

# A Modern Retrospective of Tradition: A Brief Introduction to Kengo Kuma's Works and Architectural Ideas

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**Abstract:** Kengo Kuma is an internationally recognized Japanese architect today. His works and architectural thoughts are influenced by Japanese geography and cultural traditions, forming a school of its own in Japanese modern architecture. This paper takes Kengo Kuma as the research subject, combining the development trajectory of Japanese modern architecture for more than 100 years to analyze his architectural ideas and design thinking. Kengo Kuma integrates his understanding of traditional Japanese culture and art into modern architecture, by going back to the traditional cultural lineage to create spiritual symbolism based on the local environment. Kengo Kuma's architectural thoughts and practices bring inspiration and enlightenment for Chinese architects as a path to explore connecting modern trends with traditional designs.

**Keywords:** Cultural retrospection; Architectural development; Traditional architecture; Material language

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## 1. Introduction

After World War II, the development of Japanese architecture followed a clear trajectory through introduction, absorption, adaptation, and innovation. With the progress of the economy, Japan has not only achieved the modernization process of architecture but also found its way of architectural development by retracing traditional Japanese art and culture and emphasizing cultural uniqueness. China is currently experiencing the same development process, which is the consideration of what kind of architecture can represent the Chinese nation. In this regard, the development process of Japanese modern architecture can be a very good revelation. Among the Japanese modern architecture masters is Kengo Kuma, who has a unique architectural style known throughout the world. This paper analyzes and summarizes Kengo Kuma's architectural works and constructive ideas, and makes reference to the direction of local architectural development in the context of Chinese culture.

## **2. Changing times in architectural development**

Architecture from the end of the 19th century to the end of the 1940s is defined as modern architecture, followed by postmodern architecture <sup>[1]</sup>. From the Meiji Restoration onwards, modern Japanese architecture has gone from learning to innovation and eventually found an architecture suitable for the country <sup>[2]</sup>. The modernization of Japanese architecture is also an important part of the modernized society as a whole, as the architectural creation and environment are needed for a healthy functional society <sup>[3]</sup>. Therefore, the analysis of the field of architecture needs to be synchronized in the context of the overall social development of Japan.

### **2.1. Modernization of Japanese society**

In 1868, the new government of Japan was established, and the modernization of society began. From 1886 to 1910, during Japan's rapid industrial revolution, the Japanese government actively absorbed Western technology and economic modernization transformation <sup>[4]</sup>. At the same time, the Japanese architectural profession was introduced to Western European architectural technology through the arrival of foreign technicians and support for study abroad from 1868 to 1886, allowing architecture to develop along with the current time.

### **2.2. Trajectory of modern architecture in Japan**

The modernization of Japanese architecture and society as a whole occur almost simultaneously. Since 1868, Japan began to imitate Western architecture and gradually created modern architecture adapted to the nation. By 1905, Japan established industrial capitalism and trained a group of architects with Japanese architecture based on Western eclecticism <sup>[5]</sup>.

#### **2.2.1. Emulation of the West**

The collision of the culture of traditional Japanese architecture with that of Western architecture was a challenge. In the early Meiji period, the Japanese government led the beginning of the emulation of the West, in which the architectural imitation was more obvious. Types of imitation included foreign banks, residences, and large-scale factory facilities under the control of the government <sup>[6]</sup>. In addition, in the case of civil architecture, Tadataku Ito proposed the theory of architectural evolution, that is traditional Japanese wooden buildings could also evolve into stone buildings, which in turn could modernize architecture <sup>[7]</sup>. Hence, the traditional Japanese wooden buildings gradually faded from daily use.

#### **2.2.2. Finding its position**

In the late 1950s, Japan was in the post-war economic recovery stage, so there was a need for rapid construction of a large number of practical buildings. During this period, Maekawa Kunio, Kenzo Tange, and other architects came to prominence. Japan underwent rapid social development in the 1960s. The 1960s saw the rapid development of Japanese society and the modernization of architecture. During this period, there were many outstanding architectural works, new ideas and theories, such as the theory of metabolism appeared, which are represented by architects such as Takashi Asada, Kiyotsugu Kikutake, Kisho Kurokawa, and Fumihiko Svayo. While learning from the West, they explored a development path suitable for their people.

#### **2.2.3. Ethnicity architecture**

Ethnicity in a broad sense refers to a nation in a particular environment, society, culture that forms a collective consciousness after a long time of accumulation, essentially the ethnicity of architecture belongs to a collective consciousness behavior <sup>[8]</sup>. In the development process of Japanese architecture, the emphasis on and embodiment of ethnicity ushered in the formation of modern Japanese architectural styles. In the 1970s

and 1980s, under the influence of the two oil crises, the pace of development of Japanese modern architecture slowed down, and postmodernism took the stage. A group of Japanese contemporary architects, such as Tadao Ando and Toyo Ito in the 1970s, Kazushi Meijima, Makoto Watanabe, Hiroshi Naito, Shigeru Ban, and Kengo Kuma in the 1980s, explored the use of new materials, harking back to the tradition, and the change of form and gradually found their architectural style. From the beginning of the 1990s to the present day, the impact of the bubble economy has brought the return of modern Japanese architecture with architects trying to return to the national spirit<sup>[9]</sup>. In this period, there is a formal return to traditional architectural forms, such as wabi-sabi architecture, and an active pursuit of traditional culture in architecture<sup>[10]</sup>.

#### 2.2.4. Kengo Kuma in the process of development

Kengo Kuma cherished traditional Japanese culture, art, and architecture. He saw that there were deficiencies in industrial architecture and it seemed that the solution could be found in the traditional culture. So he began to explore architecture from traditional ways of construction and the logic of building with materials. The formation of Kuma's architectural thought can be viewed in terms of his interpretation of the development process of modern Japanese architecture as shown in **Table 1**.

**Table 1.** Kengo Kuma in the development of modern architecture in Japan

Stage	Era	Era process	Characteristics of architectural development	Representative figures	Kengo Kuma records
Emulation of the West	Late	During the post-war economic recovery phase, significant construction began	Learn a lot of science and technology from the West and demand high construction efficiency	Kenzo Tange Maekawa Kunio Village Takeshi Nodo	
	1960s	The Metabolism movement emerges in Japan and becomes prominent in world architecture.	Architecture emphasizing growth, renewal, and decay that provided the ideological basis for the development of Japanese architecture	Kikutake Seisaku Kenzo Tange Kisho Kurokawa Shin Isozaki	
Finding own position	1970s	The impact of the two oil crises slowed the pace of architectural development but gradually moved towards the avant-garde	Explore the use of new materials, harking back to tradition, and changing forms.	Tadao Ando Toyo Ito Rokkaku Onijo	Graduated from the Faculty of Engineering, University of Tokyo in 1979 and joined Toda Construction Co.
	1980s	Surviving the oil crisis, ushering in the bubble economy	With the advent of post-modernism, Metabolism is gradually coming to an end, and traditional culture and ethnicity are being re-emphasized.	Kazushi Meshima Makoto Watanabe Hiro Naito Kengo Kuma	Fellow at Columbia University, 1985, 1986, and established a sole practice in 1987.
Architecture of the nation	1990s	Collapse of the bubble economy	Japanese modern architecture is starting to become more practical, Japanese modern architecture is returning to practicality, and architects are starting to begin to return to the spirit of the nation.	Kazushi Meijima Tatewei Nishizawa Takeyama Sei Kengo Kuma	In 1990, Kengo Kuma began his independent architectural activities, he saw the shortcomings of industrial construction and began to explore the traditional way of construction.

### 3. Cultural mapping in architectural thinking

Kengo Kuma is an influential architect in the world today, as his architectural thinking is not limited to architecture itself. He focuses on the relationship between architecture, human beings, and nature and looks for ways to build based on traditions. He uses natural, light, and airy materials to create “weak” architecture that feels similar to traditional architecture, creating a Japanese and oriental style.

Kuma’s architectural works are not just static presentations, but can dynamically reflect Kuma’s deeper thinking about architecture and the evolution of his architectural ideology. His exploration of the use of traditions is very representative, such as the Bamboo Wall House and the Hiroshige Museum. Based on his understanding of traditional culture, he is good at carefully selecting local materials to express the natural attributes of architecture and represent traditional Japanese culture<sup>[11]</sup>. As a Japanese architect, Kengo Kuma’s architectural works express a form of fusion between traditional Japanese culture and modern architectural ideas.

#### 3.1. The spirit of Zen culture

Zen Buddhism was introduced to Japan from China in 1192. It emphasized the beauty of simplicity, and gradually became the core of Japanese culture as it continued to collide and merge with the local culture. Kengo Kuma believes Zen is very closely related to the Japanese culture. Under this cultural background, architects naturally shift from focusing on the material to focusing on the charm of the building so that the works can resonate spiritually<sup>[12]</sup>.

#### 3.2. The inspiration of ukiyo-e

Ukiyo-e is the Japanese customary painting and printmaking. Among them, mainly the works of Ando Hiroshige had a profound influence on Kengo Kuma’s architectural ideas. One of the most influential works is the Sudden Shower over Shin-Ohashi Bridge and Atake (**Figure 1**) in the series One Hundred Famous Views of Edo. The most remarkable thing about the picture is the rain, which is expressed in straight lines. Rain is a natural thing that has no boundaries or rules, but Hiroshige used artificial straight lines to express it, which shows that the boundary between nature and man-made is blurred in Japanese culture. Kengo Kuma applied this blurred continuity to the building by reproducing Hiroshige’s Rain in the Hiroshige Museum of Art using the grid technique. This method of treatment and the construction of details have become points of design reflection and cultural resonance in Kuma’s architectural works.



**Figure 1.** Sudden Shower over Shin-Ohashi Bridge and Atake painting by Hiroshige Ando

### 3.3. Japanese symbolism

The role of symbolism has an important place in Japanese culture as it permeates the artistic and cultural life of Japan, including the field of architectural design. According to Kengo Kuma, the environment determines the symbolism of things <sup>[13]</sup>. This symbolism is based on the principle that it is not symbolic if the design is not inspired by the surroundings. In architectural design, Kengo Kuma is always looking to appropriate local materials to express the symbolism of a particular place, and the choice of materials is often the source of inspiration for architectural concepts. Behind the apparent use of local materials or construction methods, there exists an understanding of and respect for the local environment in which the building is located. He can use the characteristics and even shortcomings of the materials to create a very unique building with a traditional flavor not out of the ordinary and establish a deep connection with the environment in which the building is located.

## 4. Cultural extraction in architectural space

Kengo Kuma realized during the bubble economy that architecture should go back to tradition, so he searched for answers in traditional structures. His return to tradition was not to imitate traditional architectural forms or spatial patterns, but rather to comprehensively breakdown the architectural design part by part. Whether from the consideration of architecture and environment, or the building he designed, they express a kind of oriental sentiment.

### 4.1. Bamboo Wall House

The Bamboo Wall House is one of Kengo Kuma's classic works in China that is inspired by the Great Wall with the essence of traditional Japanese culture. Surrounded by mountains on all sides, Kuma's concept of hidden architecture is expressed in the combination of bamboo and glass materials, allowing the building's silhouette to blend gently into the natural environment. The shape of the building is very similar to traditional Japanese architecture, with a gently sloping roof and long outcroppings. This roof and outcropping not only allow rainwater to drain away naturally and protect the bamboo walls from erosion but also serve as an important transition space between indoors and outdoors, embodying the utility and affinity of traditional Japanese architecture <sup>[14]</sup>. The bamboo material is arranged with gaps, which makes it a light partition between indoor and outdoor spaces. The scenery of the mountains is visible from the interior through the gaps, echoing the subtlety of permeable boundaries in traditional Japanese architecture as shown in **Figure 2**. Bamboo, as a building material for Dai people in the south, is not commonly used in the north, so the Bamboo Wall House cannot be analyzed as a regional building. The use of bamboo can only be viewed as an inspired cultural symbol constructed with a modern approach with Kengo Kuma's retrospection and interpretation of tradition <sup>[15]</sup>.



**Figure 2.** Bamboo Wall House

## 4.2. Matoucho Hiroshige Art Museum

Matoucho Hiroshige Art Museum is an art museum that exhibits the works of painter Hiroshige Ando. As mentioned earlier, one of the important characteristics of Hiroshige Ando's works is the use of the technique of spatial layering to increase the depth of the image. In the design of the Hiroshige Museum of Art, as shown in **Figure 3**, Kengo Kuma wanted the building to be like Hiroshige's Sudden Shower over Shin-Ohashi Bridge and Atake painting, by designing a structure that is difficult to clearly distinguish between the natural and the man-made.



**Figure 3.** Matoucho Hiroshige Art Museum

The materials used for the walls of the museum are the highlight of the design. Local washi paper was used for the light-permeable walls of the exhibition rooms, which disappear into the shadows cast by the eaves, achieving the purpose of integrating the inner and outer spaces with the architecture and nature in terms of material space. This design conveys the introversion and subtlety of traditional Japanese architecture in terms of spirituality, with a Zen-like atmosphere. Simple grille elements are used on the roof and walls of the museum to divide the architectural interface. This alternating relationship between reality and reality, and changes in the spatial hierarchy, resemble the raindrops in Hiroshige's paintings (**Figure 3**). Kengo Kuma wanted to make the observer experience the existence of the cedar grille under backlight conditions and centered his lighting design, graphic design, and environmental design on this idea <sup>[16]</sup>. It can be seen that Kengo Kuma's way of handling materials permeates both the minor and major details. The building designed by Kengo Kuma has a kind of oriental elegance with the surrounding environment, which provokes the resonance of the soul between the building, nature, and human beings.

## 5. Conclusion

In the history of architectural development, generations of architects have continued to explore the combination of tradition and modernity. When the modern architectural trend swept Japan, Kengo Kuma studied, reproduced, and developed his forward-looking architectural thinking that reflected traditional designs. His new expression of traditional Japanese architectural culture in terms of building materials, modeling, and structure, has shown that the traditional regional characteristics of Japan have spread and influenced the world. China has been the representative of oriental culture for more than two thousand years. Japanese culture and Chinese culture have certain attributes, so combining Japanese modern architecture and traditional culture is worth studying for reference.



## Disclosure statement

The authors declare no conflict of interest.

## References

- [1] Xu JF, 2019, The Reference and Inspiration of Japan's Architectural Development to China's Contemporary Architectural Culture. *Residence*, 2019(10): 21–23 + 25.
- [2] He K, 2010, From Imitation to Return - On the Five Stages of Japanese Modern Architecture Development. *Architecture and Culture*, 2010(12): 14–17.
- [3] He WR, Wang XT, 2020, Kernel and External Causes of Japanese Architecture Based on the Creative Environment - Architects and the Social Mechanism of Tracing Back to the Source. *Chinese and Foreign Architecture*, 2020(08): 31–34.
- [4] Yu ZP, Xu L, 2019, Cultural Collision in the Course of Modernization of Japanese Architecture. *Architecture and Culture*, 2019(05): 227–229.
- [5] Wang XT, 1996, The Revelation of the Development Process of Modern Architecture in Japan. *Journal of Architecture*, 1996(06): 50–54.
- [6] Yu ZP, Xu L, 2019, The Origin of the Concept of Simplicity in Japanese Modern Architecture. *Architecture and Culture*, 2019(06): 44–45.
- [7] Yu ZP, 2019, Research on the Collision and Integration of Culture in the Modernization Process of Japanese Architecture, thesis, Zhejiang University, Zhejiang.
- [8] Zhao H, 2019, Research on Modern Architecture based on Ethnicity, thesis, Northeast University of Petroleum, Heilongjiang.
- [9] Feng ZY, 2017, Fading of Architecture - An Analysis of Kengo Kuma's Architectural Theory. *Proceedings of the 3rd Oriental Design Forum and 2017 International Symposium on the Belt and Road and Oriental Design*, 402–408.
- [10] Xiang DH, 2009, Inheritance of Traditional Culture in Japanese Modern Architecture. *Science and Technology Information*, 2009(28): 252.
- [11] Huang ZY, Wei CY, 2012, Japanese Traditional Culture in Kengo Kuma's Architectural Design Works. *Chinese and Foreign Architecture*, 2012(03): 84–86.
- [12] Ding H, Zhang HP, 2018, Zen Spirit and Chinese Cultural Factors in Kengo Kuma's Design Works. *Fujian Tea*, 40(12): 433–434.
- [13] Wang SY, 2014, Talking about the Symbolic Role of Place-Determined Things. *Shanxi Architecture*, 40(24): 36–37.
- [14] Zhang XY, Zhu YD, 2015, How Contemporary Japanese Architects Express Traditional Culture in Architecture. *Architecture and Culture*, 2015(11): 184–185.
- [15] Wang P, 2020, Research on Chinese Elements of Contemporary Japanese Architects' Works in China, thesis, Xi'an University of Architecture and Technology, Shaanxi.
- [16] Guo Y, 2010, Kengo Kuma, thesis, Tianjin University, Tianjin.

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