

# EFFECT OF ARCHITECTURE ON PSYCHOLOGY

Madhur D. Laddha, Tarang Singh, Mohit K. Pawar, Dr. Monika R. Seth

Student, Student, Student, Asst. Professor of Humanities

Civil engineering.

Shri Ramdeobaba College of Engineering and Management, Nagpur, India

**Abstract:** This study has been undertaken to bring forth the subtle effect an architectural building or room or structure has on us. Symmetries and geometries have always affected our conscious and sub-conscious mind but the research in past to know these effects were naïve. In this paper we will look upon different symmetries and with appropriate examples and theories we will try to reason the different sub-conscious emotions aroused due to different symmetries of structures. In conclusion we shall discuss few steps to increase the volume of research in this field and ways to inculcate these in mundane contemporary structures.

## Index terms – symmetries and geometries

### Introduction:

Since the start of civilisation like Harappa and Mohenjo-Daro, Egyptians colonies, etc. humans have created explicit structures for different purposes. We've always created humongous palaces for showcase of power, temples for religious purposes and community halls for debates and discussions. These structures have been common to every civilisation of every era and the architectural designs/symmetry that have been used to create these structures are more or less the same for same types of structure, for example – religious structures like mosques, temples, cathedrals, etc all have the same symmetry i.e., bilateral symmetry.

### Types of Symmetries:

1. Bilateral symmetry.
2. Radial symmetry.
3. Cylindrical symmetry.

### Effects of these Symmetries: -

#### 1. *Bilateral symmetry-*

With bilateral symmetry, the composition mirrors one another. It is the most common type of symmetry found in all cultures and eras. Humans are very pleased with this symmetry as we ourselves have bilateral symmetry from outside and research have proven that we find symmetrical faces more attractive than asymmetrical. Hence the structures with this type of symmetry pleases our eyes, gives a sense of balance and evokes harmony and peace. Therefore, most of the ancient religious places, Mecca masjid, Sun temple in Konark, etc. are found to have bilateral structures – one of the main reasons that gives the sense of inner peace and serenity.



Taj mahal



Red Fort

## 2. *Radial symmetry*: -

The meaning of Radial Symmetry refers to “the balanced arrangement of similar, radiating elements on opposite sides of a median axis so that only one plane can be divided into similar halves by passing a plane at any angle around a centre point or along a central axis.”



Katheral's dome



Lotus Temple

This type of symmetry is generally used to emphasize our focus on the central area. In stadiums and large grounds, it helps gets the focus of large number of people to the centre where the main event is being held.

These radial structures can also be seen in spiritual places and these structures subtly helps us concentrate and meditate.

## 3. *Cylindrical symmetry*: -

Cylindrical symmetry means structures having only single axis of rotation. These structures when incorporated as vertical columns evokes a sense of resistance towards gravity and hence gives a feeling of power, greatness and superiority. Ancient civilisations of Rome used to have these columns in their palaces as a showcase of power and superiority of the royalties. Even the famous White House of U.S.A has these cylindrical columns in the front elevation of the building defining its power to the world.



The Parthenon on the Athenian Acropolis

#### 4. **Spiral symmetry:** -

Spiral or helical symmetry can be categorised as a unique form of similarity symmetry. Helixes and spirals often communicate continuity in architecture. This is manifested in spiral staircases whereby the entire form denotes a sense of flow in the space from one level to another throughout the building. In spiral or helical symmetry, the architectural piece exhibits a spiral or helix. In other words, there is a central vertical axis that the architectural piece "winds" around and either toward or away from. The effect of spiral symmetry is that this special type of similarity symmetry expresses a theme of continuity. This piece of architecture has undoubtedly expressed spatial continuity through the use of a helical ramp.



The Guggenheim Museum

#### **Other symmetries:** -

There are many other symmetries and theories explaining their psychological effects but still we require a good amount of research and experimental facts to support these theories.

Some other symmetries that can be seen in architecture are –

1. Chiral symmetry – it is when two objects mirror each other but do not superimpose.
2. Similarity symmetry – it is found when repeated elements change in scale without change in shape.
3. Transitional symmetry – it is found when something has undergone a movement, a shift or a slide, in a specified direction through a specified distance without any rotation or reflection.

## Conclusion –

If seen carefully we can notice that each great structure from pyramids to skyscrapers leaves an impact on our mind not only aesthetically but also emotionally. We come to notice that every spiritual place gives a sense of serenity and calmness and that every prodigious palace gives us the account of bravery, superiority and power of the ruler. With many researches going we are now understanding that the architectural design has an important role to play in it and scientist and new researchers are actively taking part in exploring the effects of design on human psychology.

With increasing research we also need to formulate ways to incorporate these facts and use it to our benefits. To make our work places more pleasing, to make public places more calm and attractive, etc hence improving our overall mood and personality which will further help creating a better society with more amiable people with high energy and good moods.

## References :-

- lexter. (2019, august 14). *insights - Jonite*. Retrieved from [https://www.google.com/amp/s/insights.jonite.com/the-art-of-symmetry-in-architecture%3fhs\\_amp=true](https://www.google.com/amp/s/insights.jonite.com/the-art-of-symmetry-in-architecture%3fhs_amp=true)
- parmar, R. (2017, june 24). *gharpedia*. Retrieved from <https://gharpedia.com/blog/the-symmetry-in-architecture/>
- W.Mehaffy, m. (2020). the impact of symmetry in architecture and urbanism : towars a new reseach agenda. *MDPI*, 1-13.

