‘TRANSPARENCY’ in architecture

The Dictionary meaning of Transparency states: “Transparency as being something that is clearly evident and present in its absolute visual entirety. “

Transparency can be **literal**, as the physical quality of a substance.

Transparency can be **phenomenal**, as the quality of organization of spaces.
Aim – **To Study the transparency in a building with regards to the material used.**

**MATERIAL APPROACH**

Material used in way *to create porosity*.

- Punctures
- Jaalis
- External shading devices like Louvers, fins etc.
- Etc.

*Study will be limited to facades only.*
**Transparency in Architecture**

Factors on which it depends:

- Type of place
- Climatic impact
- Trend
- Hierarchy of spaces
- Use of materials
MATERIALS USED IN BUILDING FACADES

- Mud / Earth
  Ex: Compressed earth blocks, Rammed earth, CSEB

- Stone masonry / Stone Cladding

- Exposed brickwork

- Exposed concrete - Shading Devices Ex: Pergolas, Chujjas, Fins, etc.

- Steel / Composite Structures (Steel & Glass, Steel & Concrete)
Exposed brickwork

- IIM Ahmedabad
- Andrews Ganj Community Centre, New Delhi
- Examples to Study Effect of Perforations, Laurie Baker
- MPSC Offices
The corridors have arched openings on regular intervals which add *porosity* to the structure.

Bulky exposed brick structure..

View of the corridor showing arched openings..

The circular window behaves as an image maker for the entire complex.
**Inferences:**

- Windows/Punctures are used as a modulator of the facade.
- Windows act as a visual link to the outside.
- Windows frame views to the outside if placed properly.
- Windows act as an aperture for light, air & view.
( Architect: CHARLES CORREA )

The lighting of the offices is from windows overlooking this central space.

Random punctures made in the facade.

Dead facade punctured uniformly, to minimize the visual weight.

The punctures provide scale to the façade.

3 buildings set around a courtyard.
Chapel reflecting Baker's mastery over light.

**Inference:**
- Perforated brick walls create dappled patterns of light creating interest and adding to the visual transparency.
- One can easily recognize Baker's structures by the presence of jaalis on them.
- Glass windows, frames and sills are replaced by traditional jaalis.

The Jaali is a perforated screen made of bricks.

Innovative system of curved double walls.

Jaalis can be designed in various patterns as desired.
‘The Millowners’ building is a little palace genuine evidence of an architecture for modern times adjusted to the climate of India. With the other Ahmedabad buildings... it will be a true message towards an Indian architecture.’
Le Corbusier, 1953

Use of shading devices (fins and loggias) to address to the stringent weather.

Crates of brises-soleil, towards the gardens and the river.

Inference:
- The design maximized the duality between solid walls and perforations.
- Views and vistas created which address to the outside environment.
SECRETARIAT, CHANDIGARH (1951 – 1956)  
Architect: LE CORBUSIER

Fenestration systems comprises of insect screens as well Brise-soleil.

Deep Crates of brises-soleil also used as balconies.

Inference:
- Porosity created by the articulation of opening, hence the building acquires lightness and transparency.
HIGH COURT, CHANDIGARH (1951 – 1955)

The High Court is one of the first monuments to be built in the Capitol complex.

Double roof, projecting over the office block, like an inverted umbrella.

Piers, rising 60 feet from the floor and painted in bright colours.

Inference:
- Porosity achieved by the semicircular openings which also marks the end of the structure. The perforated screen monitors the solar radiation and adds porosity to the facade.
THE DESIGN IS BASED ON A CENTRAL COURTYARD ENSURING NATURAL LIGHT AND VENTILATION TO ALL THE ROOMS.

PERFORATED SCREENS/JAALIS MADE OF CONCRETE; CONTROLS THE LIGHT AND VENTILATION.

VISUAL CONNECTION IS MAINTAINED.
The external finishes are *Pink Dholpur stone and Red sandstone* appropriately panelled.

A *concrete jaali* adding delicacy to the otherwise massive structure.

**Inference:**
- Visual connectivity is maintained at the same time it enhances the quality of light in the space and avoids glare.
• Windows/Punctures are used as a modulator of the facade.

• Perforated brick walls create dappled patterns of light.

• Window act as a visual link to the outside.
• Views and vistas created which address to the outside environment.

• Porosity created by the articulation of opening, hence the building acquires lightness and transparency
**INFERENCES:**

**MATERIALS USED IN FACADES**

- **EXPOSED BRICKWORK**
  - Windows/Punctures are used as a modulator of the facade.
  - Perforated brick walls create dappled patterns of light.

- **CONCRETE**
  - Porosity created by the articulation of openings.

The design maximized the duality between solid walls and perforations.
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