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RECOGNITION AND ANALYSIS OF CHINA ARCHITECTURE

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ABSTRACT

The present paper is a brief investigation of the history of emergence and formation of Chinese civilization architecture. The study of architectural and urbanism works of other global civilization domains will result in the creation of rich understanding and cognition of the way and the reason of the origin and presence of such works, and will promote the scope of knowledge and recognition for enthusiasts and activists of the architectural and urbanism domain. Moreover, it paves the way to recognize the culture and civilization of them that have certainly influenced on the architecture and urbanism; because culture and civilization of a people also impact on the behavior and social norms, architecture, urbanism and other areas of their lives. Architecture of China like the other arts of China has a lot of expansion and diversity; although its architectural works, sometimes due to the use of less durable materials were destroyed, what have remained of such works indicate the fact that the works of China are as high as the works in Egypt, Mesopotamia and ancient Iran. The method of present research has been based on library studies and reviewing valid historical and architectural documentations. In this respect, we will understand and analyze the Chinese architecture, including (Confucius, Lao Tzu, Buddhist) temples, Pagoda, Palace, Great Wall of China, Houses and Monasteries, Tombs and Rock (Caves) Temples. The results of research indicate that Chinese architecture is the unique architectural system in the world that wooden composition makes its main structure; while it manifests deeply Chinese ethical principles and aesthetic, value, and naturalistic visions.

However talking about China has less been considered, and the reason might be the lack of drastic changes in the architectural style and methods of China over the long years, in a way that nowadays the buildings in China do not have that much difference with their prototype in one thousand years ago.

Keywords: Architecture, China, Civilization, Culture, Nature

INTRODUCTION

People's Republic of China located in the East of Asian continent and the west of Pacific Ocean, with an area of 9,600,000 square kilometers, is the third largest country in the world after Russia and Canada. The land of China begins from the center of "Heilongjiang" river in the north of China and extends to the "Jingshan" island in the south of China. The distance from the north to south of China is 49 degree latitude and 5,500 kilometers. The eastern end of Chinese territory is the connection center of "Heilongjiang" and "Wu Su Li" rivers, and the western end of China is Pamir Plateau. The distance from east to the west of China is 60 degree longitude and 5,000 kilometers. [1]This vast area has caused the existence of the highest mountains, the greatest deserts and the most extensive oceans in the country. Stability of security and sustainability of the country throughout the history has made the people of this land to choose the name of "Tien Howa" instead of China for their country, which means "Beneath the Heavens". This country is located in the end

east of the Asian continent and it has been separated by high mountains of India. [2]The present paper is a recognition and analysis of the history of the emergence and formation of urbanism and architectural works of Chinese civilization. The study of architectural and urbanism works of other global civilization domains will result in the creation of rich understanding and cognition of the way and the reason of the origin and presence of such works, and will promote the scope of knowledge and recognition for enthusiasts and activists of the architectural and urbanism domain. Moreover, it paves the way to recognize the culture and civilization of them that have certainly influenced on the architecture and urbanism; because culture and civilization of a people also impact on the behavior and social norms, architecture, urbanism and other areas of their lives.



Figure1: The Location of China on Earth [1]



Figure 2: Map of China [9]

No information is available concerning Chinese background and where they have come from, and what has been their race. There are only some theories that will be mentioned: some believe that humanoid monkey has existed in this country a long ago. Another theory is that about 20 thousand years before Christ, with the drought in southern Mongolia, many of the people living in it migrated to the land of China.[2]

2. Characteristics of China

2.1 Culture and Civilization

China is a vast land that its culture has dominated most of the Far East countries until now and the spread of its culture encompasses the countries such as Japan, Korea, Tibet, Turkistan, Mongolia, and etc. Chinese believe that their civilization dates back to 5,000 years, but the oldest discovered traces relate the documentation of this civilization to the “Shang” dynasty. The first stage of the unity of scattered groups, tribes and cultures across China occurred during “Shang” dynasty (by the year 1028 BC.), and then Chinese art finds a new identity.

Chinese art is among the indexing world arts that has maintained the unity of formal and structural elements in its art since the ancient times. The existence of a single written language, despite the differences of spoken languages, has caused the unity of religious, philosophical and literary traditions, as well as the unity in the artistic expression methods.[3]

2.2 Religions

The dominant thought and art of China has been shaped throughout history under the influence of three thinking and belief systems as follows:[3] **2.2.1 Buddhism, Confucius and Lao Tzu**

“Buddhism” established a kind of “nature writing” idea in the civilization domains of the Far East. According to the drawn sentences of Buddha “mountain” is the heart and “water” is the spirit of nature and “nature” is the essence of life. Religion of “Confucius” is based on “morality” and moral teachings can be considered as the most important Confucian beliefs. “Lao Tzu” was founded on the “philosophy and mysticism” basis. The base of this idea was philosophical mysticism and mystical philosophy, a subject that can still be observed and recognized well in Chinese literature and culture. Lao Tzu's ideas expanded quickly in other eastern countries

and also influenced the art and architecture of those lands. Buddhism is considered as one of the most important religions of the vast land of China.[4]

3. The Art of Painting

Subject: Chinese painters were not limited to choose the subject, because their only aim was to create a meaningful form. Man, was less regarded as the subject of painting and the people seen in the Chinese images were all old and similar to each other. Their faces were not recognized from each other and the individual characteristics did not have importance. Flowers and animals were considered more than human. Sometimes the flower or the animal was the symbol of a concept. Many artists spent their entire lives to draw an animal.[1]

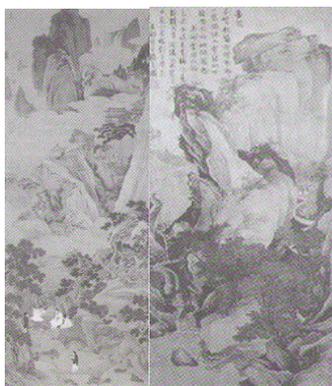


Figure 3: A Sample of Chinese Paintings[1]

Avoiding Realism: Chinese painters were far from realism and describing objects. Their goal was just to create a state in the viewer. They solely thought of beauty and

discovering truth was entrusted to the scholars.[1]



Figure 4: Zen Painting with Brush Strokes[4]

Two opposite approaches, one in the north and another in the south were formed in the painting. Northern school included difficult classical traditions and rules that objective representation was the principles of this method, and its lines were completely clear. In contrast, the southern school opposed the northern school, and aimed to express the inner states and emotions away from classical binding frameworks. The northern school applied accurate and elegant edge construction lines and vivid and opaque colors and gold, and in this way they were similar to Iranian miniature.[1]

3.1. Painting Year of China

Painting year is one of the traditional Chinese folk art and its history backs to the Song dynasty (960-1279). Happiness and auspicious objects such as goldfish, little boy and girl, and the famous generals of the history of China and hanging such objects in the houses formed the major themes of painting year.[1]



Figure 5: Sample of Painting Year of China [1]

4. The Art of Architecture

Continuity of Chinese art features is one of its important characteristics, but meantime they considered the architecture among the minor arts, and that is why the names of the great architects of ancient China have not been remained. In 1103, eight volumes of illustrated books entitled as “architectural methods” were published, that their founders were the architects of the “Song” era, but no trace has been remained of those buildings that their images indicated their wooden structure. Chinese houses, of which some images exist in the National Library of Paris indicate that they have not been changed during the 23 centuries. The prototype of these houses were in the form of circular holes roofed by the foliage of trees. With the passage of time, these houses have been built on the ground level and their buildings have also become clay and mud.[2]

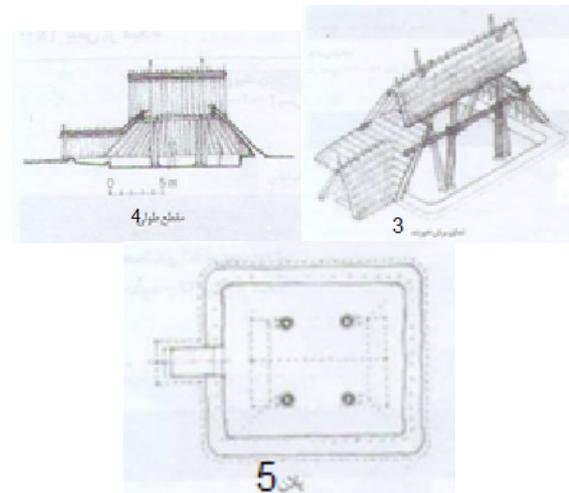
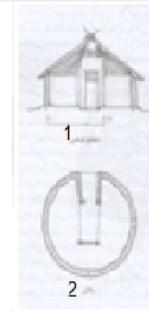
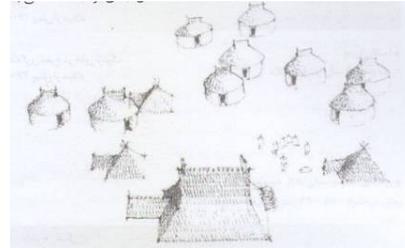


Figure 6: Residential Clusters of Ban Pow¹[8]

An overview of the history of world architecture shows that three factors contributed to the advancement of this art which are:

- The strong, focused and merry hand government,
- Monarchy and hereditary aristocracy, and

¹Names of places in the images:1.Width section, 2.Plan, 3.Sliced view, 4.Length section, 5. Plan

- Existence of a powerful spiritual class.

China has been deprived of all these three cases. Focusing on the building structure, they have shaped their architecture. Sometimes considering the facade was to the extent that its performance was dominated by its decoration.[2]

4-1 Architectural Styles in China

Chinese architecture is divided into two northern and southern styles, that of course they are more apparent in the religious buildings. Choosing northern and southern

names had not caused the northern style to become common solely in the north and vice versa. [2] Significant style differences existing between northern and southern China buildings, indicate that the construction in northern China had been more robust and its decorations had less elegance, while visually what make the distinction between the two styles more explicit are the upward edges of southern style structure that have been curved upward from the corners of roofing.[5]

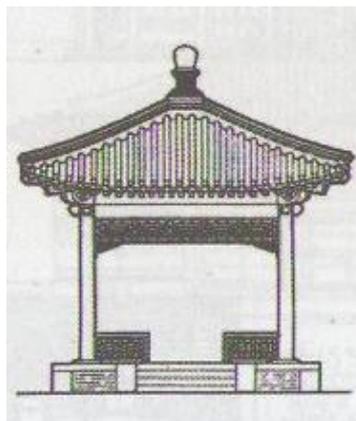


Figure 7: Northern Style[5]



Figure 8: Southern Style[5]

4.2 The Architecture of Buildings in China

4.2.1 Mansions and Palaces

Mansions and palaces, or in other words the court buildings are massive, impressive and

glorifying buildings that the emperors have built in order to strengthen their dominance, to make the credibility of royal power pre-eminence, and to satisfy the material and

spiritual life requirements. The court mansions and palaces were impressive and luxurious and were paved of jade stones and gilded bricks. They have already retained their glory and brilliance too. From the era of empire dynasty of “China” the mansions were the living and accommodation places of emperor and his family, and the palaces were the places for handling governmental affairs.

The dimensions of mansions and palaces have been continuously developed in the following years. Very large domed roof covered with yellow bricks and highfalutin paintings, domed ceilings with beautiful and elegant carvings, fortified foundation, marble columns, and diverse and colorful buildings were their specific characteristics. [1]

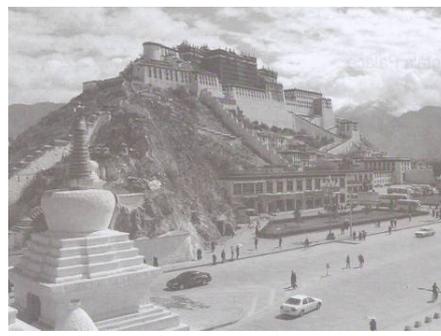
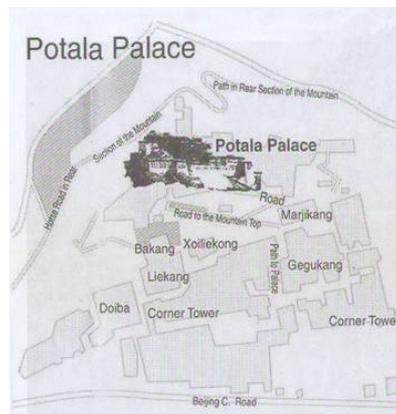


Figure 9:Potala Palace, Lhasa City, Tibet Province[1]



Figure 10:Potala Palace, Lhasa city, Tibet Province, from Another View[10]

4.2.2 Temples

Temples are one of the architectures of Buddhism religion, which is originated from the Hindi temples. These buildings that has registered the progress and prosperity of the culture of feudalism community and the prosperity and decline of religion in china from the “Northern Wee” imperial dynasty, have great value in the history and art of China. Ancient Chinese strictly followed architectural composition from cosmological view along with the positive and negative (Chinese: Yin and Yang) principles in the nature and aesthetic criteria, discipline, order and stability. Accordingly the Chinese temples were usually flat rectangular

buildings with an axial line-based composition between the south and the north while observing the symmetry. Moreover, a lot of temples in the form and composition of garden architecture are also observed in China. These two types of architectural arts have caused the Chinese temples to have a calm and magnificent environment. Halls of temples are full of taste and interest in nature and are very spiritual environments. [1] The Sleeping Buddha Temple, which is close to the Summer Palace outside Beijing, is one of the best examples of Chinese temples; so that “Ferguson” considers it as the highest architectural work of china.[2]



Figure 11: The Sleeping Buddha Temple[11]

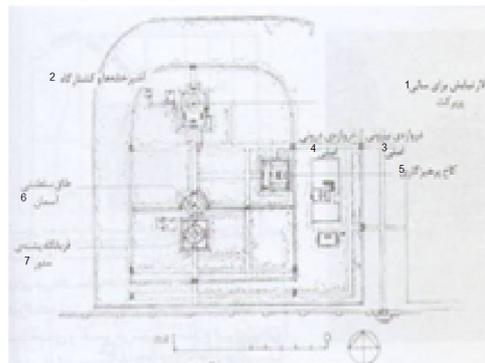


Figure 12: Plan of Temple of Heaven, Beijing, Hebei Province²[8]

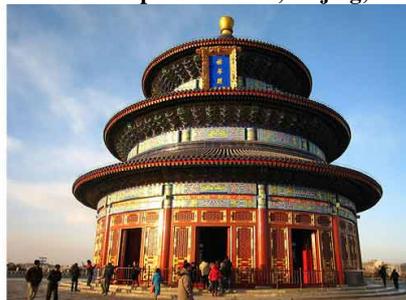


Figure 13: Plan of Temple of Heaven, Beijing, Hebei Province[12]



Figure 14: Plan of Temple of Heaven, Beijing, Hebei Province[13]



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Figure 15: Plan of Temple of Heaven, Beijing, Hebei Province[9]

²Names of places in the plan:1: Prayer Hall for the blessed year, 2.Kitchens and Slaughterhouse, 3. The main external gate, 4.The main internal gate, 5.Arch of “Piety”, 6.Royal Arch of “Sky”, 7.Circular stack Altar



Figure 16: Temple of Manichean, Guangzhou[14]

4.2.3 Building Gardens

Building gardens has a long history, and the oldest court garden of dynasty imperial “Joo” was established more than three thousand years ago. Building urban garden in China with great and colorful variety in three big garden systems has allocated a bright place to itself, and enjoys a great reputation in the history of garden architecture. Chinese garden architecture is composed of great family gardens, and elegant private gardens. These buildings combine artificial beauty with natural beauty, and in crafts building they have been accurately and skillfully composed by the stones and water, flowers and grasses, courtyards and squares, halls and bridges, paintings and boards that give human deep and various emotions and a lot

of imagination power. The environments created for building gardens of China are generally as follows: First, showing the Confucian school about how to deal with the community. Focusing on practice and realities, great responsibility towards community and valuing the values and ethical principles and ideology and political importance. Second, to illustrate the theory of Deism of China indicates the creation of a heavenly environment in which human being is indifferent to the fame and wealth, and tolerates suffering for self-refinement and acquiring good morality. Third, creation of a natural environment shows the feelings and desires of the owners of the gardens.[1]



Figure 17: The Royal Gardens of the City of Beijing, from Different Views[1]

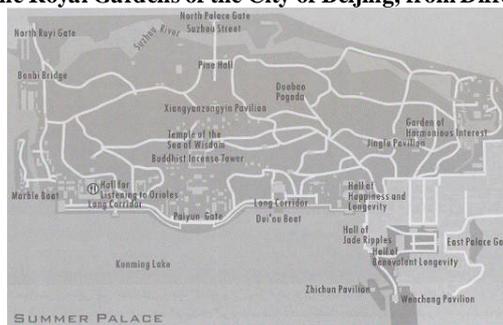


Figure 18: Plan of the Summer Park, Beijing[1]



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Figure 19: Different Views of the Summer Park, Beijing[9]

4.2.4 Tombs

The tombs are one of the most impressive and glorious construction groups in China which have usually been built by using natural and geographic conditions and next to or on the mountain and a few of them have been built in the plains. The general composition of these tombs are as follows:

the cemetery is surrounded by walls and its doors open on all four sides, there are garrets at four corners of it, and a corridor has been created in front of the cemetery. The shadow of leafy and green cypress and pine trees drawn to the sky, and an integrated silence and calmness reigns throughout the cemetery.[1]

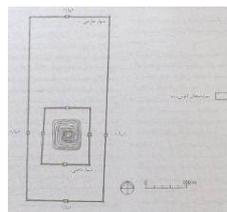


Figure 20: Plan of the Tomb of Chinese Emperor, Shi Huang and Corridors with Mud and Clay Sculptures[8]



Figure 21: The Tomb of Chinese Emperor, Shi Huang and Corridors with Mud and Clay Sculptures[1]



Figure 22: The Tomb of Chinese Emperor, Shi Huang and Corridors with Mud and Clay Sculptures[15]



Figure 23: The Tomb of Chinese Emperor, Shi Huang and Corridors with Mud and Clay Sculptures[15]



Figure 24: The Tomb of Genghis Khan, Inner Mongolia[1]

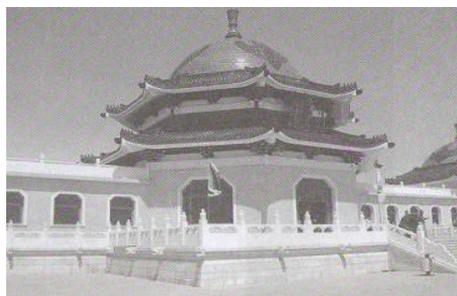


Figure 25: The Tomb of Genghis Khan, Inner Mongolia[1]

4.2.5 Residential Houses

Residential buildings are regarded as the most basic type of construction in respect of the time of appearance prior to other buildings, the most extensive in respect of

dispersion, and the utmost buildings in terms of number. Various and diverse houses have been built with regard to different natural and human conditions of various regions of China. [1] Such diversity is in contradiction

with the generality of government style. In any certain area, the higher the social position and status, the specific regional style displayed in the buildings has less clarity. On the other hand, houses of different areas are indicative of a significant ratio of integration and cohesion, which have more manifestation in those common elements as dominant elements that give identity and personality to the local architecture of

China. Chinese houses, not only share their basic structural principles, but the characteristics and special features such as navigation, symmetry, centrality and design are also the common points in these houses. [5] The Chinese believed that the evil spirits and demons move in the direct path, and that is why they protected it from entering demons by putting a wall at the entrance in a mud home built in the “Han” era. [2]



Figure 26: C Ha Yuan Residential House[10]



Figure 27: The Public Residence, Fujian Province[10]

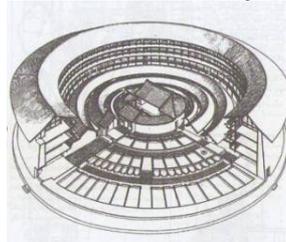


Figure 28: The public Residence, Fujian Province[5]



Figure 29: Residential Buildings of Minorities[10]

4.2.6 Architecture of Traditional Houses of Beijing

The architecture of traditional houses of Beijing has many features. At a time when

Beijing did not have the tall buildings yet, citizens lived in their traditional courtyard. The history of such courtyards dates back to the “Yuan” dynasty in the thirteenth century AD. In the traditional courtyard of Beijing some sculptures are also observed. Usually the direction of house was southward, and there were some rooms in the south, north, east and west, and a large and square courtyard can be seen in the middle. The main rooms facing the south are regarded as the best rooms of the yard. After entering the traditional big yard, a curtain wall is observed in front of the gate outside and inside of the traditional Chinese courtyard that there are some engraved paintings on it. Northern rooms, the major rooms of house are usually for worshipping ancestors, and

they come together only in the feasts and spring festival. The house owner and his wife are staying in eastern rooms of courtyard and in the western part of house there are library and other rooms for children. Brick carving is very accurate in the traditional Chinese courtyard, especially in the houses of rich businessmen, which the engraved gate is often filled with floral and animals motifs. Beijing residents have an old expression on their tongue that says a Chinese acacia tree is seen against the old house. Because in their hearts such a tree is the auspicious symbol. Usually people plant pomegranate, vines and palm trees in their yard to watch the flowers in the spring, sit under their shade in the summer, and use their fruits in the autumn.[1]

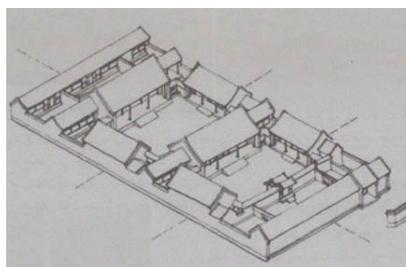


Figure 30: Traditional House of Beijing[1]

4.2.7 Forms of Roof

The roof in the Chinese buildings (either temple or house) was regarded as the fifth

facade of building and it was made of colored bricks and tiles, and depending on the space below it, a certain color was

considered. For example, yellow color was used for royal buildings and the colors of purple, green, blue or red were used in other buildings. [2] Visual emphasis on the roof is the evidence of sheer diversity and variety of its forms. There are four main types of roofs in Chinese architecture from which a

large number of categories are derived: triangular (1 and 2), multi-slope (3 and 6), semi-triangular and half multi-slope (4, 5, 8) and pyramid (7). Among these forms, the form of the multi-slope had a high position.[5]

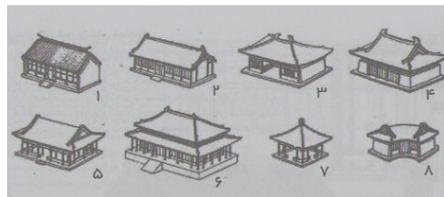


Figure 31: Forms of Roof[5]

4.2.8 Pagoda

The main origin of Chinese Pagoda is summarized into two cases: first the native multi-storey lumber tower related to the time before the Buddha's arrival in the first century AD. (forming the main body) and the other one, Buddhist Stupa adapted from Indian architecture (acting as minaret or its decorative terminal). The priorities related to the major plan are different in various dynastic periods. Square design is the dominant layout before the tenth century AD. But afterwards, polygon layouts were proposed as dominant design. Changes and evolutions in the beliefs were also somewhat effective in these transformations, and ultimately the gradual evolution process

related to the styles was also another factor in creating changes in the form or style of pagodas. Most pagodas were made of wood or clay, or a combination of both types of materials was chosen. Pagoda was not always the Buddhist Temple, but sometimes it was regarded as a single beautiful structure, and it was occasionally used to perform "Feng Shui" ritual. [5] These buildings are made with "odd floors" and "even floors". [4] The oldest known pagoda belongs to the year 523 AD., located on the holy mountain of " Song Shan" in "Song Yue Su ". But the most famous pagoda is the tower-shaped pagoda, "Nanjing". Construction of this building lasted 19 years and the Chinese is used in its view.[2]



Figure 32: Dayan Tower, City of Xi'an[1]

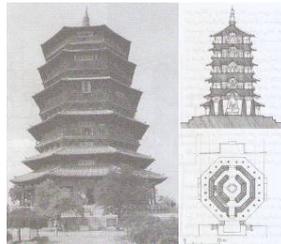


Figure 33: Yingxian Wooden Pagoda, China[8]



Figure 34: Huang He Tower[1]

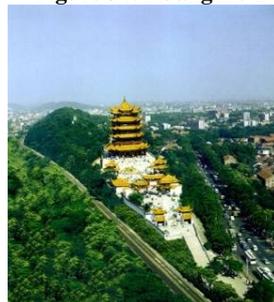


Figure 35: Huang He Tower[16]

4.2.9 Mosques

Mosques were named as “ Khoi Hall “ or “Place of Worship” a long time ago. Nowadays, the name of “Place of Worship” still exists in “Xinjiang” and several other places. In these places, the

most important religious and worship actions are performed to the Port of the Lord of the Universe. The mosques include sanctuary, minaret, students' class and their residence, bathroom, mosque office, imam's residential place, and

mortuary. Most mosques belong to the “Khoi” minority and a smaller number belongs to the minority of “Uighur”. The “Salar” minority has only one mosque. These mosques have many similarities with each other in respect of architectural

technique. The most famous mosques in respect of historical oldness are: the Huaisheng mosque in Guangzhou, the Chuanju mosque, the Huangju mosque and the Yangju mosque.[6]

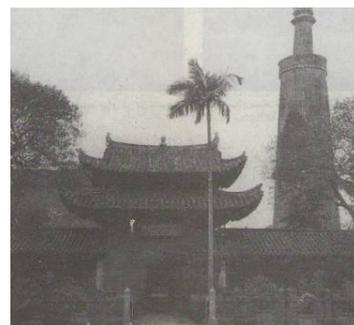
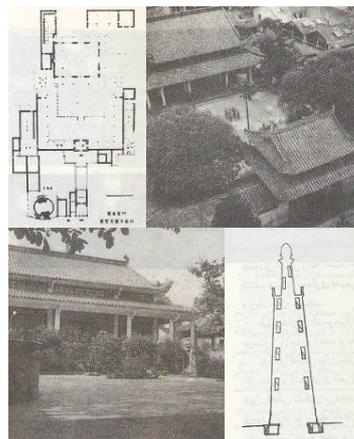


Figure 36: Huaisheng Mosque in Canton[6]



Figure 37: Id Kah Mosque, City of Kashgar[17]

5. Wall of China

This wall that is one of the human architectural masterpieces has extended from east of China to the north west. The height of this wall is 7 to 7.5 meters and with the length of 6,400 kilometers passes through various grasslands, deserts, mountains and plateaus. The construction time of the wall dates back to 2,700 years ago. The wall is one of the few man-made things that is also visible from the outside of atmosphere. The maker of this wall was “Shi Huang Di” (the founder of the dynasty of China), of course The Great Wall of China has several times been repaired and reconstructed at different times during the reign of various kings, but it was used as a strong and impregnable

fortress at the beginning of its construction, and when observing the enemy forces, the torches of wall were lit, so that the whole wall could be visible. The origin of this wall belongs to the 4th century BC. It is very interesting to know how the wall was constructed. For building the wall human resources, including soldiers, prisoners and indigenous peoples were used. The wall has become a symbol of wisdom, perseverance and hardiness of the Chinese people. The materials of this wall include stone, brick and mixture of limestone and clay. Moreover, the rice flour has also been used in the construction of the wall. Designers of the wall have added rice flour to its constituents to create more stability in it. [2]

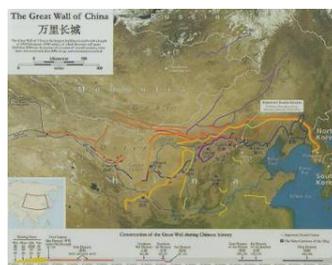


Figure 38: Wall of China on the Map [1]





Figure 39: Wall of China [1]



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Figure 40: Wall of China [9]

SUMMARY AND CONCLUSIONS

Architecture of China, like its other arts has a lot of diversity and wideness, although their architectural works have sometimes been destroyed due to using less durable materials, what has been remained indicates the fact that Chinese works are to the level of the architectures of Egypt, Mesopotamia and ancient Iran. In general the architecture of China includes (Confucius, Lao Tzu, Buddhist) temples, Pagoda, Palace, Great Wall of China, Houses and Monasteries, Tombs and Rock Temples (Caves). The architecture of China is the world's only architectural system that its major is wooden composition, and manifests Chinese ethical principles and aesthetic views, values and nature deeply. The major characteristics of Chinese architecture which are based on deep cultural traditions are as follows: [18]

1. Due to highlighting the idea of precedence of imperial power over everything and the

theory of classes the obtained successes have been more in mansions and urban planning.

2. Particular attention has been paid to the beauty of complex; hence in the composition of major architectures the establishment form of houses and yards is in a way that the two sides act like cross levers.

3. Special attention has been paid to the nature and the perfect harmony between nature and architecture. In the history of China, a great importance is given to the field of artistic characteristics and the style and methods of construction and architectural design to exchanges with the outside, and this point has had great impact on the architecture of Japan, Korea, Vietnam and Mongolia.

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