirit force of potency which gives supernatural significance to persons or things. Its presence in a person or thing is not attributed to power inherent in the thing itself but to some spiritual force lodged in it. The first born of each noble clan was the temporary repository of the mana of the clan's ancestral forefathers. The chief had the strongest forefathers and the high chief was the most sacred because they received mana from the most powerful ancestor god.

Then religious Occident was coloured by their idea of man's contact with the forces of nature, whose might and mystery produced a strong belief in spirits. Stone-worship was exceedingly common, spirits and "ghosts", being connected with them in one way or another. Dr. Gedding, in his book The Melanesians, writes: "The stone, they say, is the body of the spirit, nor is the spirit like the body of the stone. If one stone is not big enough they say that the spirit is at the place, or near the stone, and it is the spirit not the stone that acts." Some sacred stones were small enough to be wrapped up and worn as amulets around the neck. Others were standing stones of large dimensions.

Other Tikis, images and images of gods not made during the ceremonies for the expanding population, religious and ceremonial purposes, served as monuments. The most prominent example is the great stone Tiki (or tiki) we photographed in Tahiti Bay. According to ancient culture, the god "Tiki" is known as the ancestor men brought about by union with a heap of sand, which he piled up on the seashore.

The Nuku Hiva people made images in stone of Tiki and used them in their worship. It is most probable that this version has been compounded by the later Marquesans out of dissociated fragments to satisfy the inquires of modern seekers of ancient lore.
These uplands of Wahiawa in central O'ahu were the inland home of chiefs, where famed chiefs lived, and where key battles for the control of O'ahu were fought. The royal district of Kukanilo engaged and the associated area of Waialua were within the Waialua district. Nearby was the royal center of Lihue' within the lands of Waianae Uka. To the south were the houses and fields in the uplands of the Ewa district.

Beginning with the birth of Kana in the 1300s or possibly earlier, Kukanilo became recognized as the royal birth site of O'ahu. Birth at Kukanilo assured a child high-ranking status and the privileges of this status. It also maintained the purity of the royal lineage which gave chiefs their godly status and the right to be leaders.

Mana is a term for a definite supernatural power or influence that resides in certain objects, places, and situations. Its manifestations vary and may include dreams of ancestor visions or experiences associated with the god of creation, Makemake. Mana is also attached to objects, songs, and rituals. It is not the same as personal power or influence, it is an arbitrary, uncontrollable force that may come or go without explanation.

One way of sorting out tribal differences was the annual competition at the volcano of Rano Kau. High on the rim of the crater was the ceremonial village of Orongo. It was built to worship the god of fertility, Makemake and became the site of the gruelling competition.

After the civil war was the short ears and long ears, and the subsequent fall of the long ears a new competition started. High on the rim of the crater, known as Rano Kau was the ceremonial village of Orongo. Built to worship the god of creation, Makemake it became the site of a gruelling competition.

When the lightning kindles the woods it is associated with the descent of fire from heaven, and, as in popular imagination, where fire it scatters the thunderbolts in all directions, the light stones, which flash when struck, are supposed to be the fragments, and gay colors to be the smoke, worship so Thoughts of life and world.
Locate in the undisturbed corner on campus of NTHU. Also beside the most congested road in the Hsinchu city by a wall. The east-yard residential area of the faculty is a greenery boundary in between these two contract properties. The low capacity of resident area now has to be modify in order to reach a higher requirement. The main idea is to use the original distribution of foliage as a clue to define the allocate for housing. Take an image process as a method and preserve most of existing plant.

**Episode _03**

**Collective housing**
This is a project of re-modle for the meeting room in THU architecture building. An interface between outside and interior which is moveable. This can indicate the programs which take place in the room. The programs define the boundary and make an intermediate place in the environment. Create a mobile facade and space.
MOCA - Museum of Contemporary Art is an old building remodel from the previous city hall of Taipei city. Near a MRT station and now severed as popular museum. It has to be extend to reach the higher need for new exhibitions and multiple functions. Through the investigation of the urban context, a new link between city life and art could be created. New space for exhibition, reading, café, office, work studio and lecture.
Concept: Continuous flow of drift
Integrated action, Staggered through the. A place to stand. Swiftly moving.
Design: Study foamcore material characteristics of its own. Found hidden in a shallow surface. 2D is the pattern. Controlled by the thickness of the notch of the original stiffness of foamcore. Began with a flexible and sheet material at this time has no longer able to stand alone. Need to rely on each other and support. Screen capture from the film moves lines. Its depiction in the material. The beginning of the winding strip foamcore to find space through the reverse, pause, flow and drift. By cutting the lines of the tone of its own began to change the form of development can not be controlled object itself. To find a balance between their own complex physical only from a simple strip. Entangled in the chaos there are harmonic order continuous integration of all sports. Simple, harmonic, motion.
Episode_07
Sustainable strategy
The Dynamic Tower, it will generate electricity for itself as well as other nearby buildings, making it the first skyscraper designed to be self-powered.

The building generates electricity from wind turbines mounted horizontally between each floor, making it a true green power plant. It’s wind turbines are practically invisible and extremely quiet. Another environmentally green element of the Dynamic Tower is the photovoltaic cells that will be placed on the roof of each rotating floor to produce solar energy, approximately 20% of each roof will be exposed to the sun.

Architect Pierre Sartoux of Atelier SOA has gone a step further and put some serious design talent behind his proposal for a vertical farming skyscraper. A light-shading skin wraps around the structure and opens to admit sunlight at particular locations for various functional (and aesthetic) purposes. The building’s air, heating and cooling systems are wind-driven and circulate oxygen and carbon dioxide between growing and living spaces. The simple but reinforced structure is designed to handle additional dead loads from the weight of growing floors and also serve to make the entire building more durable (and thus sustainable).
One of the first designs of its kind, the compelling vertical farm project above was undertaken by Chris Jacobs in cooperation with the grandfather of skyscraper farm concepts: Dr. Dickson Despommier of Columbia University. His ideal: all-in-one eco-towers would be actually produce more energy, water (via condensation/purification) and food than their occupants would consume. His mission: to gather architects, engineers, economists and urban planners to develop a sustainable and high-tech wonder of ecological engineering.

Given that most urban cores are already densely built, one designer has proposed an auxiliary series of structures to be attached to existing structures in downtown areas. These modular constructions would provide garden and recreation spaces for residents as well as light and air filters for the adjacent buildings. In some cases, these retrofits could even provide structural stability to aged buildings and prevent the need to tear them down. Architecturally, these modular units stand out and add another layer to the visual hierarchy of the cities around them.
The population growth is not the cause of non-sustainable development, actually is the consequence of it. We are using ancient solar energy such as fossil fuel or coal. That is more energy than nature should provide us presently. If we only use energy form ecosphere, there shouldn’t be so many human on this planet. The recycle loop of natural resource has already been interrupted.

The method for sustainable development here is not always work in other regions. The thick walls mentioned in “Passive house” which is not applicable in high-density area such as cities in Asia. Every inch of land is valuable; those thick walls would occupy too much space. Although the insulation is the same important as maintain heat inside as keep them outside. And also there are insufficient areas on the roof for solar panels in these cities. Usually there are many vertical high-rise buildings for commercial or dwelling. Those apartments are usually 10 to 20 stories, sometimes even up to 30 or 40 stories. The distances between each building are small. However such a high-density city will have some benefit about sustainable development.

One of the largest energy consumption now-days is in transportation. People have to drive through a long distance to work or shopping if the city spans too far. The commute everyday cost lots of time and energy and produce many pollutions. Transporting of goods is also a big issue about sustainable development. It’s all about global marketing. If people always depend on resource or food which are from a place far-away, it’s definitely not a sustainable way to live.

If the density of a city become double, it’ll only consume one-tenth of energy. That’s because the saving of energy in transportation. But these cities should be based on non-pollution transportation such as on foot, bike or electric-motor vehicles. Otherwise the pollution and urban heat island effect will become worse.
The transmission of energy is much more efficient than the transportation of goods. If we can have an urban-farm within the city, it could be a good way to solve the problem of energy and food shortage. It can produce more food than traditional farmland without the cost of transportation. It’ll only need some additional electricity which is easily obtained through powerlines. The electricity generators can be put in the suitable place outside or even far away from current city. For example, large area of solar panels in tropic zone or desert can generator a lot of electricity, which then can be transmits to high-density cities or Nordic countries. By condensing moisture or collecting the rainfall, urban-farm can produce water for itself also. If there is any need of extra water resource, it’s relatively easier to get from pipes.

Individual has responsibility to contribute for sustainable development. But more responsibility should be put on professional and corporate.

Electricity is a clean energy. People driving car run on electricity often think that to be environmental friendly and has zero carbon emission. But it’s quite important to trace where the electricity came from. If it’s form solar panels or wind turbines that’s really clean energy. Otherwise if it was came from thermal power planet, it already polluted the environment from begin. That’s why a “energy passport” is also important as material passport.

We must pull and push people to live a sustainable way at the same time. Give Information to people and educate them about current situation and how important sustainable development is. Then we can give pressure on the authority to make them doing the right thing and making the correct decision on the way to the future. On the other hand, the authority must give regulations and laws to support sustainable development and punish those who are not follow it, because it will jeopardize all humankind.

Sustainable development is a global issue. If the world wants to be sustainable, all people on this earth have to be it together. Otherwise countries which are fall behind will become factories or landfill to those “advanced” countries.
Episode _08

Information architecture

Current experience of search in a library: The only way to find specific books is through accession number on the book or the classified location of bookshelves. Information from internet could not be modify when people search in real space of library.
Now with the help of Notepaper, we can easily find the book we want. The only modify on library's hardware is to put the LED and link it to the system. The occurrence of randomly search in web can happen here. Create a new

Whenever find a book that is not currently on the search list, put it close to the Notepaper. When the LED flashes, use Notepaper to scan it. Then back to the computer to get further details and advanced searching settings.

This makes the search in library much easier. And also give new feeling about search and browse. Connecting people and books from web and real space.

Notepaper

LED light
Indicates the color of lights that are currently hold out for user. Flashed when detecting the RFID in a book.

Button
Press to switch between multiple search results or confirm a new search.

Adjuster
A deflection-tolerant system. Can change the degree of searching accuracy. From precisely search to randomly browse.

RFID scanner inside
When put close enough to the specific book, the LED light will flash.

RFID chip inside
To catalog searching results and user preference. Library system can detect user's coming.
Reference


William McDonough & Michael Braungart (2002). _Cradle to Cradle: Remaking the way we make things_. North Point Press