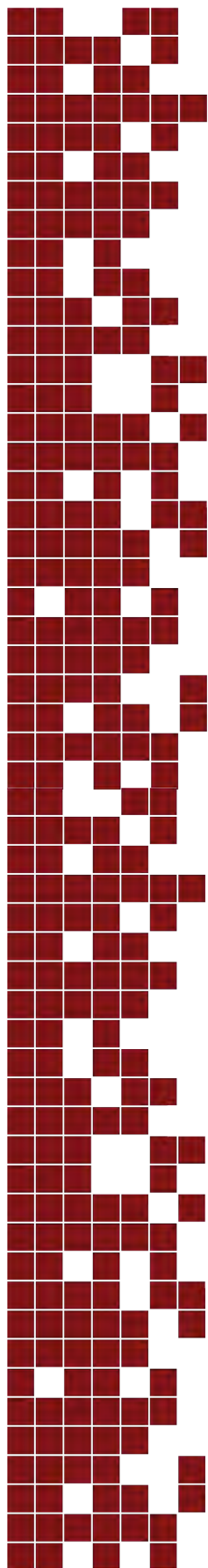




Day 1 Monday Oct 29th 2012



KEYNOTE

FUMIHIKO MAKI

Monday Oct 29th 2012

11.00–11.30

Bali Nusa Dua Convention Center
(NusaDua 1,2,3 & 4Ballroom)



Japanese Culture from The Point of View of Language, Landscape, and Gathering

Fumihiko Maki

Globalization presents one of the most pressing issues today in threatening the identity of different regions and cultures. The question is centered on how cities and buildings could be preserved and further developed for the future.

Japan is fortunately an island nation, situated on the fringes of former centers of civilization (Europe, Middle East, and China). While foreign cultures have undoubtedly influenced the country for over thousands of years, it is significant that they never fully shaped Japan's cultural heritage.

Yet Japan's active interest in the essence of foreign cultures –whether ancient Buddhism or Western Modernism–has never ceased. Unlike colonized countries in Asia, foreign influences could be assimilated and “Japanized” over long periods of time and at the will of the nation. Of course, geographic conditions play an important role. Taking such issues into account, I would like to discuss the uniqueness of the Japanese culture from the point of view of language, landscape, and gathering.

Language

It can be said that language is the most powerful cultural asset. Both directly and indirectly, language influences the thoughts and feelings of those who use it.

From ancient times, a variety of languages have existed in Japan. Ever since the Chinese script (ideograms known as *kanji*) was imported, another alphabet (known as *kana*) was added to give phonetic expression to *kanji*.

Many new words were introduced from the West once Japan began to modernize in the mid-19th century, after a long period of relative isolation. Under renewed pressure to ‘Japanize’ the language, abstract ideas were formulated in *kanji* while emotional expressions were phrased in *kana*. To this day, the two have been used together, incorporated into the spoken and written languages to form one of the most unique linguistic structures. This may account in large measure for the dominant position enjoyed internationally by Japanese *manga* and *anime*.

The thought process of design involves an incessant feedback loop between the rational and emotional compartments of the architects' mind. While Japanese architecture had made great



strides in emulating the West, this dual thought process has shaped the uniqueness of Japanese architecture since Junzo Sakakura's Japan Pavilion in the Paris Expo of 1937.

Nature and Landscape

The islands of Japan stretch north and south for 1000km, with its center being occupied by mountain ranges. Being surrounded by the ocean and filled with mountains, the landscape is bestowed with a wealth of natural resources. The general storage of space and the lack of plateaus and deserts have created a landscape in which residential and agricultural zones occupy most of the land up to the foot of the mountains. As general rainfall is high and temperature levels are mild, an abundance of forests with a rich variety of plants and trees could be found. On the other hand, the threat of earthquakes has restricted the amount of masonry constructions. Rather than brick or stone, almost all buildings are therefore made of wood. Within the otherwise tranquil environment, buildings, villages, and cities have been designed to coexist with, rather than confront, nature. With the exceptions of a few castles, Japanese architecture tends to emphasize its horizontality.

Incidentally the room, with all its sliding screens and panels, acquires a level of spatial freedom from the ingrained genetics that enables many different uses. The whole does not dominate the part, but the combination of parts constitutes the whole. This breeds unique spatial aesthetics based on asymmetry and the concept of *ma*— the space in between.

Moreover, the practical limitation of space has encouraged its perceptual enlargement, accomplished by means of spatial layering to amplify the sense of depth; something that has been further enriched by including elements of the landscape, like shrubbery and trees, as additional layers. This kind of multi-layered system emphasizes enclosure, which explains the tendency to endow space with a centripetal rather than a centrifugal order. Characterized by *ma* and *oku*, Japanese tradition is better understood through such spatial qualities rather than material forms.

In this way, the motivation to seek a harmonious relationship with nature has always been strong in the city and its architecture.

Gathering

The Edo period was a feudal society in which social status strictly determined one's domicile and privileges. In such a rigid society, the only areas of public gathering were places well-known for their scenic beauty, and often included the precincts of temples and shrines. While few such places remain as parks, most of them have vanished with the modernization of the country. In its place, train stations and their surroundings have become centers of gathering in large cities like Tokyo. As mentioned earlier, it was not possible to modernize the



Japanese city by mimicking its European counterpart due to the importance of coexisting with nature. The rail system, however, suited the organic structure of the Japanese city. Today the private suburban lines, the central subway system, and the originally public JR lines have merged to create a vast rail network that lacks comparison in other metropolises of the world. In biological terms, its speed, precision, cleanliness, and reliability is analogous to the body's circulatory system, while its nodes represent the organs. Furthermore, the expression of the rail terminal takes on a wide variety of architectural styles, being neo-classic, modern, post-modern, and neo-modern, and megastructural. The stations become vital centers of activity, attracting and nourishing diverse urban functions in its surroundings. As such, it could be said that the station has become the new public space of the city. It is important to recognize that there exists a strong social force that supersedes the will of the individual architect. Socialization of this kind has generated a unique quality to the built environment.

Floating Modernism

What best characterizes the modernism of the 21st century is that it has lost its initial objectives, principles, and styles, dissolving into a large pool of information. Architects are no longer passengers on a big ship but are left wandering on the open seas. Of course individual architects each have their own objectives, principles, and styles. But in the open sea, one must know what to hold on to and what to swim toward. In thinking about the future of architecture in a context where all things are becoming relative, it is important to reevaluate the qualities of the local culture.



Day 1 Monday Oct 29th 2012

SPEAKERS

Mari Elka Pangestu

Sumet Jumsai

Tay Kheng Soon

Asian Cities & Urban Development

Justyna Anna Karakiewicz

Basauli Umar Lubis and Litta Primasari

Hiramsyah Thaib

Khudeja I Saiyed

Hai-Yin KONG , Keng Hua CHONG , Mihye CHO

Architectural Design

Sky Lo Tian Tian, Schnabel Marc Aurel, Qu Yingge

Qazi M. Arif, Ishrat Islam, Phd., Bikash S Ansary

Cho, In Souk

James Karl Fischer PhD RIBA IES

Cross-Border Practice

Kevin Mark Low

Paul Andreu

Popo Danes

Kevin Jose



Bali Nusa Dua Convention Center
(NusaDua 1, 2, 3 & 4 Ballroom)

Opening Address

Mari Elka Pangestu

Menteri Pariwisata Dan Ekonomi Kreatif
Republik Indonesia

**Yang terhormat,
Para tamu undangan The 15th Asian Congress of Architects, ARCASIA Bali Tahun 2012**

**Assalamualaikum Wr. Wb.
Salam Sejahtera Bagi Kita Semua**

Salam Kreatif!

Puji syukur senantiasa kita panjatkan kehadirat Tuhan Yang Maha Esa atas limpahan rahmat dan hidayah-Nya sehingga pada hari ini kita dapat hadir pada acara “The 15th Asian Congress of Architects: A Modernism Challenge Asian Cities and Architecture Heritage in A New Paradigma, ARCASIA Bali Tahun 2012” dalam keadaan sehat wal afiat, tidak kurang suatu apapun.

Saudara-saudara sekalian,

Karya arsitektur merupakan buah imajinasi kreatif manusia yang memiliki pesan dan makna dari si pembuat karya kepada para penikmatnya. Karya arsitektur ini memiliki kaitan yang erat dengan tata ruang suatu wilayah. Melalui karya arsitektur yang disajikan dalam bentuk tata ruang wilayah, dapat menjadi cerminan gambaran sosial budaya masyarakatnya.

Dengan demikian, karya arsitek juga dapat menjadi gambaran karakteristik sekaligus citra suatu wilayah tersebut. Suatu daerah yang memiliki monumen serta bangunan bersejarah mencerminkan bahwa masyarakat tersebut sangat menghargai sejarahnya. Keberadaan monumen dan bangunan bersejarah tersebut sekaligus juga menyampaikan pesan bahwa masyarakat setempat masih menjunjung tinggi nilai-nilai leluhurnya yang dapat diteladani.

Agar bangunan bersejarah tersebut tetap lestari dan memiliki nilai tambah, maka disinilah peran seorang arsitek untuk mengkreasiannya. Seorang arsitek harus mampu mereka ulang bangunan bersejarah tersebut agar tetap terpelihara dengan baik, bahkan menambah nilai estetisnya tanpa menghilangkan unsur utamanya.



Bangunan bersejarah yang telah mendapat sentuhan kreatif dari seorang arsitek tentunya akan berdampak cukup luas, salah satunya adalah dapat menjadi salah satu daya tarik objek wisata. Misalnya sebuah museum yang biasanya terkesan angker dan membosankan dapat dikreasikan sedemikian rupa dengan cara mereka ulang desain interior dan eksteriornya. Sehingga pengunjung yang datang justru akan merasa nyaman dan bahkan penasaran untuk terus menelusuri setiap detail yang terdapat di dalamnya.

Saudara-saudara sekalian,

Sebuah karya arsitektur yang bernilai tambah tidak hanya menekankan pada sisi kreatifnya saja melainkan juga harus memberikan *multiplayer effects* kepada para penikmatnya. Seperti yang telah saya katakan sebelumnya, sebuah karya arsitektur merupakan hasil tata olah sosial budaya masyarakat setempat. Dengan demikian, sebuah karya arsitektur harus mampu menyampaikan pesan nilai kepada penikmatnya. Sehingga para penikmat karya arsitektur tidak hanya sekedar melihat saja, akan tetapi juga merasakan *feel* di dalamnya.

Melalui forum ini, marilah kita rumuskan bersama-sama peranan arsitek dan karya arsitektur dalam pembangunan dan pengembangan wilayah. Tata ruang suatu wilayah diharapkan tidak hanya terpaku pada keindahannya saja melainkan juga mampu menyampaikan pesan akan nilai-nilai moral yang terkandung di dalamnya. Tata ruang yang indah serta sarat akan nilai secara tidak langsung juga akan menambah daya tarik sebagai objek wisata.

Demikian sambutan dari saya. Semoga Tuhan Yang Maha Esa menyertai langkah kita semua.

Wassalamualaikum Wr. Wb.

Jakarta, Oktober 2012
Menteri Pariwisata dan Ekonomi Kreatif

Dr. Mari Elka Pangestu



Bali Nusa Dua Convention Center
(NusaDua 1, 2, 3 & 4 Ballroom)

Symbolism and Architecture from AD 30,000 BP to AD 2100

Sumet Jumsai

In the second Inter-Government Panel on Climate Change (IPCC) Report, sea rise due to global warming is projected at the high end at around a meter for AD 2100 or in three generations' time. Of this, 70 cm is due to the ice caps and glaciers melting, and 30 cm to thermal expansion of sea water. The projection has since been overtaken by the acceleration of ice melting and sea rise.

The above in any case is insignificant compared to the temperature fluctuation between glacial and interglacial periods. Data for the start of the present interglacial period, or 30,000 to 10,000 years ago, point to the fact that sea rise, due to ice melting, was as much as 187 meters. At that point in time, the rising sea quickly submerged much of the Southeast Asian Continent, a part of which is now the Sunda Shelf seabed. This landmass, the size of present-day China, was a major mild zone for humans, animals and the food chain to survive during the cold spell (Fig.1). The flood also broke up the continent into disparate units and created tens of thousands of islands in the Philippines and Indonesian archipelagos (Fig.2). Meanwhile, the rapidly encroaching water meant that communities had to retreat constantly before the shorelines and in order to survive, had to build houses on stilts or floating. Moreover, in order to keep in touch with fellow humans marooned on islands which seemed to be getting further away, people had to build rafts and boats.

Thus began a water-based way of life as reflected in the folklores, rituals, amphibious habitats, nautical technology, navigational skill and the particular symbolism used as codal transmission of aquatic experience (Fig.3). The split gate in this respect can be seen as a poignant codal message of Bali being severed from the Southeast Asian mainland some 20,000 years ago. Quite possibly also, the distant memory of oceans undulating with shifting landmasses is replicated in the Hindu-Buddhist cosmological model which in turn shapes architectural plans and profiles of a great many religious structures in the region (Fig.4).

In the European West, human contact with the water element was confrontational and calamitous in the Biblical sense as shown by Noah's Ark. Venice, however, simply shunned the waters by adopting a land-based architecture which then resulted in the yearly flood and damages to the buildings. In the Dutch case the whole country confronts the floods and the



sea head on with polders and sea barriers. With half of its land below high tide, the Netherlands can be seen as a hydraulic machine constantly pumping and siphoning water in order to keep its feet dry. It is interesting to compare this water machine with the hydraulic complex at Angkor, and indeed the gigantic hydraulic works in ancient China which are unsurpassed in any culture. However, in the latter examples, the machines also perform other functions than engineering. They are part of philosophy, art, and culture.

On the philosophical note, it is interesting to note that recently a group of young architects in the Netherlands have built a floating new village in a flooded polder for which they intentionally breached the enclosing dike (Fig.5). The message was that humans can live with the forces of Nature and not against it. This resonates well with the region's amphibious or aquatic houses. Here examples might include Panyi in south Thailand, the Japanese shrine complex of Itsukushima, Kampong Ayer in Brunei, the floating city of Bangkok in the nineteenth century, Kenzo Tange's structures on stilts and R.Buckminster Fuller's Triton City, both designed in 1960 for Tokyo Bay (Fig.6–10).

Can any of the above examples be put to use ? Or must humans, indeed architects and investors, continue to fight against Nature and make end-users or innocent bystanders pay for the consequences ?

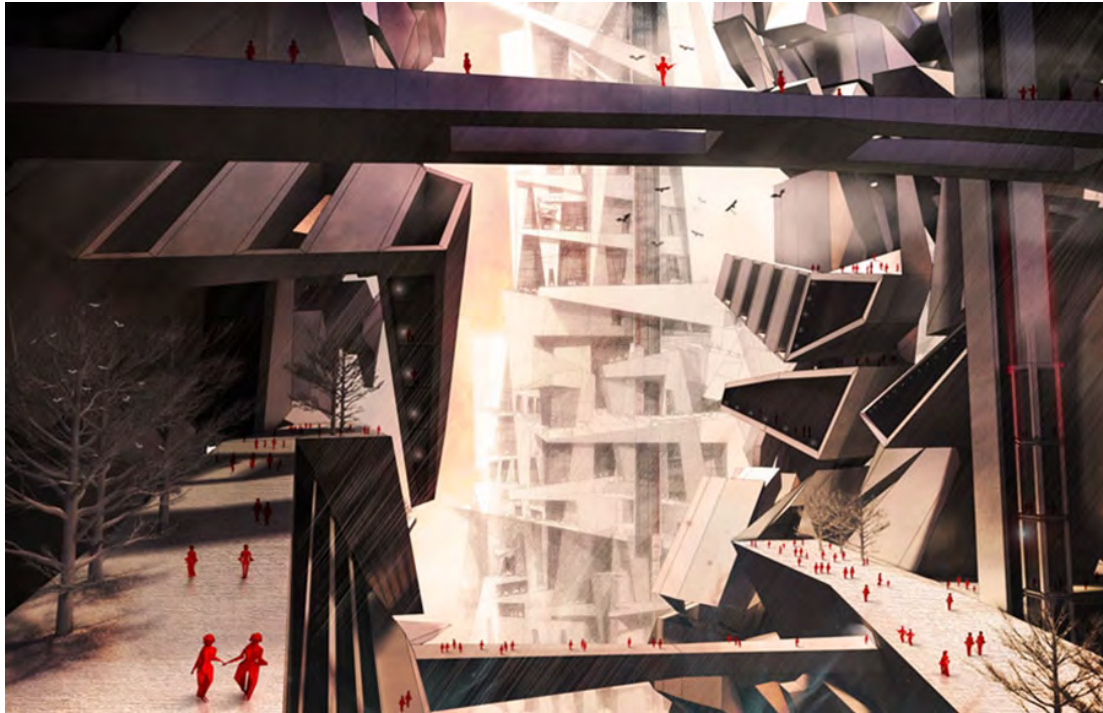
Illustrations

1. Ice Age Southeast Asian Continent compared to present-day China on the same scale. (Ref. Naga, p.4)
2. Ice Age Southeast Asian Continent's shorelines and routes of human migration inland at the end of the last glaciation.
(Ref. Naga, p.6)
3. Austronesian map of parts of the Pacific Ocean. From a Cambridge lecture poster 2001.
4. Hindu-Buddhist cosmological model and plan of a typical Thai pagoda at Wat Kudidao, Ayudhya.
(Ref. Naga, pp. 12, 13)
5. Floating new village in the Netherlands by MVRDV Architects.
(Photo credit : MVRDV)
6. Pan Yi Island.
(Photo credit : J. Evringham)
7. Itsukushima
(Photo credit : S. Jumsai)
8. Kampong Ayer, Brunei.
(Photo credit : Sangaroon R.Kasikorn.)
9. Floating city of Bangkok in the nineteenth century.
(Ref. Paul Bonnetain, "L'Extrême Orient", Paris 1887.)
10. Triton City in Tokyo Bay by R.Buckminster Fuller, 1960.
(© R.Buckminster Fuller Institute, USA.)



Future Cities: Lessons Learnt from Asia

Justyna Anna Karakiewicz



This is period of urbanization, nowhere more so than in Asia. Cities and areas of urban growth are those which drive the economy, in which people seek to develop a quality of life and to realise their dreams. The principles, on which these cities are developed, through their policies and regulations, affect the dreams of the citizens and experiences they share. These are the cultures from which they emerge. By examining cities of our region, we observe ways in which they are manifestations of local and imported cultures and ways in which, cultural heritage can be supported and maintained. Many cities in Asia are developed on colonial principles that fail to accommodate other cultural inhabitation. In this presentation, I wish to examine the development of two cities (Melbourne and Hong kong) that started at the similar moment in nineteenth century and illustrate how their development has drawn upon very different cultural sources to result in dramatically different outcomes. By examining the city diagrams, we can read these cities with additional awareness and find design strategies to propose alternative city futures that are relevant to local cultures.



Ethnic Quarter at the Crossroads

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ABSTRACT

Major cities in Indonesia in general is a post colonial cities, which found segregation between natives and colonists. In the colonial city, also found quarter for a particular ethnic. Indonesia has a fairly diverse immigrants, especially those who came from China, India and Arabia. Ethnic quarter always has a unique character. The uniqueness is based on the values taken from their home country. But usually the ethnic quarter is still loaded with values that appear in the architecture, in terms of space, form and urban morphology. Among them Kampong Sugih Waras in Pekalongan and Chinese settlement in Lasem, both of which are location of Batik producers in Indonesia. This quarter is characterized by the presence of cultural distinctiveness and richness of community. Authenticity of the architecture is still visible today with the diversity of existing typologies. With the development of the city, the kampong is under economic pressure to change. This paper tries to reveal the potential of an ethnic quarter, in this case the ethnic quarter to still be able to survive and even grow in line with the existing urban growth. Activities related to trade and cultural elements can be combined to stimulate a specific activity, the Batik industry is also associated with the development of urban tourism activities. Discussion carried out by observing the pattern of changes in the physical environment.

Keywords: *Ethnic Quarter, Place Making, Arabian Quarter, Chinatown, Colonial City*

1. INTRODUCTION

Ethnic quarter is characterized by the presence of cultural distinctiveness and richness of community. Authenticity of the architecture is still visible today with the diversity of existing typologies. With the development of the city, the kampong is under economic pressure to change. At the present time many ethnic quarter managed to defend themselves and have the potential to grow. Among them are related to the creative industry. Name it, Lasem Chinese ethnic quarter, the batik industry base. Similarly, Sugihwaras, and Arabian quarter in Pekalongan both of them are related to the batik industry, and situated at *Grote postweg*, the major highway in northern part of Java Island.



Many of these areas have lost their ethnic quarter identity including Chinatown and Arabian quarter in Manado. These areas were the center of business activity in the city of Manado, partly because of its strategic position close to the port. But in line with the changing patterns of trade, which is no longer merely rely on transport by sea, causing shift the center of activity. Thus the role of the two villages is dropped and replaced with other areas. And then this area to be an area with common commercial and residential activities, just still characterized by the presence of temple or mosque.

The more is experiencing strong economic pressure that has been turned into a commercial area. For example, in Kampong Keling, Indian quarter in Medan North Sumatra. Medan is recognized as a planned multi-ethnic city. The City of Medan is developed as a company town for the benefit of the Dutch colonizers [1]. They opened a large scale plantations in North Sumatra and Medan as a service-city to serve the needs of the development of the estate. Some tribes in particular have to come as ethnic Chinese from Fu Kien, ethnic Indian from Madras area as well as ethnic Javanese to become laborers on plantations. Meanwhile, the city's economic activity is given to indigenous ethnic, Padang and Mandailing. They live in the city of Medan separately, and separate from the European quarter. In the structure of the city are also clearly visible morphological differences to areas where 'European quarter' using organic patterns, Chinatown using a grid pattern, while others do not use a firm pattern.

2. ETHNIC QUARTER

Ethnic quarter is an area inhabited by a particular ethnic, and their unique activities related to their culture. Ethnic quarters in Indonesia mainly due to growing trade or the interests of the Dutch colonists in order to meet labor needs, in some locations there had been before the Dutch colonial period, for example in Pekalongan and Cirebon. Many of these ethnic areas after independence is less developed due to political reasons, to strengthen unity. Ethnic quarter tend to be eliminated, mainly the Chinatown. Formation of ethnic quarter could be from areas in Indonesia could also be derived from outside. In Jakarta there is a village of Ambon, Malay kampong, but also there are Chinatowns in Glodok and the Arabian quarter, around Tanah Abang, Kwitang and Jatinegara.

A link between the physical and the social and activity could be shorthand for one way of understanding the ethnic urban quarter. Quartering marries urban space with culture that consist of value and related activities. How those interactions are germinated and take root vary across time and space. Ethnic quarters take on many sizes, shapes and expressions of culture. They can be intentional creations of communities of city dwellers, or simply the end result of unconscious use of urban space. They are found in cities large and small. Some examples include residential areas, commercial districts, shopping arcades, and



entertainment districts that are shaped around. The creation of ethnic quarters can be a magnet for growth and an attraction for capital, yet it can also divide the city. The urban quarter situates itself culturally and physically apart from the rest of the city.

With economic and social mobility immigrants tend to leave the quarter and integrated with broader society. Many factors are involved, including political context, intermarriage, networking, city sizes and other local issues.

The size of cities might have a bearing on whether an ethnic quarter would develop or not, but the vibrancy of neighbourhood depended on other factors. First among these are economic opportunity.

3. SUGIHWARAS : ARABIAN QUARTER in PEKALONGAN

Some of the major cities in Indonesia have the arabian quarter, which is famous among Pekojaan in Jakarta, Ampel in Surabaya. In the Dutch colonial period Pekalongan is a major port city that many traders from around the world come to trade in the city. In the end it was a lot of traders who settled in this city, among them the traders from China, India and Arab. In the Dutch colonial period, ethnic groups are the basis for the division of the settlement in the city of Pekalongan, consisting of native settlements, Dutch, Chinese and Arabic.

Pekalongan is one of the cities in northern coast of Central Java province. Pekalongan earned the name city of Batik. It is inseparable from the history that since tens and hundreds of years ago to the present, most of the Pekalongan batik production process is done in homes. Although there is no official record of when batik became known in Pekalongan, but according to estimates Pekalongan batik already in 1800 [2]. Pekalongan citizens encounter with the various nations such as China, Dutch, Arabic, Indian, Malay and Japanese in ancient times has colored the dynamics of color motifs and batik art procedures. So grow some kind of motif result of cultural influences from a variety of nations that then as a motif and a Pekalongan batik identity. Jlamprang motif inspired from Indian and Arab Affairs. Motif Encim and Klenengan, influenced by Peranakan Chinese. Morning-Afternoon motif influenced by the Dutch, and the motive Hokokai grew rapidly during the Japanese occupation.

Settlements Arabs today still characterizes the city Pekalongan. Part residential areas are often called Arabian quarter including the Sugihwaras. In this area many houses with the architectural appearance of the homes of past Arab traders who have the financial capacity so that it can follow the ongoing trend of architecture in the world.

Arab villages in Pekalongan consists of 3 villages, namely Sugihwaras, Poncol and Klego. According to state data Pekalongan, about 20% –30% of the entire population of ethnic Arabs living in Arab quarter, most of whom are in the Sugihwaras [3]. This most likely occurs because the region is the forerunner of the first coming of the Arabs in Pekalongan. Features



that exist in the Sugihwaras area is residential architecture with colonial style. Until now its existence is still dominant and a place to live for generations in the absence of significant renovations. Dominant view in the Sugihwaras is colonial architecture, its history stems from the role of third Arab families in the region who is a real estate at the time Argubi family, Yahya family and bin Shihhab family.

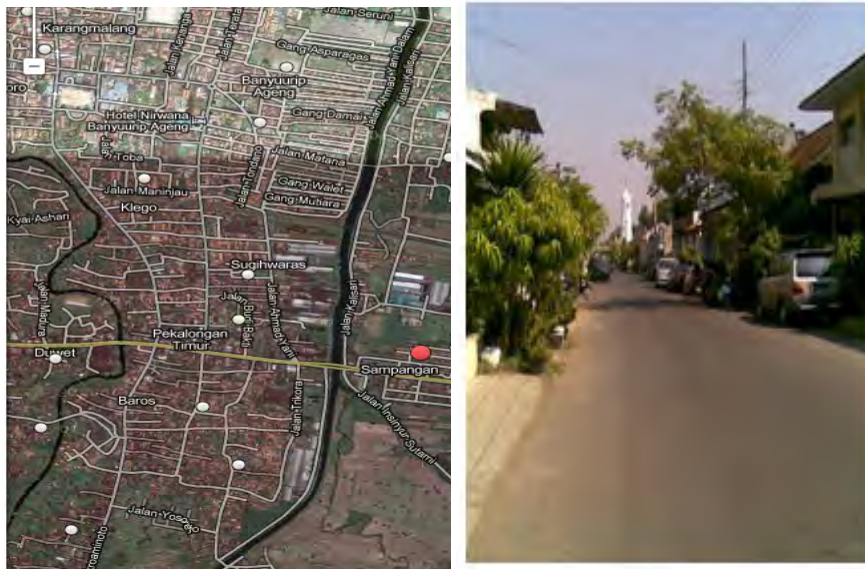


Figure 1. Sugihwaras Village Pekalongan

Source: Wikimapia

Sugihwaras is less developed ethnic quarter is mainly due to the city's role as a major port Pekalongan on the northern coast of the island of Java decreases. Pekalongan no longer the main door trade and industrial activities on the island of Java. Activity is still dominated by the trade and industry of batik, but the character of its activities have changed, which has many batik industry which is not done in a residential area, but has been using a special location. Sugihwaras is at a crossroads between following the tendency of city to become commercial area, or become less developed areas.

4. LASEM : CHINESE QUARTER in LASEM

The growth of the Chinese settlement in Lasem through four eras, the natives led by the regent (15th century until the year 1745), the Dutch government (in 1745–1942) and the Japanese government (1942–1945) and the era of independence. Beginning of several buildings on the banks of the river that appeared in the 13th century when the Chinese landed in Lasem, Chinese settlement in the 15th century began to form a typical Chinatown areas identified through the residential courtyard and the entrance gate as the building facade



In the 19th century the Dutch government to build *grote post weg* that encourages Chinese people to build houses along the highway in 1811. *Grote post weg* built by Daendles replaces rivers as transportation routes. The new road which divides Lasem changing economic region which was originally located on the banks of a river in the southeast settlement of Chinese. Furthermore, the pattern of settlement in the city Lasem determined by *grote post weg*, which the Chinese people began to build houses along the arterial roads. The presence of the *grote post weg* highway connecting Lasem with other cities In the 19th century the Dutch government to build *grote post weg* that encourages Chinese people to build houses along the highway in 1811. [4] *Grote post weg* built by Daendles replaces rivers as transportation routes. The new road which divides Lasem changing economic region which was originally located on the banks of a river in the southeast settlement of Chinese. Furthermore, the pattern of settlement in the city Lasem determined by *grote post weg*, which the Chinese people began to build houses along the arterial roads. The presence *grote post weg* the highway that connects Lasem with other cities to stimulate changes in the function of residential buildings along the highway becomes a function of mixed use, with the addition of commercial facilities that cause changes in the façade. While in the back of a row of mixed-use commercial facilities is a Chinese dwelling with a majority private ownership still has the character of a residential courtyard consisting of a main building and supporting, open space at the front and rear as well as the walls and fence Some of the courtyard dwelling is not maintained, and as it began to empty occupied by owners who do not work outside Lasem. Several others have done over the function as well as physical changes to the building industry business. Batik industry undertaken by the Chinese community since settling in Lasem experienced triumph known as coastal batik with characteristic red color. rapidly stimulate residential buildings along the highway to function with the addition of mixed use commercial facilities that change the facade. While in the back of a row of mixed-use commercial facilities is a Chinese dwelling with a majority private ownership still has the character of a residential courtyard consisting of a main building and supporting, open space at the front and rear as well as the walls and fence. Some are poorly maintained residential courtyard was empty, because it is not occupied by their owners, as they work out Lasem. Several other buildings have changed its function followed and physical changes due to the building used as a home industry. Batik industry undertaken by the Chinese community since settling in Lasem experienced triumph known as coastal batik with characteristic red color.



1 Lasem River



2 Cu An Kiong



3 Courtyard House



4 Batik industry

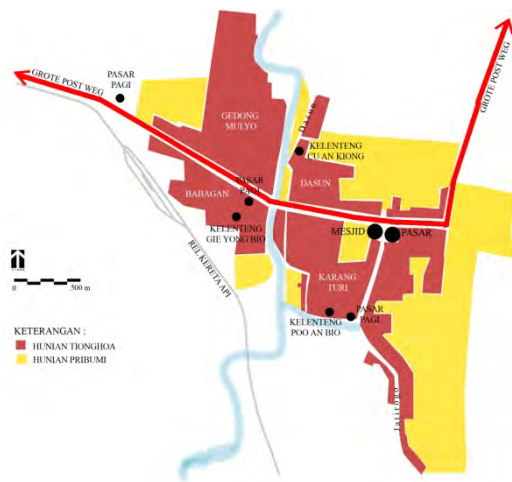


5 Poo An Bio Temple

Source: Duhita(2010)

Meanwhile this industry then decline around 1970 when the industry began to develop Batik printing and then beat traditional Lasem Batik existence. This setback affect Lasem especially Chinese settlement, where residents Lasem start looking for a job out of town Lasem. Chinese settlement started deserted and abandoned, until only the elderly citizens are resident in the city. Courtyard houses which have a large yard that must be maintained to cause some occupants then sold the house to being used as a bird's nest industry and warehousing [5]. This causes Lasem lose his identity as a city dominated Chinese culture and begin to change the physical structure and the Chinese courtyard residential building facade that is very typical.

At the present time the existence of a residential courtyard, a typical Chinese settlements are still commonly found in the region with a livable condition that is used as a dwelling house, home industry and a double function in the form of shophouses. Batik industry occupies a residential courtyard and is now a tourist destination in the city Lasem.



The building serves as a place of business batik generally come from Chinese residential building has gates, *thienching*, *hulung* and courtyard. After the batik business, back porch used as a residential area and dyed batik while the rear courtyard is used as a drying area. Some *thienching* are still used by its owner, the Chinese people, but in some places have been converted as the residence of the employee without changing the original shape of the building (Duhita, 2010).

Lasem has managed to survive and even develop into ethnic quarters that can be used as an example of ethnic continuity quarter. The ability to adjust to the economic activity and maintain the tradition and architectural heritage that is the key to success. Changes and appropriate use of heritage buildings is an attitude that needs to be emulated, by doing some infill activities in line then the quarter can grow sustainably.

5. THE FUTURE of ETHNIC QUARTER

For that it is necessary to read that the presence of ethnic cultural quarter as the urban landscape, which can tell the layers of time, in the formation of the city. Problems ethnic region can be grouped in 3 main things, namely:

- (1). Getting economically strong pressure due to its location and is usually located in a strategic area of downtown.
- (2). The identity of the place began to fade, buildings and activities that characterize the region has been reduced;
- (3). Changes in ethnic activities, the role of the urban sector is no longer dominated by those who live in the area.

Different Lasem to Sugihwaras, where Lasem successfully defended the activities related to ethnic and economic value also managed to re-invigorate the batik industry activities. Lasem managed also be a tourist-city attraction that are not owned by Sugihwaras as arabian quarter.



Ethnic quarter that still has a high architectural merit or significance of activities should be maintained its presence as a cultural richness of the city and can be used to drive the city's economy contributed directly or through urban tourism. The area can be maintained and developed is the area that has the power of culturally or economically. Have the economic strength is based primarily on a strategic location or a specific economic activities such as creative industries. For those who rely solely on the existence of a strategic location, the presence of the building as a sign of culture should be preserved in a planned manner, given the economic pressures that want to change the area. Adaptive reuse approach to the culture should be done carefully, as not to alter the character of the area. Cultural landscape approach deemed most appropriate to maintain presence of ethnic quarter.

6. AFTERTHOUGHT

Indonesia country with the slogan of Bhineka Tunggal Ika. The Presence of ethnic quarter in urban areas greatly appreciated. We can make this area as the power of growth and sustainability of our major cities. Learn from several major cities, even this unique area can serve as an attraction for the development of urban tourism. The presence of ethnic areas should be addressed wisely by developing cultural and economic potential simultaneously

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Symbiosis of Cultural heritage and Modernist Inserts in Asian Countries

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ABSTRACT

Asian cities over the year have been perceived to be acutely conscious of its heritage in terms of its physical attributes like built mass (tangible), natural environment like flora fauna (Natural attributes) and non physical attributes like culture, social customs (intangible). The architectonic vernacular heritage in Asia, has very strong links with the intangible culture which forms an integral part of the fabric of every city, town or village. The built environment is a by products of the surrounding context and cannot survive without its intangible layer underneath which is existing even today and imparts a unique definition to the urban form.

The paper examines the need and relationship between various aspects of cultural heritage and modernism with respect to built environment from city level to neighbourhood level and to individual building level. Based on this the viability and the challenges faced by modernist inserts can be judged. Case studies to explain parameters for modernist interventions and to highlight how focus should shift from, adapting physical elements of buildings from glorious eras, to understanding economic landscapes, from incorporating styles, to incorporating types and contexts, and from narrating glorious events to documenting people's lifestyles.

Cross border practices may sometimes fail to understand the relation between material and immaterial heritage and end up replacing local lifestyles to foreign ones. As a consequence local people lose an important part of their identity and part of their regional values becomes mixed with wrongly understood modernity. Heritage can be considered as a useful tool to promote an awareness that is necessary to save the city of haphazard development, which threatens the physical health of the city, its infrastructure as well as its liveability.

Keywords: *modernism, heritage, tangible attributes, intangible attributes, culture, globalization, eclectic, vernacular, sustainable technology*



INTRODUCTION

There has been a debate in Asian countries, particularly the ones which have experienced series of foreign invasion about the ongoing 'modern' architectural practices and their impact on the heritage value of the region. The word 'modern' has been interpreted with an arena of definitions, each tailor-made to suit a certain class or sector of the society. Globalisation, political power, and media have influenced the society's understanding of modernity with western models of architecture and planning. And this global monster seemingly continues to hamper the heritage and culture of the society.

Asian cities have been known to be culturally plural, socially fast evolving and economically constrained. The focus has always been on the 'WE' factor (referring to the community) than the 'I' factor (referring to an individual). Built environment of any place is a result of the community's sense of identity. The spaces thus created are a reflection of their collective aspirations and associations along with being specific to a place and time. A continued practice of such collective space making, exhibiting the memories and identity of any community is what makes it a tradition. Thus the traditional principals in architecture and planning of any place are like knowledge base that has retained the essence along with addressing the continuously changing parameters of its practice.

Thus it is important to look at the evolution and the process of design which include the built form, natural environment and the socio cultural framework. The objective of understanding the historic process is not to recreate or resurrect the past or adapt the physical elements or styles of buildings, but to adapt a more pragmatic approach to deal with issues of architecture and planning, and understanding people's lifestyles and their economic landscape.

This paper discusses the two major parameters to be considered in the built form analysis. Starting with architectonic vernacular heritage of Asian cities along with reviewing the current design practices bearing in mind the current resources and economic scenario in Asian cities. Later it deals with the non physical attributes like culture, social customs that has strong links with the tangible forms and forms an integral part of the fabric every city. Having done that, a symbiosis of the two shall be discussed.

MODERN ARCHITECTURE

Modern simply means being up-to-date, whether referred to a person, a society, fashion or architecture. A person with a progressive attitude and the one who believes in changing with time, needless to say for the good, is a modernist. Historically it was the west that generated



and developed the ideas of modernity and process of historic transformation, thus westernization is often considered synonymous to modernization.

Modernism is an intellectual style that was developed in France and Germany in the 20th century that attained instant fame and approval due to its new planning ideas use of materials and methods of construction. This style was accepted and practiced widely even though it may not have suited the climatic conditions, the cultural and heritage landscape existing in that particular region.

Though it needs to be made clear at the onset that what should be held responsible for the massacre of the traditional heritage is not modernism, but wrongly understood modernism. It is the blind copying of one style to attain a global relevance with no reference to the location, which needs correction. This has resulted in separating building spaces with facades, making these two different entities.

ASIAN CULTURE AND HERITAGE

It has been rightly said that 'there is something about traditions of a culture that can be understood only by those brought up in that culture or atleast fully immersed in it for a prolonged period.' Culture is not composed of elements which can be disassembled and re assembled to suit particular preference. It goes through a layer of sedimentation and maturity that blend with the surrounding and evolve through history. This is a continuous process leading into a tradition. Without understanding such continuity, culture becomes elemental and the regional character remains just a showcase of memorials of the dead.

The culture prevailing in the Indian sub continent has relied heavily upon the unity of man with nature. This unity achieved the integration of physical and spiritual needs of the people staying in it. Nature was accepted as it is and worshipped in all its forms. Lifestyles and daily activities followed the rules set by nature and so did the architecture. All this resulted in a rare unity between man nature and eventually his built environment.

Our society has widely plural characteristics and is socially, culturally and economically heterogeneous. Such blend of all layers is rare and hard to find. Asia cities are still able to maintain their attractiveness and dynamism because of their chaotic order and complexity on one side, and harmony and sync of the pluralistic society on the other. They do function reasonably well irrespective of the corruption, mismanagement and poor infrastructure facilities.



CHANGE IN ASIAN HERITAGE.

The last few years has seen a plethora of fast and uncontrollable change. Globalisation brought the world much closer, so much that the radii of impact of any local happening anywhere has increased from national level to international level. This has also led to high degree of rampant development that is changing the face of our cities and leading to high rate of urbanization. We are experiencing such rapid change that being up to date is very important.

Western films, media, social networking sites all provide an over whelming image of luxury and power that it automatically poses an impression of glamour, beauty and excitement. Everyone simply wants to ape the west in all terms, in the run losing out on the traditional values. Traditions are often termed as nostalgic and fit for museum display without examining their true worth.

Today our conditions are getting even worse. Our population is on an increase; natural resources and forest cover on a decrease and top it all pollution groping us on all fronts. The polarity between the rich and the poor, the haves and the have not's is increasing. Slums form a backdrop to all modern structures. High rate of urbanization increases rates of migration of population from villages to cities, as unskilled labourers.

Such uncoordinated developments result in heavy expenses to be paid in the future, which developing nations shall find hard to cope with. But because there are difficulties does not mean we discard the concept of modernism. Cultural conservation, climatic conditions do not mean we cannot have modern architecture. It just means that while we go modern we shall have to opt for 'suitable modernism', that fits the regional requirement and something unique to our set up and we can call it our own. For that it is imperative to identify the strength and weakness of present state of Asian urbanism with a background of its evolution and transformation from the past. It is critical for us to examine and understand each and every layer of the tangible and the intangible form that constitutes the Asian heritage as a whole.

UNDERSTANDING THE TANGIBLE AND THE INTANGIBLE

The relation between man, artefact and culture are inter dependent and cannot be studied singularly. *(The following study has been done pre dominantly with an Indian backdrop, but moreover the main content remains same throughout Asia.)* Indian societies exhibited a sound mix of the three that came together to form a community. A traditional Indian society was all about common activities, festivals– it was all about the community as a whole. The existence of buildings, street patterns, spaces etc have invariably taken place fundamentally



with the same concept. The built environment did not decide the behavioural pattern or life style of people, but the people together decided the fabric of the place they wanted to live in. No doubt, there has been a continuous change and evolution of these spaces over time, but it was the changing needs of the community that resulted in the evolution.

A lot has been experimented and evolved over the years, on all fronts from planning to individual structure design. Most of the structures were built by the owners/occupiers or by the community. These were based on the local wisdom, materials and construction knowledge. This included dwellings, public spaces and settlements as a whole.

At a planning level often, a religious centre formed the nuclei of the settlement, which served a dual purpose a ground for rituals and for socializing and providing cultural stability. The town was further divided into small neighbourhood units by arteries that fed the urban fabric and connected them together. Neighbourhoods, often referred to as padas, pols, or wadas in local languages also provided ample community spaces at various hierarchies; they ranged from bazaars, nodes, chowks or just under the foliage of a large banyan tree. These were the main places for social interaction and thus beared importance not for their physical characteristics but for the meaning they held for the user. These neighbourhood, often were mixed use self sustaining developments and never singularly zoned.

Even a simple house plan reflected larger weightage to family spaces instead of private wards. Courtyard plan has resulted from centuries of trial and experimentation and normally consisted of courtyard or group courtyards around which rooms and other spaces were grouped to make the dwelling complex. Climatically, most courtyards acted as efficient micro-climate controllers. Such a courtyard model provided various options for lateral expansion and formed the nucleus of the house. A simple house was normally an 'open-courtyard' dwelling. It acted more than a climate control device, it was the domain for social interaction, meeting for ceremonial occasions, outdoor resting space during warm weather, play area for children, extension of the interior dwelling space. Access to rooms from outside to inside would only be possible through the courtyard, thus making it the most well connected space. The staircase was not just a medium for connecting levels, instead were generally wide enough to accommodate seating and at times sleeping. There were no dead passages, and the transition space from one room to another was another celebrated space in the dwellings.

The basic crux of the built environment lied in the community spirit that shaped the society and every individual in it. It emphasized on such multiple activity spaces at all hierarchies that brought together people and yet have been flexible enough to accommodate growth, evolution and change.



The social value to such places is derived due to source of identity, distinctiveness, social interaction and above all the coherent quality of spaces that they provide. Some maybe comparatively modest whilst some maybe extremely bold elements, which may have fulfilled the community function and generated deeper attachment to the people. In any case, these aspects however small cannot be ignored or else planning becomes redundant.

Culturally adapted architecture cannot merely be visual style but be a response to the culture, lifestyle and environment of the locale. A culturally specific style is not just an elemental façade treatment; it is infact a reflection of the memories of the past that have evolved over times, some consciously and some unconsciously. Heritage is not only about street patterns, public spaces, or house forms; it also includes the physical infrastructures and other utilities that make the functioning of spaces possible. The scale and typology of these public spaces and utilities may vary with time but the people and the developers need to understand how to maintain them such that the street pattern, skyline and the urban fabric remain intact. It's often here that mistakes happen.

There has been a lot to learn in architecture before it became an expert art. It was not created by a few specialists by geometrical and physical calculations. The building knowledge in such vernacular form of architecture was often transported by local traditions and handed down through generations. Sustainability and green architecture are words and terminology newly introduced in the market but it existed in the past as an integral part of design and construction. In the older days buildings would do least to hamper or affect the ecological balance of the site and surroundings. The survival and prosperity of any building was completely dependent on it.

The theory of survival of the fittest would have possibly emerged out of these factors, wherein something can only be considered fit if all these factors are taken into consideration. Every site at a micro or macro level gives cues for design and construction that are simply exclusive and apt for that place, site, topography, and climate. The simple use of such cues can be found to be far more suitable, sustainable, economical, in tandem with nature, instead of the usage of that technology that over powers nature.

THE PRACTICE SO FAR

A lot has been experimented on Indian grounds as modernist insert within the heritage backdrop. The styles varied depending upon the rulers and their international exposures, alongwith the socio economic conditions prevailing then. Each have been modern on their terms and played a certain role in shaping the societies then. Some styles tried to incorporate the physical attributes of the heritage whilst a few laid some focus on the non physical aspects as well. Some of them have been successful whilst some not.



Some modernist structure had a few abstracted elements from the traditional building motifs and patterns moulded into the internationally acclaimed styles then. Though the inspiration drawn was an abstract of the vernacular past, it sometimes lacked soul and were predominantly a play of the tangible elements. Focus was laid on achieving beauty and order rather than understanding the socio-economic or the cultural landscape that generated those original patterns and thus in some sense failed the whole purpose of having it.

Some modernist structures did look into the heritage aspect and tried understanding the principals that shaped the vernacular forms. They used the vernacular ideas with contemporary building materials and construction technology. These structures sure were aesthetically pleasing in their own sense as they did try to follow the beauty and order, in terms of the massing, the voids, the play of light, etc and thus were thoughtfully eclectic (if at all). These structures made no fuss about the symbolism associated to vernacular forms, instead tried extracting the essence of it. Though few of these structures were termed elitist, as it appealed and was affordable only to a class of the society, and layman could not understand and appreciate the abstract elements, it still was sensitive to the site, climate, addressed the socio-cultural issues in a contemporary sense. Some of the interesting examples of such Modern architecture are National Institute of Immunology by Raj Rewal, IIM Bangalore by B V Doshi. Ahmadabad has been the home ground to such modernist experimentation that renders the city with a contemporary feel, without conflicting with the old core city fabric.

Another style has been inspired by vernacular forms and construction techniques predominantly. The focus here was mainly cost reduction by adopting the local building technology, materials and skilled labour, but in a contemporary style. The intangible layer was intact and distinctively seen in such practices. This style got mass approval from people because they could now afford it, use it and thus relate to it. This has been a labour intense practice and required skilled labour to execute it, which is why the practice of such architecture has been limited in rural and peri urban areas. The work of Kerala based architect Laurie Baker was a part of this philosophy of building. As Gautam Bhatia puts it, 'Baker's architecture recognized people's aspirations and their limitations. How they lived and how they wished to live'. Other architects with similar line of practice have been Aupama Kundoo, Kulbhushan and Minakshi Jain.

Another style that has been seen in extensive practice these days is a sort of the consumerist modern design. It has elements adapted from past Indian architecture or foreign elements or sometimes both. The eclectic mix of the components does little to generate any emotions from the past. The mishmash of this sort has left the current practice shallow and rootless. It has been widely argued upon as being kitsch yet been practice due to its popular taste



amongst the middle class. Like it or hate you can't ignore it. There has been another class of design which uses not elements but a mixture of glass, aluminium, stone claddings in its composition. It is oblivious to the climate, site surroundings or anything regional for that matter. It has also gotten mass approval under the pretext of being modern. These styles failed to understand the relation between built environment and regional set up; between site and climate. It is this wrongly understood modernity that shall swallow the heritage value of the nation in a jiffy.

SYMBIOSIS

Vernacular architecture though practiced within the framework of heritage and cultural values still did have its limitations. With contemporary building and material technology these gaps can be filled. Important is to identify the technology in our favour and use it like a scaffolding to strengthen our already gained knowledge and experience of the building world. It is often seen that technology, overpowers man and nature and invites another series of difficulties. This has resulted in formation of robotic structures with no heart and soul. The amalgamation of updated technology with traditional knowledge shall bring in the much needed balance to the built environment in a fast growing urban stand point.

Adopting patterns and images from the past is an incomplete process of analysis unless it is clubbed with a deep rooted understanding of the socio cultural backdrop. Planners and architects have to understand the complexities of Indian urbanism before they blindly adopt a foreign module of design based on superficial understanding of the design concepts. Any design form that can be uprooted from one corner of the globe and fit onto another with little or no changes will not survive, because the ethos of the design ideology shall be lost. There has to be appropriate adaptations made for survival. Traditions should be so grounded in the built form understanding, that the forms and shapes shall take a backseat in the display or shall be a responsive emergence. A sensitive approach to local context, with a feasibility analysis, in terms of market conditions and an appropriate design approach that suits all and can be easily executed should be adopted and enforced upon right from the development plans.

Indian society has been facing an abundant shortage of affordable housing. This is an issue that needs immediate attention. High rate of migration from rural to urban has resulted in formation of slums which needs still further attention. These squatters are most of the times replaced with multi storied pigeonhole like structures. Making compartmentalised housing with bare minimum common activity spaces which does not respond to the way of life and community patterns of the users, shall not be received too well. Most of the times these houses are re sold and another cluster of slums are formed at another location. It is here



that a detailed understanding of the ethos of vernacular development shall come handy. This knowledge when blend with advanced construction technology shall form a key to the problem.

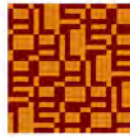
There is a very thin line between inspiration, adaptation, and abstraction. 'Inspiration' is a process of being mentally stimulated to do or feel something, 'Adaptation' is a responsive adjustment made to suit a special condition, and 'Abstraction' is a process of taking away or removing characteristics from something in order to reduce it to a set of essential characteristics. All of the three demand to be implemented in its purist forms. Most of the times it is this clarity of thought that are missing in designs, that results in designs being neither clearly adapted, nor inspired nor abstracted in its true form. A half hearted attempt in understanding the true worth of heritage value in all sense, from architecture to fashion is what results in the mishmash. It is not only the architects and planners to be blamed for this. Infact it is the developers and the governing bodies that need to be made more aware of this value. It should start from the grass root level, wherein such respect must be imbibed from a young age.

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Jingdezhen:

Case Study of Creative Cultural Heritage and Organic Urban Ecology

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ABSTRACT

Modernization and urban revitalization in China have mostly been implemented by Government institutions and state-owned enterprises, whose decisions have since influenced development concept and urban spatial strategy. As the narrative of history often follows political power, reinterpretation of historic urban fabric tends to simplify a long, complex and often conflicting past, over-shadowing the complexity of the local heritage and neglecting a more organic spatial growth in response to natural environment and existing human network. Using the case study of Jingdezhen, a historic city renown for its porcelain since the Han Dynasty, this paper aims to investigate the complex relationships between Jingdezhen's disjointed history, its urban fabrics and streetscapes, and the inherent economic system and human network, through historical survey, study on porcelain production, figure-ground analysis, photographic surveys and interviews. Particularly, it examines the various self-initiated urban revival activities associated with the two ceramic institutions – Jingdezhen Ceramic Institute (JCI) and Pottery Workshop, and their impacts on the ceramic community and urban spaces. The paper suggests that urban revitalization should seriously take into account the inherent urban fabric and deeper underlying socio-economic structure; and by sustaining the organic urban ecology and growth, the city could eventually develop a new collaborative urban model for the creative economy.

Keywords

Jingdezhen [景德镇], ceramic industry, cultural heritage, creative economy, organic urban ecology



1. INTRODUCTION

Modernization and urban revitalization in China have mostly been implemented by Government institutions and state-owned enterprises, whose decisions have since influenced development concept and urban spatial strategy. As the narrative of history often follows political power, reinterpretation of historic urban fabric tends to simplify a long, complex and often conflicting past, over-shadowing the complexity of the local heritage and neglecting a more organic spatial growth in response to natural environment and existing human network. In this respect, the city of Jingdezhen, a historic city renown for its porcelain production in the past and currently undergoes rapid modernization and urban development, offers a good case study in the understanding of spatial roles of cultural heritage, as well as its complex relationships with urban revitalization and economic development.

Located at the northeastern part of Jiangxi Province in China, Jingdezhen had once enjoyed the reputation as the world's chief production center for distinctive ceramic art and the major source of export porcelain for centuries [1]. The town's concentration on the production of porcelain in the early history could attribute to its geographical conditions, which offer the availability of a unique raw material – "Kaolin" clay, its subtropical monsoon climate, and adjacent waterways (both for transport as well as for hydraulic power) [2]. The courtyard-style architecture was particularly suitable for the traditional ceramic workshops in Jingdezhen, as it protected the open space from direct sunlight, wind and dust from the north, while facilitating natural lighting and ventilation, collecting rainwater, enabling landscape, and forming a controllable micro-climate that was useful for porcelain production [3]. With its architectural heritage, historical richness, and cultural significance, Jingdezhen was listed as one of the first 24 National Historic Cultural Cities in 1982, whereas its porcelain-making was also included among the first batch of National Non-physical Cultural Heritage in 2006 [4].

Since China's economic reform around 1980s, Jingdezhen has begun its economic diversification into other industries especially automobile and aviation manufacturing. Urban development in Jingdezhen has thus been centered on these technological industries (Modern District), porcelain trading (Ecological District), and tourism (Cultural District) [5]. However, with strong competitions from other ceramic production sites, Jingdezhen has lost its historical impacts in ceramic industry. In addition, Jingdezhen was also regarded as one of the "Resource Depleting Cities" in the country in 2009 [6]. There is thus a strong interest from the municipal government to rebrand Jingdezhen as "Porcelain Capital" [7], in order to attract eco-tourism and promote cultural and creative industry for economic sustainability.



However, rebranding the city is more than advertising or creating a new image of the city through new architectural or urban projects or retrofitting – as seen in many other Chinese cities. It has to encompass the authenticity of the place, which will include the natural organic growth of the urban system that response to various social and economic forces. This paper thus aims to investigate the complex relationships between Jingdezhen's disjointed history, its urban fabrics and streetscapes, and the inherent economic system and human network, through historical survey, study on porcelain production, figure-ground analysis, photographic surveys and interviews. Particularly, it examines the various self-initiated urban revival activities associated with the two ceramic institutions – Jingdezhen Ceramic Institute (JCI) and Pottery Workshop, and their impacts on the ceramic community and urban spaces.

2. JINGDEZHEN'S HISTORY AS URBAN ENTITY TIED WITH PORCELAIN PRODUCTION

Jingdezhen has had a long history closely intertwined with its porcelain production. Because of its natural resource, "Kaolin" clay, found in its local mountains, ceramic production has surrounded itself around this area beginning from the Han Dynasty. However, Jingdezhen's relationship with porcelain production has been complicated and discontinuous. By the 1950s, Jingdezhen's porcelain production, just as many other cultural institutions around China at the time, was in total disrepair. It is thus important for us to re-examine its urban history and cultural heritage, before we evaluate its government's efforts to rebrand Jingdezhen as the "Porcelain Capital".

2.1 Shift from Market Town to Early Industrial Town

Though archaeological evidence has not been found, it is a commonly accepted historical narrative that coarse pottery made for local use in Jingdezhen (the area was known as Xinping at the time) dates back to the late Han dynasty (206BC–220AD).

The production took a significant leap forward during the Tang dynasty (618–907AD) when copper shortages resulted in the shift from metal vessels to porcelain ones. Potters responded by upgrading their production processes to deal with not only a large demand, but also larger and stronger pieces. These technological improvements allowed porcelain to be more accessible to a wider consumer base because of its proliferation and also because increase in utility as the new processing allowed the vessels to be stronger and lighter. These improvements to the treatment of clay also coincided with the growing popularity of tea drinking which lent to the shift from stone tea ware to porcelain tea ware, increasing the reach of the ceramic industry [8].



From the Yuan (1271–1368AD) to Ming dynasty (1368–1644AD), potters would generally farm the fields for part of the year and work in the kiln when they were needed. The network of potters would depend on the physical distance and accessibility to the kiln. During the Ming dynasty, potters rose in their societal position. Becoming more involved with the marketing and business deals of porcelain production, the potters became a class of technically competent workers, able to deal with government contracts and other business skills. Along with this capable class of workers, Jingdezhen also had access to readily available raw materials as well as ideal location near Poyang Lake whence its production could go by lake and river to Nanjing and by Grand Canal to Beijing [9] (figure 1a). These three elements formed an important basis for spectacular developments in ceramic production during the Ming dynasty. Jingdezhen shifted from a market town surrounded by some kilns, to one of the earliest Chinese industrial towns. This unprecedented change was also able to happen because of Jingdezhen's ceramic industry's flexibility and quick response to the new overseas demands for porcelain along with the increasing imperial orders, and its adaptability to variety of situations and cliental [10].

As manufacturing and the market began to center within Jingdezhen, neighboring areas closed down their kilns in order move closer to the town center. By the end the 18th century neighboring settlements had completely lost any connection to ceramic production (figure 1b). Highly organized division of labor and coordination of ceramic distribution throughout China and overseas are the characteristics of Jingdezhen's industrialization [11]. This distinction between each task of ceramic production and distribution not only increased productivity, but also encouraged the development of specialized skills.

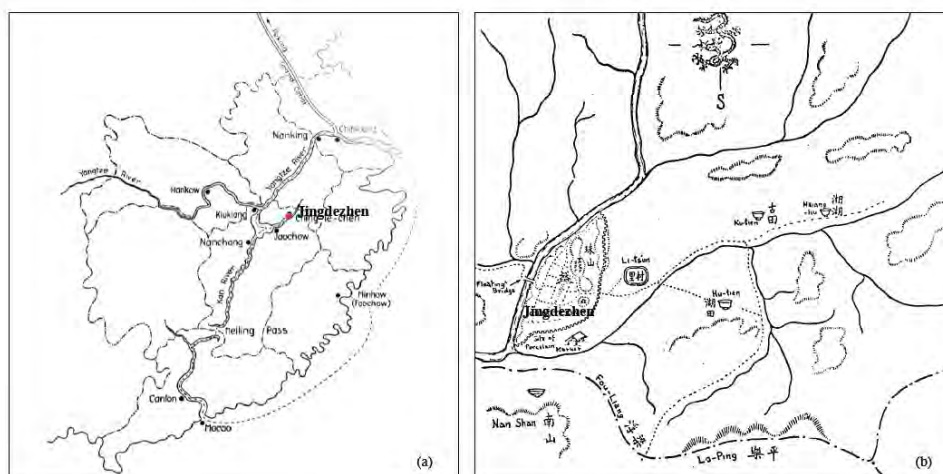


Figure 1: (a) Map showing waterways serving Jingdezhen during 18th century [source: Mudge, 1981, p.73]; (b) Map showing early kiln sites surrounding Jingdezhen (unlike the drawing, the city was however said to be without wall) [source: Dillon, 1976, p.21].



2.2 Discontinuity in the History of Ceramic Production

The years of war during Taiping rebellion in the 1850s were devastating to the ceramic industry. Not only had kilns and imperial factories been destroyed, thousands of potters had been killed or had fled, resulting in a disruption of knowledge transfer. Though the kilns were relatively cheap and easy to rebuild, the skills were not so easily regained after having been cultivated for dynasties. Kilns were only able to supply the local area with pottery, but were not able to produce high-quality exportable wares.

The fighting also damaged trade and economic networks. New heavy tax system also burdened traders and producers, allowing imported porcelain to be competitive within China since these machine-made wares which were already cheaper, also benefited from less import tax. There was a shift in the consumer base to overseas Chinese based in Hong Kong or South East Asia. During the First World War, domestic markets were sheltered from these cheaper imports and there was some expansion with domestic kilns. Neglecting to modernize transportation infrastructure needed for distribution of goods and purchasing of supplies was another factor to Jingdezhen's decline as a ceramic producer. The decline of the ceramic industry inevitably led to the decline of Jingdezhen. High unemployment led to a decline in the health of the citizens, along with an increase in opium addition and prostitution [12].

Industrialization and the use of centralized factories did not begin in Jingdezhen until the second half of the 20th century. Jingdezhen's ceramics production fell under the category of "workshop factory". Although the scale of work became industrial, the methods of production are still based on manpower. Modern China's industrialization of the production of ceramics is reflective of the centralized financial and planning policies of the 1950s. Similar to the collectivization of agriculture at that time, the treatment of porcelain production by the government began with joint toll groups advancing to handicraft co-operatives, which were then transformed into co-operative factories or handicraft workshops. Besides reorganizing production method, the government also shifted production output towards producer goods which could be used in the chemical and electrical industry [13].

Though historians have tried to connect Jingdezhen's porcelain history to the Han dynasty, the period of the Taiping Rebellion had really disrupted Jingdezhen's cultural knowledge and history timeline. In essence, it could be argued that this era of Jingdezhen's porcelain history only began after the rebuilding post-Taiping Rebellion, roughly 150 years ago. The Cultural Revolution, an immense cultural disruption from 1966 to 1976, also truncated the lineage of knowledge transfer to the past 40 years [14].



3. PORCELAIN PRODUCTION AS UNLEASHING CREATIVE CAPACITY FROM HERITAGE

“Porcelain production requires around 30 stages and you cannot really escape from it,” artist Ai Weiwei explained in his concept video which was paired with his exhibition, “Sunflower Seeds,” exhibited at London’s Tate Modern. The video goes through each step of the production of 80 million or 100 tones of porcelain replicas of sunflower seeds which were all produced in Jingdezhen. The power of the art installation came from the understanding of the layers of work, by hand which it took to create one single porcelain seed [15].

To understand Jingdezhen, its urban development and its tie to creative economy, it is essential first to understand the process of production of porcelain, both as a cultural heritage and relevance to modernization. A field study in Jingdezhen was thus conducted in June 2012 to witness the current production methods, community who are involved in the industry, and the resultant urban transformation.

3.1 General Stages of Porcelain Production

Though in many aspects, porcelain production can be considered an artisan craft, porcelain production in Jingdezhen can be examined through an industrial lens. The production of one porcelain unit requires various specialized skills and labors as follows:

- 1) Kaolin extraction
- 2) Production of kaolin clay from raw materials
- 3) Throwing the clay to create the shape of the vessel
- 4) Glaze production through different minerals and chemistry
- 5) Application of glaze
- 6) Illustration or brushwork for decorating the vessel
- 7) Organization of the kiln and firing the vessels
- 8) Transportation of the products between each stage of production

Each stage requires not only its own knowledge base, but also its own equipment. The most extreme case is the kiln. In many ways, the kiln is the central point of organization for ceramics production. Kilns are usually larger facilities that can afford the space for great fire and heat (even today with gas kilns). Each firing requires a large amount of fuel to burn, meaning in order

to minimize cost of production, the kiln should be filled to full capacity before each firing. At the same time, kilns are also the limiting factor of a production network’s capacity. While throwing clay or vessel decoration has lighter infrastructure which allows these artisans to



be more flexible, kilns must be organized in order to be successful. The industry's dependency on the proximity to the kiln created a relative density, which resulted in an early pocket of urban industry. Jingdezhen was one of the first great industrial centers in China and probably one of the earliest in the world [16].

3.2 Slip Casting and Ceramic Transfers As an Innately Industrial Method

Slip casting is a method of porcelain production that lends itself well to industrial processes. In essence, this process allows copies of the same shaped vessels to be made from a mold. However, each mold can only produce 4 to 5 copies a day (before it becomes oversaturated with water) and imperfections from the vessel coming out of the mold must be fixed by hand. This keeps the process of mass porcelain production still closely tied to the human hand. Ceramic transfers, which can be replicated in any number, can allow for accurate replication of decoration on the vessel. These methods of production allow for most of the workers involved to have little or no artistic skill.

Similar processes of slip casting were observed in both Sanbao Village Artist Residency workshop and Longxiang Ceramic Bottle Factory. This replication process can be fully utilized by both artists and by mass production. Though smaller workshops may share kilns and other resources, slip casting allows small-scale artist studio to produce like a mini factory. An example is Carola Zee Designs, who can produce in great number with little manpower, while also having the ability to fully control their design and output in order to make high quality products even if the designer herself is not present.

As porcelain production is closely tied to infrastructure such as kiln, production workshop, and transportation system, as well as inseparable relationships with human labor, Jingdezhen's urban fabric thus evolves around such industrial network and settlements. Even when efficiency in modern transportation renders availability of raw material less significant, it is clear that any urban development in Jingdezhen should not deviate away from this urban framework if porcelain cultural heritage were to be continued.

4. URBAN FABRIC OF PORCELAIN PRODUCTION IN JINGDEZHEN SINCE ECONOMIC REFORM

4.1 Types of Urban Fabric in Jingdezhen

Three main types of urban fabric related to porcelain production could be observed in present day. The oldest urban fabric can be represented by "Lao Chang" (Old Factory), where the urban grain is very fine (figure 2a). The streets are windy and the topography also adds character to the area. Porcelain production was observed to be on family scale. Half finished vessels were left drying outside the doors of homes, in small courtyards and even spilling



into the streets (figure 3a). Almost everyone living in this part of town has something to do with ceramics. Each step of the process of porcelain making is represented in Lao Chang. Families, or small shops, each specialize in one part of this large and organic production organism.

The Sculpture Factory represents another type of urban fabric, which exists in the skeletons of large-scaled state-run factories built in the 1950s (figure 2b). After the failures of these large state-owned factories, privatization of the porcelain making process led to the fragmentation of ownership. Each family would run their own business servicing one step of the porcelain making process. In most cases, the function of the spaces would remain the same from the days of collective production, however each function would be run as a private company. The state remains the landlord, with a state-owned organization managing the properties in which these small businesses rent from. Every need of the ceramic production process can be met within the walls of this old factory (figure 3b). Just as in Lao Chang, all the small businesses are intertwined and interdependent. The factory's strongly planned urban fabric reminds one of the failed top-down mandated economy, yet the privatization by small family-run businesses proves the industry's ability to organically adapt and utilize the large infrastructure which had at one point in time been provided top-down from the state.

Factories on the outskirts of town represent ownership on a larger scale (figure 2c). Larger companies own the entire production process, and their space is able to house all of these functions (figure 3c). The workers are relegated to their individual tasks and have little decision making control over the production process. However, these factories are able to produce on a larger scale of economy with more organization, making them attractive to larger domestic and international clients. All three scales have their place in Jingdezhen's porcelain production economy.

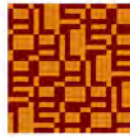


Figure 2: (Left) Satellite map showing locations of various ceramic production sites in Jingdezhen [source: Google Earth]; (Right) Figureground analysis of 3 types of urban fabric in Jingdezhen: (a) Lao Chang, (b) Sculpture Factory and (c) Bottle Factory [source: authors].



Figure 3: Various architecture typologies used for porcelain production: (a) Family-run home-factory with courtyard for drying porcelain at Lao Chang; (b) Failed state-owned double-storey factories adapted by small private businesses in different units at Sculpture Factory; (c) Large Bottle Factory housing all the functions in the porcelain-making process under one roof [source: authors].

4.2 Development of Jingdezhen Through Institutions

Today, Jingdezhen's porcelain production can be divided sharply into two categories. The larger industry would be the mass replication of vessels in either the form of antique replication, or replication of Ikea-like contemporary vessels, or the container for other goods. The smaller industry would be the creation of unique pieces led by artisans in the realm of art and design.



Encouraging the latter part of the industry in Jingdezhen are two significant yet very different institutions. Founded in 1909 and reconstructed and renamed in 1958, Jingdezhen Ceramic Institute (JCI) is a national university devoting mainly in ceramic art and science as well as many other subjects [17]. This highly ranked higher institute of education has attracted many bright young people from all over China, many of them remain in Jingdezhen after graduation to begin their own ceramic business. This pool of young talent from a variety of creative industries that have been attracted to Jingdezhen by the JCI is invaluable to Jingdezhen's growth in the creative sector.

Another private institution with large impact of the creative ceramic industry in Jingdezhen is the Pottery Workshop, a ceramic design and production studio with education programming and artist residency. The project began in 1985 in Hong Kong. Currently, the Jingdezhen site is the most active center, although there are offshoots in Beijing and Shanghai and two locations in Hong Kong. With its strong outreach initiative and the generosity of the director, Caroline Cheng, this private institution has been able to affect the creative community in Jingdezhen more than any government or government affiliated organizations. Besides offering public education about ceramic design through their café library and Friday night lecture series, their most influential initiative is the Saturday Morning Market. The Pottery Workshop selects 100 participants from a large amount of applicants. This market allows young ceramists, mostly recent graduates of the JCI to sell their design wares in a reputable manner with minimal overhead. The market's reputation brings in buyers from all over China (and also from overseas) for wholesale purchase. The rental for a stand in the Saturday Morning Market is only 50RMB per week, The proceeds from the market go into the Pottery Workshop's scholarship program. Besides, the Pottery Workshop also offers design advice to these young ceramists [18].

Physically, this weekly market is only comprised of folding tables and unified shades (figure 4a). However, the market is able to empower Jingdezhen's community of young ceramists. By providing this initial stepping stone, the Pottery Workshop's Saturday market has allowed young ceramists to establish their own workshops and even their own stores. The immediate effect has been the increasing success of the Sculpture Factory, with a growing number of JCI graduates who occupy the existing building with their studios and shops. As the business grows, many shops in the Sculpture Factory now sell tourists trinkets, a testament to the compound's growing appeal to tourists.

Indirectly, the support for young JCI graduates has also encouraged the growth of "Gallery Street". Located across the street from JCI original campus, Gallery Street had been a mostly vacant strip of street level shops built as part of a large-scale mixed-use real estate development. JCI graduates have turned these shop fronts into a busy commercial strip of



ceramics and art galleries and shops (figure 4b). This creative energy has transformed a banal housing development into a vibrant commercial strip. However, following the cycle of gentrification, cafes and bars are popping up along the street. The original ceramicist tenants whose very energy was responsible for the new reputation of the street are gradually being priced out of the area as their lease terms come to an end. It is possible that if there is no intervention, the rise in real estate value will ultimately change the quality of the street.



Figure 4: Impact on streetscapes: (a) Saturday Morning Market organized by Pottery Workshop; (b) Previously vacant shops adapted by creative community along Gallery Street; (c) Theme-park-like, highly commercialized historic pedestrian street along Zhongshan Beilu [source: authors].

4.3 Ceramic Design and Production in All Three Types of Urban Fabric

Ceramic designers have each found their own space in all three types of ceramics production urban fabric. Large-scale factories are able to provide the support and equipment to quickly implement the production of a designed piece, whereas fragmented divisions of labor found in both Lao Chang and the Sculpture Factory, require a more involved relationship from the designers or artists.

International designers have used large factories to mass-produce their latest products. Large factories such as Longxiang have the organization, human resource, and equipment to be able to fabricate a product from drawings. Primarily Longxiang factory produces ceramic bottles used to contain rice wine. Nevertheless, international artists connected through Sanbao Artist Residency have also been able to quickly implement the production of their ceramic design on a manufacturing scale.

JCI students and teachers have placed their studios near Lao Chang where rent is cheap and where they would be within the ceramic production network, especially proximity to a public kiln. The Sculpture Factory also provides this ceramic production network (smaller in comparison to Lao Chang), and has the additional educational and cultural resources of the Pottery Workshop within the Sculpture Factory. To illustrate, Dutch designer, Carola Zee, occupies a space near the Pottery Workshop. Because her studio is very small, she is



dependent on the network of facilities which are available in the Sculpture Factory. For instance, for test firings (when a ceramicists will fire only a couple pieces to test how the clay and the glaze will react to a certain temperature in the kiln), she brings her pieces to the public kiln. When her pieces are ready for firing, she schedules an appointment and buys time at a local kiln. She is also tied to the supply shops of the Sculpture Factory, which are useful to be nearby during the design and testing process.

From this study, it is evident that Jingdezhen's urban development is closely linked to the ceramic education, production and trade, gradually forming a culture-business urban ecosystem. These developments and initiatives are however mostly smallscale, self-initiated, bottom-up rehabilitation of the existing urban environment and architecture.

5. CONCLUSION: JINGDEZHEN'S IDENTITY AND FUTURE URBAN DEVELOPMENT

Like silk, porcelain is another ancient craft that holds a key place in China's global historical narrative. Porcelain, or "China", had been an early luxury export to Europe that had exemplified and broadcasted Chinese ingenuity and craft. Yet the historic pedestrian street, Zhongshan Beilu, located near the Han River, has been redeveloped into a theme-park-like commercial strip not unlike many other Chinese cities (figure 4c), largely ignoring its authentic historical and cultural context. On the other hand, right off the main street, the mazes of old buildings about two stories high are not well kept. Such unequal development could be seen in many instances in Jingdezhen, and as scholar Zhu Qian observed, the municipal government tends to "overemphasize tourism-oriented economic growth, while ignoring local community services" [19].

Instead of "refabricating" historic districts, more considerations should be given to leveraging Jingdezhen's heritage resources to build a stronger creative infrastructure for the ceramic industry. Jingdezhen cannot compare with industrial center of Guangdong in terms of mass production of daily ceramic wares. There is also a finite amount of the unique Kaolin clay. Building on Jingdezhen's unique resources of ceramic cultural heritage, improving urban amenities that serve design industries, developing its international reputation, strengthening ties with international design institutions and diversifying its creative outputs should therefore become the main rebranding efforts to pave the way for future creative ceramic industry. Although the young JCI graduates and family-run ceramic businesses may not have the artistic sophistication needed to compete in the international scene of ceramic design, the compartmentalized process of ceramic production makes them the specialists at every stage. They can serve as a mediator between international designers and the unique



material, Kaolin clay, and in time to come, retain the design knowledge and make the city truly a “porcelain capital” for ceramic design and research development.

As seen in earlier analysis, urban development in Jingdezhen has been closely linked to its porcelain industry. Any redevelopment in the city, in order to be sustainable, should not ignore its organic urban growth. The success of Pottery Workshop in revitalizing the Sculpture Factory shows that an investment in the creative industry would result in an organic revival in the existing built environment. Although the urban fabric of places such as the Sculpture Factory and Lao Chang were inherited from historical forms, the economy that has since revived in these spaces is truly continuing the narrative of Jingdezhen's relationship with porcelain. This type of soft infrastructural support is important to encourage urban growth from the bottom-up, allowing the creative economy to boost urban development in more efficient ways such as re-using, renovating, and re-thinking old buildings and spaces. Urban revitalization should take into account the inherent urban fabric and deeper underlying socio-economic structure, in order to encourage a more sustainable way of urban development. By sustaining such organic urban ecology and growth, the city could eventually develop a new collaborative urban model for the creative economy.

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Digital Architectural Manga: Bi-Tonal Architectural Narratives

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ABSTRACT

Bi-tonal and non-photorealistic architectural depictions can be employed to develop a narrative that engages the reader with not only the visual aspects, but also other emotional reactions. Architecture is subsequently not only represented through its factual dimensions of length, width and height, but is extended to intangible sensorial realms, which gains special value in the Asian context. This paper presents a rendering system of a graphical depiction method to communicate design akin to Japanese cartoon (manga) style. The modified visualization can be used for storytelling and developing a narrative that professionals and laypersons alike easily can access, understand and interact. The bi-tonal depictions offer users to experience both, visual richness of the original design, as well as enhanced architectural design communications that have their heritage deeply rooted in Asian culture. In this paper, we will showcase some digital manga architecture to demonstrate how design intention and ideas can be represented differently yet subsequently seamlessly connects cultural aspects of storytelling with architectural design allowing an intuitive discourse with architecture.

Keywords

Digital manga, architectural depiction, visual communication, storytelling

1. INTRODUCTION

Communication of architectural design has shifted culturally with the use of rendering technology, coupled with Computer Aided Design (CAD) programs, which has progressed significantly in the past decades. New tools and techniques have influenced the expression of architects' thoughts and ideas. Digitally generated, bi-tonal, non-photorealistic depictions are increasingly becoming popular around the world as a mean of expression because of its distinct graphical quality with its elegant use of rich set of screens, tidy and fine drawing styles of a black and white (b/w) drawings, and its engaging ways of storytelling [1]. This method of visual communication provides another realm for representing drawings, architectural designs and even photographs. The b/w lines and pattern representation of this



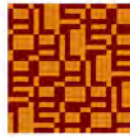
manga representation is very similar to conventional architectural drafting, in other words, bi-tonal representation, but it provides better personal engagement and legibility to non-professional. Compared to the two-dimensional hatched drawing, this application provides a three-dimensional full bi-tonal representation of architecture, its details, design intent up to and overall urban perspective. The architectural narrative is closely related to a set of sketches that explores through a variety of textures and lines the different elements of a building or details. The inspiration came from the popular Japanese comics –manga– where the artists lay multifarious screens to express different semantics. Hatches are selected not solely according to the shading, or tone, but also according to texture, material property, chromaticity or even function of the underlying design or architecture that is being depicted and expressed. The less photo-realistic chromatic depiction of its scenes provides a new method of visual communication between creator and reader. In this paper, we will demonstrate how this manga depiction can be used for an architectural narrative, to present an introduction to a building or a design intention. Based on some samples we study various methods used by designers to develop an architecture narrative.

1.1 Digital Bi-tonal Architectural Depiction

Architectural sketches contain various sets of elements that are combined to create large structures and expressions [2]. These architectural elements, properties, functions, or materials are commonly represented by standardized screens, hatches, line-types, –styles, and –widths. Drawings, sketches, and diagrams can translate architectural spatial concepts such as geometry/composition, threshold, proportion/scale, circulation/duree, light/shadow and tectonics better as they are flexible and allow the creativity of individual architects to influence the impression of the design. In contrast to this, Computer Aided Architectural Drafting (CAAD) typically has no personal style and depicts neutrally norms of the architectural details. Goldschmidt [3] argues that the architectural sketch is a mode of visual thinking and communication, which is crucial to a conceptual framework of the depicted architectural design. There remains a certain quality of a hand drawing and therefore the architectural sketch remains an important medium of designing, communicating and construing despite the technological advancement of CAAD. In this paper, we present how manga style visualizations can be an alternative method for architectural depiction and narrative.

1.2 Traditional Manga Drawing Method

Manga is one popular medium to narrate a story to reader visually. Instead of just beautifully rendered images of architecture, using manga as a form of design narrative could be an



alternative method of translating architectural ideas and processes to a layperson more efficiently. The notion of manga techniques in this work is based on the schemes used in traditional manga production [4], which is widely adopted in manga creative industries.

Figure 1 illustrates the typical five drawing steps for producing one manga image-frame. First, artists decide the perspective and roughly sketch the major structure of the scene with pencils (Step 1). Next, they finalize the drawing with ink (Step 2). With the precise lines in place, artists then begin the screening procedure. Based on the inked lines, manga artist usually select appropriate pre-print screen sheets to fill regions in order to express shading, tone, texture, or atmosphere. The selected screen paper, which is semi-transparent with pre-printed patterns, is then overlaid on each of the target regions (Step 3). The artist usually uses a knife to carefully carve out screen paper along the boundary and paste it on the target region (Step 4). The manuscript is ready for print when all the regions are overlaid with selected screens (Step 5). The task is rather tedious, time- and labor- intensive, especially when large amount of irregular regions exist. With this in mind, the 3D manga virtual environment is created utilizing the same ideas to create manga images digitally.

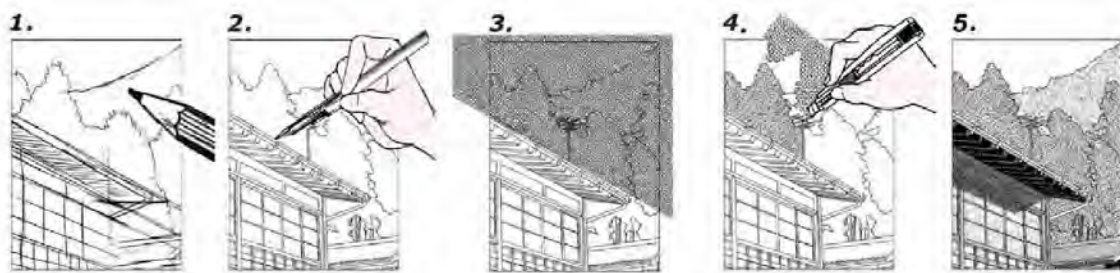


Figure 1. The typical workflow of drawing a manga frame

1.3 Digital Manga Drawing System

The goal is to build a system that automatically draws architectural depictions using manga techniques. The method is to convert any input image, sketch or drawing into a bi-tonal manga screening by preserves the visual richness of the original photograph and utilizing not only screen density, but also the variety of screen patterns. The system consists of two major components, screening and line drawing, which are similar to the conventional manga production described above. The line drawing includes an importance model that ranks each line, allowing architects to control the detail level of lines needed in their architectural manga. For the screening process, the system aims to automate the screen selection process allowing richness preservation and style consistency to traditional manga by utilizing the solution of Qu et al. [5] that automatically selects appropriate bi-tonal screens to represent (or fill up) different regions in the photograph.



Generating a bi-tonal manga image starts with the system segmenting the photograph into regions. A type of screen that supports a range of densities to represent different intensity will then be selected from the system library for each region. Although the intensity of the region can be approximated by matching the screen density, the main problem is to select the appropriate type of screen for each region yet preserving its texture similarity and color distinguishability to preserve the architectural content. This is done by first projecting the available patterns from high-dimensional texture feature space to the low dimensional color space, and then optimizing texture similarity. In addition, users can control and/or override the selection of screens via simple tuning of a few parameters. Finally, lines are detected and overlaid on the screens to finish the process.

2. ARCHITECTURAL NARRATIVE

The above-generated bi-tonal images can in a next step be collaged together with e.g. manga layout templates to create a series of narratives for architectural concept and design ideas. At present time, the mainstream method of presenting an architectural design is with images that are more or less photorealistic picturesque depiction of the design. The images are often produced with high end rendering and modeling tools. As seen in popular architecture books and magazines, the idea is to provide the reader a feel of the architecture design before it has been built. Most of the images are so real it is difficult to differentiate it from a photograph. The issue with this method of presentation is that they can be misleading or allowing too little space for interpretation, and presenting readers with a fix imaginative ideal image of the design (Figure 2).



Figure 2. (From Left) Original image, posterised, HDR, black and white: different image effects giving different focus of the architecture design. (Image from inhabitat, edited with Picasa)

Basic architectural elements are hidden and overwhelmed by the colorful well-rendered details and impressions. That is one of the reasons why some architecture is presented in black and white, sepia or negative images. *SketchUp™* provides a few additional options that change



the line style of the model, giving the design a unique raw outlook in order to portray architecture in its simplest outlook yet original with just its basic geometry form (Figure 3).

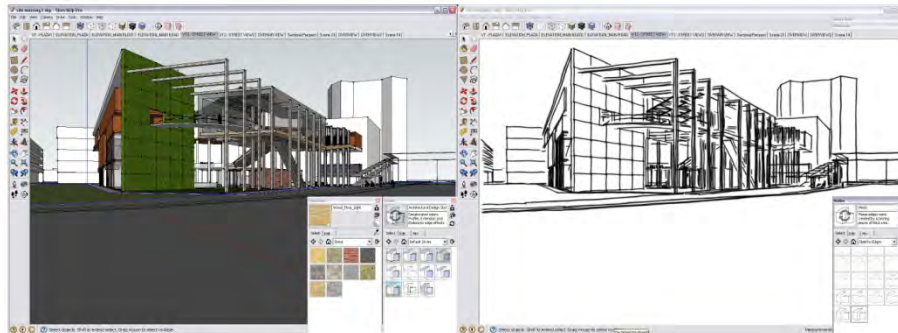


Figure 3. SketchUp model with materials added to give a close-to-real depiction (left) and a sketchy image to give emphasis on the architecture itself (right) (project & images by Adeline Koh, NUS)

The crucial point is the lack of narrative. Most of architectural designs are presented by a few images, collages, diagrams, photographs or rendered images. They are often repetitive visualizations from various angles and perspectives aiming to give an overall illustration of architecture. This does not compose to a narrative of how the design comes about, how it blends into the urban environment or how the building functions. There are a few exceptions. Some architects use diagrams or pictograms to illustrate an architectural narrative. *Bjarke Ingels Group* (BIG) is a Copenhagen and New York based group of architects, designers, and theorists operating within the fields of architecture, urbanism, research and development. They eminently utilize digital diagrams, animations and videos to narrate and communicate their ideas to the public. Based on the idea of storytelling their book 'YES is More' [6] introduces their works through the format of a comic book [Figure 4].

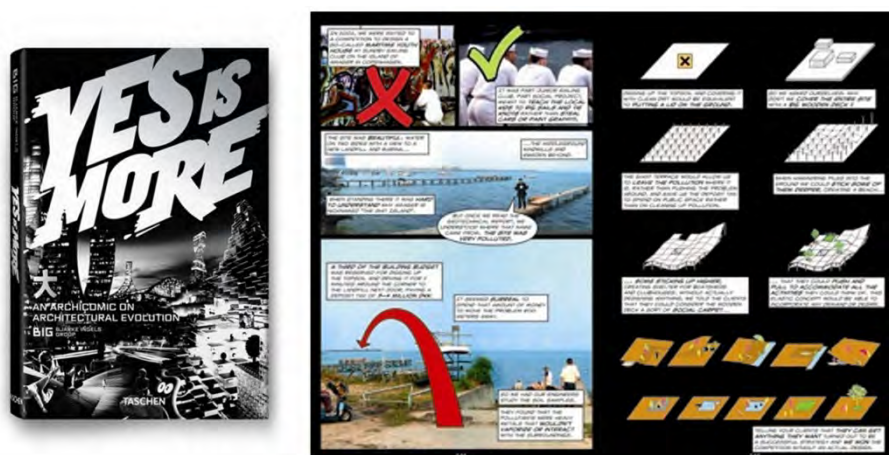


Figure 4. BIG's 'Yes is More' publication [6] and an inside page spread of how they present their works.



It is a playful gesture to make architecture accessible and less formal. BIG ads speech bubbles and overlaid diagrams to their architectural designs, making them appear to be alive. Although most images are simple photographs the overall style is novel to how they convey architectural ideas and designs to the general public and professionals alike. Akin to this, our architectural manga aims to give architectural representations an enhanced immersion that goes beyond conventional architectural depiction.

3. ARCHITECTURAL DESIGN AS MANGA

It is not new to see buildings within manga. In most manga stories, the background settings are introduced in the form of landscapes, buildings, or details of them, in front of which the story is happening. The manga focus the story around a hero, the protagonist, or a villain, the antagonist, while the background architectural setting is usually a drawing shown at some key scenes of the story to give the reader a clue of the story's setting. Explanations are usually given in the form of a conversation by the characters in the story to give the reader a better understanding of the setting and how it affects the story. Not much emphasize are put in the architectural visual design and its narrative. With this in mind, our research explores the possibilities of making the architecture the focus of the story itself and how the architecture can be elevated to the protagonist using manga visualizations and the narrative of comics.

3.1 The Story

A cohort of fifty of second year undergraduate- and thirty first year master of architecture students created an architectural narrative based on manga. The aim was to introduce the newly opened building of their School of Architecture (AIT), at the Chinese University of Hong Kong (CUHK), or alternatively capture the particular urban setting of a high density and vibrancy neighborhood in Hong Kong, called Mongkok. They used a free *iPhone* application, called *Manga-me* [5, 7], which converts photographs (e.g. taken by the phone itself) into manga images. Students then used the converted bi-tonal images to lay them out on maximal two A3-size papers by using either typical manga templates (predefined subdivisions and image frames of pages) or their own generated layouts to generate a short architecture story.

3.2 Results

This section presents representative outcomes of the above described manga-task categorized into five main classes: one page collage, personal journey, walk-through, motion, and texture/tectonics. There are some other few not-classified artworks, which



either cross over some of the above classes, or which were not clear enough for classification. The categories act as initial framework of how designers use the medium to develop an architectural manga digitally.

3.2.1 One Page Collage

Figure 5 shows the development of one large continuous collage that contains the story within its image. We can clearly see how the façades are made of a grid pattern, while the buildings contain dynamic functions and story elements within. The street level consists of various shops and restaurants that display the rich street life. On the middle zone above, the activities are more diverse with a loose order of commercial, entertainment and residential units, while the top levels of the buildings are all residential. The diverse functions in each of the buildings interlock with each other and display a unique architectural and urban variety that reflects the essence of the neighborhood. The one-page collage invites the reader to explore the various architectural aspects within the overall composition.

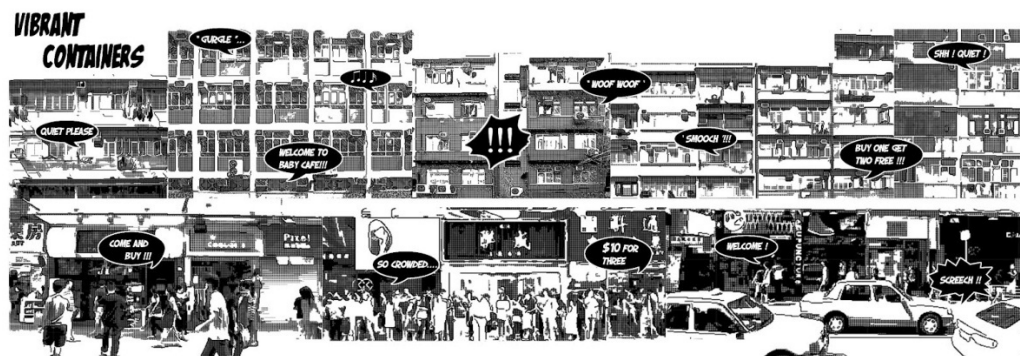


Figure 5. Collage by Anita Au Man Ying using elevation-perspectives to explain Mongkok

3.2.2 Personal Journey

The manga shown in Figure 6 presents a journey starting with the surrounding and environment, before reaching the architecture-building, CUHK. The various images preserve most of the image details yet with a strong accentuation of lines, coupled with effects of the page layout; the individual components in this narrative are given a stronger focus and highlighted. The story ends with two dramatic perspectives that emphasize the entrance and spacious atrium of the building.



Figure 6. Yau Wing Lam's journey: showing her first day arriving to the new architecture building at CUHK.

3.2.3 Walkthrough

Using the same hatching style as Figure 6, the exterior and the interior of the building in this Manga are very well depicted (Figure 7). The readers are given a very clear understanding of how the building looks like, its main compositional elements, and what the main features are. Additionally the story immerses the reader into the perception that they are actually walking through the building and exploring it inside out.



Figure 7. Walkthrough by Winnie Tam portraying her personal story of the AIT-building

3.2.4 Motion

Many manga frames are composed with 'motion-lines'. These are graphical elements that suggest a movement or focal point. It is used to give the still images the illusion of action, movement, sound, and other dramatic effects. This extra layer immerses the readers' richer sensations of the presented narrative. Strong contrasts of hatching, line widths, etc. support the overall impression (Figure 8).



Figure 8. Motion supported manga by Kenton Sin: it depicts the seemingly chaotic arrangement of the urban setting and their impact on humans' movements through the streets of Mongkok.

3.2.5 Texture and Tectonics

Utilizing simple hatching, concentrating of texture and tectonic, this manga allows the narrative to focus strongly on architectural patterns and the compositions of form and spaces (Figure 9). The bi-tonal images remove the excessive information of the original photo and concentrates on a certain aspects of architectural design and settings. It is become a sensitive and nearly sensual experience for the reader.

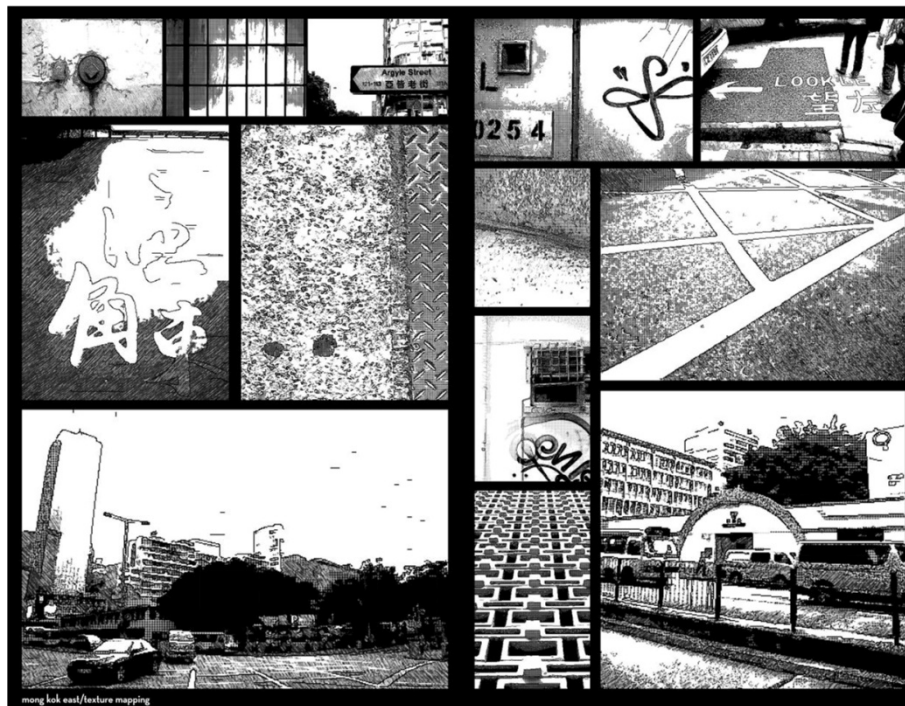


Figure 9. Manga by Michael Ting portraying textures and tectonics

4. CONCLUSION

We have presented a novel technique for presenting architectural design using manga. The technique is efficient and convenient in use in architectural design and its communication. We demonstrated how the specific bi-tonal drawing technique can be utilized to develop specific architectural narratives that allow for a better understanding of the presented design, including properties of form, material, light, etc., but also movement and other cinematographic elements. The intersections of manual and digital instruments mirror the working styles of architects, who deal with a variety of realms, instruments and stakeholders. Hereby architectural design communication is extended to a genre that is not only popular and commonly accepted, but also carries rich and meaningful content that merges sketching and digital drafting. Our technique allows for that architectural or urban design to be communicated beyond the graphical depiction of architecture itself by elevating it from the backdrop to the protagonist of a mangarised narration.

Akin to Calderon et al. [8] and Ng et al. [9], we plan in our future research to address cinematic aspects of our architectural digital manga visualizations and generate animation techniques allowing designers to create architectural animations based on bi-tonal non-photorealistic depictions with the same ease as conventional animation methods.



ACKNOWLEDGMENT

The authors wish to acknowledge the research that lead to the development of the software 'manga-me' {<http://manga-me.tk>} by T. T. Wong, P-A. Heng and Y. Qu., CUHK. A free version is available as an iPhone-App. We thank the students of the 2012 BSSc(AS) Second Year and the MArch 1 in Architecture at CUHK and various online participants of the CAAD@CUHK Facebook Group [10] for their valuable collaboration and contributions to this research, where more solutions can be found.

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‘Modernism’ in Corporate Buildings of Dhaka: Changing Perception, Transformation of Vocabulary and Continuing Challenges

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ABSTRACT

Dhaka, the capital of Bangladesh, has been experiencing rapid urban growth, both in planned and unplanned manner, since the independence in 1971. The skyline of this Megacity is continually being adorned with buildings of various form, function and aesthetics. Certain buildings among those stood out in the cityscape and drew attention of the dwellers with their essence and spirit of ‘Modernism’, as modernism can be perceived as a self-conscious break with the past and a search for new forms of expression. These buildings in concern, constructed in the post-independence period, definitely demonstrate modern thought, character and practice.

This research tries to analyse the design aspects of a set of buildings built in each of the last four decades which were considered to be representing ‘Modernism’ in architectural practice and pedagogy of that time. The buildings to be studied are, corporate, which include, Commercial, Administrative and Institutional in function, as these have been continually transforming the cityscape with newer dimension, function and image of ‘Modernism’ over time more than any other typology.

The buildings are being selected in consultation with prominent practicing architects of the city. The research would sequentially try to reveal the architectural approach and features, together with their sensitivity to environment, economy and society, which distinguish them as Modern. The changing perception of modernism and the transformation of architectural vocabulary over the last four decades will be explored thru the study and research. In addition, the chronological analysis will also illustrate the local challenges and global influences associated with the integration and consideration of sustainability, regionalism and contextuality in the practice of architecture.

Key Words: Dhaka, Modernism, Architecture



1. Introduction

The glorious past of Dhaka has been directed in two key dynamics: one is political power and the other trade commerce and industry. Geographic location placed the city in an strategic position to keep connection with the surrounding areas for commerce and trade, particularly by means of water routes.

From its beginning as a small city with a few thousand people, Dhaka actually experienced dramatic turns upward and today it has become one of the fastest growing mega cities of the world. Its existence as a major urban agglomeration has been consistent over a period of 400 years. Even the most developed cities in the world today cannot boast 400 years of uninterrupted and organized existence that Dhaka does as a historic city.

This research shall scheme through the patterns of development and emergence of modernism in the Corporate-Architecture through a journey over the decades from 1960 still today. It tries to Depict the growth and shift of CBDs, considering Motijheel as the pioneer taking birth during 1960-s, Karwan-Bazaar taking shape as the 2nd parallel CBD during 1980-s, Banani – Gulshan and Mirpur's main artery as extended CBD during and after 1990-s and finally Uttara in the last one decade. The research looks into the densification due to urbanization and subsequent shifts to other newer localities. Corporate-images expressions, superficial and engraved and transformations, parallel to the world of Architectural idioms shall be identified. And finally, the influence of globalization as embraced by our professionals in translating the Corporate-imagery would be in question where the issues of regionalism, context and the translation for the Tropics would be scrutinized.

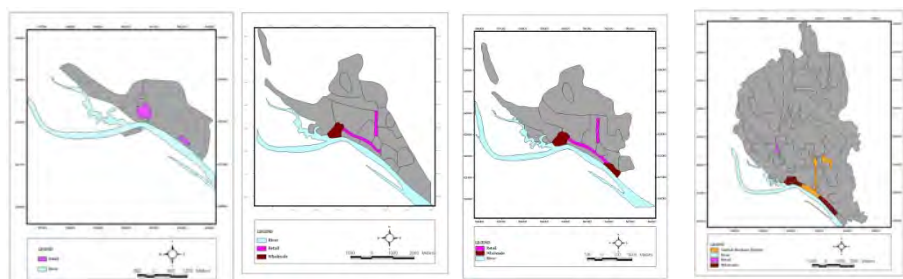
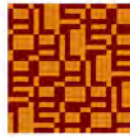


Figure 2,3,4,5: Commercial land use of Dhaka in 1700, 1910, 1945 & 1962⁵
(Islam, 1996)

Fig 1: Dhaka City Map showing Commercial



2. Dhaka: From a Pre-Mughal Township to a Megacity

2.1 Pre-Mughal Dhaka: The City of *Bahanno* (52) Bazars and *Tepanno* (53) Streets

In the Pre-Mughal era (1299–1608 AD), Dhaka was a small Hindu trading center and the main settlement was laid between the River Buriganga and Dholai Khal (Dholai Canal). Many parts of the Pre-Mughal Dhaka were named after craftsmen like Lakshmibazar, Banglabazar, Shankhari Bazar, Tantibazar, Sutarnagar, Goalnagar, Banianagar, Kamarnagar, Patuatuli, and Kumartuli¹(Dani, 1962)

Market places in that period grew spontaneously along the streets in a linear pattern. During pre-Mughal Muslim rules (1299–1608). The centers of Commerce were Sadarghat and Victoria Park. The pre-Mughal Dhaka comprised of an area of approximately one sq.mile² (Ahsan 1991)

2.2 Mughal Dhaka (1608–1764)

Dhaka's prominence came with the establishment of the Mughal Capital (1608–10) by Islam Khan Chisti and continued under the subsequent Subahdars till 1717. According to Bradly-Birt (1906)³Dhaka attained her glorious peak during 1677–1689 during the reign of Shaista Khan thru a vibrant commercial development, the city accommodated about 1,000,000 populations. Foreign traders like the Portuguese, the Dutch, the English and the French began to establish their business and industry⁴(Mohsin, 1991)

The township development took place around the Buriganga River which was the gateway to this place. The Chawk (Square) was the main market place of Mughal Dhaka.

In course of time, the settlements had considerable expansion towards north with the influx of rural people being migrated and being involved more and more in to trade and commerce.

2.3 East India Company and the British Rule (1764–1947)

Trading and commercial glory of Dhaka started decaying when the capital of Bengal was transferred to Kolkata. Chawk Bazar remained as the major business hub.

New roads, administrative and residential enclaves were established in the city after 1857 during the British rule.

Dhaka became the capital of the new province of East Bengal and Assam in 1905. By the year 1930, Chawk was transformed to a wholesale centre. Figure 2,3,4 and f show the land use map of 1700, 1910, 1945& 1962.



2.4 Pakistan Period (1947–1971) –

Emergence of Motijheel CBD – the first formal administrative hub

On August 15, 1947 East Bengal became a part of the new Muslim state of Pakistan. At the end of British rule, in 1947 Dhaka became the capital of East Pakistan⁶. (Islam, 2008). It was expanded in size and was developed in commerce, administration and industrial sector. Dhaka Improvement Trust (DIT) was established in 1956 and started planning for residential, industrial and commercial districts. A British consortium of consultants Messer's Minoprio and Spensely and P W McFarlane was engaged to carry out the assignment. Thru the Master Plan of 1959 commercial zones of Motijheel and Dilkhusa began to function as the first formal CBD for the city

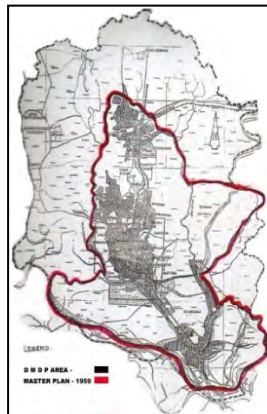


Figure 6: Dhaka City Master Plan 1959.



Figure 7: Motijheel Master Plan.

Source: Internet

To epitomize the emergence of modernism in Dhaka following Dhaka's first Master plan, development of several buildings at the Administrative hub, Motijheel CBD can be analysed. Most of the buildings constructed in this area during the decade of 1960, housed different sectors and department of the provincial government, some banks and a few of private entrepreneurs. The Head offices for, the then Central Bank of East Pakistan (Now Bangladesh Bank) was designed by Architect Thariani from West Pakistan and certainly attracted the city dwellers. This buildings' typology was apparently influenced by the practices of foreign architects addressing tropical climate. The horizontal louver to protect the tropical rain and sun with metal vertical louvers created a visual delight to the cityscape on top of its climactic utility. This building, situated with a neat- set back from front boundary, seats on the axis, carries sensitivity of a long vista of the CBD towards south and East. International Architectural idioms like, simple box like massing, ribbon windows, lower & upper portion on metal sheathed- membrane- offered the first touch and evidence of 'Modernism' in Dhaka's architecture.



The Building for the Water Development Board, HQ of Sonali Bank and the office building for ALICO (Former American Express) built around the same time can be identified to be in the second typology, close to the manifesto of Louis Sullivan's theory of high-rise buildings⁸ (Frampton)



Figure 8, 9: Bangladesh Bank, Motijheel Figure 10 11: Water Development Board, Sonali Bank, Motijheel Photo: Author

Both Water Development Board(WDB) and the Sonali Bank (SB) have three definite layers of volume: the podium at ground, the body at centre and the clarity of Parapet as the edge as the termination of the form. 'Podium' at WDB provides the taller part with a base for the city-scape. The use of RCC screens on the west following pseudo Islamic pattern and derivative and also on the south – protect the inner shell from climate and dust. This building also turned to be an edifice of attraction and an imagery of 'modernism' in the Architecture trend developing in Dhaka. The SB starts with a group of flights – of – steps leading to a city lobby, express the monumental presence of the building, while the lobby covered by a podium like shell, establishes a dialogue with the central round about in front – the core of Motijheel CBD. Use of vertical louvers in this building, as screen and double membrane as outer-shell very confidently depict a vocabulary of corporate modernism of its own. There are few other buildings, constructed in mid-60's, the typology of which has been seemingly derived from or influenced by similar sensitivity, practiced by Le Corbusier, Maxwell Fry and Drew and few others.

The widespread use of RCC vertical and horizontal louvers, extended out of the building's exterior facade, form a screen. Outer membranes, to respond to the tropical climate, become the single strongest vocabulary of the architecture of that era more than anything else. This populist approach generated a signature for corporate modernism in three dimensions, linearly recessed volume formed out of the bold presence on both the edges of the mainstream artery, as the city faced and the artery becoming the horizontal directional plane.



But critically addressed, the lack of appropriate sensitivity is evident in design where vertical and horizontal louvers are used on all sides of the building irrespective of orientation and need for protection from direct solar radiation.



Figure 12, 13, 14: Motijheel Buildings in the 1960-s with use of Horizontal & vertical. Photo:
Figure 15: libon Bima Bhaban. Ar. Muzharul Islam Photo: Internet

The 1959 Master plan considered the time frame until 1979. There has not been any master plan to guide and control the growth of this CBD beyond this time frame. As a result, the intensity of growth in terms of urbanization during last 3 decades, mostly without a planning guideline, generated uncontrolled and haphazard traffic and pedestrian congestion, crisis of utility services, extremely inadequate parking, and absence of greenery within the built fabric of the CBD.

'Jibon Bima Corporate Office (JBCO)' designed by master Architect Muzharul Islam, offers the citizenry a double height city-lobby, set with setback, a triple height void around the building. The vertical columns are expressed at the exterior face down to the ground and the horizontal layering of masses creating a podium, presents the city an exemplifying tissue of corporate modernism.

'Krishi Bhaban' another Corporate Building designed by Islam in the 70-s, is articulated with RCC Louvers & structural RCC Ribs all giving rise to a sensitive, bold & novel gesture of corporate modernism, the rhythm of vertical louvers, casting deep shades within, draws attention as a living- façade to speak as a corporate boldness.

The decade of the 80-s experienced the emergence of hybrid typologies in organizing building forms and volume. Introduction of deep entrances at ground level, cast-in-situ form finish concrete as exterior envelope, cement sprayed rough texture are some of the prominent features evident in a number of buildings.

A brutal elaboration of formalism is also discernible, to exemplify the Grandeur and Majesty in the structure of Janata Bank HQ, the Rupali Bank HQ, the Bangladesh Shilpa Bank (BSB), the Shena Kalyan Bhaban (SKB) and the BCIC Tower. The Janata Bank HQ, a slim tower, with a



defined double height lobby in the ground, attires sand-stone and rough sprayed cement in the exterior and express, both Brutalism & Regionalism in the language of corporate modernism. The SKB is first of its kind in using the “Form finish” quality of concrete as exterior finish and curtain glazing and did rightly draw attention of the professionals the populace as one of Dhaka’s corporate landmark.

BCIC Building’s careful planning approach to invite pedestrian by juxtaposing horizontal volume of the Multipurpose Hall is a strong statement. The tower is ornate with suitable proportion of vertical and horizontal RCC louvers as the 2nd membrane to address the tropical sun, wind and rain.

Today, at the advent of the 21st century, the advent of several buildings seem to be alarming and annoying with the frantic use of glazing on the exterior and use of Aluminium Composite Panel as the cosmetic cover for the building envelop.

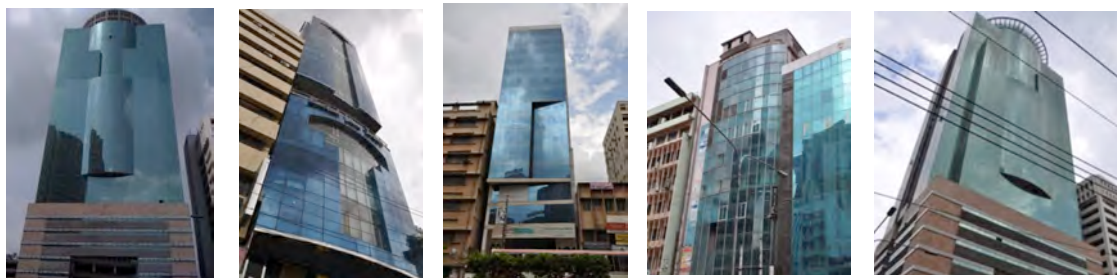


Figure 17, 18, 19: Frantic use of Exterior Glazing. Photo: Author

Growing practice and implementation of such insensitive and irresponsible idioms, promote disarray to the streetscape and skyline in the name of ‘Corporate’ and ‘Modernism’. This commonly ‘copied and pasted’ trend extends beyond Motijheel towards Purana Paltan, Bijoy-Nagar, Kakrail, is possibly influenced from the heroic flag-hosting by Sir Norman Foster, Richard Rogers, Renzo Piano. The Endearing high-tech Artistic and scholarly skill & proficiency are being elated into low-tech form & format. Yet they are colourful and shiny, dazzling and flashy, trying to uphold the glamour of 21st century corporate images as a demand of the time and trend – an ineffectual attempt to fuse with Globalization.

3. Post Independent Period: Development of other Commercial Hub

Dhaka, the capital of Bangladesh, has been experiencing rapid urban growth, both in planned and unplanned manner, since the independence in 1971. The first Master Plan of Dhaka city covered roughly 830 sq. km (320 sq. miles). The city was planned to expand towards the north, covering Mirpur and Tongi. Already 13 years have gone without adopting the third phase of detailed area plan (DAP) of DMDP, prepared in 1995.



3.1 Karwan Bazaar – the 2nd CBD

With the rapid growth of the city and its urbanization, towards the end of the decade of 70–s, Karwan Bazaar was adopted and declared as the second commercial hub with a vision to develop the area with higher buildings as the technology and materials necessary to facilitate tall structures were available by that time.



Figure 20: Plan of Karwan Bazaar. Source:

Figure 21: Wasa Bhaban. Consultant: Prasthapana Ltd. Photo: Author

Figure 22: Bashundhara City. Ar. Mustapha Khalid. Mohammad Foyezullah. Photo: Author

By this time, Dhaka experienced huge concentration of urban population. Architects from BUET (Bangladesh University of Engineering University), the first school of Architecture in the country got involved in the practice. Academic knowledge and its application, interspersed with global influences pushed Corporate Architecture to be discerned with the rumination of various stimuli like tropical-contextuality, High-tech inspirations, embellishments of glossy, colourful shield of aluminium panels and curtain-glazing. But unfortunately, the inspirations ended up with superficial imitation in several instances.

The sensitive use of deep-set ribbon windows at Bangladesh Steel & Engineering Corporation Building (BSEC), & the horizontality played and portrayed with a touch of three-dimensional wavy articulation in Petro Bangla bears sensitivity to the context and climate. WASA Bhaban can also be identified with a similar aesthetics with an addition of a podium & a triple height gesture to hold the entrance portico.

All these buildings to cater corporate world, constructed during 1980s speak of simplistic translation of 'Modernism' with tools for the tropics in moderns idioms.

The corporate imagery assumed post structuralist' flavour but de-tuned in false mimicries in some of the projects in the last decade.



The UTC tower, built during late 1990-s, has become an icon. The tower fails to create any set-back from the street, yet it is adjudged a successful endeavour in the corporate- tissue because of its smart gesture. The Exterior shell of reflecting curtain- glazing exposed to direct solar radiation is a subject to be criticized. The exterior glazing creates a surrealistic- multiple- reflection amongst each other. A block away from the UTC Centre, another iconic super mall, a low-rise huge / gigantic building, Bashundhara City, is constructed with a reasonable setback from the street front of Pantha Path. This shopping mall very successfully attracted people from all walks of life because of its bold, brilliant presence on the city scape. Interestingly enough, this has successfully become an icon of corporate emblem in the minds of the city dwellers despite its lack of sensitivity in using imported cosmetic building materials and use of uncontrolled glazing.

The Karwan Bazar CBD is still in the process of densification, but a proper approach to design is perhaps, not consistent, which is necessary for architecture in the tropics.

3.2 Banani- Gulshan Avenue : Urban-fill as corporate hub.

Banani and Gulshan had been planned as residential districts for the elites. During the turn of the millennium, the principal artery thru Banani and Gulshan Avenue started to transform into centre of corporate houses. One specific approach draws attention that, here, since the residential zone was for the elites, the locality could encourage the young & sensitive Architects to come up with a new direction in the translation of the pedestrian frontage of each corporate edifices.

The entrance boundary has been wiped away by situating low-height canopies of trees, soft-landscapes, gardens, and foliage & water fountains. Even the meridian being wide, we find rows of vegetation, soothing to the visual-look & add to breathing, coolness to the cityscape at human scale.



Figure 23: Gulshan Avenue Greenery at the

Figure 24: Bay Galleria. Ar. Patrick De Rozario. Photo: Author

Figure 25: Ridge Casablanca. Ar. Md. Sayedul Hasan. Photo:

Figure 26: Contemporary Building at Gulshan Avenue. Ar. Nusrat Jahan Shikha. Photo: Author



Bay Galleria Building is a brilliant addition to the architecture highlighting corporate imagery. It invites people through front foliage & a short journey under the double height over-hang of translucent canopy and it's over-whelming-presence. The structure expresses sensitive & masterful articulation of three dimensional modelling with terraces, gardens at different levels and glazing being placed deep for necessary shading.

Ridge Casablanca and Crystal palace in Gulshan Avenue epitomize the contemporary vocabulary of screening the glazed facades by horizontal lines of aluminium louvers. The Samperian manifesto of 'skin' Architecture, very sensitively translated, depict a sense of coolness & modesty of scale. These two projects certainly add positive value to the corporate imagery and the cityscape in recent time.



Figure 27: Nafi Tower at Gulshan Avenue. ArMustapha Khalid . Photo: Author

Figure 28: SPL Western Tower. Ar. Mustapha Khalid. Photo: Author

Figure 27: Cityscape at Banani. Photo: Author

Figure 27: Contemporary Building at Banani Extensive use of ACP and Glass. Photo: Author

Today, young generation professionalshave seemingly been contributing in a much positive manner. But they are possibly being carried away with the cliché of world context of monumental glass-volumes &cladding by aluminium composite panels extensively. More sensitive and rational approach in thought and practice could produce commendable examples for the city to boast corporate imagery befitting to the context.

3.3 Uttara Model Town

The northern extension of city gave birth toa planned residential neighbourhood,Uttara Model Town, which existed in 1959 master plan as future extension. The main artery Dhaka – Mymensingh Highway piercing through Uttara Model Town, has a service lane on both the sides which proclaims a proper notion towards Satellite Township. It is a first of its kind, where the town-planning sensitivity can be admired.



Several buildings grew in this area without much sensitivity to context and climate. In most of the works, repetition of the use of Glazing and ACP on the taller structures are identified which do not contribute to the vocabulary appropriate for the context with a few exception. Thus, the city scape created; depict the attempt of achieving a contemporary image of Modernism. But unfortunately, it ends up in an appearance of undesired disorder and chaos.

4. Corporate Modernism and Cityscape of Dhaka

– Reality, Frustration and Future to look forward to

The research on the trend, growth and development of Corporate Architecture in Dhaka definitely showed impact of the contributions from the professionals and the corporate clientele. But, success in creating the appropriate vocabulary seemed to have failed in a broader and comprehensive perspective. Discourse and discussion with a number of prominent architects on the issue, as well, reflect the same understanding and opinion that can be summarized as follows:

Development in the earlier period during 1970–s, the corporate images were translated keeping the union open towards tropical agendas. In course of time and with the advent and availability of Glass, Steel and Aluminium in abundance and the global trends promoting glamour and consumerism, the architects and urban designers practicing in Dhaka have also being carried away. As a result, the Corporate Image in Architecture are, but the futile attempts to Combine Glass, Concrete and Aluminium Composite Panels put together as principal building elements.

Jacque Derrida or Mitchel Fouchoult's 'Post Stucturalism' may ignite the insight of the professionals. Yet Global influences, turning into apparent mimicries has to be denounced.

"Architects and urbanists need to be educated at two different levels. First, they need not only be able to debate the larger issues in order to assist in the cultivation of an intelligent client base and second, they need be trained in their own metire not only in orderto maintain their mastery over building production but also to have the capacity to create works that have a layered interstitial character rather than merely contribute to the current proliferation of free-standing objects, be they aesthetics or otherwise"⁹ (Frampton, 2009)

Lack of a proper policy and planning can be identified as the principal reason for not achieving the proper cityscape despite involvement of professionally trained and committed architects.

'Production of space' by Henry Lefebvre enlightens us, His 'Right of Cities' should stand before our consciousness. The objective in the translation of Corporate Modernism must attempt tropical imagery, the sun, the breeze , the rain and the age old cultural identity.



Corporate Houses need to be educated and be conscious of the environmental aspects and depend on the solutions from the Architects towards achieving Modernism in the vocabulary of architecture. It is possible to achieve in the image of the cityscape, both, the desired dignity and delight to satisfy corporate demand and the preferred expression in terms of architecture which would make Dhaka a true tropical modern city in the new millennium.

A concrete set of bylaws is required to control the development in tune with the global energy crisis and the issues of context and economy. The bylaws would inspire and encourage the corporate clientele to promote energy conscious architecture which is 'Modern', 'Corporate' and at the same time sensitive and sympathetic to the context.

Nevertheless, the consciousness, commitment and dedication from the Architects and related professional are also necessary. They can be true visionary for the city to develop, grow and cherish the call of the hour as 'Cities do not begin from policies, but from dream and vision.'¹⁰(Ashraf, 2012).

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Designing Hanok, the Korean Organic House: Contemporary Challenges

Cho, In Souk

In the past few years in Korea, demand for hanok increased dramatically. Even the government has great interest in hanok. In 2011, for example, the government started the Architectural Award for Hanok Excellency, which is open to the architects, contractor, and owners, upon successful completion of a hanok project. The government also sponsors a specialised hanok design-training program for architects. While this is commendatory, it also brings serious repercussions. For example, many hanok houses are being built /remodelled in urban neighbourhoods in violation of building codes. Also there is a tendency among the public, as well as among professional architects, to think of hanok outside of the framework of architecture in general. Thus while there is a tremendous interest in hanok, only few people understand that hanok should be designed by architects. It's a grave misunderstanding that a hanok carpenter can design a hanok and that s/he has the necessary knowledge required for building a hanok. This is because it's been believed that 'building a hanok' means only the construction of wooden skeleton. This was so in the old days when there was no urban planning, no electricity, no city gas and no communication networks, assembling the wooden skeleton was enough for building a hanok. Today it is not possible to build a house without considering the urban planning or district planning, and other relevant legal and technical matters.

I present five case studies of my own design projects: firstly, three different designing hanok on vacant sites; secondly, designing hanok for restoration and adaptive reuse; thirdly and lastly, designing hanok for intervention in the existing reinforced concrete (RC) building.



Modernism and Lighting: Nuances that Matter

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ABSTRACT

Perhaps no single architectural element is as celebrated or misunderstood as light. Far from the uniform thing it is taken to be in modern life, light has been thought of and shaped by unique cultures in vastly different ways. Indeed, it is often possible to distinguish one culture from another simply by the ways in which light is conceived and handled in architecture. This paper argues that such differences are important for Asian development, as global approaches in light and lighting have tended to ignore cultural heritage and create ecological and economic uniformity.

Lighting design encompasses a wide range of architectural topics, including the form-making dependent on cosmological principles, daylighting strategies, and the use of artificial night lighting and novel technologies. Considerations of light may also include the role of sunlight, moonlight, starlight, skylight, reflections, shadows, artificial lighting and the subtle manipulation of materials. The distribution of activities, whether human or ecological, depends fundamentally on the timing, shaping and qualities of light.

Different communities have accomplished this in very different ways, though modern lighting without sensitivity fosters uniformity. Rethinking lighting is crucial for the differentiation of place in future Asian development, as well as for ecological and economic viability.

Keywords

Lighting, architecture, wildlife, habitat, sustainability



1. LIGHT: A POLITICAL INTRODUCTION

“...wherever the hand moves, there the glances follow; where the glances go, the mind follows; where the mind goes, the mood follows; where the mood goes, there is the flavor (rasa) [1].”

Light demands attention. Far from the uniform thing it is taken to be in modern life, light has been thought of and shaped by unique cultures in vastly different ways. Indeed, it is often possible to distinguish one culture from another simply by the ways in which light is conceived and handled in architecture and the arts. Within a national setting, local conditions of sun, sky and ambient reflection can be expressed in many ways. In the contemporary state, the creativity, professionalism and training of the designer, whether architectural or lighting, is absolutely essential to advancing productive and diversified environments.

This paper argues that the development of sophisticated and nationally based lighting design strategies are crucial for productive development, within ARCASIA but with an eye towards the exportation of concepts globally. Standardized approaches to light and lighting have tended to ignore cultural and ecological diversity, and an infusion of professional creativity is necessary to stem serious environmental challenges. Uncritical modernism has contributed to cultural and ecological sterility across the planet, and it is an obligation and privilege of the architectural and lighting professions to revitalize life through our work.

Lighting is a particularly delicate subject for architecture as we love light; we love to look at it and we love when it shines upon the world and connects us to it. Like love though, light is far from being an easy or simple subject. No single architectural element has been as celebrated, or misunderstood, as light. The main challenge is that the more light we come accustomed to, the more light we demand. And the more light we demand, the less we are able to perceive the environment we began with. To add to this challenge, anyone can install lighting in a space. LED lighting, plasma TVs, billboards, streetlights, traffic signals, holiday lights and automotive lamps all ignite the luminous environment and lay far beyond an architect or lighting designer's control. And, with so much light, the designer is compelled to add even more light so that projects can stand out, and indeed be visible at all. The canvas of our nocturnal lives is rapidly filling in.

Across the major cities of the world, buildings, streets and landscapes suffer the same fixtures in the same manner covering the globe in a blanket of sameness. Architecturally speaking, luminous nights are becoming virtually indistinguishable from Tokyo to Singapore, Karachi to Kuala Lumpur. And, lest this be thought a minor problem, it is important to recall



that homogenized arrangements homogenize culture and ecological relationships alike, in addition to closing regional markets to novel products and services.

Creative yet sensitive architectural lighting design, embraced at the beginning of the design process, is not a luxury but a necessity. The best designers always design with shadow and color before light, as the luminous environment defines so much of what spaces and the life within them can be. The darkness of space, no less than the darkness of an architectural rendering, opens possibilities. Such efforts need to be embraced, celebrated, fostered and made the norm. And as natural light is such a localized yet complex phenomena, and so flexible in its potential, it can only be addressed by professionals with control over their work within the national arrangement we have before us. The Architects Association of Macau (AAM), Association of Siamese Architects (ASA), The Architectural Society of China (ASC), Hong Kong Institute of Architects (HKIA), Korea Institute of Registered Architects (KIRA), Association of Lao Architects and Civil Engineers (ALACE), Institute of Architects, Bangladesh (IAB), Ikatan Arsitek Indonesia (IAI), Institute of Architects, Pakistan (IAP), Indian Institute of Architects (IIA), Japan Institute of Architects (JIA), Pertubuhan Akitek Malaysia (PAM), Singapore Institute of Architects (SIA), Sri Lanka Institute of Architects (SLIA), The Society of Nepalese Architects (SONA), United Architects of Philippines (UAP), Union of Mongolian Architects (UMA), Vietnam Architects Association (VAA), combined become a formidable resource to address the lighting challenge! The world needs to be transformed, and there is no better place to begin than amongst our ranks.

Amongst all the qualities of architectural space, none is so crucial as light. Light creates space, and not simply in the optical fashion that we are accustomed to consider. Light drives energies, it breaks down waste, it cues events, it nourishes and yes, enriches productive lives. There is no life without light. Even starlight dazzles in its presence, as the histories of archaeo-astronomy and poetic literature attest. Precious few places on the surface of the planet actually experience total darkness; each one of these precious because of the rarity and because how they allow one to see only the faintest shimmer. Light and life depend on each other.

Light has value in architecture in its brightest and dimmest phases, but as in any culinary experience, tastes have to be developed to encounter the full range of flavor. Every contributing organization of ARCASIA offers a history of dedicated experimentation crucial to foster. Our perpetual challenge, in the international community, is to recognize and embrace such complexity despite the ever pressing demands of standardized practice.



Uninformed artificial night lighting practices, and poor but quick attempts at daylighting through injudiciously purchased glass, represent a terrible obstacle for the designer to overcome. One only needs look at published photos of our cities over the past decade to see this. Skyline images become more similar with every passing year. This is true in the ubiquitous night scene, with pointed LED lights framing unshaded and brightly lit but empty office buildings, as it is in the ubiquitous birds-eye images of the day, with those same buildings encased in glass facades indiscriminately facing west, north, south and east.

Although designers trained to recognize the subtlety of environmental variables often counter such images, the challenge of good lighting is as daunting as it is clear. Natural lighting must once again dominate standardized practices, and regional variations in lighting strategies from the vibrant cities of ARCASIA, (including Macau, Bangkok, Beijing, Hong Kong, Seoul, Vientiane, Dhaka, Jakarta, Karachi, Mumbai, Tokyo, Kuala Lumpur, Singapore, Columbo, Kathmandu, Manila, Ulaanbattar and Saigon) ought to set the world ablaze for diversity to thrive once again. Obviously, the cities mentioned remain very different places, each from one another in the present and each from what they were eighty years ago.

Roughly eighty years ago, Junichiro Tanizaki was working and soon published the seminal essay 'In Praise of Shadows'. As this conference concerns itself with a loss of differentiation across Asia due to modern developments, it is necessary to think about this little bit of writing again.

2. DESIGNING WITH SHADE (REDISCOVERY)

Every architect has read Tanizaki's 'In Praise of Shadows' [2], or at least has encountered one of its many translations. Indeed, it is often writers and poets that have the most interesting things to say about architecture, albeit after the fact. In Tanizaki's short piece, it appears that we find the lament of a protagonist coming to terms with the intrusion of artificial light in a culture felt to be rapidly disappearing, lost to uniformity and bluntness where once subtleties and understanding reigned supreme. As we never see light but only its multifaceted relationships with the surface, as the great contemporary lighting designer Kaoru Mende suggests within the wonderful book 'Designing with Shadow'[3], the darkness of the fading environments Tanizaki seeks, represent an exploratory opportunity rather than a fading image to cling to. It represents a groping not in the dark due to want, but for the discovery of bejeweled visions impossible in the bright light of the misplaced illumination of wanton artificial light. Several quotes are pertinent, precious and so necessary to frame the challenges before us.



There is so much in Tanizaki to recall, that these meager quotes hardly do the piece or the author justice.

“...It was not that I objected to the conveniences of modern civilization, whether electric lights or heating or toilets, but I did wonder at the time why they could not be designed with a bit more consideration for our own habits and tastes...[4]” “...This calls to mind another curious Ishiyama story. This year I had great trouble making up my mind where to go for the autumn moon-viewing. Finally, after much perplexed head-scratching, I decided on the Ishiyama Temple. The day before the full moon, however, I read in the paper that there would be loudspeakers in the woods at Ishiyama to regale the moon-viewing guests with phonograph records of the Moonlight Sonata. I canceled my plans immediately. Loudspeakers were bad enough, but if it could be assumed that they would set the tone, then there would surely be floodlights too strung all over the mountain. I remember another ruined moon-viewing, the year we took a boat on the night of the harvest full moon and sailed out over the lake of the Suma Temple. We put together a party, we had our refreshments in lacquered boxes, we set bravely out. But the margin of the lake was decorated brilliantly with electric lights in five colors. There was indeed a moon if one strained one’s eyes for it...[5]”

It is important to recognize the political dimension to the frustrations of an aging man here. What Tanizaki observes is not the loss of tradition, morals nor authenticity. None of these things matter much in the writing. What matters in Tanizaki is the loss of a complex environment, capable of sustaining exploration. The intense glare of the unthought lamp, as much now as it had eighty years ago, precludes the range of experiences possible in the relaxed setting of the night qua night. It is no secret nor accident that most animals breed and birth at night; it is not for secrecy but to enhance the possibilities inherent to the acts.

The light at the end of the tunnel, the light that so dominates the West as Tanizaki portrays and recognizes it, is indeed, the light of the dead, albeit the light of a desire for a misconceived progress that leads to a premature end. If Western ghosts are transparent, and lack the integrated solidity of their Asiatic counterparts, it is because there is not much to see. Advancing technologies can be put to so much better a purpose.

Tanizaki’s Ishiyami story recalls the lack of moon presence in the Autumn festival, indeed a preclusion of what gives the festival its purpose and life, lost in the mechanical glow of misapplied product. Without the presence of the moon, the Autumn Festival might as well be Halloween, Christmas or any number excuses for an evening party. Technologies in and of



themselves, whether the incandescent lamp or LED lighting, are not the problem. The main challenge is the manner in which technologies are used in the creation of our environments.

Tanizaki describes a challenge pertinent for ARCASIA. How do we tap into national strategies for living with natural light that may have been set aside due to the mechanical glow of standardization? Can artificial lighting be conceived differently on a nation by nation basis? The best among us demonstrate the possibilities, but it is necessary to remove obstacles as we go. The challenge is not to produce iconic elements in rethinking lighting along traditional lines, but rather to embrace perhaps divergent principles amenable to the living night and day as general practices. Returning to Tanizaki is a political gesture, one in which a certain demarcation is made and, one in which future possibilities of experimentation are demanded to be opened and looked at.

Political, as the uniformity that blankets the globe is no less than an occupying force that destroys markets rather than opens them, in short-sighted fashion. Given the intense artificial night lighting of Europe and the United States, the export of 15 distinct strategies abroad would be welcome indeed. It is also necessary as an international negotiation, as contemporary standardized lighting practices have dire ecological consequences wherever they appear. We will return to this, but first, some consideration as to what comprises a 'national' architecture is necessary.

3. WHAT MAKES ARCHITECTURAL LIGHTING 'NATIONAL'?

The question of what makes an architecture national, and whether the concept of 'nation' is relevant for architecture is pertinent to the discussion of lighting. How we light and what we light determines in no small way what we perceive, how we interact with each other and how indeed we live in an international context.

Although there are several ways to use the word 'nation', reference to those occupying a sovereign state regardless of their ethnic or cultural backgrounds seems most pertinent. The sovereignty of territory, rather than the homogeneity of a people, is importance to recognize as it means that a given territory will be interpreted, represented and shaped through many overlapping, often divergent, forces. The internal composition of nations changes over time dramatically, though a certain character always remains given topographical, political, legal, economic and ecological momentum. Climate plays a role of course, but it is only one small factor amongst many. As Tanizaki mentions quite often, historical design traditions created engagements with the spaces they existed within and in so doing, opened a wealth of creative possibilities with aesthetic and economic consequences. Sovereignty amidst



diversity entails a balancing of movement and momentum, in the interest of those subjected to the power of law within the territory in question. Facilitation, not restriction, is the aim.

For modernists, and specifically as I speak from a British/American tradition of architectural practices, the concept of professionalism is very important within the concept of sovereignty. There is an expertise to architecture, one requiring years of study and practice. Optimally speaking, this professionalism is validated and licensed within a sovereign state insofar as the product of architecture is recognized as being governable by those capable of understanding its requirements through training, testing and commitment. Without adequate professionalism, that is to say without practitioners dedicated to the built environment as such, the results achieved in our cities have not been as good as they might. Training and education, rather than restrictive codes, seems to be the key. Nothing has suffered from a lack of training as has lighting design...as competing interests seem always to shift practice from the aim of architecture proper, creating spaces in the interest of the public, towards product sales. Product is necessary, but proper design is so much more.

Anyone should have an equal opportunity to become a lighting designer in the public interest, or at least to appreciate the importance of this field to the productivity and vibrancy of the field for the public interest. Such attainment ought to be part of national education, regardless of the nation we might have in mind. Defining exactly what an architectural interest 'is', has always been a challenge for the modern architect. 'Light' and 'space', the hallmarks of modern architectural discourse, are not easy to distinguish in a legal setting, let alone to actually legislate in cross-contextual ways. In some sense, the move towards 'sustainability' seems to have occurred in our ranks to fill the ambiguities of 'space' and 'light'. Sustainability quantified measurable parameters, and linked these to the concept of service in the public interest, insofar as this interest was related to the creation of architectural spaces in the definition of a 'building'. The removal of toxins from the environment, the reduction of carbon and green house gas emissions, reduced material and fuel expenditures; all of these new sensitivities transformed what an architectural space might be in the past three decades. No longer could the product of a lamp be merely visible light; a much richer palette of relationships emerged for the architect and lighting designer to embrace with the advance of sustainable design.

To this point though, the public interest served by sustainable design has either been global, looking at warming and ocean acidification trends, or local in the interest of short term capital...i.e., reducing operating costs whilst advancing new products and technologies (LEDs are the latest in a long line of earth-saving purchases). These are laudable goals, but they are incomplete and, the definition of architecture as practice of spatial design remains



central to what we do as architects. Given our concern for and obligation to the designed environment as such, the public interest, the local public interest, can be defined in a slightly different way than resource management and emissions control.

We will take this to a seemingly odd quarter. What distinguishes national space most is wildlife and the ecological systems supported by it. Identifications with animal life are at the heart of human experience, and the translation of this identification through symbolism is palpable. In a quite immediate sense the public interest depends upon healthy ecosystem functioning. This cannot occur without attention to wildlife and the habitats that sustain it. Such habitats are both remote and urban, fundamentally interconnected at least through the flying bird that has no bounds. Nothing, no monument or resource, is quite as symbolic or important to the interest of local communities across time as a bio-diverse landscape. Biodiversity increases resiliency to natural disasters and disease, and forestalls landscape degradation. It provides links with a variety of cultures present and past, and so helps to increase dialogue and provide topics of mutual conversation within a diverse population. Every nation on the planet exists across a highly differentiated set of ecological precepts; animals, plants and resources. The question becomes then, how are we, as architects and lighting designers, to embrace this opportunity and use it to differentiate one nation from another. Biodiversity, in short, is now a topic for architectural lighting.

4. NATURAL LIGHTING AS BASELINE: DAY AND NIGHT

Sun, sky and reflections have been and will be the primary light source for architecture. Cultural interpretations of light in architecture are infinitely varied and re-learning to live with sun, sky, star and moonlight is critical for sustainability.

Resource and energy management demand daylighting and sustainable night-lighting. On the one hand we simply don't and won't have enough energy to duplicate available light. On the other, exposure to daylight and its cycles impact health and productivity in measurable ways. Twenty years ago, daylighting was mainly about the exclusion of sunlight to prevent heat gain. Illumination levels were secondary. This has changed. Today, the primary focus is how to use sunlight and skylight as illuminating sources, as our tastes for brightness has grown exponentially. Light itself, and not merely the production of heat by lighting fixtures, is the new daylighting mantra, but it is not without cost.

Daylight, the light of sky and sun reflected on walls, is rich, varied and, highly particular to specific regions and microclimates despite thinking that globalizes its interpretation by latitude alone. It is seen in surfaces and shadows, creating a reflected and retained presence



deep within a project. Over-brightening a building by comprehensive glazing produces harsh results...eliminating all complexity as Tanizaki noted years ago. Additionally, it leads to unsustainable design, costing more energy in heat loads and losses over the course of time. For sustainability, it is important to re-invigorate the fashion for darkness despite client complaints. Lighting, specifically day-lighting, must become ever more about visibility than mere view.

Ever-increasing illumination at night also represents a real threat for energy consumption. It matters not if one purchased LED fixtures that use a third the energy of a compact fluorescent or a tenth of an incandescent lamp, if three or ten times as many are used. This is the problem we face today. The more light that is used, the more that becomes necessary to highlight product and project against an ever brightening backdrop. And it is not sustainable, nor desirable. Perhaps the most challenging measure in all of this is that of 'luminous efficacy', expressed in lumens/watt. More 'lumens' are not necessarily a good thing, when the object is vision. We do not see 'lumens' of course; our eyes adapt to the brightness ratios of surfaces against each other in an overall context. The luminous environment is so much more than an abstract 'level', and restraint is much more important for overall resource efficiency and management than isolated statistics. A natural lighting scheme, considering starlight to moonlight and sun, represents the baseline of sustainability in lighting.

5. NATURAL LIGHTING AND WILDLIFE

We now turn to the fundamental challenges related to lighting architectural spaces, in the day and night alike.

In addition to resource and energy management for emissions sake (essential to stem global warming, ocean acidification and to enable the filtration of local toxins due to intensive design), ecological systems are directly impacted by day and night lighting practices. Without wildlife, there is no point to sustainability initiatives as ecological systems are essential to human life. The planet does not live in the abstract of statistical interpretation, but in the living interrelationships established over countless millennia. National interest resides here.

One very serious challenge of massive amounts of glazing, in addition to the coupled energy waste, green house gas emissions and ocean acidification contribution that such a strategy entails, is the very real impact that glass has upon birds. Everyone, literally everyone, has experience at least one bird death due to a collision with glass. It seems so small a problem, one little bird, but really, it is not. Though the question of and solutions for bird collisions with glazing needs to be addressed one by one, in the nations represented here as far from



each other as Pakistan to Japan, we are speaking of a problem with numbers exceeding by all accounts over a billion deaths a year in the US alone. Over one billion bird deaths a year, nearly a quarter of the bird population. This is not an animal welfare issue alone, but an environmental challenge of direct consequence for pest control, agriculture, disease control and all terrestrial ecologies on the planet. And it is also one directly in the purview of architects.

Glass is the problem. The more glass, the more collisions that will occur [6]. Preventing collisions is very simple in practice and theory, and can be achieved by three simple concepts: using less glass exposed to bird habitat, providing markings on glass, and shielding glass from potential flyways by layered barriers. Traditional and in fact the best design in each ARCASIA setting are well suited to create alternatives to the reflecting glazed box.

Glass can be marked gently to announce its presence, and this is done quite frequently by widespread use of fritted glass. Exteriorly fritted glass is fantastic at preventing collisions, in addition to its benefits for emissions control and energy and operating cost savings. It is a trend that needs to be exported globally for bird safety. The cost of full transparency is well, transparency. Studies have shown that most birds will not attempt to fly through glass if it is marked on the exterior face in dimensions no greater than a handprint...about 4x8cm [6]. For small projects, such as a residential window, the simple application of 0.5cm tape in either 4cm horizontal or 8cm vertical strips are effective. This leads to a host of creative possibilities, and much much more can be invented to create interesting patterns as such patterns do not have to be in a gridded form as long as no opening is greater than 4x8cm. Paper cut-outs come most forcibly to mind, but also films and decals (if spaced in this manner) open new possibility. Films mounted on the exterior of glass may very well incorporate advertising or other pertinent (human) messaging. The concept of marking glass has relevance for larger projects that demand transparency as well. The eyes of most birds are sensitive to ultraviolet light. Products such as Ornilux of the Arnold Glass Co. incorporate a patterned UV reflecting coating and, these seem to work well.

Perhaps there is no better range of expression possible, than the layering of skins and facades to produce a dynamic architectural environment conducive to birds. This variety also changes the luminous environment of interior spaces considerably and can be accomplished with any number of strategies. Layering facades and filtering daylight through transitional zones, or complex skins and shading, has the potential to light interiors subtly. Because of the wide range of local materials available and variety of forms suitable to regional variation, there is no end to the possibilities made available through good daylighting strategies.



In this category too, one not forget the importance of external shades and shutters to retrofit existing projects. Shuttering is an artistic trend that seems to come and go in the architectural world. Again, the creative possibilities are limitless in the design and configuration of shading devices. To protect birds from collisions, particularly during migration seasons, the simple act of drawing an external shade can easily save thousands. This may very well become a legal necessity. In less than a month from the end of the ARCASIA conference, a decision is expected in a legal case concerning the Consilium Place complex in Toronto. If successful, the prominent Toronto property developer Menkes Developments will be forced to retrofit the project. Far more expedient than waiting for such pressures, is simply to account for the challenge immediately. A US General Services Administration review demonstrated that bird-friendly design cost no more than poor practices.

Designing for natural light with sensitivity to bird collisions contributes by default to national differentiation, and allows for continued reinterpretation of past national heritage in support of the new environmental and architectural sensitivity growing globally. The second half of natural lighting cycles, that of the night, might well prove to be the more crucial problem to attend to.

6. NIGHT LIGHTING AND NATIONAL WILDLIFE

There are ecological consequences to artificial night lighting, to restate the title of a popular book that got the phrasing just right [7]. It is important to underscore why artificial night lighting is so necessary, before touching on difficult aspects of it for wildlife.

To begin, 'marketing' demands artificial night lighting. There is no getting around this. City skylines, corporate logos, advertising, even communities are lit to announce that their signified objects are awake, active, vibrant and engaging. Claims of 'task' enabling, unlike it so often cited in student handbooks, are secondary. Every lit window of countless empty office buildings throughout the world attests to this. Every 'security' lamp, lit without purpose as studies show that such lighting is ineffective in stopping crime, attests to this. 'Marketing' is crucial for economic reasons, and human life depends on economic activities. As the need for marketing is not going any time soon the challenge becomes to transform the perception of what ought to be marketed, to whom, and how. As architects we have done this before; sustainable design is a relatively recent phenomenon still.



A second, and no less crucial problem, is that of communication in the baldest sense of the term. Airport and traffic lighting signals may not seem like much to an architect, but they dominate the streets upon which our projects sit. I have yet to see an architectural rendering that celebrates facade lighting in relation to a traffic signal. But, such lighting is in fact a significant environmental presence. To my knowledge, there is not a city on the planet without traffic lights, certainly not a major one. Given the alternatives that could easily be developed given wireless technologies (a simple signal to an internal light of an equipped vehicle could replace the familiar red, yellow and green beacons at every intersection in the world), this relic of the automotive age might easily disappear under the right political pressures. If we seek to transform our communities and cities for culturally differentiated lighting, the concept of the traffic, harbor and airport light needs to be rethought. Until that time when we have significant control over our field of practice that we can induce such wholesale changes upon it, we must be content to consider the plethora of plasma screens, LED signage and now rotating electronic billboards lighting the world at large. These are, each and every one, lighting fixtures. Getting hold of new luminous technologies and their place in the architectural environment is key to sustainability.

Tied to marketing and communication, the challenge of tourism is crucial. Skyline images drive tourists and entrepreneurs to seek new vistas and new opportunities. Tourism and global capital are vital to the world's economy. To support these, differentiation is absolutely necessary and the only question then becomes how to do it. Ecotourism and 'green' economies requires a significantly altered approach to succeed than the ubiquitous glowing skyline. The suggestion given here with regard of lighting is to encourage experimentation through cultural interpretation and sensitivity to the varied wildlife each nation and region supports. In lighting, so-called 'dark-sky' strategies are essential but require modification to succeed locally. The night sky, the dome that encompasses every horizon, is a design element waiting to be exploited across Asia once again.

This is of course a political question as well. It is of note that the International Astronomical Union met in Beijing this year, only the third time in a century it has done so in Asia, having established the globally applicable system of 88 Constellations in 1922 in Rome, Italy. These constellations, as everyone is familiar, are of Babylonian and Greek origin with a long history in European discourse. And of course it is not alone amongst systems to read the sky above. Chief of these are the 24 mansions of Chinese Astronomy, relying less upon zones based in narrative pictograms and asterisms than an organized and comprehensive polar grid. Without access to the night sky, not only is experience of the nocturnal world lost but also access to the raw materials of knowledge and local referents valuable for varied paths of



experimentation and interpretation. Tankizaki touches on this briefly in 'In Praise of Shadows':

"...Suppose for instance that we had developed our own physics and chemistry: would not the techniques and industries based on them have taken a different form, would not our myriads of everyday gadgets, our medicines, the products of our industrial art—would they not have suited our national temper better than they do? In fact our conception of physics itself, and even the principles of chemistry, would probably differ from that of Westerners; and the facts we are now taught concerning the nature and function of light, electricity, and atoms might well have presented themselves in different form..."[8]

Retaining the night sky is in many ways a scientific imperative, a political decision, as the night sky connects the public to materials available for interpretation, questioning and exploration. The photobiology and photo-ecology of species has hardly been explored, and so this not a question of research that has been settled by any means. Without access to the natural amenities of life, such as the night sky or enlivened landscape beneath it, our publics are left to the homogenizing effects of globalized social media for information and experimentation.

Now, despite the recent emergence of research, it is no great leap of faith to suggest that the loss of the night sky due to artificial night lighting has direct environmental consequences, and that it affects all wildlife significantly. There are many species that function quite well under starlight alone, indeed many frogs hunt much better under starlight than in the blinding light of the day. Other species have cycles tied into the ever changing sunlight reflected off of the moon, and cannot breed or mark territory without these seemingly subtle variations (only subtle once we have been rendered insensitive to them).

Artificial night lighting produces environmental stasis at levels entirely inappropriate and inadequate to the extreme variation of light in the natural nocturnal environment. It is this luminous stasis which also renders one city visually identical to another throughout the world, though we are accustomed to describing city lights as energetic and vibrant. Nothing, in environmental terms, could be further from the truth.

Perhaps it is worth being a little more exacting in order to make the argument that a more sensitive approach to night lighting is an environmental necessity, with architectural benefits. The main general challenge of artificial lighting, though it may not seem so without reflection, is that artificial lighting is actually much more static and homogenous than its



natural counterpart. Often it is very difficult to imagine this, as our human perceptions view light of less than a certain intensity as simply 'dark', rather than finely nuanced in a realm beyond our perceptual threshold. Artificial lighting tends to reduce biodiversity, as all life depends on variable conditions of habitat and, artificial lighting is simply unable to match the subtle variations already present in the nocturnal environment. This has consequences for ecologies across a number of dimensions.

Physiological changes occur generally due to shifts in hormone production in the nightly presence of so-called 'blue' light, though light of differing qualities affects different species well, differently. Perhaps everyone in the room is familiar with the recent American Medical Association (AMA) pronouncement on 'LED' lighting, though it was somewhat poorly worded. There are many types of LEDs, the kind in question fluoresce light in the 420–460nm range, quite high in frequency and amplitude. In addition to the retinal damage that high intensity high frequency light can cause, the AMA summarized work indicating that such light also triggers a signal in the human endocrine system, which prevents the production of melatonin. Under naturally lit circumstances, this suppression occurs naturally in sunlight and is quite healthy.

At night, melatonin production is enabled by the darkness. Melatonin is produced by all animal life, but in non-human animals the variation of sensitivity can be far more subtle. Hormone dependent lunar cycles in many species are evident, negatively controlled by the waxing and waning sunlight reflected off the moon to the earth below. These variations of melatonin production, the 'darkness' hormone, depend on the subtle gradation of the nocturnal environment. The production of melatonin requires a constant darkened period free from daylight intensity. Any significant disruption to it through an inadvertent signal (caused by even the flash of a security light or passing headlamp of an automobile), will spoil a night's production.

Behavioral changes in animals occur due to the miscues of signaling mechanisms in the presence of artificial lighting, which have wholesale effects on entire ecological communities. One only has to think of the intense xenon lamps of fishing boats in the Japan Sea to realize how effective light is at changing foraging patterns, for example. Territorial behaviors, such as the familiar sound of coyotes howling during full moons to establish territories, likewise change in timing and scope, disappearing in the haze of a luminous cycle-less night. Animals with set activity budgets change their patterns with consequences for mating choice and reproductive success. Migrations too are tuned to delicate luminous variables, and will change in the presence of local artificial lighting as well as the sky glow and luminous over cities and suburbs.



Perhaps the best image to give is that of a moth drawn to a street light. A simple and very common phenomenon, more so than that of a bird striking a window perhaps. Picture the moth without the streetlight for a moment. It lives perhaps in a field or by a stream. In this environment, it pollinates flowers, lays eggs, eats and is eaten by a variety of predators. When it dies, it goes back to the soil, re-emerging as nutrients for continued life.

Drawn to the streetlight, the moth does none of these things. It cannot pollinate. It cannot breed or reproduce in the habitat it evolved within. It cannot eat what it is accustomed to eating and, it cannot be eaten except by predators capable and willing to follow it to the light. Those predators that cannot follow the prey, whether land or water bound, no longer have the moth to eat. Finally the moth will die just as before, but rather than returning to a living cycle, will be washed down into the gutter and out into a waterway, poisoning ever so slightly another environment incapable of reclaiming its energy. As a guiding image then, we might begin by saying that the simple attraction of certain wildlife species (represented by the moth) to artificial night lighting changes ecological relationships, and always in a way that affects biodiversity negatively.

The point to remember, ecologically speaking, is that artificial night lighting without control leads to biodiversity loss through habitat degradation, which in turn hinders scientific research and leads to cultural dissolution. National interest, and differentiation across Asia, demands attention to this ever growing problem.

7. CONCLUSION: READING LIGHT: A QUESTION OF RELATIONSHIPS

Nothing destroys good lighting like more lighting. Although this discussion is offered for architects, it will only be through coordinated planning efforts of industry, government, professionals and the public that meaningful change will be effected. Light always appears in relationships, seen only whilst interacting with materials by living beings willing to see it. Developing contemporary responses to wildlife through nationally based lighting strategies, will in turn reinvigorate architectural diversity and provide the planet with a much needed intellectual resource. Understanding and multifaceted dialogue mark the first steps towards viability.

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Smallprojects

Kevin Mark Low

Smallprojects is about a particular way of thinking grown from the specifics of a particular geographic location, and the projects that have resulted. As it has developed as a language unique to the specificity of its context, its greater application has been limited by the boundaries of its societal, cultural and climatic roots. The example of spoken language explains that if it takes a visitor to a new country no less than a week to learn its most basic terms of expression, and a minimum of a year to converse fluently in a new tongue, learning a new language of architecture in order to speak poetically should require a subsequently vast investment of time. In truth, most cross-border architectural site visits last no more than a week before design work usually begins.

This lecture is an overview of a particular architectural language developed from its specific context, and a discussion of its cross border commissions, mostly declined politely, two accepted eagerly but ultimately lost, and the only three that saw completion, of which just one was architectural in nature

[No Title]

Paul Andreu

I was born on July 10th 1938 in Bordeaux. I lived there a little more than twenty years, then left to Paris, to continue my studies. I was educated in Louis le Grand College, Ecole Polytechnique, Ecole des Ponts et Chaussées and finally, Ecole des Beaux Arts. This long period of studies enabled me to acquire two degrees, one of engineer and the other of architect but, beyond, developed in me a double interest, never extinct, for all the scientific and artistic disciplines.

I worked almost forty years with Aeroports de Paris, where I was successively chief of the construction department in Orly and Le Bourget, architect in chief of the buildings of the Charles de Gaulle Airport, then director and architect in charge of the design and construction for all of the projects that Aeroports de Paris had in charge, in Paris, but, more generally, in France and out of France. All that, I made in the strict respect of the responsibilities which were entrusted to me, with only one goal: to become architect. It is a goal which undoubtedly one never reaches. Neither the diplomas nor the academic distinctions will really bring you closer to it. Passion, desire, and work of course, will undoubtedly do more. I conceived and supervised the construction of most buildings of the



Charles de Gaulle Airport, in Paris, of some other airport terminals in France, in Nice and in Bordeaux particularly, and of many others abroad, in Abu Dhabi, Jakarta, Cairo, Daare Salam, Shanghai, etc. I have loved designing these buildings which have no historical functional reference, but which are, like so many others before places of passage, symbolic and singular, umbilicus. But, as I hate to confine myself and even more to be confined in a field, whatever it may be, I designed other buildings, a Sea Museum in Osaka, a gymnasium in Canton, the Oriental Art Centre in Shanghai and, more important than any other of my works, in the centre of Beijing, the Grand National Theatre of China. This was probably not sufficient to exhaust my desire of opening, since almost ten years ago I started to write. I published four books. Two books of reflexion inspired by my work of architect and two novels. To write was a very old desire that I had refused myself, with the pretext I lacked time. Today I find it, as I find enough also to draw. If I still had the capacity of it, I would even study mathematics again. I believe my experience as an architect would make their infinite structures and developments more accessible to me.

The Eastern Reflection of The West

Popo Danes

The largely publicized successes of infrastructure and architecture in the West through the modern period have shown that they are pioneers in the world of architectural design. They speak of technological advancements, western philosophies and humanitarian development. It is these values that make it so appealing to plant the successful Western model in developing countries like we see here in the East.

What does this mean though? Have we benefitted from the photocopies we made of Western blueprints? In some ways, yes but also no. Indonesia is definitely moving towards being a successful modernised country, with quite some speed. But what we have forgotten is that with these Western values, our own local values are compromised. Cultural Architecture needs to be revived to give identity back to the Eastern nations or we'll face the daunting prospect of becoming merely a reflection on the West. Asian culture, and philosophy must not be set aside, for it reminds us of where we've come from, who we are, and who we are going to be.