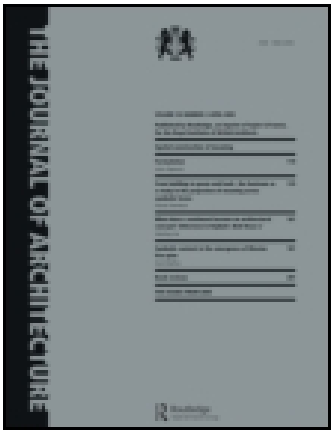

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The architectural legacies of Kisho Kurokawa in China

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Kisho Kurokawa (1934–2007) was a world-famous Japanese architect who made his impact on urban architecture in Japan and many other countries. His philosophy of symbiosis influenced several generations of designers and social architects in Japan and the world. In his heyday during the mid 1980s, Kurokawa started a twenty-year journey of architectural design and urban planning in China. His designs in China are closely involved with the contemporary architectural history and practice of the country: for example, in importing foreign architectural design, researching the formal design language and the emerging of private development. The authors traced the footprints of Kurokawa in China and investigated the relevant building and urban design cases. This paper reviews Kurokawa's outstanding works in China, tries to reveal the master's trajectory of adapting 'symbiosis' and 'grey' concepts in different conditions, and fills a gap in the understanding of modern Chinese and Japanese architecture.

Introduction

In the mid-19th century, the western powers used superior weaponry to force open China's doors to world trade. From then to the early 1920s, most of the dominant buildings in the Chinese coastal cities were designed by foreign architects in the context of semi-colonialism. Simultaneously to the arrival of western imperialists, Japanese architects and builders started to construct buildings in north-eastern China in the early twentieth century.[1] Because of the Japanese invasion in 1938, China struggled during the anti-Japanese war until 1945. After another four years' internal war, the Communist Party grabbed power and China gradually closed its doors to the outside world.

In September 1972, the then Japanese prime minister, Tanaka Kakuei, paid an ice-breaking visit to China, and the two countries established diplomatic relationships. After this crucial thaw and a series of reforms, China launched its march towards modernisation and reform of the socialist economic system from 1977. In its issue No.5, 1980, the *Architectural Journal*, the only official journal of the architectural field in China, published an article to introduce Kisho Kurokawa. After decades behind the iron curtain, the architectural profession of Chinese was opened to the world and one of its first contacts was with the Japanese master's career and works. A further awakening to the work of Japanese architecture after the Second World War emerged in the following years in China.[2]

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Together with the works of popular world masters in Europe and America, the work of Kisho Kurokawa and other Japanese professionals penetrated Chinese architectural education and the profession like rays of sunshine after a long period of isolation. In the past hundred years, China's endeavours at 'modernisation' have been closely linked to Westernisation in various aspects of life and society, as Professor Jianfei Zhu has pointed out: 'Since a primary source of modernity in China in the past few centuries lies in Europe, processes of "Westernisation" and "modernisation" have been intertwined in complex ways. Chinese architects need to synthesise foreign influence with local traditions in restructuring cities.'[3] Before 1980, modernist principles were adopted in China, especially in the official buildings, as well as in the national consciousness. Whilst in Japan modern architecture was transplanted in combination with indigenous influences, in Kenzo Tange's works, for example.

Japan is in Asia and the Japanese have similar ethnic roots to the Chinese. Japan, China's nearest powerful neighbour, naturally and conveniently became China's role model for learning from the Western world in the twentieth century.[4]

'A pioneering architect is born with his era', recalled Kisho Kurokawa, 'I am fortunate. The recovery of the Japanese economy happened in the 1950s and 60s'.[5] After the Second World War, Japan reformed its political and social system and pushed the national economy forward. In the 1960s, the Japanese economy increased its General Domestic Product (GDP) at an annual rate of 12%. The country had sufficient money to build buildings and infrastructure in the public and private sectors, and architects had ample opportunities to practice. In architecture, pioneering architects, such as Kunio Mayekawa (1905–1986), Sakakura Junzo (1902–1968) and Kenzo Tange (1913–2005), inherited the modern architectural tradition from Le Corbusier and explored modern architectural principles in ways unique to Japanese characteristics.[6]

Kisho Kurokawa's career was shaped by this background. Kurokawa was born in Nagoya in 1934. He graduated from Kyoto University in 1957 and followed Kenzo Tange as a master's degree student at Tokyo University. He graduated in 1959 with his thesis *From the Machine Age to an Age of Life*. The year 1960 saw a turning point in Japanese architecture, when Kenzo Tange proposed to build a mega-structure[7] in Tokyo Bay to solve the high-density problems brought about by explosive industrial development. Five architects—Kisho Kurokawa (twenty-six in 1960), Asada Takashi, Noboru Kawazoe, Kikutake Kiyonori and Fumihiko Maki—published a book entitled *Metabolism 1960* and established a Metabolism Group at the World Design Congress held in Tokyo in May, 1960.[8] This work laid down a theoretical foundation for Kurokawa's later achievements. In 1962, Kurokawa set up his own office of urban architectural research and in 1964 he gained a PhD degree from Tokyo University.

Kurokawa and his Kisho Kurokawa Architect & Associates are prolific and have designed numerous influential buildings and urban planning, including the Nakagin Capsule Tower, Tokyo(1970), the National Ethnological Museum, Osaka (1973), the Headquarters of the Fukuoka Bank (1985), the

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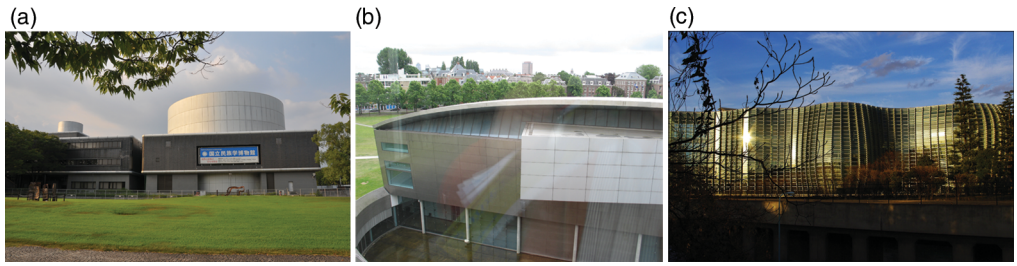

Figure 1. Prominent buildings designed by Kisho Kurokawa: Ethnography Museum, Osaka, 1973; Van Gogh Museum, Amsterdam, 1999; National Art Centre, Tokyo, 2006.

International Airport of Kuala Lumpur (1992), the Van Gogh Museum, Amsterdam (1987), the Astana Master Plan for the New Capital of Kazakhstan (1997) and the National Art Centre, Tokyo (2006). Kurokawa is undoubtedly an eminent world architect of the late twentieth century (Fig. 1).

Parallel to his design practice, Kurokawa developed theories which involve such concepts as metabolism, circulation, information, ecology, sustainability, symbiosis and gene. His explorations of theory lasted to the end of his life.[9] Amongst other proposals, 'symbiosis' and 'grey' are prominent theoretical contributions by Kurokawa. Kurokawa's philosophy of symbiosis generally contains three parts: the symbiosis of parts and the whole (object), the symbiosis of history and the future (culture) and the symbiosis with the natural environment (nature). Kurokawa suggested the use of 'life principles' to replace the 'mechanical principles' of the first half of the twentieth century.[10] 'Symbiosis' is a philosophy Kurokawa conceived of as affecting the whole world: economies, world peace, human relationships and societies. In Kurokawa's building practice, the role of symbiosis is to encourage the co-existence and growth of many different elements or 'heterogeneous' superimposition. This was a prelude to (social) 'sustainability' long before the term was coined.

'Grey' is a kind of design language derived from Japanese tradition: not this and not that, where both indoor and outdoor space meet, for example, in the covered open space in front of public and commercial buildings. The philosophy of 'symbiosis' is realised through many design methods including 'grey' space, which is often seen in his design: the Fukuoka Bank building, for example. In general, Kurokawa's architectural design inherited a language from the heroic gestures of modern architecture plus the 'pure and plain' Japanese flavouring.

The economic miracle created by Japan gradually shifted to China in the 1980s. This has stimulated the immense growth of construction in Chinese coastal and inland cities. Foreign architects are invited to design landmark and monumental buildings. A similar phenomenon appeared in Japan and other Asian and Middle Eastern countries in the 1970s and 80s. The key difference is that the China phenomenon exists in a much bigger market and scale, and the government demonstrates high enthusiasm and welcomes the

phenomenon.[11] Kurokawa was among the first group of foreign architects who went to China after the open door policy was adopted in 1978.[12] In his book *Each One A Hero: The Philosophy of Symbiosis*, Kurokawa states: 'China's unique modernization process is taking a path at odds to dualistic opposition of the recent past, introducing the principles of a market economy while maintaining a nominally socialist system. This can be seen as a large-scale experiment in the principles of symbiosis.'[13] Kurokawa saw China's growth as an experiment in symbiosis and he was involved in around ten projects in China during a period of twenty years: from single-family villa design to the master planning of 150 sq.km.

This paper selects three representative works of Kurokawa in China and aims to analyse his trajectory of design and ideas in the last twenty-five years of his life: one is shaped by a political agenda, the second by rampant land development and the third by private-sector influence. Through examining the works of Kurokawa in China, one can see how the master's works adapted to China's conditions in a manner 'Symbiotic' to the characteristics of contemporary Chinese architecture and development (Fig. 2).

Symbiosis of politics and culture: the Chinese-Japanese Youth Exchange Centre, Beijing

Both China and Japan were enlightened by Western civilisation in the nineteenth century. Japan chose to follow closely western examples in science, technology, manufacturing, education and social life.[14] Rising to be the primary power in Asia, Japan intended to conquer the other Asian countries in the Second World War and left psychologically unrecoverable scars in China and other countries. After the War, the Japanese government adopted an agenda to repair its relationships with the wounded Asian countries, offering financial aid and donations.

In the spring of 1984, the Chinese government invited 3,000 Japanese young people to visit China to strengthen mutual understanding. At the same time, the Japanese prime minister, Yasuhiro Nakasone, visited Beijing and, jointly with the General Secretary of the Communist Party of China, Hu Yaobang, proposed to build a Chinese-Japanese Youth Exchange Centre in Beijing, to be funded by Japanese government donations and Chinese government allocations. The clients were Japan's International Cooperation Agency and the Chinese 'All China Youth Federation' with three hundred million members in China.[15] The project was jointly designed by Kisho Kurokawa Architects & Associates and the Beijing Institute of Architectural Design (project architect, Li Zongze). In Japan, Kurokawa had just finished such prominent projects as the Ethnological Museum in Osaka (1973), the Fukuoka Bank (1975), the Headquarters of the Japanese Red Cross Society (1977) and was engaged in the design of the Nagoya City Art Museum (1987) and the Japanese-German Centre of Berlin (1988). For Kurokawa's entry into China his partner, the Beijing Institute of Architectural Design, was one of the largest state-owned design companies in Beijing, staffed by more than 1,000 professional. It seemed natural for both the companies to undertake this political building task.

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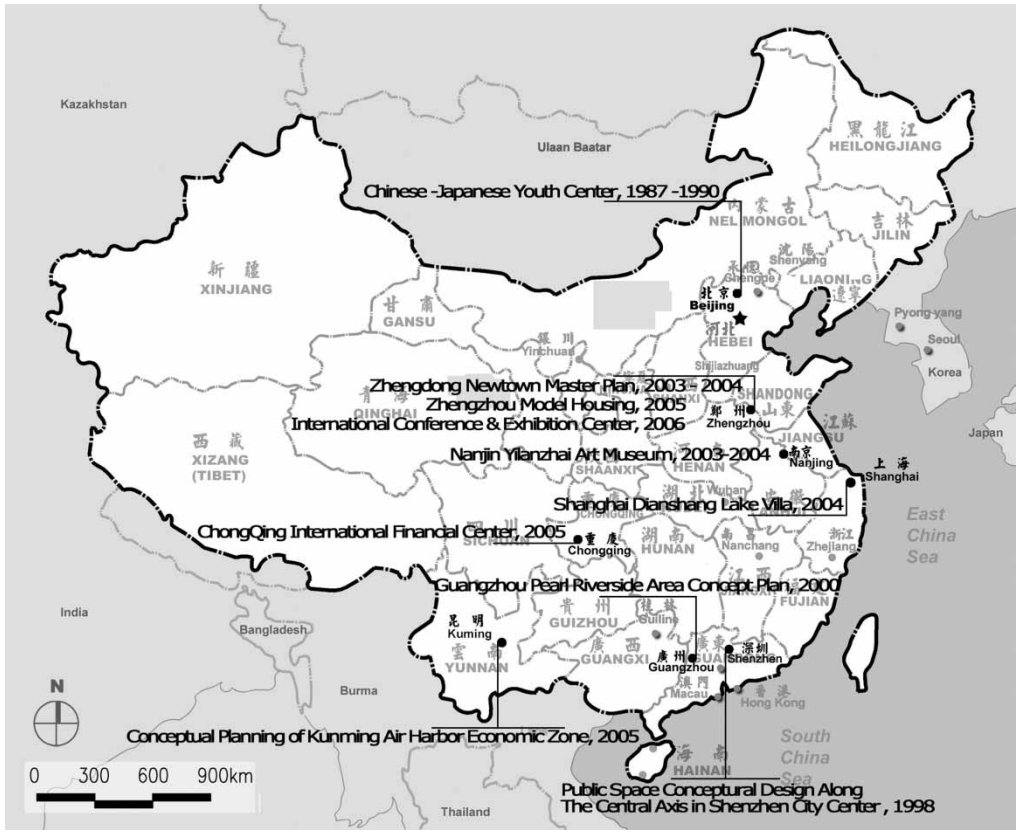

Figure 2. Projects designed by Kurokawa in China.

The Chinese-Japanese Youth Exchange Centre is located in the northeast side of Beijing. The site has an area of 55,000 square metres (sqm) and contains a building complex with a general floor area (GFA) of 65,194 sqm. The building complex is composed of a twenty-first Hotel, Centurial Theatre, Education Centre, Silver Olive Swimming Hall and mechanical services' rooms. The hotel's height is 93 metres. The hotel and landscape were designed and funded by the Chinese side, while the theatre, swimming hall and education centre were donated by the Japanese government and designed by Kisho Kurokawa Architect & Associates. The ground-breaking ceremony was held in November,

1986, and building was completed in 1991. The project was funded with high political expectations from the governments of the two countries. The designers from both sides flew between Tokyo and Beijing to cooperate during design and technical preparations. The project received top priority in China and a green light all the way, and the construction and materials were the best quality available during that period in China.[16]

The site of the Youth Centre is between the third and fourth ring roads of Beijing, where the Lufthansa commercial centre is located. It is 10 kilometres (km) from the city centre and 20 km from the airport. Designed by the Chinese architects, the hotel rises like a baby bamboo, to symbolise the upward spirit of young people. The podium and lower floors contain the hotel lobby, restaurants, shops, multi-function hall and mechanical services' room. The 400 guest rooms run from the fourth to to the twenty-fourth floors. The rooftop has a garden and teahouse (figs 3, 4).

Opposite the hotel are the theatre, education centre and indoor swimming hall designed by Kurokawa. With a capacity of 1,713 seats, the circular-shaped theatre looks, from the stret, like a sprout. In the theatre design, there are few window openings, the solid wall and large mirror glass in the entrance contrast each other. Circular shapes and the use of fair-faced concrete repeatedly appear in other designs by Kurokawa (the Van Gogh Museum and Hiroshima City Museum of Contemporary Arts). In general, Kurokawa used geometry as 'abstraction symbolism'. In this project, the square and circle represented the heaven and earth of Chinese culture.[17] It brings a feeling of permanence and weight, which can also be seen in other masters' design, for example, Louis Kahn and Mario Botta. The circular shape expresses pure geometry. However, it may not be the best shape for the function of performance. The auditorium had to be packed into the circular shape, making the seating rows rise too steeply.

When it was designed in 1984, the prime minister, Yasuhiro Nakasone, hoped that the Youth Exchange Centre would not be outdated even in the twety-first century. Therefore, the facilities were advanced for the time and cost up to 10 billion Yen. The theatre has a rotating stage, with a diameter of 16 metres, and an up and downward movement of 6 metres. These stage facilities were the best in China at its completion in 1991. Below the theatre, there is an international conference hall of 400 seats, with instant translation of six languages, a stage and acoustic facilities. There are also a media- making centre and exhibition hall. The swimming pool adopted the form of an olive, to symbolise the peace between the two countries. The eight-lane standard swimming pool and the stadium on two sides are wrapped in a steel structure. The water temperature, hygiene quality and timer are controlled by computer.[18] After twenty years, the Youth Exchange Centre is still recognised as being a high-class cultural facility.

The hotel and the theatre/swimming hall are linked by a 'Friendship Bridge'. The three-storey high bridge is used as the education component. The bridge physically connects the two buildings and the various functions, and psychologically symbolises the friendship between the two Asian countries, former combatants. The bridge is a

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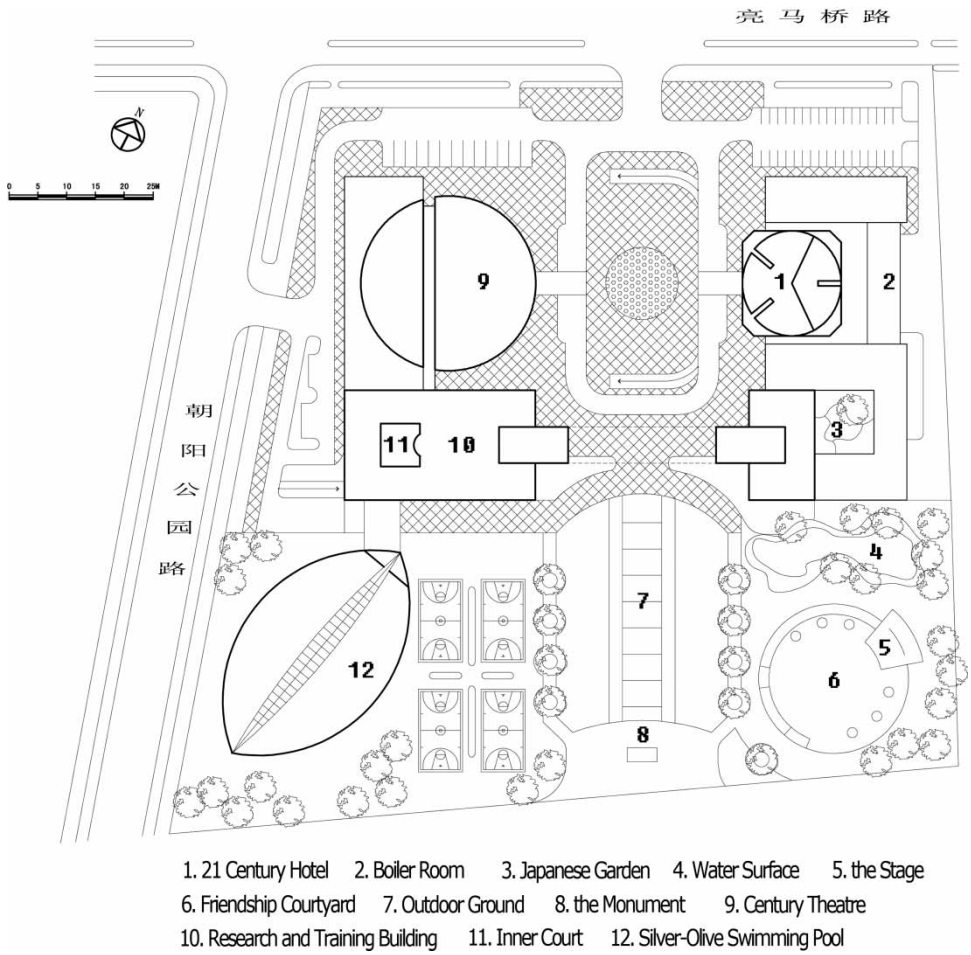

Figure 3. Site plan of the Chinese-Japanese Youth Exchange Centre.

single-span structure, with 45- degree components cross-wrapping the surface. The main bridge has three storeys, and houses the training facilities of the Youth Centre. A smaller bridge is hung from the main bridge. That is the real circulation bridge connecting the western and eastern parts of the building complex. The two bridges show Kurokawa's design taste.

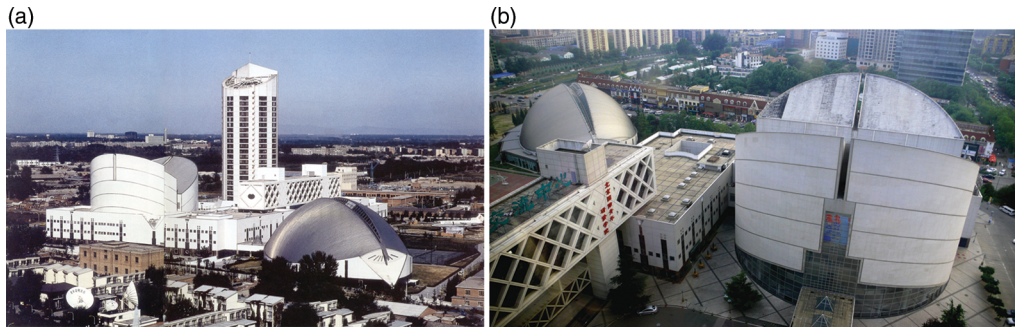

Figure 4. Views of Chinese-Japanese Youth Exchange Centre.

In planning the site, architects from the two countries elaborated the buildings' location, shape and details. The buildings were situated in the north-west portion of the site, while the sunny southeast was left for landscape. The hotel and theatre are linked by a bridge in the north, while the swimming hall project is located to the south. The contrast of solid and void (*yin* and *yang*) are excellently expressed. The southeast is landscape and outdoor ground.[19] In this project, 'symbiosis' is expressed by the two countries' traditions and the aesthetic design approaches from two countries, yin and yang, and solid and void. Unfortunately, a high-rise building was built in 2008 and has ruined the original ideas (figs 5, 6).

As mentioned above, modern Chinese coastal towns were formed within foreign concession areas and the 'comprador' buildings designed by foreign architects in the late-nineteenth and early-twentieth centuries. The re-entry of foreign design

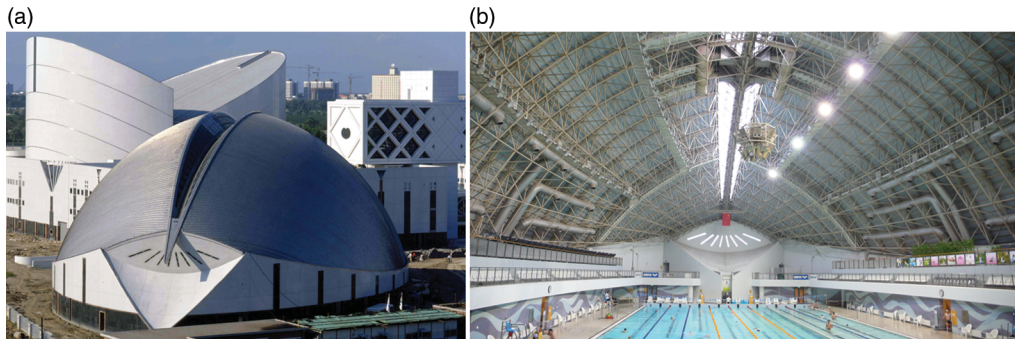

Figure 5. The indoor swimming hall.

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Figure 6. The 'Friendship Bridge' of the Chinese-Japanese Youth Exchange Centre.

started from the late 1970s after the Chinese government adopted the open-door policy. From the late 1970s to 1990, according to the authors' statistics, more than twenty buildings designed by foreign architects were completed in Beijing, Shanghai and Tianjin. Among these imported designs, three quarters were designed by the Japanese, partly because of their country's proximity to China.[20] Compared with the hundreds of late comers, these twenty or more projects might be seen as a prelude to a major tide of influence since they were all landmarks and role models in the cities in which they were located.[21] The 1980s was the first stage of importing foreign architectural design after the Second World War, the Chinese-Japanese Youth Exchange Centre being created before the large tidal wave of American design poured in during the 1990s. The Youth Exchange Centre was the largest and most notable Japanese-designed building in China up to that moment.

In the 1980s, whilst learning from foreign architects' innovative design and performance, Chinese architectural circles were absorbed in the discussion of 'national form' and Chinese identity. Mainstream design 'had been dominated for decades by an eclectic tradition with the Beaux-Arts model and post-modern influence.'[22] The fresh formal language of modern architecture with some Chinese and Japanese cultural icons incorporated by Kurokawa had a significant impact on designers and aroused tremendous interest in China. The *Architectural Journal* organised a discussion seminar on the building and the attendees included the leading architects and academics in Beijing. They praised the building as a milestone in the capital city, saying 'The building image is strong and

crisp. The form has never been seen before. The functions are well organised and integrated with impressive building form.'[23]

The Chinese-Japanese Youth Exchange Centre is obviously a political project. It was an example of cultural hybridity in the 1990s. More generally, it expresses the symbiosis of politics and culture, and how a political agenda can be made physically and culturally beautiful. In addition to his design and building practice, Kurokawa continued his involvement in the world, in Japanese politics and in 'social engineering' until the end of his life. Kurokawa confirmed his status in Japan and throughout the world by engaging in this high-profile Chinese project which opened the door for this Japanese master and his ideas in China.

First foreign-designed urban planning in China: Zhengdong New District

After the Beijing project, Kurokawa participated in the new city-centre master plan for Shenzhen, an emerging city next to the then British colony of Hong Kong. His ideas and grand manner were only partly adopted in the Futian new city centre of Shenzhen as local municipal administrators thought that if Kurokawa's plan were fully implemented, it would be greatly over budget.[24] In 2001, Zhengzhou (in central China) sought a master plan for its Zhengdong New District. Kurokawa's plan defeated the other five entries and was awarded the first prize.[25]

Up to the beginning of the twenty-first century, hundreds of foreign architectural design firms have come to China and have been involved in designing more than three hundred prominent buildings—airports, convention centres, opera houses, five-star hotels, offices and gated communities—in big cities. 'This situation turned China into a "global" construction site in many ways. The scale of urbanization, the quantity of construction and the amount of foreign direct investment (FDI) are all among the largest in the world.'[26] In planning the CBD and new towns, especially in the twenty-first century, international firms were invited to participate in design competitions, but few winning entires were actually implemented. The Zhengdong New District was almost the first urban master plan designed by a foreigner and implemented seriously by a municipal government.[27]

After twenty years' intensive development in the Chinese coastal areas, the 'second tier' cities started to take off in the twenty-first century. Manufacturing industry gradually moved from the Pearl River and Yangtze River deltas to the hinterland. More cities wanted to become an 'international metropolis'.[28]

Zhengzhou is the capital city of Henan Province, Central China, in an area which scholars consider to be the cradle of ancient Chinese civilisation. The city proper had an area of 132 sq km and a population of 2.5 million in 2000. Compared with the coastal cities of Shanghai, Guangzhou and Shenzhen, Zhengzhou is usually categorised as a 'second tier' city in China. In the past hundred years, Zhengzhou has benefited from its location at the railway junction of the Beijing-Guangzhou and Shandong-Ganshu lines. The city once had an industrial textile base but this was gradually phased out in the 1990s. Beyond its importance as a railway centre, the city has few attributes to

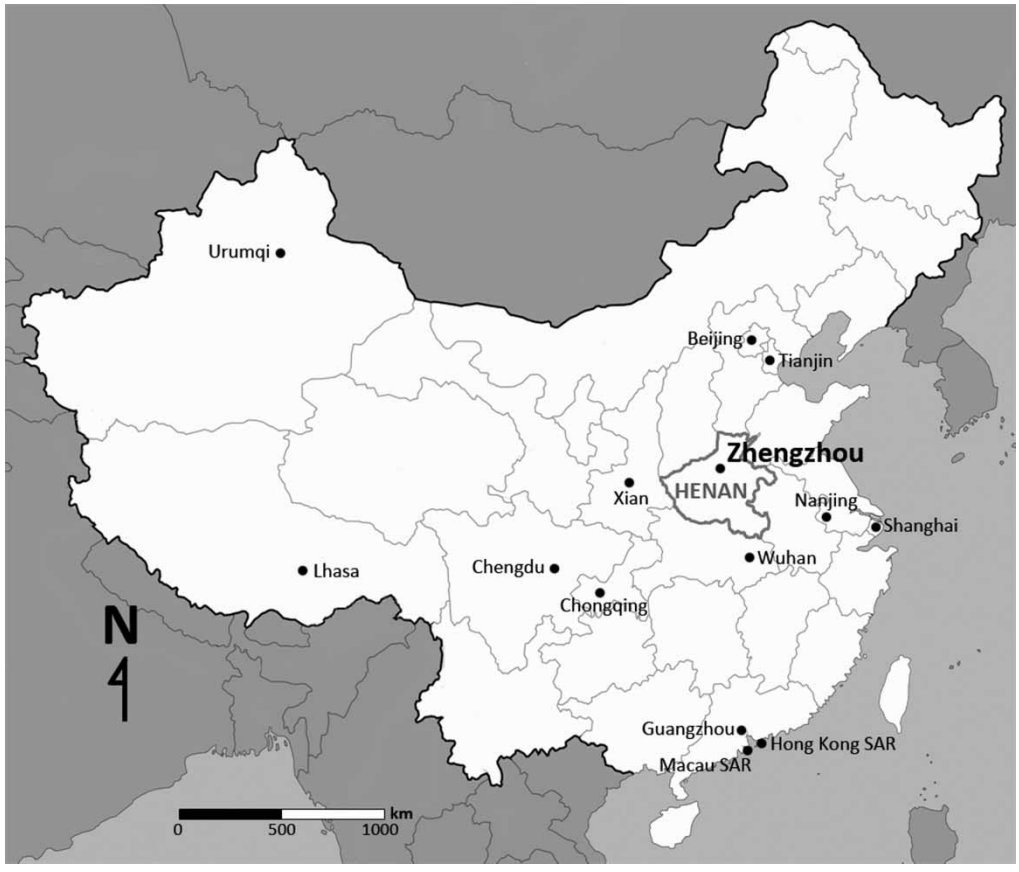

Figure 7. Location map of Zhengzhou.

make it superior to other provincial cities. Its old city area was too small, divided and constrained by railways. After the open-door policy was adopted in 1978, the cities on the east coast and the west developed rapidly with foreign investment, but cities in Central China were relatively marginalised. Zhengzhou was not satisfied with being merely a traffic centre, and aspired to become a logistic, manufacturing, trading and cultural centre.[29] Its sense of crisis directly related to its marginalised status and allocation of the limited resources in the region (Fig. 7).

The intention in planning the region of Zhengdong was to 'build a national central city' and to put Zhengzhou in a focal position in Central China. The provincial and municipal governments continuously proposed to 'enlarge the city's frame and scale, speed up urbanisation and construct new districts'.[30] The new Zhengdong plan runs from Zhongzhou Road in the west (bordering the old city) to Zhongmou County in the east and from the airport in the south to the Yellow River dam in the north. This new district included the current Zhengdong New District and Zhengzhou economic development district, the airport and Zhongmou County, and totalled 1,800 sq km, connecting with Kaifeng City. The Zhengdong New District aimed to create a new city cluster in Central China, with the government's clear logic being to integrate regions and resources to enhance competitiveness. Zhengdong New District was the beginning of this ambitious strategy.

The new Zhengdong District, with an area of 150 sq km, is even larger than the old city. The new district is composed of a central business district, the Dragon Lake area, a commercial and logistics area and the Dragon Lake science park and economic development area (Fig. 8).

The central business district (CBD) is a huge circle with a diameter of 1,000 metres. The man-made Dragon Lake is in the centre. Several layers of radiating roads surround the centre. More than thirty land plots were demarcated along the ring. The inner ring is residential buildings with a height limit up to 80 metres. The outer ring is commercial office buildings up to 120 metres. Surrounding the lake is the Zhengzhou Convention and Exhibition Centre, also designed by Kurokawa, and the Henan Arts Centre, designed by Carlos A. Ott/PPT from Canada. At the lake's shore, stands a corn-shaped hotel of 280 metres, designed by SOM of the USA and the East China Architectural Design Institute of Shanghai. Developed by the Greenland Group from Shanghai, this building, nicknamed 'old corn' is the landmark of the new district.

Zhengdong New District reflects the 'clustered-cell' strategy. It is similar to Kisho Kurokawa's Hishino New Town plan in Japan, of 1967. Hishino is located in an area of rolling hills. Kurokawa designed three loops in the residential layout. The plan allowed further growth and respected the landscape topography. The site of Zhengdong is more complicated. But a similar loop structure was adopted. In road planning, the Zhengdong plan adopted a completely new system, which has little connection with the street grids of the old city, but adopts Kurokawa's Symbiotic forms. This has been challenged by Chinese critics (Fig. 9).[31]

In an empty expanse of 1000 metres distance, the sparsely planned 80-metre high buildings do not form any feeling of enclosure. Between the residential and office buildings, the planner squeezed retail buildings. Streets are as narrow as 5–10 metres. Visitors may feel that they are in the alleys of Osaka and Kyoto (figs 10, 11).

The convention centre has a GFA of 220,000 sq m. Pitched folding slabs cover the circular lobby. A cone-shaped steel structure anchors the long building with modular exhibition space. The same pointing cone is seen in several of Kurokawa's designs in Japan and other countries. After the

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Figure 8. The master plan of Zhengdong New District.

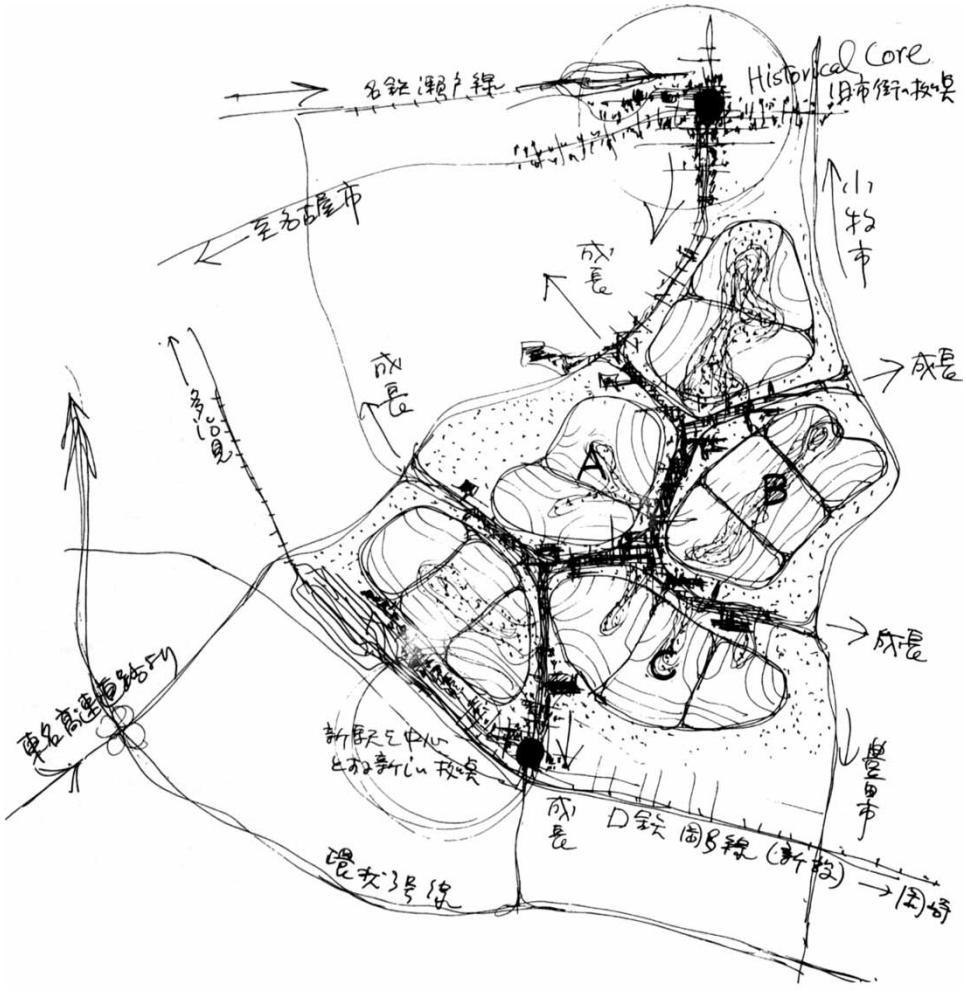

Figure 9. Hishino New Town plan by Kisho Kurokawa, 1967.

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Figure 10. The model of Zhengdong New District.

convention centre, Kurokawa's office designed Phase I of Union New Town, a residential estate developed by a private company. The shops are conveniently inserted under the canopy of the high housing units. This is the method of 'grey' space he advocated. Compared to the endless housing estates with mediocre designs, Kurokawa's work set up a high standard of quality (figs 12, 13, 14).

In addition to 'symbiosis' and 'metabolism', Kisho Kurokawa's strategy was to use local characteristics from Central China. Some cultural references include Dragon Lake, the auspicious '*ruyi*' icon and references to the courtyard house together with 'nine grid' planning and building compositions. Later, when creating the master plan for Jiaozuo City in Henan in 2004, he also designed a form of 'five fingers' with a big lake.

The planning embodies the continuity of dialogue between the present and the future, traditions and contemporary life, urbanity and nature, people and other living creatures. Kurokawa divided the land into several groups to promote planned environmental, social and economic sustainability. Most of these concepts were proposed by Kurokawa in the 1960s and 1970s. Perhaps ahead of their time in origins, but coming into vogue in an age of environmental consciousness and scarcity, they possess great attractiveness for a new China and especially for the hinterland of Zhengzhou.

Figure 11. The sub-CBD, not yet built in 2011.

'Life principles' and sustainability are the selling points of the Zhengdong plan.

Kurokawa was critical of the functional and mechanical urban design of Western Modernism. He called for respect towards local tradition and historical culture. This approach proved successful in Japan's urban reconstruction after the War. On the other hand, his planning ideas were partly inherited from Le Corbusier's Utopian visions: grand and iconic. The vast Chinese territory available for development, public land system and Kurokawa's high esteem amongst Chinese professionals gave him opportunities to realise his ideas.

Entering the twenty-first century, 'land economy' directed the local government's thinking of how to develop modern China. At the start of construction, Zhengdong New District suffered from a severe shortage of funding. The only investment from government was 1.05 billion yuan RMB[32] as compensation for the old airport. The rest of money had to be raised in the market. A model approach 'introduced by the government, operation in the market,

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Figure 12. The convention centre, Zhengdong.

Figure 13. Lianmeng Residential Area, Zhengdong, designed by Kisho Kurokawa: the housing blocks straddle the lower retail areas, partly reflecting his ideas of 'grey space'.

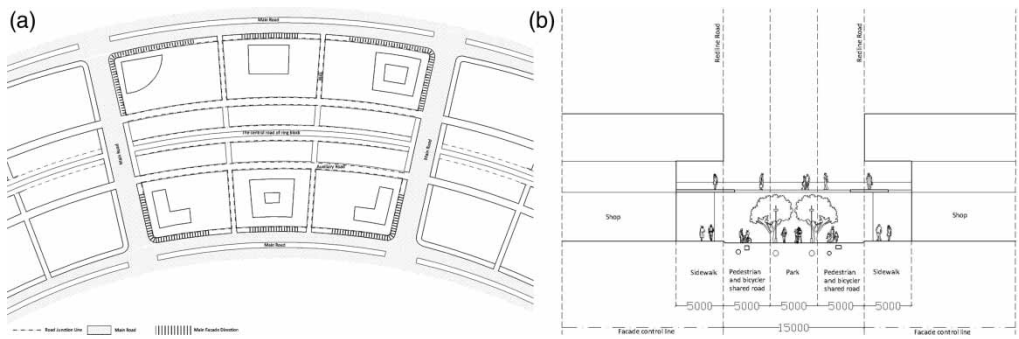

Figure 14. Design guide for the commercial street between the high-rise buildings.

self-balance and rolling development' was adopted. Supported by 5.55 billion yuan RMB loan from the banks, the management committee of Zhengdong New District spent 18 billion yuan RMB and earned 12 billion yuan in five years. The Zhengdong New District government also formed a corporation, and used a strategy of 'government making a platform, corporations playing their part, attracting investment by good environment and development led by projects'. The market played an active role in coordinating the various resources. Wang Zhe, Director of Zhengdong New District, told the visitors, 'a quarter of the money was injected from non-government funds.'

There are two main methods of implementation after financing. The first is between the government and the developers, where the government and developers obtain the funding agreement, and then the developer constructs the roads. After the road is completed, the government leases the land plots along the road to the developer as compensation.[33] The second method is between the government and the banks, where the government obtains loans from a bank and gives land to the bank as a mortgage. The government builds public facilities on the land. When the land price rises, the government can lease the land at a premium and return the money to the banks.[34]

Moreover, government officials usually have fixed terms in office, say three to four years. Their further promotion depends on performance during their limited tenures. This motivates them to present spectacular effects in a short period of time. When the next group of officials comes to power, they initiate new projects once again. The discontinuity of officials and projects keeps the city from normal, stable and continuous or sustainable growth. Urban development starts, speeds up, jumps and stops with the shifting of government officials and changing policies. Compared to the reform of education and medical care, new town construction is a more visible achievement and usually used as the main measure of 'performance'.[35] This culture of 'political achievements'

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distorts the normal and stable development of society and cities.

In the process of constructing the Zhengdong New District, driven by the 'land economy' model, Kisho Kurokawa's brand appeal as a world celebrity architect, as well as his 'symbolic' methods, were highly appreciated and won the unwavering support of the municipal leaders. His reputation is lucrative as a resource, lubricates the process and creates a win-win situation. 'Whereas modern architecture was evaluated by its ability to increase production efficiency and early postmodern architecture by its aspiration to convey symbolic value, current architecture must be assessed by its economic potential to raise the perceived value of its beneficiary, be it a single client, a corporation, or a city '.[36] Of course, Kurokawa, as a clear-sighted visionary, understood how 'current architecture' operates in the new millennium. He realised his Utopian ideas in the Chinese mainland. The plan for Zhengdong New District was awarded 'best urban planning' in the World Architects' Congress in Berlin, 2002.

While the Zhengdong District project was pushed forward by the municipal leaders, doubts about its sustainability arose. The main concern is that Zhengzhou and central China generally face severe water shortages. China's potable water per capita is about a quarter of the world average, and Zhengzhou has only a tenth of China's average water level. In such a dry city, the question was whether digging a lake of 6.8 sq km (larger than the famous West Lake of Hangzhou) was sustainable? Where would the water come from? In the hot dry climate, how could water be prevented from vaporising? Even with these unanswered questions, half the lake was formed in 2010.

No doubt, the government and developers have gained considerable revenues from the 'land economy' process. The land and property prices are still rising, and all office and residential units are sold. But what are the problems?

Even though the government planned large amounts of housing blocks in the beginning, now a lot of such units are being used as offices. And although most of the office and residential units are sold, a majority of buyers are speculators instead of real users. Therefore the rate of actual occupancy is low, and most units and building blocks are left empty. The insufficient infrastructure and facilities, and long distance from the new town to the work place make the area not very liveable. Similar scenarios are seen in the new towns of other cities: for example, Ordos, Inner Mongolia—'China's Dubai'; the Olympic New City of Nanjing; the 'One City and Nine Towns' of Shanghai. All these fabulous towns are almost empty years after completion.[37]

These new towns seem not to be built because of real needs, but materialise overnight from grandiose visions, they catch the attention of the senior leaders and compete for greater resources. This may be a political and short-term economic necessity for cities in Central China. The Zhengdong new district was soon renowned and emulated throughout China. In the period 2003–2008, 170,000 people from Chinese cities and from overseas visited Zhengdong to see its new developments,[38] and other cities in the region all attempt to perform similar miracles.

Un-built: Yilanzhai Museum, Nanjing

With his fame increasing, Kurokawa became highly sought after for public and private projects in China. When designing the Yilanzhai Museum for Nanjing in 2003, he confidently told the media that his twenty-seventh design of an art museum would be listed by the UNESCO (United Nations Educational, Scientific and Cultural Organization) as part of the preservation of modern architecture.[39] The building was planned to be funded with 150 million yuan (US$ 22 million) and was to be the largest private museum in China at the time (three times larger than the Jiangsu provincial art gallery in the same city). Kurokawa seemed to treasure this project more than the National Art Centre of Tokyo which he designed during the same period. It occupied the front page of many Chinese and Japanese newspapers in 2005 when the building began. However, after five years, the building is still stranded at the structural stage, as a rough concrete shell. Construction ceased mainly because of a loss of funds: nobody knows when it will resume (Fig. 15).

(a)

(b)

Figure 15. Yilanzhai, unfinished after five years, photographed in 2010.

Its location, Nanjing, was the capital city of China for several dynasties and is nowadays the second largest city (after Shanghai) in the Yangtze River Delta. The city suffered atrocities in the Second World War and 300,000 people were killed by Japanese troops over three days in the winter of 1938. However, these historic tragedies were forgotten or forgiven when commissioning a Japanese firm sixty-five years later. The project is in a new area to the east of Yangtze River, which includes the new CBD of Hexi District and the Olympic Centre. In the site allocated for the Museum, other programmes for a bookshop, art and design studio and cinema will together form a cultural community. The Jinlin Library in the neighbourhood is already completed. The Yilanzhai Museum has a site area of 96,700 sq m, with the building occupying 12,000 sq m and the total GFA being 21,032 sq m. There will be a three-storey superstructure and one basement. Reinforced concrete is used for the main structure with some steel (Fig. 16).

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Figure 16. Site plan of Yilanzhai from Kurokawa's master plan

Kisho Kurokawa Architect & Associates also designed the master plan of the arts plaza. In addition to his usual architectural design language, Kurokawa tried to incorporate the history and culture of southern China and Nanjing. The first element is a water pond, because the city and its vicinity are full of water resources. The south-east part of the Museum is designed as a pond to connect with the plaza: there is a small island planted with bamboo, which is highly appreciated in China's ancient scholastic culture. The bamboo and island float against the background of the fair-faced concrete which is reflected in the pond. They form a poetic picture chiming with the exhibits.

The second element is greenery and lawn. According to the design notes, they contrast with the high-density commercial area in the south and east.

The third is the high wall extending perpendicularly to the four sides. Nanjing retains a relic of the original city wall from the Ming Dynasty (built in 1328–1398) and Kurokawa's wall symbolises this tradition. The continuous colonnade and waterways will stimulate visitors to explore this master plan. The roof canopy creates 'grey' space, neither indoor or outdoor, which people appreciate. In the front gate, the tall and irregular columns resemble a bamboo forest. Their shadows on the fair-faced concrete wall dance in the sunshine. In the open space of the plaza, the designer has provided an amphitheatre for the public and a platform for community performances.[40]

Kurokawa was reaching seventy when he designed this art gallery. He showed great interest and confidence in the project.[41] His office designed a purpose-made display ambience for the art exhibits and a double curtain storage system. There are also systems for telephone, broadcasting, cable TV, satellite reception, special audio-video provision and facilities for disabled visitors. However, all these dramatic elements can at present only be imagined from the perspective drawings and explanatory texts (figs 17–18).

In a socialist country like China, public buildings were historically funded by the government; so were housing, office and other commercial buildings. After the open door policy was adopted in

Figure 17. Perspective of Yilanzhai.

1978 and especially after 1992 when Deng Xiaoping, China's patriarch, instructed the country to 'liberate thinking', private developers gradually appeared on China's stage, and some of them became very powerful and influential. From the beginning of the twenty-first century, the majority of residential buildings and some commercial buildings have been developed by the private sector.

The positioning and standards of these buildings depend on the education and taste of developers. A lot of private developers set high goals and are willing to employ international celebrity architects so that their works can be as famous and valuable as their 'stellar' designers. Because of individual participation, economic and cultural activities are thriving in China, and consequently the country provides more opportunities for architects at home and abroad. However, not all building projects can be completed smoothly.

Yilanzhai was among few public buildings funded by private money: its initial investors were artwork speculators and connoisseurs. The organisers had invested for twenty years in paintings, calligraphy and other artworks of the Yuan (1271–1368),

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Figure 18. The title of the Yilanzhai Museum, with its calligraphy from the famous Qing Dynasty (1644–1911) calligrapher, Yi Bingshou.[44]

Ming (1368–1644) and Qing (1644–1911) dynasties and had accumulated around 3,000 pieces. Among them, more than twenty are of national treasure quality. These collections are recognised as important by experts in China. The investment came mainly from an individual artist/art collector and his friends. By the time that this pivotal person passed away, the friends' money had also gone.[42] After this funding failed, the government was unable to complete the project and the development company disappeared from the site. Construction of the building had to cease half-way through, leaving it waiting for its unknown tomorrow.

The private art museum emerged in China in the 1990s. Quite a number of such museums closed because of inadequate operations, funding and manpower.[43] Yilanzhai is the largest such private art museum but there are very few other museums stranded at the construction stage. Kurokawa injected his passion into the building with his 'symbiosis' embodied in the symbolic elements like wall, pond and porch: if he were still alive, he might have helped the project to resume.

Conclusion: master's spark extinguished

This paper briefly reviews three projects of Kisho Kurokawa in China: a political project in the early years after China adopted its open-door policy; the first urban plan designed by a foreign architect and fully implemented within China's multiple social, economic and political forces; and a half-realised building for a private client when private investment in public building was emerging in the country. They represent his unique ideas in architectural design and urban planning. Similar methods are seen in his other projects in Japan and overseas: for example, the political agenda, symbiosis of past and future, China and Japan, using favourable symbols and 'grey' space. These three projects also reflect the reality of China's urban architecture in the past quarter of century: political and economic interests entangled with building projects and chaotic development with high-risk stakes.

Kurokawa was a prolific architect and thinker. He was sensitive in his response to changing times, designed both architectural and urban visions, and foreshadowed the coming of a new epoch. In architectural design, his methods and language adapted to various contexts and tasks in Japan, China and other countries. Generally, his design expresses a feeling of strength, magnificence and permanence. A pointing cone repeatedly appeared in several of his buildings and even in his office logo. He used the conical form to mark the entrance.

As mentioned above, the geometry is adopted for 'abstraction symbolism'. 'Grey' space not only creates the indoor-outdoor part of building, but also the 'void' in the concrete jungle and flexibility in building mass, while 'symbiosis' is sometimes behind the tangible form, as revealed in the above cases.

After the open-door policy was adopted in China in 1978, numerous foreign architects have rushed to China and cultivated the 'virgin' land. There are more than four hundred buildings designed by foreign architects, sprouting throughout the Chinese mainland: airports, stadia, opera houses, convention centres, university academic buildings, office and residential buildings. The designers include world celebrity architects and firms: Norman Foster, Richard Rogers, I. M. Pei, Rem Koolhaas, Zaha Hadid, Steven Holl, Isozaki Arata, Tadao Ando, SOM, KPF, RTKL… just to name a few.[45]

The ten projects designed by Kurokawa created a uniquely coherent piece of architectural history in China and Japan. The 150 sq km Zhengdong New District was the first urban plan designed by a foreign architect, and fully and seriously implemented. His planning in Shenzhen (1998) and Jiaozuo (2003) also guided future detailed planning by the local government. The collusion of international architects hoping to realise a 'signature' project with the ambition of provincial and municipal political operatives produces an oversupply of extravagant buildings and planning. On the other hand, the fast development speed and high efficiency in Zhengdong and similar projects 'exerts a certain impression upon the world and Western professional circles.' 'This is a flow of impact from China to the West and the world.'[46]

Kurokawa's designs no doubt inspired Chinese designers in many ways given the positive influence of the media and public opinion. Ma Guoxin, chief architect in the Beijing Institute of Architectural Design, recalled his encounter with Kurokawa in Tokyo and introduced the method he learnt in the design process.[47] The architects in Henan who cooperated with Kurokawa in the Zhengdong project were impressed by the master's devotion through his design and career. The planning, building design and housing types of his design contributed to the diversity of Chinese architecture in the past quarter of century and set a role model for similar types of design.[48]

However, complaints accompanied the praise. The Chinese-Japanese Youth Centre was jointly planned by Chinese and Japanese architects, but in most reports in the Japanese media, the Chinese side was not given credit, which upset Chinese architects. Criticism of other projects included the planning of Zhengdong which triggered fierce debates on the ecology of water and land. The plan was heroic but did not respect the environment and local conditions. Despite the criticism, however, the project could be carried amidst the furore because of the government's firm support. Finally, in designing the Zhengdong convention centre, Kurokawa's firm was responsible for the preliminary design only, whilst the Chinese design firm provided submission drawings, construction documents and site supervision. In the end, the Japanese firm collected a design fee of 19 million yuans (US$ 2.79 million), while the Chinese side got less than one third of that amount. The disparity between the design fees of foreign and Chinese firms is common and causes

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some disappointment among Chinese professionals.[49]

On October 12th, 2007, Dr Kisho Kurokawa passed away from a heart attack in Tokyo at 73. His death shocked Japan for a long while, not only in architectural circles, but in society and political life. He could no longer look after the Zhengdong planning as usual or see the birth of his twenty-seventh art museum (the Nanjing project). For all his life, Kisho Kurokawa was seeking a philosophical world. His designs tried to integrate various elements of function, culture, context and locality, and transcended simply physical building. He said, 'I consider myself first and foremost to be a philosopher and my philosophy will undoubtedly survive my buildings.'[50]

For Kurokawa, urban architecture, though large in scale, is still less influential and direct than politics and capital. In the last years of his life, he strived to change the world by a more direct approach. In February, 2007, he founded a 'Symbiosis New Party' and sought to become the mayor of Tokyo. Kurokawa sought to apply social ideas to politics and when he stood as a candidate in Tokyo, one of fourteen, he was fourth in the number of votes cast in July, 2007. The effort exerted in Japanese political affairs inevitably worsened his health: his spark was extinguished before his great political and architectural dreams (in Nanjing) were fully realised.

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6. For the modern architectural history of Japan, see Terunobu Fujimori, *Nihon No Kindai Kentiku* (*Modern Japanese architecture*) (Tokyo, Iwanami Shoten Publishers, 1993).
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11. Charlie Q. L. Xue, *World Architecture in China*, *op. cit.*, Chapter 2 and Epilogue.
12. After the conservative forces were removed in 1976, China gradually followed a path of openness to the world. The late 1970s and early 1980s are also called China's renaissance. See Jonathan D. Spence, *The search for modern China* (New York, Norton, 1990).
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16. The basic project information for the Chinese-Japanese Youth Exchange Centre is from Kisho Kurukawa Architect & Associates 's official website, see: http://www.kisho.co.jp/. Half a year after the ground-breaking ceremony, Hu Yaobang, the project proposer and Secretary of the Chinese Communist Party, stepped down from the political struggle. The project was delayed for a while.
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28. Among 660 Chinese cities, 183 expressed the ambition to become 'international metropolises', regardless of their history, position and conditions. This was criticised by the State Council of China in 2005. See http://msn.ynet.com/view.jsp?oid=5946148&pageno=1
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35. The responsible person who decided to construct Zhengdong New District was later promoted to the top position in China's central government. Zhengdong is part of his achievements during his period of office in Henan. While he was in the central government, the Zhengdong project was blessed politically from the upper level. It is inconvenient to reveal his name here.

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42. This is from the website, http://paper.people.com.cn/jnsb/html/2008-05/16/content_48543813.htm
43. About the ecology of China's private art museums, see, http://culture.people.com.cn/GB/11294118.html
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