

Tile Application as the Indication of Modernization in Colonial Taiwan

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Abstract. Surface tile of architecture built during colonial period in Taiwan should be considered as the representation of Taiwanese modernization and social development. The historical and colonial connection between Taiwan and other country should be linked to reveal the un-recognized phenomenon as the research aim. This research will review the historical background of Taiwan and its mother country of colonialism, Japan, as well as the surface tile used for newly built architecture during this period in Taiwan as the research method. The result of this research will conclude the tile use for architectural surface was not chosen randomly but actually according to social phenomenon and the choice of the earthquake-proofing material. This could be seen as the modernization of material choice from simple westernization to practical seismic consideration.

Keywords: Surface Tile, Architecture, Modernization, Taiwan

1. Introduction

Material use of architecture used to be looked as a very technical issue of building matter, but it can also represent the development of the society during certain period. Therefore, this research will explore material use of architectural surface built during the Japanese colonial period in Taiwan. More specifically, the focus will be the tile use. The similarity of tile and constructive brick will reveal the transformation of society development in Taiwan. Based on the purpose of this research, the historical background of colonial Taiwan and its colonial mother country, westernized Japan, will be briefly introduced firstly. The use of tile will be clarified as the followings. Then, the discussion will shed light on the indication of modernized development in colonial Taiwan based on the trend change of tile use.

2. Historical Background of Westernized Japan and Colonial Taiwan

In fact, Japan experienced its self-isolation for hundreds of years until the middle of the nineteenth century, but its westernization was followed soon afterwards. After almost thirty-year westernization, the first 'reward' of this westernization was to defeat China in the First Sino-Japanese War between 1894 and 1895. Taiwan then became Japanese first colony as part of the spoils of the result of the war. Since then, Taiwan was colonized by Japan between 1895 and 1945, while the end of the colonization resulted from Japanese loss of the Second World War [10].

2.1. A Brief History of Japanese Westernization

Japan was isolated from the rest of the world until 1853 [3]. American General Perry forced Japan to begin the trade and commercial business, and the Japanese experienced continuously un-equal treaties. The Japanese Emperor decided to begin its westernization soon in 1868. Since then, Japan launched the movement of westernization overwhelmingly. On the one hand, the government employed many foreigners to practice their professions in Japan. For architectural profession, for instance, some British and European architects were employed to practice and build some buildings for governmental use in the Western style, which was asked by the Westernizing Japanese government. Moreover, they also taught the Japanese in newly established institutes to make them become Western-recognized architects.

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On the other hand, the Japanese government sent Japanese professions and students to America and European countries to learn authentic Western methods and, for example in architectural profession, architectural styles. Young Japanese architects who were dispatched to foreign countries not only studied in academic institutes but also interned with architectural firms to learn more practical ways. With diverse approaches, Japan became more and more 'Westernized'.

The first Sino-Japanese war was usually seen as the confirmation of their success after more than twenty-year westernization. In the first half of the twentieth century, Japan attempted to re-recognize their identity from overwhelming westernization to Japanese empire. Although, eventually, its empire fell in the end of the Second World War, its westernization changed not only Japan thoroughly but also the Eastern Asia.

Nonetheless, it should be noticed that 1923 Kanto earthquake made significant influences throughout Japan and also its colony, Taiwan, although the latter was not reflected this disaster immediately as mainland Japan did. It should be acceptable to consider that the occurrence of earthquakes usually has certain influences on architecture, since seismic danger could affect how buildings can be built and can be able to resist the disaster damage. This earthquake resulted in not only the 140,000 casualties and 447,000 damaged houses but also shook Japanese architectural professions [8]. Indeed, some material deployments were changed after the seismic disaster, which is going to be detailed below.

2.2. A Short History of Colonial Taiwan

Taiwan was either attached or occupied by several Western countries in the nineteenth century, but, by the end of the century, it became Japanese colony due to the result of the First Sino-Japanese war. Although some Chinese bureaucrats attempted to introduce some modern facilities, such as railway, to Taiwan in the 1880s and 1890s, it did not have very significant results by the commencing of the colonization. However, in the first ten years, the Japanese colonial enterprise did not practise successfully because of some resistance of the colonial rule.

Nonetheless, the Japanese still introduced various modern infrastructures. For instance, the sanitation was introduced by a British sanitation expert, who was employed by the Japanese government to teach in Japan but temporarily transferred to colonial Taiwan [7]. The railway was re-arranged and laid since the beginning of the colonization [9]. Taiwan was claimed as part of Q'ing Dynasty for hundreds of year, but was not paid much attention until very end of their rule. In contrast, Japan even secretly investigated Taiwan before the colonialism [10]. Although Japanese occupation in Taiwan between 1895 and 1945 was based on colonialism and later imperialism, the practical infrastructure and modernization during this period of time was nonetheless undoubted.

3. Tile Use on Architectural Elevation in colonial Taiwan

After reviewing historical background of colonial Taiwan, material use of architectural surface which was built during the period shall be explored to clarify the modernization of Taiwan. The Japanese built many Western or modern style architecture in Taiwan during this period, and the main structural material was brick in the beginning but later became reinforced concrete. The former construction could either show the constructive material on the surface or cover the construction with the other kind of material. The latter, however, had very little examples showing the construction material directly on the architectural surface, although during that period European and American architects advocated modernism and began to consider presenting the authentic constructive material without any cover or veils.

Nonetheless, what needs to be clarified is the fact that there were generally two kinds of tiles used on architectural elevations: one was similar to Majolica tile of nineteenth-century Europe [5]. This kind of tile was usually squared and ornamented on the edge of roofs, the veneer of elevations or certain emphasized parts of elevation. Its surface was usually glazed. The other kind was usually red or brown with size similar to brick [6]. The former was used since Q'ing Dynasty for co-operating or replacing the traditional crafts of decoration, such as Chien-Nien. The kind of material was not frequently used for exterior surface of modern architecture, and would be excluded from main discussion of this research. The latter was not appeared until the 1910s of colonial Taiwan, but this material could lead the interpretation of material use affected by social development during that period.

3.1. Red Brick-like Tile

Before the Japanese colonization, Taiwan had some red brick construction, such as Dutch Zeelandia, introduced to Taiwan by Westerners, but Japan brought red brick and similar tile into Taiwan shaping the other kind of image of red surface material. Brick use existed before the Japanese colonial period remained similar its usage, no matter foreign construction or brick traditional residences. The colonial government, however, used brick, and later red brick-like tile, in the way which was practiced in westernized Japan, without considering the original brick use in Taiwan.

Although many brick construction built by the Japanese shows the surface of bricks themselves, some brick construction had another layer of surface material, i.e. red brick-like tile, attached on the surface of the structural brick. This kind of tile was not easy to be recognized since its composition was similar to the header bond of brickwork. The Tai-Chung Railway Station was an example of this kind of material combination (structural brick covered with red brick-like tile), while some white bands are ornamented on the façade as well.

The other kind of use of red brick-like tile was to cover the building which had structural frames of reinforced concrete. Reinforced concrete became one of the structural materials in the late 1910s, although it was not frequently used before 1923 [4]. The Governor General Building (now Office of the President), for instance, was built with the structural frame of reinforced concrete; its wall was built in brick but the brick did not bear the load of the entire building, and its exterior elevation was generally covered with red brick-like tile and white granite and/or pebbledash stucco band.



Fig. 1: Red brick-like tile used for the façade of the Governor General Building, Taipei, Taiwan.

The tile used for these projects were the same kind of material: the color was red; the size was about 110mm by 60mm, which was similar to the size of header face of brick; and the surface was unglazed. In other words, it was fairly similar to the feature of brick. If it was applied on architectural surface, it is difficult to distinguish it from actual brick. Although the employment of this material on architectural surface in colonial Taiwan did not become very general and popular, it represents the social and technical connection between Japan and colonial Taiwan. This could be confirmed not only by the fact that this kind material was used earlier for the surface of the well-known Tokyo Station, but also because of the tile manufacturer, whose product covered surface of the Tokyo Station as well as that of these two projects in Taiwan.

3.2. Yellow/Brown Tile

Around the later 1920s, the surface color of government use buildings, however, became yellow and/or brown. For example, the original main library of the *Taihoku* Imperial University (now the Gallery of NTU University), which was built between 1929 and 1931, had yellow tile as its surface cladding. The structure of the library building was part built in brick but part supported by the frame of the reinforced concrete, but the surface cladding for two construction methods were indifferent. The size of the yellow tile was similar to the header face of brick, and the surface had vertical carved pattern without glazed.

Moreover, the Chia-Yi Station, completed in 1933, was built in reinforced concrete and clad with brown tile and pebbledash stucco. Reinforced concrete was the construction method not only for the frame but also for the walls. In other words, except for the surface cladding, the construction method was unitary. Regarding to the surface brown tile, it was made in the size of the stretcher face of brick without glazed.

Moreover, it was attached on the elevation in the pattern which was similar to stretcher bond of brickwork, disregarding the fact that there were no brick used for the construction of this building. Certainly, later in Taiwan, some other glazed tile was used for cladding other reinforced concrete building, but the color for this kind of buildings was not changed seriously before the end of the Second World War.

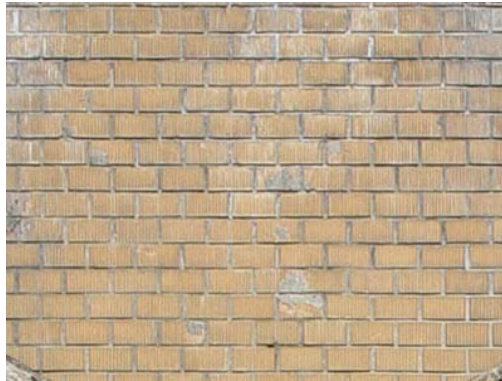


Fig. 2: Yellow tile used for the façade of the main library of the *Taihoku* Imperial University, Taipei, Taiwan.

4. Discussion: Tile Use and the Modernization and Development of Society in Colonial Taiwan

The change of the tile use might usually be referred to the preferences of architects or façade designers or the possibility of material acquirement. However, in colonial Taiwan, the change of tile color from red to yellow/brown could actually be an index of the modernization of material uses and the social development.

As mentioned before, Taiwan had brick construction before the Japanese colonization. However, according to the data that this research could reach, the red brick-like tile did not show in Taiwan until the Japanese colonial 1910s. Japanese scholars asserted the fact that the use of red brick-like tile resulted from convenient and effective consideration of façade design and structural arrangement [4]. They believed that this constructive way could bring the design conveniences, so that designers and architects could design the structure without worrying about its appearances, and the façade could be arranged almost independently without considering the limit of structure. Therefore, the deployment of red brick-like tile can signify the change from the simple brick employment to the advanced consideration of brick appearance. This can represent part of progress of modernization on material use.

However, it became difficult to find the use of red tiles on the newly built projects at least after the late 1920s. Instead, yellow/brown tile became even more popular material for façade cladding. Moreover, the size of used tile also changed. In the 1910s and 1920s, no matter what color of tile was adopted, the size of tile was similar to header face of brick. In the 1930s, the popular size of tile became similar to the stretcher face of brick. The change might seem random if only the change of the material use is considered.

The use of material, however, should be looked back to what happened in Japan during the 1920s, when the change of tile use occurred. The 1923 earthquake, what mentioned in the beginning of this paper, should be re-visited. The seismic disaster damaged significant amount of brick construction. Even the Ginza housing project, which was considered to be the important signal of brick construction since 1872 when it was completed, were seriously destroyed in this quake [2]. In contrast, the Imperial Hotel inaugurated on the day of the Kanto Earthquake remained undamaged. This building was structured in reinforced concrete frame but clad with yellow scratched brick [1]. The quality of the earthquake resistance impressed the Japanese architectural profession, and the safety image also influenced the general public. It should be noted that the Tokyo Station located close to the Imperial Hotel in Tokyo was built in reinforced brick and also remained safe after the quake. However, the resistance of reinforced brick construction impressed neither professionals nor ordinary people. Therefore, after the earthquake, the structure that the Imperial Hotel deployed was rapidly used for other newly erected buildings, and the cladding image that the hotel showed was employed frequently as well. The cladding of the Imperial Hotel was yellow scratched brick, and it was constructed in the stretcher bond of brickwork. The later imitation of cladding material in Japan had similar size of the stretcher face of brick and the similar color, i.e. yellow.

Based on the background in Japan, it might be possible to recognize newly built architecture in colonial Taiwan clad with yellow or brown tile. The post-quake phenomenon affected not only Japan but also Taiwan. As detailed above, the buildings finished after the late 1920s in Taiwan had yellow or brown cladding. Some of their material sizes were similar to the previous popularity, i.e. header face of brick, while some were similar to the stretcher face of brick. But the easiest recognized part, color, was almost never back to red. The change of material use represented the modernization in physical deployment. The use of red brick-like tile means the advanced consideration of structural and cladding material use. The use of yellow tile shows the change of structural material from brick to reinforced concrete, in terms of seismic consideration, as well as more advanced understanding of social development. This kind of change was not merely satisfied the basic yield but provided the modern representation of social events and change of the social conventions.

5. Conclusion

According to the analysis in this research, surface tile used for architectural exterior was not merely random change; it was actually a representation of the transformation of the development of society as well as the modernization on selecting appropriate constructive materials. The society can be reviewed not only through conventionally historical texts but also through physical materiality. When the undamaged Tokyo Station was overlooked, we shall realize that to seek for more trustable constructive material and surface images were both important. The change of constructive materials from brick to reinforced concrete, due to seismic issues, could be understood from the change of cladding materials from red brick-like tile to yellow/brown tile, which could also be defined as the modernization because of the development of earthquake proofing approach. When red brick-like tile in Taiwan became hardly to find, when yellow stretcher-size tile became more and more frequently to be seen, the modernization of material choice, from simple westernization imported to more complicate seismic and social concerns, should be found.

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