

MEANING IN ARCHITECTURAL AND ENVIRONMENTAL ELEMENTS

Special Project.

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I INTRODUCTION AND AIM

Meaning and Behaviour in Architectural and Environmental Elements.

Aim How the user perceives the building types. What are the responses of the user with respect to various environments and the building uses.

There exists a complex built environment around us which is evolved out of the various needs. We constantly participate in their environment, with other living and nonliving things. In the process of this interaction we respond to them in a respective manner. Depending upon the needs we come in contact with the built environments which is mainly constituted of buildings (Here plantation as a deliberate action also can be a built environment). Obviously we express them verbally also (depending upon their uses). as a 'temple', 'a house', 'a shop' etc. These verbal expressions are merely based on our past experiences, and thus these interpretations are nothing but identification of the building types which stand for that specific use.

Visual attributes basically help in the identification. We have strong notion of this environment around us. Such as an identification is an inevitable process. Basically we the visual image in our mind rather than the verbal

interpretations. (Human mind is aided by the existence of structure in the world. The fact that it is almost possible to guess the category name even when very small position of the object (or organism) is seen, suggests that for most objects. Perceptual and functional features occur in somewhat unique bundles. In other words objects within a category appear to substantially share features that show a clear co-relation)

New examples are seen to have been positioned with respect to the centre, on the basis of the degree of typicality in its features.

People appear to have perception about the office buildings or its 'officeness',.

It is important that the building or product form shows its belongingness to the category in order that it would be potentially recognised as its legitimate member - and not by default - but through conscious and systematic efforts it becomes necessary to have belongingness which evokes respective emotions of the building environment. This enhances the quality of the environment. In the process of design we not only give strategies for mere reproduction of existing products or buildings but its always new interpretations which is quite often based on typicality.

In the design process we concentrate on following factors

Conventions reflected in
typicality

Formal innovations

Positive clues declaring
its category

The deviations needed to
give it an identity

Continuity of tradition

Individuals idiosyncrasies

Actual decision in identification of building elements tends to be highly context (cultural, social) dependent. Boundaries will give the potential deviations.

The world will not be interesting enough, if we have buildings which are almost close to the respective prototypes. But it is even more difficult to visualise living in the world were the opposite is true. For better environment it become necessary to have objects the way we anticipate (perceive) them. In perceptual mapping concepts hardly occur in isolation.

Physical aspects of the building are clearly one way of thinking of the building but not the only one or it can also be that looking at the building one may suggest the kind of activities going on in them.

It becomes necessary to understand how do people perceive parts or the whole building without context and relate them

EXPERIMENT

to a specific memory.

An experiment was conducted in order to understand the meaning in the elements of public buildings.

Experiment :

objects are perceived at three levels by the users. They are superordinate level, Basic level, and subordinate level. i.e. we can find out from the visual (external) elements of the buildings, say e.g. specifically a medical institute building, its features contribute to the meaning of the term Medical Institute, There may be other building types too which share similar semantic features. which defines the concept of an institute in general. Which suggests or may represent an institute dealing with various disciplines at a basic level. Similarly the features of office building, commercial building, residential building etc. define the superordinate level either of public buildings or private buildings.

The buildings were chosen for the experiment on the following criteria.

1) Three categories of the building types were chosen for the experiment. They are

1. Institutional
2. Office
3. Residential.

These buildings were selected so that there exists a deliberate ambiguity in their recognition. As the overall building materials and the construction methods are standardised it becomes difficult for the viewer to distinguish the buildings. For example due to industrialisation(or mass production) aluminium sections are sometimes used for windows of residential building which misleads as well as shares a common feature with public buildings. But, as described in earlier, its position in the whole may suggest or place the building in a specific functional type.

2) While choosing the photographs, the care was taken that the building is seen in its most simplified or obvious way. This will avoid the syntactic ambiguities while presenting them to the subjects.

3) All the photographs were cut to the same size and were in Black and White.

[The basic reason for selecting black and white photographs was to check the genuinity of the form, colours quite often act as a very strong signs by means of which the judgement of the subject might have been mislead. Yet in our environment use of colours for building surfaces is not extensively seen. The accessories such as post box near the building may suggest its use, where they act as very strong visual clues.

4) Elements of the campus or the building were found and presented in isolation or without any context. Which carried a distinct character.

Examples selected were :

Residential -

Kanchanjunga
apartments.

Office Buildings -

Mill owners associ-
ation, Ahmedabad
High Court,
Chandigarh.

Institutional

Nehru Science Centre
Indira Gandhi
Institute for
Development and
Research.

PROCEDURE

The experiment was conducted in two stages

- 1) Identification of building types by showing the photographs of the above stated building.
- 2) Identification of building types using the Eye movement recorder.

The procedure is explained below :-

In this part the aim was to evaluate the given building for the information available in its features and also study the part to whole relationship.

These photographs were presented to the subjects in three forms.

- 1) Detail of the building
- 2) Part of the building
- 3) The whole building

These features were presented in the sequence from details to the whole. First all the details were presented and the sequence was noted down, the presentation was random. Similarly parts of all the buildings were presented and subjects were asked to identify them. During this process subjects were offered various clues for the identification. These clues consisted the building types apart from the selected ones.

The subjects were selected based on their background. For all these subjects the sequence of presentation was noted alongwith identifications.

The order of presentation for all the three sets and the subjects were deliberately changed every time. This attempt was made basically to observe the genuine character of any particular detail or the part of the building.

The subjects were asked the following questions before showing the photographs and were told about the nature of answers expected. The clues were given expecting the answers leading from superordinate level - to subordinate level. Such as -

What does the building look like ?

- Public Building
- Private Building

Whether the building suggests any of following uses ?

An Institution
Residential
Office
Workshop
Material Handling and
Industrial.

After having identified the basic level the subjects were further asked to state the specific use such as if its an office building, it can further be defined as a Govt. office, Industry office, Private Office, Institute office etc.

For all the photographs the comments were noted and all the subjects were again asked to reason their judgements about the particular photograph. Subjects did express freely whatever they felt about their judgement and expressions such as 'posh' , 'Hifi', 'Clean', or 'looks like.....'; etc. were observed. The earlier comments were Intuitive' and the later ones were intelectualized. The earlier comments usually are the more genuine as they were intuitive and the later ones always depended upon the backgrounds of the subjects. It was very important to analyse and derive conclusion about these expressions of the subjects, which broadly may define the concept of 'Public Building', 'Office Building' , or other categories.

For any subjects the building always appeared in a particular sequence i.e. any particular detail was presented to the subject at various positions. Now, whether this will give rise to any specific reaction ?

ANALYSIS AND DERIVATIONS

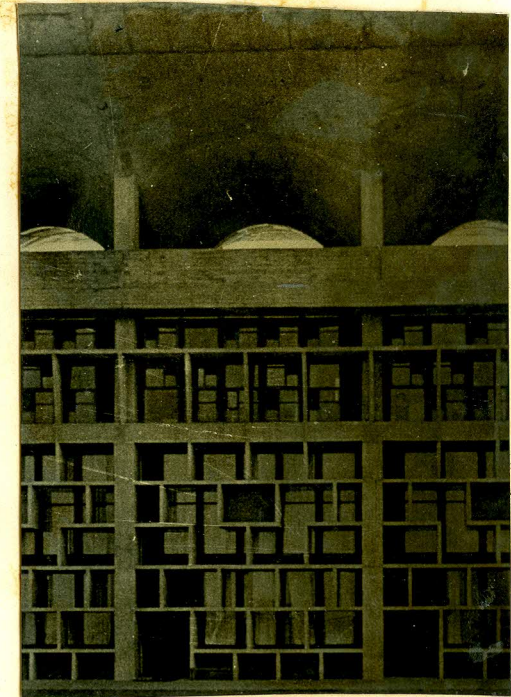
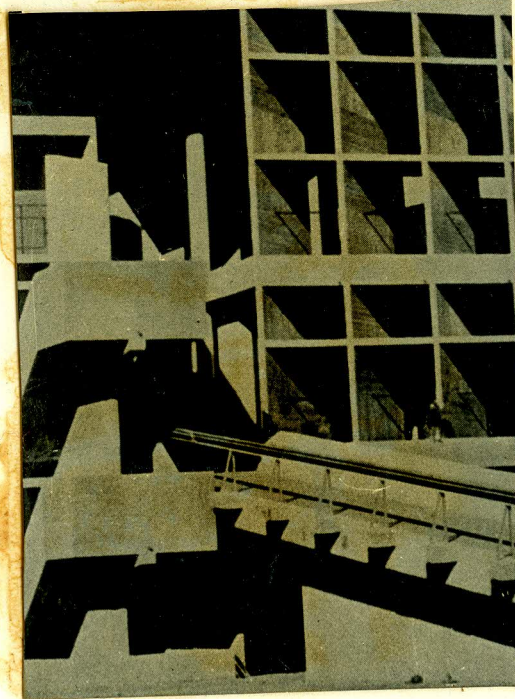
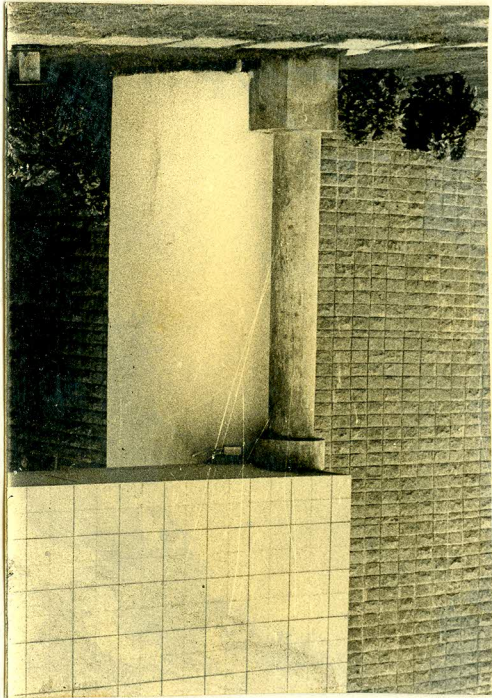
In this experiment the following observations were made. They specifically define the characteristics of the public buildings.

1) Mainly the public buildings were chosen for the study. Some of the characteristics of the public buildings such as when a detail is exposed or seen such as shown in fig. 1 always perceives this as a part of the facade. and we try to construct the total picture. Though internal elements such as curtains in this case which resulted to be recognised as semi public building.



2) Unlike in above example quiet often it was observed that public buildings were defined by repetition of an element. (Usually without any visual interruption). This repetition may exists in various forms either in the detail of the part of the building; such as in the following examples.

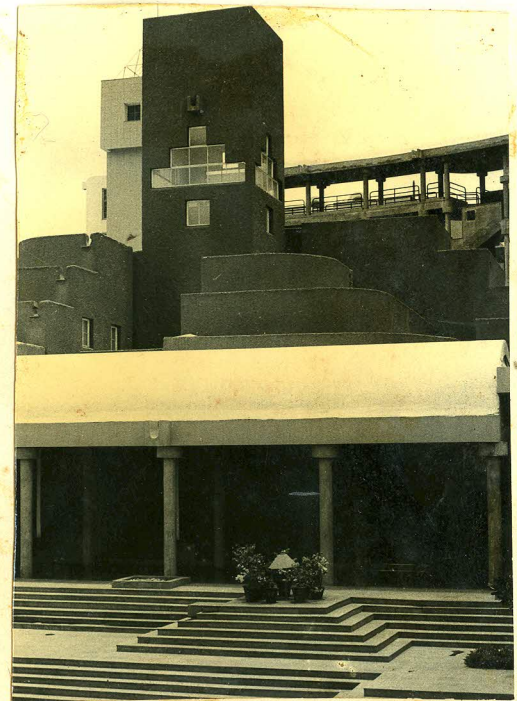
This repetition can also be in the form of a set of details.



As observed in following three examples the character of public buildings was very distinct mainly due to the repetition of one element in several forms. Here the repetition is basically without any change such as in high court at Chandigarh, there are basically three distinct elements which prove this character as shown in fig.



This phenomena may as well exist in very interesting way as seen in Indira Gandhi Institute for Development and Research. Here one can see two distinct ways of identifying the public buildings.



Repetition exist in terms of simple forms and also in the form of set of elements.

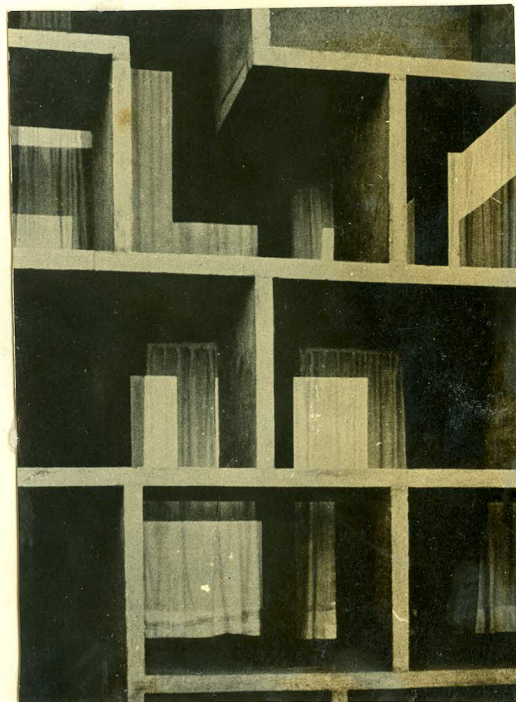
3) Space with respect to the building elements

Whenever the building elements are either defined individually within the space or contain space which is seen through them (or framed between the definite elements of the building), it is observed as an important character of the public building. This element is very distinctly seen in following ways.

a) The member is freely defined within free space as a solid mass and the space freely moves around the member or often through the element.as shown below. Here the passage is clearly defined between the free space created by other building elements. This identification is at a super ordinate level, yet based on the preconceived ideas about this elements. This was recognised as hospital building at subordinate level. The probable reason for which can be the need of horizontal circulation required at a particular height and because of its use in other hospital building it stands for 'hospital'.



b) An appearance of this space through the members which suggests a kind of non-private attitude. Such as the Highcourt shows the space flowing through its roof.

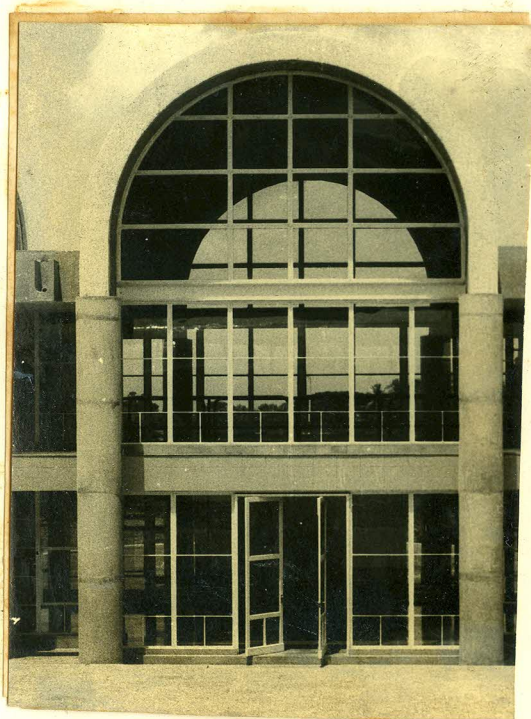


4) Entrances of the buildings

Entrances of the building is a very strong clue in identifying the category. Scale plays an important role in identification. In the following examples the scale is defined by its adjacent elements.

Entrance to a public building as the arch dominates the other building elements and suggests a scale .

Same form when seen in comparison with other elements which are taller than the entrance is recognised as an entrance to a residential building.



The second part of the experiment consisted of exposing the building elements for restricted time,

The same buildings used in the first part of the experiment were evaluated for eye movement. The eye movement was recorded with respect to specific visual prompting. These building elements like in the first part were presented in three sets of details, part and the whole. Here they were projected using black and white slides. Before each projection the starting point was assured by placing a dot in the centre of the screen. Before the presentation the subjects were given the clues for identification in the form of questions as follows, which appeared constantly along with the visuals. The questions were as follows.

1. What does the building look like ?
 - Public Building
 - Private Building
2. Does the building suggests any of the following uses?
 - An Institute
 - Residence
 - Office
 - Mixed use
 - Workshop
 - Industrial
 - Material handling

For the five qualitative analysis also the viewer was prompted by asking

How does the building look like -

- Modern (contemporary)
- Old
- Government
- Strong
- Delicate

With respect to each of the above clues the eye movement was recorded.

OBSERVATIONS

Some of the elements such as symmetry or central placement of an element suggests 'an entrance' . Usually the verticality of elements are more dominant. These are perceived as an entrance. Apart from these qualities repeatition or flowing space, also describes the publicness of any entrance.

As discussed in the first part of the experiment the elements of architecture are analogous to constitutive linguistic elements (words). Some of these elements according to Gamberini* are

1. Floors, either directly posed on the ground or elevated.
2. Vertical connections between floors like ramps and stairs.
3. Walls (either fixed or movable)
4. Connections in the walls from outside to inside or from inside to outside (like doors and windows).
5. Roof (either self supporting or supported).
6. Pillars and beams to support floors, walls, or roofs.
7. Objects to accentuate the meaning of space.
(As far as interior space is concerned, for example bed accentuate the meaning of a bed room)

*Gamberini - Florence School of Architecture.

Meaning primarily is a relative term, based on the past experiences. It becomes necessary to know whether meaning in building elements is intentional or unintentional. Sometimes verbal messages are imposed along with the building such as advertising, Neon signs etc. These graphic symbols are not the only means of communication but the physical form also communicates, which is non verbal.

The use of an object is converted into sign for that use, from beginning all the objects around us have acquired primary as well as secondary meanings for example a raincoat is protection against rain but the use of raincoat is directly connected to specific atmospheric conditions. A 'function' sign as it is known. Thus objects can be perceived or mapped according to their functional meanings too.

Thus having observed few building elements we try to go beyond what we see and start co-relating with our past experiences for example a cup would belong to the same category as knives, forks, plates and saucers, this group will be certainly different from that of chairs, tables, benches etc. But in most of the cases today due to standardisation and uniformity of building components design (Industrial production), the objects appear to have been losing meanings which ultimately affects the design. In

urban design 'Modern' buildings with different functions are being constructed according to a uniform 'International style' hence most of the buildings look alike.

In language the signs remain the same in different situation. Architectural elements also may behave in the same way if regarded as language e.g. an architectural object such as a 'House' evokes and supports specific behaviour patterns which (in the case of house) are normally associated with family life. Thus house is a sign of a specific sphere of special relationships.

Meaning in architecture is relative i.e. these elements are meaningful only in relation to others. Its possible that few elements are common in two buildings A and B, few may be opposite. Any particular building possesses a set of properties in and around itself.

Apart from the individual elements, the sets of elements correspond in a specific way with each other makes the meaning relavent (e.g. Mill owners association, where the part -due to a kind of repeatition of sunbreakers suggests an office building but similar set of sunbrakers when coupled with the set of stairs, door and a Ramp given a kind of informality and suggest a semi-private use)

Following elements contribute in evoking the specific meanings to the buildings.

1. Environmental features;

Fixed : Garden Trees

Mobile: Cars are commercial vehicles
and people.

2. Features attached to the buildings:

Interior : Curtains, Venetian Blinds etc.

Exterior : Lettering, T.V. antenna, Surface
finish.

3. Balcony

Roof

Staircases

Openings

4. Design of the Facade :

Structural and Material composition

Elements of facade itself : Window, doors etc.

Composite elements : Row of windows

Entrances

REFERENCES

- Meaning in the Urban Environment
- M. Kvampen
- The demand for contemporary language of Architecture
Art and Design. Dec.1986.
-Christian Norberg Schulz
- The measurement of meaning
-Osgood/ Su ci/ Tannembaum.
- Web of Images with - U.A.Athavankar, Arthaya Seminar
- On Reading Architecture
- Frogressive Architecture March,1972
- Grandelonas M.
- Eye movements and Vision
- A.L. Yarbans
- Signs symbols and Architecture
- C. Jonks, Richard Bunt, Broadbent
- Meaning and Behaviour in Built environment
- Broadbent, T. Lorens.

