

Enlivening the Spirit of History for Inspirations Today and Tomorrow

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Abstract : *Architecture is an expression of art secured in time. Architectural design is an exercise which involves proportionate utilization of elementary principles such as function, timelessness, materials, technology, aesthetics, climate, form etc simultaneously. Approach for design is crucial as it the determinant factor for an architectural design output. Approaches to design vary from person to person, but what remains as a fundamental aspect is the inspiration for design and design process. This paper specifically focuses on the history of Indian Architecture and how one can get inspired from the design guidelines that history of Indian Architecture provides us even today. The idea is to explore History of Architecture and Architectural Design together, by making an attempt of jugglery between different styles, different times, different places but to suit the conditions of today. There is a lot to acknowledge and interpret from our history and heritage, especially architecture, as history has the best design guidelines which respond aptly to the vernacular character of that place, the lifestyle of the users and building traditions of that time. The study and analysis shall be from History of Architecture, whereas, the application of the analysis shall be for a housing design for present context.*

Keywords : history; architecture; inspiration; securing; design; climate; timelessness

I. Introduction

For any creativity there is always a point of inspiration. Inspirations for architectural design are many, but to name a few, geometry, nature, culture, material, paradox, history and so on. Today, in the 21st century, we have superior examples of architecture in the form of buildings, towns, cities, monuments, forts, either established during historical ages or during recent contemporary times by master architects like Frank Lloyd Wright, Charles, Correa, Meis Van Der Rohe, Santiago Calatrava, Hassan Fathy, just to name a few. The need of the hour is to establish correct design thinking practices in the present, in order to set inspirational examples for the next century. The question to be raised today is "What are we designing today as an inspiration for tomorrow?" One of the answers to this question definitely lies in the History of Architecture, as, history exemplifies the perfect thought process behind the creation of such timeless masterpieces.

"When the full power of a human imagination is backed by the weight of a living tradition, the resulting work is far greater than any that an artist can achieve when he has no tradition to work in or when he willfully abandons its tradition." -Hassan Fathy

Examples vary from residences to institutional buildings to religious edifices to forts and palaces and to even spaces designed for public recreation. Design principles and outcome of a palace in Datia or Orchha is completely different to those for a palace in Chettinad or Mysore. A Nagara temple is different than a Dravida temple. Charles Correa's Jawahar Kala Kendra in Jaipur is different than the Kala Academy at Goa. But the underlying approach to design in all these examples remains constant - to respond to the basics viz climate, user, locally available materials and labor, appropriate construction technique, function etc.

Le Corbusier once quoted "*Today, I am accused of being a revolutionary. Yet I confess to having had only one master: the past; and only one discipline: the study of the past.*" Be it the Mill Owners Association building in Ahmedabad or the Secretariat in Chandigarh, his works reflect ideas from Cubism and Purism movement. Tadao Ando's architecture reflects impact of traditional Japanese Zen culture. The Church of the Light is a best example of subtle expression of a deeper concept.

Today, unfortunately we have limited examples reflecting inspirations from history in contemporary architecture. The reasons for this issue could be globalization, limitations of time, constraints of budgets, inappropriate outlook towards architectural design etc. We are just walking over sheets of sand without bothering about our foot prints for our successors to follow. To be able to learn from our rich history, we first need to unlearn what we are doing at present.

History of Architecture is a very interesting and introspecting area of study in the course for learning architecture. Albeit, it is ignored and treated insignificant mostly. If history of architecture and design thinking go hand in hand, it may help in developing a sense of appropriate design thinking amongst individuals. It may also encourage sensitive approach towards design, thereby leading to well rooted, culturally established as well as technically strong present-day design output. This paper illustrates an exploration, in which the tool used for design thinking, analysis and application is based on history and its inspirations.

II. Material and Methodology

Housing in response to Heritage

Semester VI, Architectural Design Studio

History is an entity that is inherited from the past. It can be sensed by Culture, Lifestyle, Religion, Rituals, Cuisines, Resources, Art, Architecture, Economy, Social systems, Politics

etc. History and Heritage manifest in tangible and intangible expressions, Architecture being the most tangible one.

Aim: To address the past to design in harmony with the present.

Objectives:

1. Study and analyze heritage styles in terms of their planning characteristics, visual elements, sustainable design ideas, building materials etc.
2. Demonstrate the understanding of above analysis and synthesize such principles in architectural design of a small dwelling unit.

Traditionally Indians lived in the joint family system. Many occupants of the house and their interpersonal relationships demanded clearly distinguished spaces for different activities. There were defined private and public zones in the house with the courtyard as its nucleus. These houses were very high on the sustainable quotient. They were designed to suit the climate, the anthropometry, the Vaastu Shashtra and used local building materials and techniques for construction.

Many theorists and distinguished architects like Hassan Fathy have promoted the underlying concepts on traditional architecture to form contemporary design. However in present scenario, the traditional building has been replaced by fast growing concrete jungles, which are not sustainable or sensitive towards the natural calamities and microclimatic conditions. The scheme of the studio was to design a composition of 2 dwelling units of area 60 to 70 sq.m. and 2 dwelling units of area 90 to 100 sq.m. in any one of the following regions of India based on the heritage style they inherit.

- | | |
|-------------------------|------------------------|
| a) Wadas of Maharashtra | Site Area = 800 sq.m. |
| b) Havelis of Rajasthan | Site Area = 800 sq.m. |
| c) Coastal Kerala | Site Area = 1200 sq.m. |

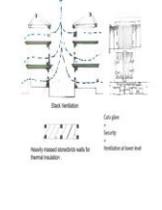
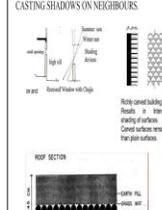
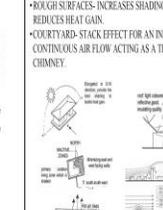
The proposed design aims at creating a flexible design to accommodate diversity and to acknowledge the various functions/routines that happen in the dwelling.

Methodology:

1. After orienting the class about the project, the students were asked to briefly study and read about the styles. This included references from books, internet as well as case studies available in the library and online.
2. On doing the above said, the students had to select any one style for further analysis. This stage was extremely crucial, as the outcome of the exploration completely depended on the selection of the style individually.
3. This was followed by architectural analysis of that style on the following guidelines -
 - a. basic information
 - b. planning characteristics
 - c. spatial elements
 - d. function
 - e. building and visual elements
 - f. sustainable design ideas
 - g. building materials

h. social and cultural influences / lifestyle of the user

III. Results and Tables

	WADAS OF MAHARASHTRA	HAVELIS OF RAJASTHAN	HOUSES OF KERALA
FUNCTION	RESIDENTIAL BUILDING OF ONE BIG JOINT FAMILY OR MANY DIFFERENT FAMILIES TOGETHER	RESIDENTIAL BUILDING OF JOINT FAMILIES	RESIDENTIAL BUILDING OF JOINT FAMILIES
BUILDING AND VISUAL ELEMENTS	<ul style="list-style-type: none"> • WALLS - 4 TO 4' THIN BASALT STONE TILL PLINTH AND BRICKS OR MUD FOR SUPER STRUCTURE. • ROOF - TEAK OR BAMBOO PURLINS AND RAFTERS WITH CLAY TILES • FLOORING - COBA FOR GROUND FLOOR, WOODEN PLANKS WITH RAMMED MUD ON UPPER • STRUCTURAL ASSEMBLY - TIMBER FOR COLUMNS, BEAMS, TRUSSES, BRACKETS ETC. • STAIRCASE - SANDWICHED BETWEEN WALLS 	<ul style="list-style-type: none"> • WALLS - SANDSTONE, ADOBE, SUN-DRIED BRICKS • ROOF - TIMBER BEAMS - THATCH-COMPACTED EARTH • FLOORING - SANDSTONE • STRUCTURAL ASSEMBLY - TIMBER, SANDSTONE FOR COLUMNS, BEAMS, TRUSSES, BRACKETS ETC. • STAIRCASE - NARROW, TWISTED (HIGH RISERS) 	<ul style="list-style-type: none"> • WALLS - LATERITE STONE MASONRY, GRANITE FOR FOUNDATION • ROOF - STEEP PRAMRIDIA, ROOFS WITH 45 DEGREE PITCH, DEEP OVERHANGS (MIN 75 cm). SHADED VERANDAS, MADE OF WOODEN FRAMES WITH MANGALORE TILES. • FLOORING - STONE WITH LIME MORTAR • STRUCTURAL ASSEMBLY - STONE, TIMBER
SUSTAINABLE DESIGN IDEAS	<ul style="list-style-type: none"> • COURTYARD ACTS LIKE A LIGHT WELL FOR LIGHT AND VENTILATION ALONG WITH BEING A THERMOSTAT PROVIDING PROTECTION FROM HARSH WEATHER - WIDE ENOUGH TO PROVIDE SHADED AREAS IN SUMMERS AND RECEIVE AMPLE SUNLIGHT DURING WINTERS • THICK WALLS PROVIDED INSULATION 	<ul style="list-style-type: none"> • COURTYARDS CREATED FUNNEL LIKE CONVECTION CURRENT THAT SUCKED HOT AIR UPWARDS VENTILATING THE HOUSE • EXCUSITELY CARVED EXTERNAL FACADES HELPED MINIMIZING HEAT GAIN BY SELF SHADING • JAALIS BROKE FORCE OF HOT WINDS THEREBY KEEPING INTERIORS ARIEY • NARROW STREETS (FTER WALLS - 3-4 STOREYS) CASTING SHADOWS ON NEIGHBOURS 	<ul style="list-style-type: none"> • HOUSES ORIENTED AS PER CARDINAL DIRECTIONS • SUSTAINABLE MATERIALS SUCH AS LATERITE, LIME, WOOD AND CLAY TILES - ENSURE COOL INTERIORS • VERANDAS - PREVENT DIRECT RAIN ON WALLS SHADE AND SHADOW ENSURING DIFFUSED SUN INSIDE • OVEREYS - ON EAST AND WEST WALLS TO STOP HARSH SUNLIGHT AND ALLOW COOL BREEZE. • PLASTER - LIME PLASTER FOR COOLING EFFECT • ROUGH SURFACES - INCREASES SHADING, THEREBY REDUCES HEAT GAIN • COURTYARD - STACK EFFECT FOR AN INDUCED CONTINUOUS AIR FLOW ACTING AS A THERMAL CHIMNEY. 
BUILDING MATERIALS	<ul style="list-style-type: none"> • BRICKS MADE OF CLAY, SAND, COW DUNG AND LIME • LIME MORTAR - LIME, SAND, JAGGERY AND WATER • TIMBER USED OF TEAK OR PEEPAL 	<ul style="list-style-type: none"> • DIFFERENT TYPES OF HONEY COLOURED SANDSTONE BASED ON LOCAL AVAILABILITY. • MUD, ADOBE, SUN-DRIED BRICKS, CLAY TILES, TERRACOTTA, WOOD, LIME AND LIME MORTAR 	<ul style="list-style-type: none"> • FOUNDATION - LATERITE STONE • EXTERIOR WALLS - LATERITE STONE - LIME • INTERIOR WALLS - WOOD/LATERITE STONE - LIME • FLOOR - RED/BLACK OXIDE - CLAY TILES • ROOF - WOODEN FRAME- MANGALORE TILES
SOCIAL AND CULTURAL INFLUENCES/ LIFESTYLE OF THE USER	<ul style="list-style-type: none"> • COURTYARDS WERE USED AS THE MAIN AREAS FOR DAY TO DAY ACTIVITIES AS WELL AS FESTIVALS AND PUBLIC GATHERINGS • COURTYARDS FORMED THRESHOLDS OF PRIVACY - 1ST COURTYARD BEING PUBLIC FOR SOCIAL ACTIVITIES TO THE LAST FOR LADIES ONLY. 	<ul style="list-style-type: none"> • PUBLIC AND PRIVATE SPACES (COURTYARDS) WERE KEPT SEPARATE. WOMEN KEPT PROTECTED FROM PUBLIC GAZE. • INNER COURTYARD FOR ENTRY OF CAMELS 	<ul style="list-style-type: none"> • WOMEN WERE ALLOWED TO ENTER THE MAIN COURTYARD ONLY DURING MARRIAGES OR FUNERALS. PUJA ROOM AND BEDROOM HAD SEPARATE ENTRIES. • THE NUMBER OF COURTYARDS AND THE HOUSE ANNEXES - INDICATION OF SOCIAL STATUS

4. After studying individual styles, relevant buildings were studied. These structures were explored with reference to above parameters for clarity in approach to individual design. Some students had the opportunity to actually visit sites, some did their analysis from books and the internet.

5. This then led to sharing of analysis, of both, the styles and built examples. This process helped in better and thorough understanding of concepts leading to a good data base ready for further referencing.

6. We then prepared the crux of the study by using our own developed method of highlighting salient features and deriving at a "to do" and "don't do" list individually.

7. This was then followed by selecting a site in mentioned zones in India viz. Pune, Jaisalmer, and Cochin. Students were demonstrated the use of Google Earth software for identifying location of their site and defining site measurements, site surroundings, topography, potentials of the site etc.

8. The next stage was site analysis followed by arriving at opportunities and challenges offered by the site and its topography, surroundings, orientation, approach, locally available resources etc.

9. Here came the most important stage of the project - deciding an appropriate approach towards design. Students were guided on individual sensing of the project. Some students chose site and its opportunities, some chose sustainable design ideas, some chose timelessness as their approach for design. Inputs

were given based on individual capacities and strengths for exploration.



Fig 1: Design of Apartment inspired by concepts of wadas of Maharashtra (student 1 - Shubham Kadam)

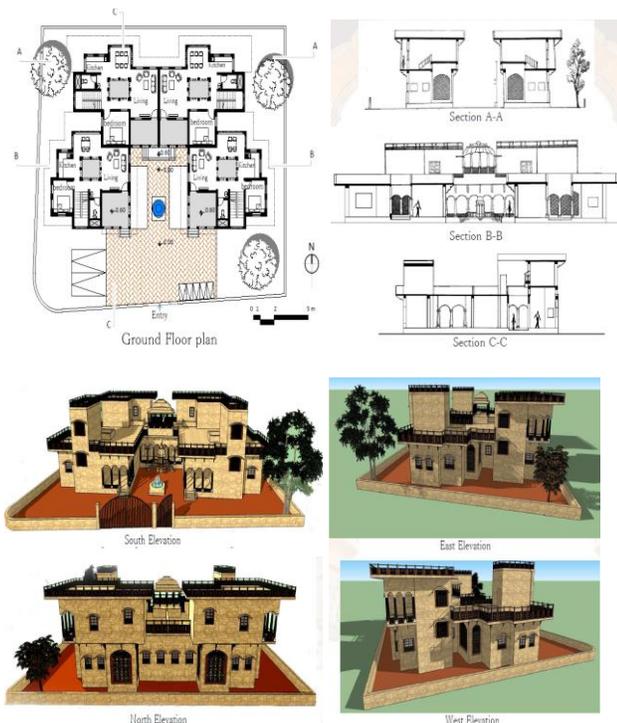


Fig 2: Design of Apartment inspired by concepts of Havelis of Rajasthan (student 2 - Mahima Pradhan)



Fig 3: Design of Apartment inspired by concepts of Houses of Kerala (student 3 - Yash Shah)

10. After a lot of discussions and criticisms from faculty as well as fellow students, the studio concluded positively on detailed design expressed architecturally by plans, sections, elevations and views.

IV. Conclusion

The process and approach for design adopted in the class is more crucial than the actual design outcome. By doing each step methodically, it becomes very easy for students to interpret the process through which their design is explored. This method being exploration based, provides insights at every step, enabling continuous thinking for design solution, thereby facilitating more and more ideas.

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