The Influence of Architectural Culture Superposition on Urban Differentiation

Peng Liu\textsuperscript{*1}, Qun Zhang\textsuperscript{2}

\textsuperscript{1}Ph.D. Candidate, Xi’an University of Architecture and Technology, China
\textsuperscript{2}Professor, Xi’an University of Architecture and Technology, China

Abstract
The purpose of this paper is to analyze the inherent relationship between the architectural culture superposition and the diversity of urban forms. Through clarifying the concept of architectural culture and the analysis of its growth mechanism, the article put forward the thinking logic of human perceive urban space. Selected two cities in Rome and Xi'an as the research objects, in the method of literature research, from the three aspects (urban space, regional form and architectural culture) to make a further explanation. Finally, by clarifying the principle of the interaction between them, summed up the formation of urban spatial pattern under the influence of architectural culture, with a view to provide the basic data for the study of urban self-growth mechanism.

Keywords: Architectural Culture; Superposition; Urban Differentiation; Urban Spatial Form Diversity;

1. Introduction
At present, urban spatial form diversity has always been the core problem of people's research. Research on this field can be divided into macro-level and micro-angle two levels. In the macro perspective, such as: urban design, historical area, urban renewal, etc.. At the micro level such as heritage protection, architectural form, cultural characteristics, etc. Most of the research is based on the city or architecture, contributes to a clearer understanding of the relationship between the city and the culture. But less content is from the human mind logic point of view, to explore the relationship between culture and the city.

Therefore, in order to clarify the logical relationship between the human mind logic, architectural culture and the urban spatial form diversity. Firstly, through the literature to clarify the relevant concepts; Secondly, taking the time factor as the guidance and analyzes the evolution process and the mechanism of the architectural culture. Finally, through the case analysis, the pattern of urban spatial diversity is summarized from the three levels of point - line - surface. Through the research of relevant content, try to study the urban spatial development model with the culture as the driving factor, and discuss the feasibility and adaptability of the model.

* Contact Author: Qun Zhang, Professor
Xi’an University of Architecture and Technology
13 Yanta Road, Xi’an, Shaanxi, China.
Tel: +8613709259620
e-mail: 563785770@qq.com
2. The Evolution and Growth of Architectural Culture

2.1 The Definition of architectural culture

There is no definite definition of architectural culture for all, in the book *Culture, Architecture and Design* (Amos, R. 2003) has three concepts about "what culture is": the way and order of life, the spirit of inheritance, the method of transformation and use of resources. It also points out that the best way to explain the concept of extreme and abstract is to decompose it, and then to study the elements and manifestations. Therefore, Fig. 1 shows that the three concepts can be simplified as: origin - refining - regeneration, its essence is also a cultural growth logic. On this basis, this paper explaining the architectural culture from three levels: appearance, connotation and essence. Therefore, the architectural culture is a product that meet the demand of economic, social and other comprehensive factors, it has self-growth and the times marked.

![Fig. 1. The Growth Logic and Decomposition of Architectural Culture.](image)

Fig. 2. The Evolution of Architectural Culture.

2.2 The Evolution of Architectural Culture

Architectural culture has a multiple process in the time dimension, which continue to generate, develop and change, in order to adapt to different social times. It is not just a way of self-renewal, but also a re-locate of the new site environment. Therefore, combined with the analysis of urban history areas development, it can divide the evolution into three stages: cultural accumulation, re-locate and forming the center (Fig. 2). The characteristics of architectural culture are different in the aspects of times and regional, and its radiation effect and agglomeration effect are positive for the rich urban space.

3. The Mechanism of Architectural Culture on the Spatial Diversity of Urban Space

3.1 The Guiding of Architectural Culture

In the book of *The Image Of The City* (Kevin, L. 1980), the interaction between people and architecture is interpreted as follows: We can not just regard the city as a thing of our own existence, but rather it should be understood by its citizens Feel the city. It also reminds us that the diversity of urban spatial forms should focus on the perceived micro-level expression.

The form of urban space is very difficult to perceive for the people walking in the space. Fig. 3 shows that in order to facilitate the perception of people within the scope of human visual perception, it is necessary to define, clarify and distinguish the form, period, type and function of space, and finally transform the urban spatial form into a well-known and easily accepted culture level. In this process, the architectural culture becoming the main approach to understand and memory the city for people.

![Fig. 2. The Evolution of Architectural Culture.](image)
3.2 The Aggregation of Architectural Culture

The agglomeration of architectural culture refers to the ability to form a region with the characteristics of the times and the elements. Due to the subordination of architecture and the city, people have been accustomed to the top-down style of planning, but under the guidance of this thinking, the urban planning is easy to ignore the building itself, the role of agglomeration. In other words, the building has a radiation effect on the surrounding places. Nowadays, many cities are seeking their own "cultural characteristics" to re-positioning in the culture, changing from functional cities to cultural cities has become a widely accepted view. Therefore, using the aggregation of architectural culture, As the source point to guide the development of space, may be an effective way to solve the problem of urban development.

3.3 The multi-layer of Architectural Culture

Different from the architectural culture of the integration, transformation and creation, the architectural culture of the superposition of a more intuitive accumulation; that is, the architectural culture which is old, new, there are old and new mix, so as to achieve a level Clear spatial form. In this state, people feel more straightforward to the historical context. This kind of hierarchical relationship with linear characteristics, both from the thinking level or from the visual point of view, can give a clear concept. This effect has a positive effect on strengthening the readability of historic buildings, historical blocks, and urban forms (Fig. 4). This level of relationship reflects the urban space texture on the surface, in the deep level is actually the dynamic interaction between the three of architectural culture and architecture, urban space.

4. The Selection of The Study Object

This paper selects two cities in Rome and Xi’an as the research object. According to different times, from the three aspects of spatial changes, regional spatial function conversion and architectural culture venation to explore the affiliation between them in the new era.

4.1 The comparative analysis of the object

Rome and Xi’an are developed under different architectural culture systems. Their common characteristics are obvious: many historical sites, rich cultural background, obvious urban characteristics, but their cultural background, geographical location, development stage are not the same.
Table 1 shows that with the time going, the growth pattern of architectural culture and urban space texture generation system has built a good dynamic relationship. Rome through the five planning changes, urban history regional center continues to extend. Although since the reunification of Italy in 1870, the population increased by nearly 10 times (about 3 million) (Stefano, G. 2010), but the city is still relatively high perception. Xi’an city construction time is short, but also gradually formed a culture-oriented development strategy, the spatial interface is gradually clear.

<table>
<thead>
<tr>
<th>The object</th>
<th>Time point</th>
<th>Changes in planning content</th>
<th>The process of spatial form formation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rome</td>
<td>1883 edition planning</td>
<td>Only historical values are given to areas that were built before 1870.</td>
<td>Mainly located within the barrier of Aurelian, covering about 1000ha.</td>
</tr>
<tr>
<td></td>
<td>1909 edition planning</td>
<td>The newly defined &quot;historical city&quot; covers an area of 7,000 ha, adding other areas.</td>
<td>Contains the works of modern and contemporary architects.</td>
</tr>
<tr>
<td></td>
<td>1931 edition planning</td>
<td>Added some private expansion and the earliest public or semi-public buildings.</td>
<td>Former rationalist urban form texture (1931-1960), between the suburbs.</td>
</tr>
<tr>
<td></td>
<td>1962 edition planning</td>
<td>The quantization parameters are defined for the planning project. (Building-related indicators, standards, etc.)</td>
<td>The new rationalist texture (after 1960), the relationship between the new settlement and the surrounding environment became weakened.</td>
</tr>
<tr>
<td></td>
<td>2003 edition planning</td>
<td>According its special historical and cultural characteristics, divided into historical city, solid city, to be rebuilt city, to be transformed city, metropolitan facilities five parts.</td>
<td>The urban settlements were showing the characteristics of history and function, forming a new urban system and texture.</td>
</tr>
<tr>
<td>Xi’an</td>
<td>First edition</td>
<td>Protect and make full use of the old city</td>
<td>Form the early texture of the central area.</td>
</tr>
<tr>
<td></td>
<td>Second edition</td>
<td>The re-use of historical and cultural sites, urban expansion.</td>
<td>Give a grading protection to the relics.</td>
</tr>
<tr>
<td></td>
<td>Third edition</td>
<td>Put forward the “multi-center” development, Culture-oriented functional organization.</td>
<td>Forming a layer of texture.</td>
</tr>
</tbody>
</table>

4.2 The Evolution of Urban Spatial Form

4.2.1 Analysis on the Spatial Form of Roman City

(1) Urban space extension. The most striking feature of Rome comes from its own history, and its geographical range contains hierarchical relationships. In fact, in accordance with the cultural characteristics (medieval, Renaissance, Baroque, 19th century or 20th century) to its identification and definition, more in line with the principle of urban space division. With this approach, as shown in Fig. 5, the Roman city’s extension space can identify four major urban texture categories, including the historic city (red-A), solid city (orange-B), to be rebuilt (pink-C), to be renovated city (new city expansion-D), in turn, each category is subdivided according to the characteristics of the various organizations described above (Stefano, G. 2010). In fact, we can clearly understand the expression of urban diversity through the process.

(2) Regional morphological changes. This paper chooses to analyze from the wall area, and it is estimated that about one-tenth of the walls are formed by integrating the original structures: Pyramid of Cestius, Castra Praetoria, Castrense Amphitheater and so on. Fig. 6 shows that the walls are constantly reused in function, implanted or even replaced with the time change. The border is constantly expanding outward, increasing the number of public buildings such as residential, office, education, churches, museums and so on. These buildings like the gene sequence that is written into the walls. Nowadays, people can identify a series of systems and components with strong architectural culture characteristics embedded in the development of the wall, such as the systems of infrastructure, public service, residential and monuments.

(3) Architectural cultural changes. Table 2 shows that the development of Roman architectural culture can be divided into four stages, which defined by the architectural features. Each period can be decomposed into four categories, each stage is not isolated, and developing from the previous stage. A corresponding relationship can be found between the architectural cultural and the extension of urban space.
4.2.2 Analysis on the Spatial Form of Xi'an City

(1) Urban space extension. Fig. 7 shows that the development of Xi'an city also presents a form of annular diffusion surrounded by the basis points. However, the urban regional texture level is not obvious under a shorter time. It also exposed some problems, for example, even if the planning of "four districts, one port and two bases", but the population is still unable to effectively evacuate; The city's impression is limited to the core area of several historical blocks and buildings, compared with no effective perception on the new area. This phenomenon is essentially the development of architectural culture fault problem.

<table>
<thead>
<tr>
<th>Timeline Categories</th>
<th>Roman period</th>
<th>Medieval period</th>
<th>Renaissance-Baroque period</th>
<th>19th-20th century period</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morphological performance</td>
<td>Greek and Roman style.</td>
<td>Column</td>
<td>Dome building</td>
<td>Diverse architectural elements performance</td>
</tr>
<tr>
<td>Time performance</td>
<td>Square, Dome, Column</td>
<td>Islamic culture</td>
<td>Architectural plane</td>
<td></td>
</tr>
<tr>
<td>Value performance</td>
<td>The Roman Empire.</td>
<td>Byzantine culture</td>
<td>Interior decoration</td>
<td>15-18 century</td>
</tr>
<tr>
<td>Functional performance</td>
<td>Highlight the spirit of &quot;humanism&quot;.</td>
<td>Reflecting the pursuit of beauty and art</td>
<td>Rome became the source of artistic revival</td>
<td>19th-20th century period</td>
</tr>
<tr>
<td>Support for functions.</td>
<td>Functional layout is more free.</td>
<td>More public buildings, residential and others.</td>
<td>scientific and technological level improving</td>
<td></td>
</tr>
</tbody>
</table>

Table 2. The Time Node and Characteristic Performance of Roman Architectural Culture Development

(2) Architectural cultural changes. Table 3 shows that unlike the western architecture culture system, the oriental system has the characteristics of "continuous form", which has been extended to modern times. This
is due to the independence and the closure decision of culture. And these characteristics also lead to its architectural culture system is more fragile, more vulnerable to the impact of other culture. Therefore, we should protect and inherit this culture.

Through the comparative analysis of the two cities, it shows different ways of coping with multiculturalism under different cultural systems. Meanwhile it can give us some inspiration: Although the social, cultural and other factors background differences, but the mechanism of architectural culture is the same.

5. The Pattern of Urban Spatial Forming under the Guidance of Architectural Culture

The architectural culture has a guiding effect on the function, structure and order of urban space. It integrates into urban space through inheritance and transformation, gradually forms a stable spatial form. This repetitive process also is a self-growth mechanism. But this process needs to accurately define the different periods of architectural culture, and give it a reasonable space and time to grow.

Therefore, if the blocks and buildings are treated as base points, then these base points have time and cultural attributes. Fig. 8 shows it gradually forms the early, medium and near base points over time. Through their interrelationships, eventually through the linear spatial structure, Spatial structure, and planar spatial structure to construct the diversity of urban spatial form. Through the human perception of thinking logic and this pattern to match, and ultimately enhance the perception of urban space.

Fig. 8 The logical relationship of point - line - surface hierarchical structure

6. Conclusion

In summary, this paper attempts to think and interpret the urban space from the microcosmic perspective of man, and take the architectural culture as the medium, put forward the way of understanding and memorizing the urban space through the thought-oriented. With the rich cultural city of Rome and Xi'an for the further explanation, finally concluded that: the superposition of architectural culture led to the development of urban form, while helping people to perceive the city. Perceptible urban space is also demanded in this era. Therefore, The study of the model is helpful to the preservation, establishment and development of the characteristic urban spatial form.

References