Stein's Contribution to Contemporary Indian Architecture

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Abstract – Stein was trained in pre-Bauhaus modernism which didn't dismiss the past or qualities of culture or region. He worked in that magic moment literally building the new India right at its heart, New Delhi. What Stein achieved, in a way, was to bring his 'California Modern' into an Indian context, altering his design vocabulary by the observation of Indian life and construction systems. In Delhi, surrounding the IIC he continued to build a series of buildings which have become landmarks - the Ford Foundation, the United Nations, the World Wide Fund for Nature and most recently the huge India Habitat Centre. If anyone could match the Lodhis and their architecture, it is this series of buildings built by Joe through the 1960s and 1970s.

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The sensitivity to detail, construction, material and texture of the buildings were matched by Margaret's equally careful attention to the furniture, the textiles, the plants and the seasonal flowerings of the bushes and trees. Joe's legacy is that of living architecture - human in scale with spaces which soothe and inspire. It is no surprise that four decades of India's cultural life have been nurtured at the IIC and at the Triveni Kala Sangam.

He believed in incorporating regionalism in his designs which he believed was tied up closely with art and craft. He had the greatest respect for the skilled Indian mason and craftsman. However he never believed in going overboard with high cost external beautification.

Index Terms – Pre-Bauhaus Modernism, Design Vocabulary, Landmarks, Living Architecture, Regionalism, Beautification.

1. INTRODUCTION

Joseph Allen Stein came to India in 1952 as a Professor, in a Bengal engineering college, Calcutta. He had created the healthy and the sustainable environment for Indians, which have suited to the Indian sensibilities. His works were mostly for the middle class families to provide them a proper shelter. He mainly concentrates on interrelating the built form to the unbuilt one. Some of his design philosophies are as followed:-

A. Regional context.

B. Way of noticing things especially with senses.

C. Not to spoil too much of the Earth.

D. Usage of geometrical and structural order.

E. Detailing in buildings.

Stein believes that India is a country, which interrelates the modern technologies and an ancient value system at the same span of time. His integrated interrelationships between built and unbuilt spaces first developed in California, have been combined in his work in India by using traditional elements and local materials. Detailing is a very intricate part of designing any kind of space and he is a master in terms of detailing his spaces and so he has done very beautifully in India habitat centre.

There are many aspects for designing a structure and one of them is detailing. Detailing is a very integral part of designing spaces and it caters almost every minute element from the micro level of designing to the macro level. Stein had worked on forms as always but he was more conscious about Ecological Balance, and by so detailing out his spaces he used to remain in harmony with the nature. And this inspires me to study more about his way of work, his design philosophies, and his way of detailing the built form and the open spaces.

The main motto of study is to trace the detailing aspect of Joseph Allen Stein's design philosophy through a case study and to conclude the study by drawing observations on the application of Stein's detailing philosophy in the present context.

2. DESIGN PHILOSOPHIES

2.1. Contextual Regionalism

The application of advanced skills to the traditional principles of architecture has been discussed and their expressions have been examined in his buildings. This part has two main aspects. One is developing a vocabulary of elements based on the region. This includes climatic considerations and the concern for the characteristics of the site and surroundings.

Other aspect is the use of advanced skills and their appropriateness to India. This refers to a debate between the use of prefabricated industry produced elements and insitu components using manual labor. The use of locally available materials is also a significant factor to make the project economical. Implementation of these factors has been examined in the built examples.

2.2. Working Without Further Spoiling the Earth

This trait of Stein's design philosophy traces his concern for the relationship of man with nature. Here different features of Stein's vocabulary, which represent his effort to preserve natural beauty, have been considered. His use of garden spaces as the soul of design and elements like planter boxes, rooftop gardens and water bodies to integrate the building to these garden spaces is another significant feature of his designs. Stein makes an attempt to use advanced technology in an ecologically sane way. The point has been further elaborated with the help of examples.

2.3. Tactile Perception

Stein's tactile perception has been examined in his buildings by looking at them in terms of movement pattern, functioning of and activities within spaces, choice of shapes and forms, and the quality of light, color, texture, view and acoustics. It will be interesting to note that how Stein virtually guides a visitor through the building, being in control of his movement and response at each level. Examples has been taken and analyzed for all these features.

2.4. Geometrical Approach

This point illustrates Stein's concern for the need of an underlying architectural order where the elements and systems, as constituent parts contribute to the singular nature of the whole. Geometrical analysis of the buildings has been undertaken to justify this point. It also includes the study of the use of geometry by Stein to form pleasing compositions in jaali and cladding patterns. Also, the factors considered during the evolution of design of the building facade have provided an insight into Stein's thought process.

2.5. Structural Logic

A feature that this trait brings forward is the expressive approach adopted by Stein in his buildings and how he has modified his approach to suit the developments of the recent times. Stein aims at achieving structural strength through geometry. The design of his buildings emerges from an understanding of the behaviour of structures based on their shape and geometry. This can be seen in the use of shell forms by Stein, which has been an effective way to achieve economy through minimal use of materials and resources. Application of these factors has been studied in his built examples.

2.6. Appropriate Detailing

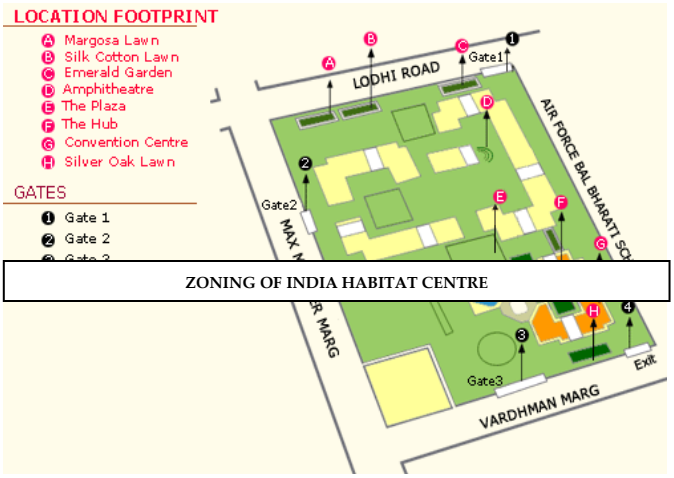
This traces the use of appropriate details by Stein in the buildings to make them sensitive to the feelings and needs of the people. A properly detailed building is more efficient and comfortable for its users. Here the use of such details by Stein in his buildings has been examined.

2.7. Movement and Spaces

It is fascinating to note that how stein virtually guides a visitor through the building, being in control of his movement at each level in terms of movement pattern. He thoughtfully plans functioning of spaces and activities within spaces, choice of shapes and forms, and the quality of light, color, texture, view and acoustics. He implements an expressive approach in his building and has modified his approach to suit the development of recent times.

3. CASE STUDY – INDIA HABITAT CENTRE

Spread over nine acres amidst beautifully landscaped environs at the Capital's finest location, India Habitat Centre was designed and conceived as an ideal physical environment in complete harmony with the habitat. Besides housing offices of 37 institutions committed to habitat and environmental research, the complex also houses matchless hospitality facilities, known as Habitat World; these are operated by Old World Hospitality Pvt. Ltd.



ZONING OF INDIA HABITAT CENTRE

A complex in a campus-like plan grouped around interlinked plazas and courtyards. The construction is a concrete frame with brick infill. The Convention Centre can host 20 functions simultaneously with most Halls equipped with state-of-the-art equipment; 7 beautifully landscaped outdoor facilities, a 424 seat Auditorium and a business centre fitted with all modern business aids complete the offering. The venue is ideal for conferences, seminars, banquets, exhibitions, board meetings, press interactions, corporate presentations, workshops, parties, film screenings, presentations, theatre and cultural performances of all kinds.

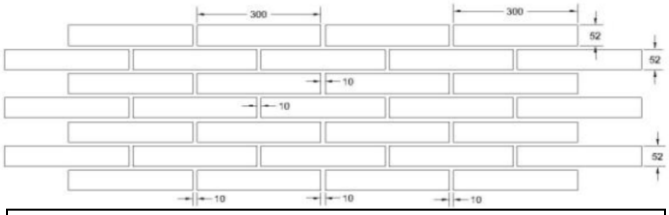
SITE PLAN OF INDIA HABITAT CENTRE

At Habitat Centre, New Delhi, Stein proposed an urbanscape for the North Indian Metropolis. This complex of institutional offices with recreational & conference facilities is perhaps the first and only attempt at finding a prototype for contemporary needs. It attempts to harness the economies of scale of large urban development to produce a sheltered public space of leisure and congregation among plants and water, where the changing light of seasons plays on patterned floors and a rich texture of brick stone and glazed tile, recalling the city's architectural traditions. The enclosed workspaces too are oriented primarily towards the shaded courts with wide strip windows. In contrast narrow vertical slits on the outer face of the buildings turn away from the harsh out-of-doors surrounded by vehicular movement. Although the facilities are sponsored by the upper crust of society and built for benefit the public space and is conceived as an open pedestrian continuum that would connect and integrate the neighbourhood. The materials of construction specially the external finishes of the complex are indigenously produced and utilise local resources. Even though Stein has often mourned the gradual deterioration and loss of the finer skills of craftsmanship in the building industry over the years and he has sought solutions that do not displace the local crafts by simply resorting to wholesale import. Instead, he uses a simple but skilful deployment of stone terracotta, brick and glazed tile. The shaded and planted courts create a microclimate that makes the out-of-doors habitable during the hot summer season. This modified microclimate coupled with a cavity wall construction and controlled use of glass makes for an effective strategy in reducing air-conditioning loads.

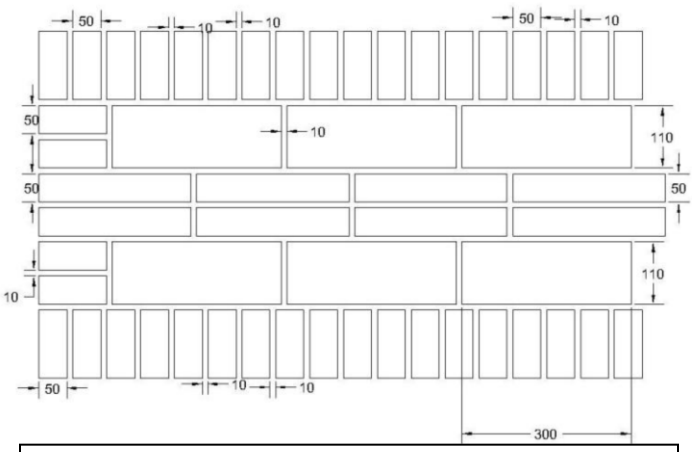
3D MODEL OF INDIA HABITAT CENTRE

4. DETAILING OF THE INDIA HABITAT CENTRE

India habitat centre is basically a concrete structure standing and over it cladding is done of brick, tiles and stones. The pattern and size of brick differ very much. At different spaces there is different course of brick present.



ELEVATION SHOWING THE FIRST KIND OF BRICK COURSES



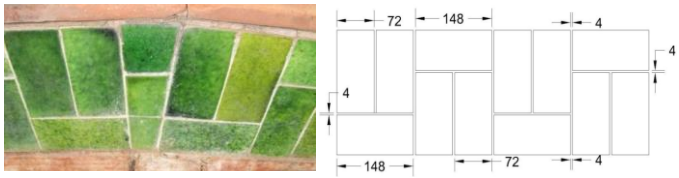
ELEVATION SHOWING THE SECOND KIND OF BRICK COURSES

Figure 1 Resultant Graph of the Proposed System

IMAGES SHOWING THE DETAILING USED IN INDIA HABITAT CENTRE

Courses vary from one block to another as well as on the different sides of a same block also. At first glimpse it is very difficult to point out that the sizes of the bricks are varying because stein has done the detailing very intricately.

At spaces cladding is also done with stones as seen in images. Just when you walk from one space to another, the whole scenario changes with the brick cladding turning into stone cladding. This also changes the whole skyline and gives a very different kind of feeling to the viewer while being in the same space.



ACTUAL IMAGE SHOWING THE GREEN TILES	ELEVATION SHOWING THE GREEN TILES

These tiles are present at places like, at the top level of different parapet walls, at the different walls at different height and at different sit outs. With the changing of space the colour of the tiles also changes like from green to yellow to red. The presence of these tiles at different places gives a very soothing feel to the eyes of the observer. The tiles are present in a regular pattern and thus it completes the hierarchy of the whole structure. Stein has given a very deep thought while placing these tiles as he has placed these tiles at those places where the focus of the observer moves instantly when he enters from one space to another.

5. JALI WORK MADE IN HARMONIUS COMPOSITION

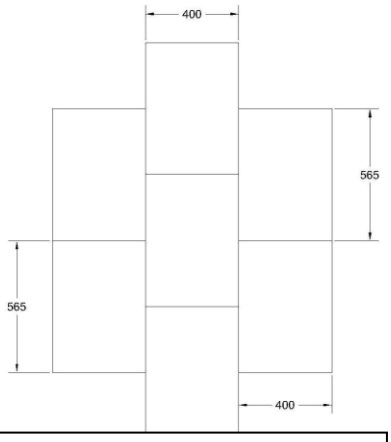
Stein′s use of jaali is one of the most characteristic features of his Indian work. Stein has developed a series of ceramic and concrete jaalis along with others made of composite materials. These jaali concepts have been taken from the mughal style. In India they have been further elaborated into verandahs and porticoes for his oasis buildings. Jaalis are used in places where less heat and light is required like dining area for convention centre and there it provides shade in summer and welcomes the winter sun. He respects the traditional

ACTUAL IMAGE SHOWING THE JALI WORK DONE

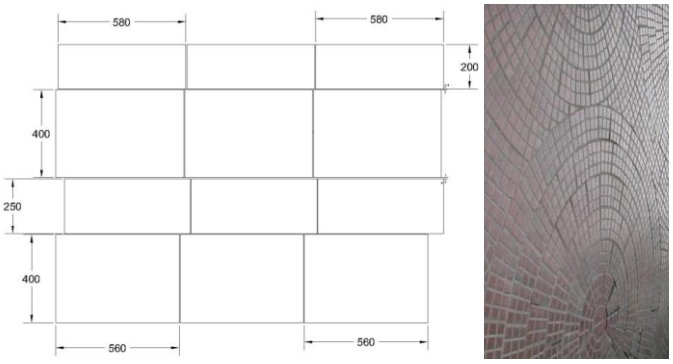
architecture when he uses traditional elements like jaalis to filter in light, provided an acoustical screen and at the same time gives protection from the harsh summer climate.

6. FLOORING

Stein has thought of the paved area very intricately. He has connected different spaces with these pavements. He has worked very finely on the sizes of the tiles that are used in paved



STONE USED IN PAVEMENTS WITH SIZES



STONE USED IN PAVEMENTS WITH SIZES

areas. The pattern that he has created with these tiles is so expressive that it itself guide an observer to his destination.

7. LANDSCAPING

7.1. SCULPTURES

Stein has used sculptures at many places to complete the architectural vocabulary of the whole unbuilt spaces. All the sculptures are depicting something and they add to the beauty of whole ambience. Stein has designed all the sculptures very finely and has placed it at appropriate places. All the sculptures that are present there are based on some theme.

SCULPTURES PRESENT IN IHC

7.2. VERTICAL GARDEN

Vertical gardens give a feeling of being near to the nature even when you are above the ground level. These vertical gardens are a very important part of Joseph Allen stein's designing aspect. These gardens being created at different levels creates a cool atmosphere make you feel cooler inside the campus even when it is hot outside. Climbers spread over the whole campus. They make the whole lush green campus a very eco-friendly construction.

CLIMBERS SPREAD OVER THE WHOLE CAMPUS.

Brackets are used at different places on the walls to complete the composition. The brackets are covered with tiles and with the change of the space the color of the tiles also changes. Vertical gardens are created over these brackets. These are also termed as planter boxes.

7.3. SIT OUTS

Different kind of sit out is provided at different places. All the sit outs are very finely detailed out and relate with the place where they are made.

7.4. WATER BODIES

Addition of various kinds of water bodies relieves one from the surrounding heat and creates a soothing atmosphere.

7.5. DOORS AND WINDOWS

Entrance is providing a frame to the interior, the first entrance depict a seemingly long corridor and the second entrance seem to hide the long spacious corridor. Stein has designed doors and windows as intricately as he has also given a raised stone platform in front of the entrance gate for the guard to sit.

7.6. DRAINAGE SYSTEM

Whole campus is given a proper drainage layout whether it is vertical or horizontal.

7.7. SUN AND SHADE

A space frame structure is provided on the top point of the building blocks and it rejects the sunlight entering the campus and automatically rotates as per the climate so as to protect from the harsh sun.

7.8. PARKING

Stein approach to design was flexible, functional yet sensitive to materials, site and local conditions. This, he explained, was the philosophy behind the highly functional design of the India Habitat Centre with two-levels of parking that are nowhere in view.

8. CONCLUSION

In India stein occupies a position of relative separateness. As an architect of numerous and prominent building in the country, his work is by no means unheralded. Stein approach to design was flexible, functional yet sensitive to materials, site and local conditions. Stein had Beaux Arts style so the similar characteristics were found in his works, for example:

- *Integration of architecture with sculpture (bas relief panels, figural sculptures, and sculptures groups), murals, mosaics and other art work all coordinated themed to assert the identity of the building.*
- *Precision in design and execution of a profusion of architectural details: balustrades, pilasters, garlands with a prominent display of richly detailed clasps brackets and supporting consoles.*

The IHC was built by stein in a way to show that the aspirations, standards of quality and spaciousness that were achieved with the IIC were still possible 30 years later with a different environment and a greater density of people per sq. ft. Steins whole design philosophy can be summarized as he had said-Two things have essentially guided my work. One is what you might call an interest in and search for an appropriate modern regionalism. I would put equal emphasis on both words, 'regional' and 'modern', because regional without modern is reactionary, and modern without regional is insensitive, inappropriate. The second one is to seek the character of the solution in the nature of the problem, as much

as one possibly can. The sultanate architecture with jaalis, ceramic tiles and domes greatly influenced him.

Basis of Stein's architecture on issues fundamental to time and place instead of changing aesthetic sensibilities accounts for the success of his work over such a long period of time. His work is aimed at integrating the building with the surrounding landscape. This is probably what he means when he says that we should work on earth without further spoiling it. He tries to make the building a part of the earth and not some alien entity, which has been imposed on it.

Stein remarks that in today's conditions doing good architecture is more important than doing great architecture, and that if an average person should be able to do good architecture without even being a giant of technical capability or character or anything else, then that would serve the purpose much better. This voluntary simplicity is the factor, which gives a feeling of repose in his buildings. Today's need, he says, is less for great buildings than for architectural methods and attitudes that provide a physical basis for conserving rapidly diminishing resources and protecting our environmental heritage while helping to bring well being within the reach of those who cannot and perhaps never will poses the means to live affluently. The issues tackled by Stein have also been stated by many others before him. But what is of great importance in his case is the way he brought them together, analyzed them and applied them in his works. His works are a result of a force that has grown out of his dedication, and has communicated through his works, which are consistent with what he has said. He has preached this philosophy by actually practicing it. And in my opinion, by these philosophies, he had improved the meaning of the

Architecture, as the building has been perfectly designed in a relatively small site of one acre. The individual articulation of functional units in the building massing is happening.

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Ghufran Ahmad Khan is an architect, educator and designer who work at the intersection of information, architecture and landscape. His design work and research in infrastructural systems, data visualization and graphic techniques is increasing day by day. He had studied B. Arch. and then M. Arch. in Architecture Pedagogy at Jamia Millia Islamia, New Delhi.

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