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Comparative Analysis of Fumihiko Maki's Works according to Japanese Traditions and Concepts

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Abstract

Referring to traditional architecture and the ways of using its principles in the contemporary architecture is always a main concern in countries possessing a rich architectural background. There are various attitudes toward the way contemporary architecture has been combined with the traditional architecture in different historical periods. It seems that this combination is more felt in the countries whose architecture is combined with traditions and religions of those countries .the reason is that this combination plays an important role in making the identity of countries. During the history, various religions and creeds had been present in Japan. Old traditions and creeds such as Shinto, Buddhism, Confucius, Taoism and so forth were the primary religions of Japan whose foundations dates back to 6ooo years BC up to 7 century AD. The way in which the connection is made with the traditional architecture of countries possessing a rich architectural background has always been a concern. In Japan, because of fusion of religious principles and people's lives over time, it is necessary for the contemporary architectures in Japan to feel this fusion. The present paper is a case study which studies Fumihiko Maki's works according to Japanese traditions and concepts via a comparative analysis.

Keywords: Fumihiko Maki's, concepts, traditional architecture.

Introduction

Japan has a rich background of traditional and religious architecture, and during passage of time different concepts have been formed in accordance with these traditions and religions. Japan religious and traditional architecture has defined principles in space architectural design.

The combination of old religions and creeds with Japanese people' lives over time have convinced contemporary architects such as Maki to use traditional concepts and architectural space of Japan in creation of modern architectural spaces. Then, the study of works by architects such as Maki, first, determines the value of Japan traditional architectural principles and then, represents patterns in order to manifest the traditional concepts within the contemporary architecture.

Following the study of religions in Japan, we took a look at Japan traditional and religious architecture, the result was that Japan architecture had both space design principles and also some special concepts capable of being revealed in different frames. In other words, it is possible to say that physical elements and frames of an architectural structure is a way to convey concepts. The most crucial concepts to mention are Oku, *Ma* and *Migacour.*

Oku means making a blurred cover around the considered environment in order to make an ambiguous and mysterious space. For instance, sometimes human sees a not clear part of a space and external events through blurred screens, however, these screens does not let him have access to them. Therefore, a religious unattainable space is made. This sort of space is called Oku. It is just like looking at the mountains from a far distance.

Ma is described as an experimental place where is close to the mysterious spirit created by the external distribution of symbols[1]. *Ma* is precisely made in Japan. In comparison with *Ma,* space has the second significance, because a space which is defined physically never is able to bring about imaginary power[2]. Since *Ma* is an imaginary concept not a physical object, it is perceived that its external symbols could be present even in three dimensional forms. Hence, we can say that Japanese proportion of a place is the same as western notion of space[3]. Just like using interlaced screens with different designs on both sides of connective spaces.

Migacou means making an ambiguous optical depiction just like looking at moon behind clouds, and also creating a mysterious depiction. Traditional and religious architecture also includes other principles and features related to space design, administrative details and materials and conditions of having relation with the surrounding environment of the building such as city and nature.

Main body: Getting Information about Fumihiko Maki: Fumihiko Maki was the one who got "pritzker" architecture prize in 1993. He is the second architect from Japan who wins this prize; the first architect who won this prize was Konzu Tangeh.

Maki was born in Tokyo in 1928. He was educated in Tokyo University along with Tangeh and he got the architecture engineering degree in 1952, the following year he spent time in Art academy in Kronborg in Bloom field Hills located in Michigan. After that period, he received architectural professorship from Harvard university design school (GSD)[4].

After working for Skidmore, *Ookinz*, Merrill in New York and Sert Jackson and colleagues in Cambridge, he worked and taught independently for several years. In 1965, he founded the company of "Maki and associates" in Tokyo. In 1960 he went back to Japan and helped the establishment of Metabolism group. The interesting components for him were metal, glass and concrete. In contrast with his interest in theory and technology, his buildings offer a sense of warmth and excitement which is found rarely in the modern architecture. The aim of his designs is not to appreciate his theories; his aim is to use them successfully in order to make an effective architecture in accordance with human needs[2, 5]. He studied traditional architecture of Japan and tried to enter them into his own designs. In other words, his design is a combination of Japan modern and traditional architectures.

Maki's work experience and his works: His working period is divided into three categories: 1948-1965: work in Konzu Tangeh's office and his works were influenced by *Lokorboziye.*

1965-1985: establishment of Metabolism group and its works influenced by attitudes of this style in which new materials and technology such as aluminum and diagram of designing structures is used.

From 1985 up to the present: combining traditional concepts with modern architecture. In this research two third of Maki's works have been studied, his works from 1985 up to the present time[6].

The Delegation of the Ismaili Imamat: Recognition of historical, social, cultural and political backgrounds of his works: Ottawa is the capital of Canada. It is a state with municipality and it is the second large city of Ontario. Ottawa is located in the eastern section of southern Ontario. The city is beside the river of Ottawa. Huge water way has made local limitation between Ontario and Quebec. However, various bridges have connected Ontario and Quebec located in north Beach of Ottawa River. The two cities and surrounding regions design the national capital. In the past periods it had been the first home of Ottawa people[6].

In 31st of 1857, Princess Victoria was asked to choose a common capital for Canada. She chose Ottawa. From that time up to now, Ottawa is a metropolitan and it is the fourth biggest city of Canada. Princess' consultants suggested her to choose Ottawa for variety of reasons. First, it is the first residential region located exactly between east and west of Canada made up of French population and English population.

Second, 1812 war showed how vulnerable Canada was against America's attack through boundaries.

Moreover, the small expanse of city does not give a good chance to political populations to protest and rebel and destroy governmental buildings just as it happened in the previous capitals of Canada[7].

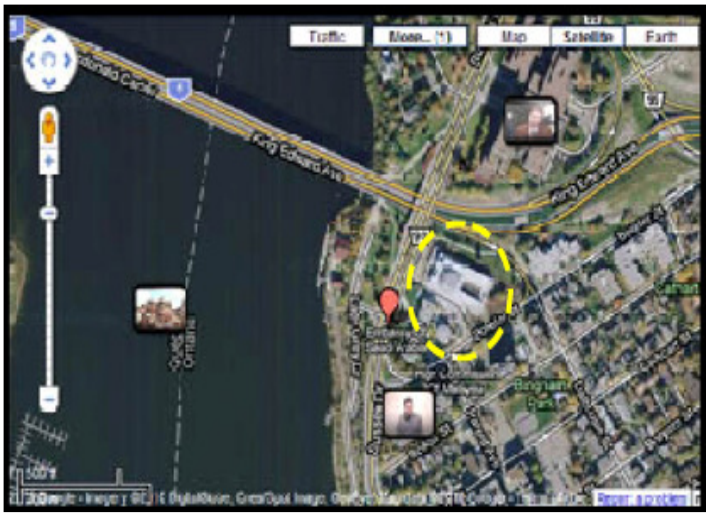

Figure-1
Ottawa map

Figure-2
Canada map

Figure-3
Ottawa map (Urban fabric of cities and countries)

Red circle: center of Ismaili Imamat, Green circle: civilization museum, Yellow circle: war museum, Blue circle: natural museum.

Recognition and study of special organization of the work: Recognition of spaces applications: Building introduction: The representation of Ismaili Imamat in Sussex Drive 199 in Ottawa Confederation Boulevard was applied by *Agha Khan*.

The forty ninth religious leaders of *Ismaili Muslims* was the founder and manager of the widespread network of Agha khan, his aim was to activate a silent diplomacy, to distribute information and advertisements related to humane fields.

From this viewpoint, a party between *Sussex Drive* and *Betteler Street* has been founded recently. This place is located along with ritual roads of the capital. This place reveals the significant political parts of Canada and other diplomatic and cultural centers and institutions such as Hill parliament and residential regions related to governmental generals and the prime minister. Maki was chosen to design this place. The developers of the project were contractors of PLC Company who were responsible to construct the new museum of Canada war.

Analysis of conditions of finding suitable spaces and the relation of main parts to one another: The building is located in a position which receives free air from fourth directions and it is also surrounded by four gardens. These gardens are similar to four- gardens of Iran. This sort of perspective has been designed a lot in Iran, central Asia and south Asia.

These gardens are full of green plants and variety of trees which are seeable from the middle room in east. Through the gardens, light emerges in the building through large glasses.

The connection of spaces to one another: In the upstair floor of the building, there is the office of the manager including offices for personal clerks and also an office for personal meetings, this office is made up of maple.

The separated section of balcony provides an opportunity to have a view of Ottawa River and at the same time to be far from the traffic of *Sussex* Street[8].

The middle room is for conferences and it is the most significant part of the building. This part has 17 meters height and it is replete with light and fresh air. Its roof is made up of glass. Different structures have been used to make it like a glass rock visible from the outside. Beautiful Shoji screens in four sides of the room made the light presence significant.

Form organization: Representation design of Ismaili Imamat comes from *Agha khan* beliefs based on which architecture is not only about construction but also about the life quality of those people living around the construction environment.

Being aware of the past periods is emphasized here and it must be considered to create a space where people with different traditions and backgrounds could understand one another.

Maki under *Agha khan's* leadership translated concepts rooted in Islamic tradition and made a wonderful design inspired from natural shining of crystal stones. The play of light on crystal and semi gloss surfaces creates a dynamic pictorial effect[9].

Analysis of physical entrance of the building: Entrance from the main street has a crystal design and it has a little nick in comparison with the facade of complex. The combination of dark and light materials in façade brings about an interesting rhythm which is obvious in other Maki's works as well. Combination of façade crystal of the entrance with the concrete above the entrance is a sign of modern architecture. And also, using the semi gloss dome and Islamic designs is a sign of traditional architecture.

Figure-4
Recognition of relation between the building and surrounding elements

Figure-5
North West façade of Ismaili center

The study of qualitative features of structures: color, light, contexture Shadow: Within the crystal design an internal layer is made up of fiber glass which is in contrast with the external glass. It brings about a shadow. Also, through usage of this method, complicated designs are created which all reflect internal and external lights with different angles. Philip Joyce, the author of architectural essays says that for the source of light, the architecture takes advantage of God's creation and in an artistic form and with the help of culture and human resources crystallizes it. He also refers to similarity existing between crystal rocks and related features of the design. Moreover, he talks about the relation between crystal rocks and features related to the design. Using various designs via crystal rocks makes the building look transparent and semi- transparent simultaneously. Furthermore, sun light gives it a sense of ambiguity, in other words, crystal colors change through sun light. The crystal embraces white, golden, black and some other colors. It is true to say that these colors are the symbols of beauty and hidden mysteries[10].

Structure organization: Study of building (materials): The glasses are combined in different shapes and with skillful methods to give the building a spiritual quality. The main façade and external façade of *Sussex Street* and *Betteler Street* are covered with crystal frames.

Shoji screen: One of the characteristics of rooms is the application of lines and designs repetition. Aluminum Shoji screens surrounding part of the space seems to be suspending in the layer. The pattern is a double layer of repetition of hexagonal inspired with Islamic design. However, it is not old. The plates are made in Cambridge and Ontario and the weight of each section is about 64 kilograms which is held by vertical screws. Lots of surfaces of internal glasses bore similar patterns. As it is shown in the figure 7, in the morning, the building is full of light, however, at night, the light is weak. This kind of creativity is neither art of east nor west. In fact, it has been inspired by both east and west arts.

The study of construction method: The building is made on black granite which solves the problem of slope and moreover, it separates the building from the park and fields. Designing such a building needs negotiations with both east and west. This design also should be in harmony with the standards of national capital commission in both eastern and western sections.

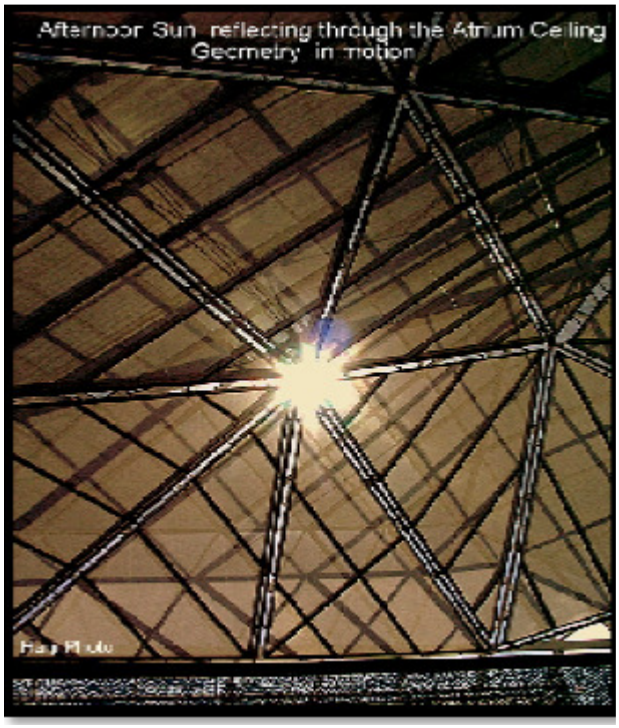

Figure-6
Atrium ceiling details

Figure-7
A sample of shoji screens

Figure-8
Construction method details

Methodology

Generally, building design is so that it could affect Muslims from different countries and gather them together. Japanese talent of architecture, regional materials in accordance with nature and that location, culture, surroundings and all other factors has made a building beside Ottawa River and with a view of the river. The architect says that it is because of Muslims' prayer that the design is based on strong principles reserving both traditional values and intellectual usage of modern realities. Here the principles Maki has paid attention to are mentioned: i. Artistic application of light, ii. Attention to lightness of materials (via usage of crystal in façade), iii. Attention to the concept of "Oku" in design (making a view of river from three directions" iv. Applying spaces and paying attention to the concept" *Ma*" (in lobbies and placing Shoji screens among the spaces) v. Making exits toward internal yard(four gardens) vi. Making a blurred and mysterious viewpoint toward the inside and outside of the building (with the help of shoji screens and crystal material or fiber glass). vii. Application of Shoji screens.

Recognition and study of the background: Recognition of historical, social, cultural and political backgrounds of work: Maki designed this building in 2000 in the small city of *Nihoo Natsoo* in the north of Tokyo. The application of vertical window shades which are semi closed in this project help the individuals in the building to have a blurred view toward the outside surroundings. This mysterious space is the usage of concept" Oku" in special design. Moreover, application of dark plates and attempt to get close to the concept of "*Migacour*" and creating visual relation among spaces through interlaced screens (the concept of *Ma*") are other cases Maki has used to make connections between modern architecture and traditional architecture of Japan.

Here the main activities related to this location are mentioned. i. Women's portion in social participations, ii. The importance of social activities in which women take part. iii. The equality of men and women at work place, iv. The adjustment between career and life, v. Violence against women, vi. Everlasting protection of women health, vii. Equality of men and women in education and research fields, viii. Development of women participation in political activities, ix. Gaining equal rights between men and women in the field of employment, x. Development of equality of men and women from viewpoint of local rules, xi. Development of conditions of a relieved life for the elderly.

Discussion

Japan is made of islands located in the east of Asia. It is made of four main islands: *Hokido*, *Honsho*, *Kiosho, Shikogo* plus 3900 smaller islands. These islands are drawn from north to south for about 3000 kilometers (1860 miles).

The location of Fokoshima in Japan: Fokoshima is located between eastern139 and 141 degree of longitude and between northern 37 and 38 degree of latitude. The latitude is the same as latitude for the south of Greece, San Francisco, California in the USA. This area in the south of Tokyo in Japan is located in the main island of Hansho, from north, it is opposite of Pacific Ocean and from east it shares the same boundaries with six areas. Moreover, Fokoshima in located in the distance of 200 kilometers from Tokyo. It is the closest area to Tokyo, it also connects Tokyo to *Tokoho*.

Recognition and study of work space organization: The study of how to find suitable spaces, and the conditions of connection among main sections.

Representing special organizing patterns at work.

With close attention to plans the below points are perceived. i. Creating lobbies in a way that they could have a blurred view toward the outside, ii. Creating narrow hallways which increase the perspective view of one location, iii. Designing stairways freely and stretched to have application both in modern architecture and traditional architecture of Japan. iv. Dividing connective spaces to serve various functions, v. Designing the entrance in the center of the main façade and crystallizing it so that its functions would be visible before entering the building. vi. Free design of the plan, vii. Creating visual view of floors toward one another, viii. Defining separate entrance for some functions, ix. The entrance box should be in the point of connection between two cases so that it could create a sense of balance.

After world war the second, in Japan the conditions were provided to let the Japanese clarify their traditional position. In this condition, different individuals in different positions give their opinions toward tradition and modernism. Though each opinion had some weaknesses and no opinion was complete, a variety of opinions were created to help the next generations have various and strong informative sources to educate them. They would be able to use the represented theories to create an indigenous architecture which is different from the architecture of other countries. The design being studied here is one of the sample designs trying to combine modernism and tradition together. Applying new materials and at the same time making a blurred view toward the outside, using vertical window shades and the method of special organizing of plan and creating a semi gloss space in both sides of the spaces shows the approaches of tradition.

The principles to which Maki has paid attention are mentioned here: i. Attention to three special concepts(Oku, *Ma* and *Migacour*), ii. Applying natural light and combining it with the internal space, iii. Making gardens and having view toward them, iv. Attention to lightness of materials and crystallization, v. Creating a blurred and mysterious view toward the inside and outside of the building, vi. Using interlaced networks in both sides of connective spaces.

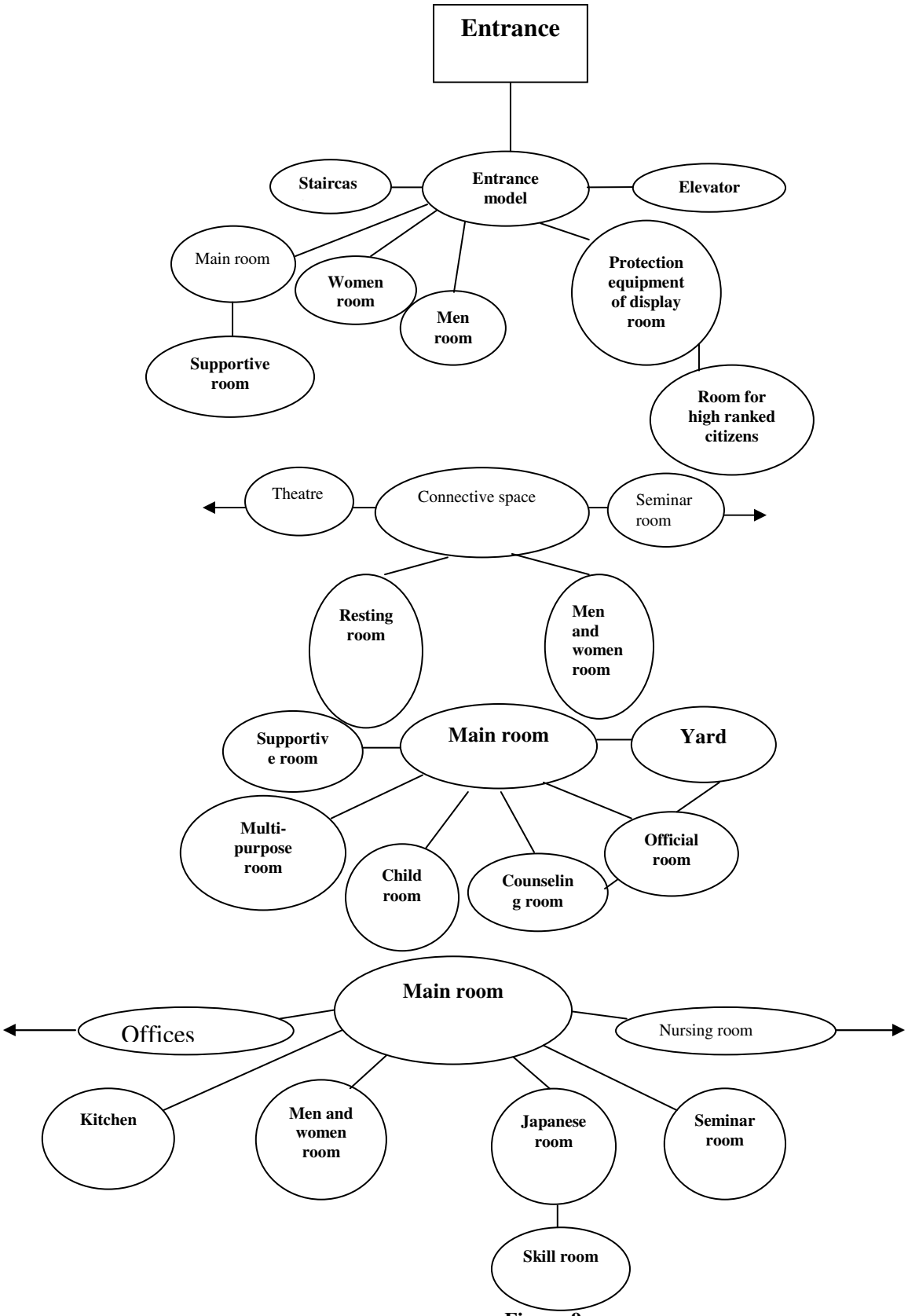

Figure-9
Connective diagrams in different floors

Conclusion

The study of works by this architect in relation with traditional architecture of Japan shows the importance of referring to the traditional architecture and using principles and concepts of religious and traditional concepts and principles. The study of Maki's works in accordance with architectural spaces of Japan traditional religions and their design principles show that because of the existence of nonphysical concepts such as Oku, *Ma* and *Migakoor*, Maki had been able to manifest these concepts in his works. Moreover, the analysis of these works reveals that Maki has paid a lot of attention to the three concepts and has had a conceptual look. In his works of this period, the physical structure gets a tool to express concepts and meanings in his works. It is true to say, Maki in this period is an architect who pays attention to meaning. For instance, the concept of Oku in Hillside West is made by making aluminum bowers, in GEC with *Shouji* plates and in *Ismaili* center with shoji screens and in Salzburg with vertical window shades. Therefore, we can see that one concept in different structures and in buildings with different functions appears.

Moreover, he pays much attention to the surrounding backgrounds. For instance he made a building that was significant from viewpoint of social features; this building was the center of equality of men's and women's rights and it could be the social capitals of Japan or the Ismaili center in Ottawa where is the place of the first Ismaili foundation. The perspective, surrounding environment, and using it in his works are mentioned, for instance having a view of park, and river in Salzburg project and also Ismaili center. Moreover, making gardens and combining them with the structure is also observed in his works. The artistic use of light, attention to lightness and crystal are also characteristics of his works. Generally, methods of combination of modern and traditional architecture of Japan could be mentionedd briefly here: i. Using special concepts such as Oku, *Ma* and *Migacor, ii.* Administrative materials, iii. Space design based on traditional techniques of construction in gardens and temples, iv. Conditions of having connection with environment and relating cities with nature, v. Attention to simplicity in special design, vi. Intellectual layering of spaces beside one another, vii. Flexible ability of spaces to respond to different functional styles.

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