

Architecture and Culture

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Abstract—"Culture" originates from the term "cultivation," implying that one has "grown" through knowledge or experience. Culture, therefore, should be understood as involving more than the values and needs of a group of people but the entire "way of life" of that society. Through architecture it is possible to measure many things about a culture, such as lifestyle, artistic discernment and social culture. It is the influence of culture which details out the shape, size, orientation and ornamentation of a built form. Architecture is both the process and the product of planning, designing and constructing buildings or any other structures. Architectural works in the material form of buildings are often perceived as cultural symbols and as works of art. This paper deals with the study of cultural reflections in a built form and a comparative analysis of how architecture has changed with the change in culture.

Index Terms—Architecture, Culture, Identity, Climate, Sustainability.

I. INTRODUCTION

"Culture" originates from the term "cultivation," implying that one has "grown" through knowledge or experience. Culture, therefore, should be understood as involving more than the values and needs of a group of people but the entire "way of life" of that society. Architecture is a manifestation and expression of culture. As such it must acknowledge and respond to the cultural needs and values of the society with which it interacts. Changing the cultural and social attitudes in communities has the greatest impact on architecture. Therefore, the role of culture in fostering architectural identity

Seems indispensable. Through architecture it is possible to measure many things about a culture, such as lifestyle, artistic discernment and social culture. It is culture which details out the treatment or articulation of a built form. Culture has another aspect called material aspect indicating to the buildings, factories, etc. In fact, these things are considered as a part of the culture of a society. Because it is rooted in the values, beliefs, etc. And from here the link between culture and architecture can be seen.

Due to direct effect of culture on architecture, it is natural that cultural changes cause transformation in effective concepts and theories in the appearance of the architecture and consequently, different ideas of architecture come into existence that determine the interaction between theoretical concepts and methods of culture in general and specifically the theoretical concepts and architecture (Diba, 1999). Every

society has its own culture, upon which its foundation of architecture was established, and its architecture is the objective image of its culture. In fact, architecture was and is a true measure of a nation's culture. The culture of the community is responsible for the ways spaces get formed.

Since the birth of 20th century modernism, architecture has been effectively stripping away such ornamentation, in part as a rejection of what has come before, and in part as continuing this cycle of reflection and influence.



Fig. 1. India

II. RELATED STUDY

Even as architects we seem in the midst of the realm of chance, disorder, drift, idleness on the one hand and scientific deduction, new orders, dynamism and change on the other. Today the contradictions of architecture stand between the disciplines of science and art because all our buildings should be creative and also be capable of scientifically creating a physical environment.

Then, India is a secular state with tribal beliefs mixed with Hindu, Christian, Islamic, Buddhist and Sikh faiths. So there is no single state religion, no dominant religious community, and so the rulers cannot use the weapon of fundamentalism or religion to arrest the crisis of faith.

The architect in search of identity

In architecture, as in all visual arts, there is a search for identity. As individuals, as social beings we are being affected by the crisis of faith, but as architects the search is for a sense of identity in built form. This search is simultaneously being carried out on two planes: the "vertical" or historical plane and the "horizontal" or contemporary plane. In simple terms the ruling cultural landmarks of the historical plane B.C. are: a

Hindu culture from the thirteenth century till today, a Buddhist culture from the fifth century B.C. to the twelfth century A.D., and Islamic culture from the twelfth century A.D. to the eighteenth century A.D., a colonial culture from the eighteenth century A.D. to the mid-twentieth century and then independence for thirty six years. This is the Indian heritage.

On the contemporary plane, as architects, we are working for homeless, landless, farm labourers and attempting to find solutions in mud that cost less than a hundred dollars a dwelling. We are working simultaneously on construction costs of three dollars a square foot and fifty dollars a square foot. The search for identity in our architecture lies in creating the buildings of the horizontal (contemporary) plane which will recognize and develop out of the historical (vertical) plane.

III. SCOPE OF RESEARCH

The main objective of conducting study is to investigate the cultural expression in architectural built forms. This study is helpful in understating the ways in which cultural essence is reflected in the built forms. The aim is to study the effect of culture on architecture and a comparative analysis of the ways in which architecture changes with changing culture.

IV. PROPOSED METHODOLOGY AND DISCUSSION

The use of theoretical knowledge obtained from the literature surveys, case studies and discussions.

The following are the results from the study: The model of the relationship between culture and architecture (Shayan, 2011).

TABLE I

RELATIONSHIP BETWEEN CULTURE AND ARCHITECTURE

Architecture and culture	Architecture	Scope of culture
Functional	As a result of social components interaction	Sociology
Conceptual	As an artistic product that includes an end elevation of the mind	Aesthetics
Functional conceptual	As a matter of human life and includes an effective on actions	Anthropology
Perceptual	As a result of mental attitude to the surrounding built environment	Psychology

Study of different styles of architecture i.e. Mughal, Rajput and Marathas and how their cultural expression is represented in their built forms:

A. Mughal Architecture

Mughal architecture is mainly known for their gardens whose concept is based on Char Bagh, the bulbous domes, minarets, vaulted gateways and delicate ornamentation.

Mughal gardens served various functions such as open courtyards for light and ventilation enclosed within the palaces, for pleasurable retreats from the urban centers and for hunting

purpose .Tomb garden is another variety of Mughal gardens and has a more defined role. They believe that these are the gardens of paradise where the departed would find themselves in the afterlife. They constructed tombs at the center of the crossing of the four walkways with water fountains.

Water plays an important role in Mughal architecture as it also plays an important role in space transforming space through decoration of surface as water reflects the richness of architecture and provides a dynamic and changing surface of its own. Their cultural belief is that water is a sacred element representing purity and life.

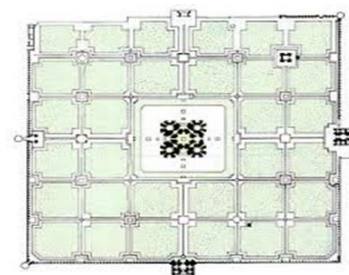


Fig. 2. Plan showing mughal gardens



Fig. 3. View showing char bagh planning of Mughal garden

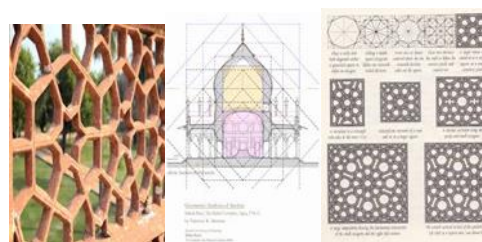


Fig. 4. Images showing geometry of Mughal buildings



Fig. 5. Mughal structure

Arches are the important element of Mughal architecture because the whole structure stands on them. They follow the curve as they believed that it represents the spherical nature of the universe.

They preferred geometrical designs as they believe that it

represents unity. Monuments have been decorated with geometrical designs (squares, circles, stars etc.).

The construction of massive domes which they believe that the curve of the dome represents the spherical nature of the universe and connects them to the god. The dome has another feature as it proves to be an excellent geometry for good acoustics.

For construction they use red sandstone inlaid with marble, use of lime was very extensive and was used not only for binding purpose but also as plaster for making the surface for decoration and encaustic enamel work.

The climatic considerations can also be seen in the Mughal buildings.

B. Rajput Architecture

Rajput architecture is known for the construction of fort, palaces and temples. As Rajputs are known for their royal culture, their buildings also represent royalty and elegance. The cultural expressions can be seen in the ornamentation of the built forms.

The Rajput architecture is mainly known for the construction of palaces. The planning had centrally placed courtyards with water bodies. They too believed that water is a sacred element which represents purity and another reason for the centrally placed water body in a courtyard is the climate. Water acts as a cooling agent and planning a water body at the center is one of the methods of passive cooling.

Rajput architecture combines a number of elemental designs that stand on the plain of geometry and traditional advisory as well.

The forts have been constructed over a large area and have the ambient company of an elegant garden that gives a traditional touch to the royalty. The large interior halls and the graceful lawns give a spacious and intricate feeling to the entire palace. The palaces had a number of rooms which is a proof that entire Rajput families lived under the single roof.

Arches and domes are the elements of the Rajput architecture. The purpose is same as that in Muslim architecture but the arches and domes are more ornamented as compared to that of Muslim architecture. The culture of Rajputs is reflected in the ornamentation and carvings of the built forms.

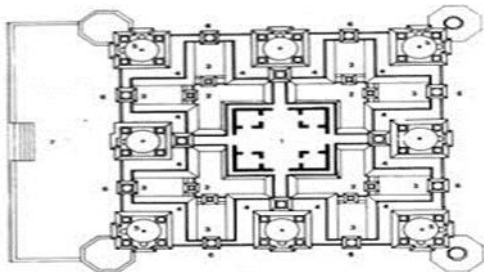


Fig. 6. Plan showing Rajput palace

They use locally available materials for construction of the buildings. The buildings are proved to be sustainable. Limestone, sandstone and marble are used for the construction.

For the masonry purpose they use mud, lime, surkhi, marble powder, guggu as binding materials.

Rajput architecture is a fine example of the taste that the royal families had during that time. It is an iconic evidence of the rich history in art and music that made India such a prudent existence of culture.



Fig. 7. Interior of Rajput palace having water body centrally placed



Fig. 8. Rajput architecture

C. Maratha Architecture

Maratha architecture is known for the construction of temples, Fort and Wadas. The Maratha architecture is mainly known for the construction of Wada's.

The Maratha architecture is also known as Wada architecture. Their architectural style was an amalgamation where features from Mughal and Rajasthani architecture were combined together with local construction techniques.

The design was not that much influenced by the climatic factors rather it was influenced more by social and cultural factors. The wadas consist of a large courtyard and around that courtyard rooms were planned.

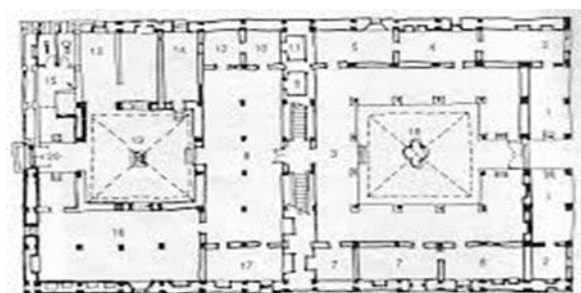


Fig. 9. Typical plan of WADA

The wadas are of two types: one where people of different families live and the other where a single family resides. This

is based on the economic status of the peoples.

Use of arches and domes kept to minimum. Domes and arches were built on the chattris only.

They also used locally available materials for construction purpose. Brick, wood and stones were the materials used for construction. Surkhi, lime, giigi powder, jute, gud, guggle are used for binding purpose.



Fig. 10. View of WADA

V. CONCLUSION

Changing culture has a great impact on architecture. As every built form somewhere or the other is an expression of the culture of the community to which it belongs. At present time also we can see the cultural expression in architectural built form but it is the fusion of culture and modern architecture, old and new construction materials and techniques. No matter how far we have come but our roots still lies in the past. Culture has another aspect called material aspect indicating to the buildings, factories, etc. In fact, these things are considered as a part of the

culture of a society. The built form has changed from palaces to bungalows, from use of stone and mud to use of R.C.C but the function is same.

The use of water bodies and fountains during the time of Mughals, Rajputs and Marathas is for the purpose of recreation and climatic considerations which are relevant even in today's context but the ways we are planning is different.

At earlier time courtyard planning was done, the courtyards were planned in even in the houses but at present time buildings are losing such ornamentation due to the limited availability of land. People now are more tend to use artificial lighting and air conditioning than that of natural light and air, so the buildings are planned accordingly.

Earlier the materials used for the construction are stone, brick and mud. This material does not allow the heat gain inside the structure. But the structures made of steel and R.C.C absorbs heat and increases the temperature inside the structure.

Thus Culture is not constant it keeps on changing and also includes changes.

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