

Evolving Pedagogical Approach to Understand Design in Architecture

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ABSTRACT:

“Design is an expression of feeling Any creative Act is design”¹.

In studying design we try to understand the reason for our choice when we prepare a design. Design is a hybrid activity with a proper blending of art, science and mathematics. Architectural design totally revolves around the process of thinking and visualizing simultaneously in three dimensions. The product of design by an architect should be expressive as well as beautiful. Design is a core subject in architecture education, in which students are involved into various activities regarding design. Many architects, who set an example in front of us, act as benchmarks for studying and understanding architecture in a better way. One of the key areas for any student of architecture is to understand the works of architects. Therefore to teach an Architect’s work effectively is important part in the pedagogy of architecture education, For Understanding of design in architecture, one must have the ability of perception or judgment of a building. Understanding of any architects work reading their buildings is the primary step which leads to an understanding of design by designer.

There are different methods, through which an architect’s work can be appreciated Descriptive Method, Interpretative Method, and Evaluative method. The normative criteria is a valuable tool to appreciate any building. It evaluates buildings on various design components viz. Form, Function, Space, Structure and Sitting. By using Normative Criteria, a teacher is able to explain the design of an architect with respect to using the basic components of design. It is a simple yet effective tool and can be used both by the teacher and student in the pedagogical process.

Keywords: *Design, Normative Criteria, Pedagogy, Forms*

1. INTRODUCTION

In architecture there are different views and thoughts on design by different architects, which are reflected in their design. Helping students understand and appreciate that work is an integral part of architecture education. Though there are different ways to appreciate work of architects, they

require a framework within which the whole building can be appreciated in a simple way. Therefore the need of the present study is to develop a tool for the teacher/ student to appreciate building in a systematic way. The Normative criteria acts as a pedagogical tool to appreciate architecture in a better way. Designing a building is an important activity in architecture. Therefore learning and understanding different aspects of architecture through architects work by using normative criteria-such as form function, structure, space, sitting.

1.1. Understanding Design In Architecture

We are surrounded by things like by chair, tables, advertisements picture, and sculpture- in our homes, office and in museums. Here we search out the reasons for the form such objects take, or when we try to create some of them in a way that will give us satisfaction, we are involved in the problem of design. Design is a concern for everyone whoever paints a picture, makes a craft object, or even a costume or a piece of furniture.

In broad way it is define as,

“Design is Expression of feeling.....Any creative Act is Design”.

In architecture, it is related to designing of buildings that is known as an architecture design.

2. ARCHITECTURAL DESIGN

There are several definitions/descriptions but a universal one is “Architectural design involves thinking and visualizing simultaneously in three dimensions in such a way that the resultant composition is expressive and beautiful” Architectural design is the process by which an object which is to be physically constructed later is first visualized as an idea known as concept and can exist in two different forms. Mental idea & Representational idea The mental idea helps to identify the purpose of the object (building), analyses the aesthetics and functional aspect, think of good composition. Whereas representational idea is the reproduction of the concept in the form of sketches or diagram or miniature models. Therefore, Architectural design is the architectural space defined or enclosed by a structure that should satisfy both aesthetics and function.

3. NORMATIVE CRITERIA OF APPRECIATING ARCHITECTURE

“Architecture is functional that is developed out of an accurate setting fort of practical demands”

- 1) **FUNCTION-** “The house- a machine to live in” – a house what resembles a machine in being radically well suited to the needs it had to serve, designed with honest- even inspired rationalism but without inherited prejudices.
- 2) **FORM –** “ to invent and create forms symbolizing our age.

- 3) **STRUCTURE**—“ With raw material to construct moving relationships”
- 4) **SPACE** – “experience of space is a biological function.”
- 5) **SITTING** —“....a symbiosis of land and building”

3.1 Importance of Normative Criteria of Appreciation in the Pedagogy of Architecture Education

Normative criteria for appreciation of Architect’s work helps the student learn the skills and technique of visual perception, architecture vocabulary for Communication and improve their quality of self judgment. Hence, teaching architects work to students through the proper process helps them to understand design in better way. There are various methods for appreciation through which architects work can be explained.

Descriptive method, Interpretative method& Evaluative Method

3.2 Understanding Form

“Form is not simply the physical or aesthetical property, It is all the things that make up all aspect of product’s character including culture to which product belong, therefore form is the manifestation of product’s usefulness usability and desirability”⁴.

Music without form is noise, letters that not formed into words, sentences without meaning, Painting would be nothing more than brush stroke on canvas. Indeed, all arts have form that develops through process action artistry. So too is it with design; otherwise the product created would not be relevant. Form is an integral part in any area of design.

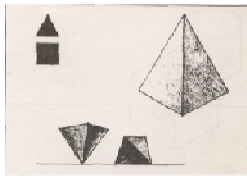
Form is often used to mean an area defined by contours without regard to other identifying qualities, as color or material. Outline refers to the line that delimits. The Dictionary meaning of Form

1. External appearance of a clearly defined area, as distinguished from color or material; configuration: a triangular form.
2. The shape of a thing or person.
3. A body, especially that of a human being

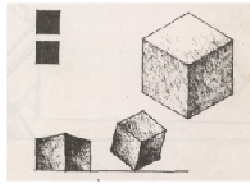
3.3 Form In Architecture

Design is nothing but the creation of form. Form is the primary element in architecture. Architecture form is another word for three dimensional geometric solid shapes within a building. Form in architecture is always in the context of built form, it is simple,

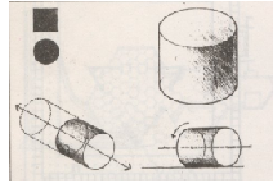
generic and tangible form. A point produces a line; line produces a plane; a plane produces volume, these are the primary elements of form. There are many different types of form but essentially form is born out of shape. Therefore Form refers to the shape or configuration of a building.



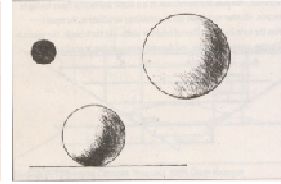
“Fig.1.1”Pyramid



“Fig.1.2”Cube



“Fig. 1.3”Cylinder



“Fig. 1.4 sphere

There are few authors who attempted to elaborate different type of form classification scheme. One notable illustration is Ching. He differentiates between regular and irregular forms and later he classifies architectural form into three main categories: platonic solids, additive forms, and subtractive forms

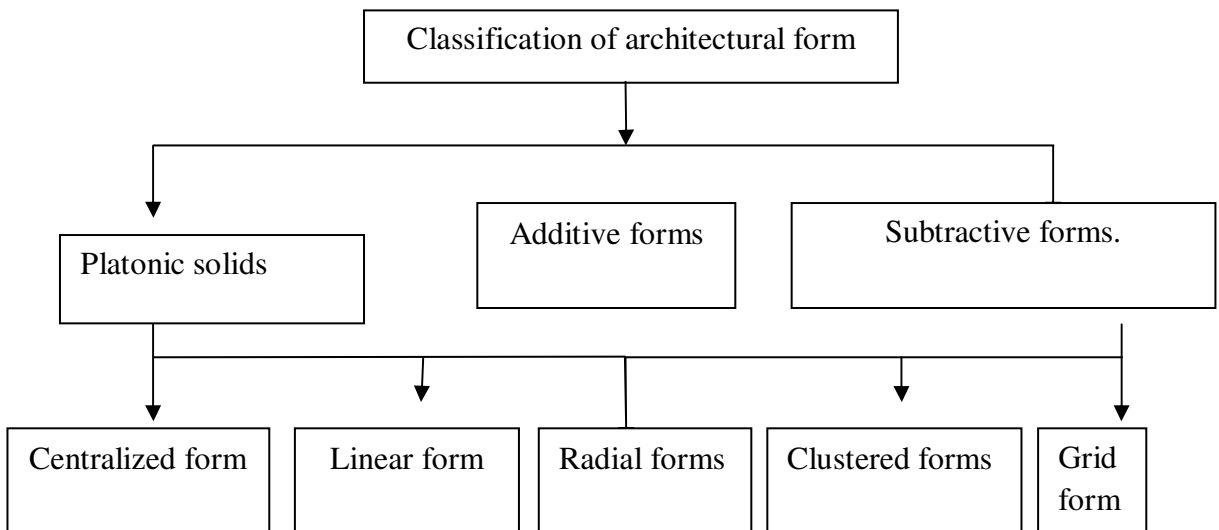


Fig. 2” Showing classification of form by ching

4. CASE STUDY: APPRECIATION OF HALL OF NATION (NEW DELHI, 1970)

Raj Rewal is an Indian architect and urban design consultant who studied architecture in New Delhi and London. His humanist approach to architecture responds to the complexities of rapid urbanization, the demands of climate, cultural traditions, and building crafts and technologies. The main pavilion of hall of nation has a clear span of 78 meters and height varying from three meters to 21 meters, thereby providing a vast capacity for items to be exhibited from the level of books to bulldozers. Space frame of hall of nation is in concrete cast in-situ.



“Fig .3.1” exterior view of Hall of Nation

4.1 Form of hall of nation (Form as symbol)

The Commission for large exhibition halls for the 1972 International Trade fair in Delhi gave Raj Rewal an opportunity to develop the inherent qualities of structure as form and to explore its potential for space-making. The task for architect was not only to create an exhibition hall but, is to project before rest of the world that, “India is a fast technologically developed country and has achieved recognizable level, which symbolize the Indian progress in the field of construction technology.” Therefore, it was expected out of the built form that, it will keep on acting as brand ambassador of Indian technological advancement for very long period and by, utilizing basic octahedron module of the space frame Raj Rewal satisfied these demand successfully.



“Fig 3.2” Form showing structural expression of Hall of nation

4.2 Form and Geometry

From the point of the view of ‘Form’ the pavilion resembles a truncated pyramid. And pyramid is a single rectilinear form. Hall of nation is an example of primary massing i.e. one shape, one mass. These archetypal images of pyramid clearly suited to powerful symbol of modernity. As the pyramid is powerful symbol of ascension and precedents regarded as being solid components, grounded to earth by its base. By using basic geometrical shape of truncated pyramid Raj Rewal has developed Monumental quality of structure and distinctive grammar of his own.

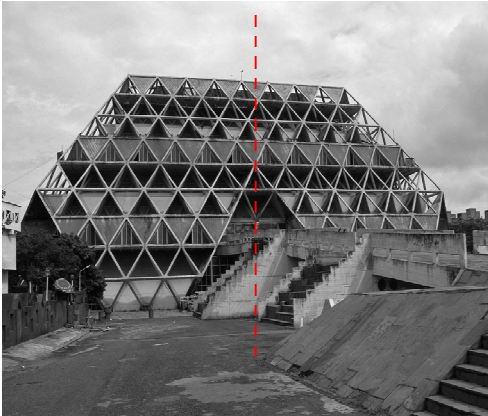


“Fig 3.3” showing triangular aperture for entrance

Architecture and geometry is symbiotic in nature virtually inseparable pair that we seen throughout history and Hall of nation is a evident of the amalgamation of this geometry and architecture.

Form of Hall of Nation authentic example for combination of Aesthetics and technology where, Raj Rewal combines traditional and modernist approach in his architecture for the creation of such a large and majestic mass of building.

4.3 Symmetry:



The architectural production of built form is Symmetrical balance which makes the structure visually more grounded and stable.



“Fig 3.5” Showing symmetrical balance of hall of nation

4.4 Solid and Voids

Solid and voids of space frame are created by him provide thermal protection to the building and also too acting as jali to filter the natural light. It reflect that window opening constitute a modern interpretation of craved window, or jali. Truncated pyramid whose sloping walls contain triangular apertures, creating changing pattern of light and shade on the surface of the building and inside the building. The triangular openings which slashed at four corners add interest to the form. Similarly this work as both for windows as well as for doors. They are huge openings with small door below.

4.5 Rhythm :Closely related solid and voids of triangular panels creating sense of rhythm which provides flow within a solution and implies melodic response to built form. Creation of pattern due to similar shape and sizes of triangle generate sense of continuity within form of building triangle generate sense of continuity within form of building.

4.6 Harmony: Coherent and harmonious development of the form and design element in composition is sync the sense of unity to whole building



“Fig 4.1” showing single mass building is breaking in smaller triangle of space frame

4.7 Mass

The single mass of the building with its grand scale makes an major impact on the overall appearance of structure but at the same time solid and voids of space frame breaking the bulk of structure down into smaller pieces and make the structure more interesting. Massiveness of form and delicacy of finer creation of space



“Fig 4.2” showing single mass of Hall of nation.

frame are held in fine counterpart. These frame structure clearly indicate about great spatial quality and huge volume of building from outside.

5. CONCLUSION

Normative criteria acts is an effective pedagogical tool, which provides a framework to appreciate building in architecture.

Introductory design studio is the foundation of architecture education and through appreciation of building, students learn basic skill, knowledge and essential vocabulary, or language for self expression effectively.

To understand any form of building in architecture, it is essential to understand different types of form and aesthetical element of design which constitutes the broader aspect of visual composition hence, awareness of this elements and principle of design is the first step to understand visual composition successfully.

Normative criteria for appreciation provides a holistic approach in pedagogy to develops learning style and cognitive abilities of students with respect to fundamentals of design. With the help of this approach students learn a common vocabulary of design, which is the one of the objective of beginning design education

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