

HIGH- ARCHITECTURE LIGHTS

ShangLin Edition

3

Morphogenesis

Corporate Office for Apollo Tyres

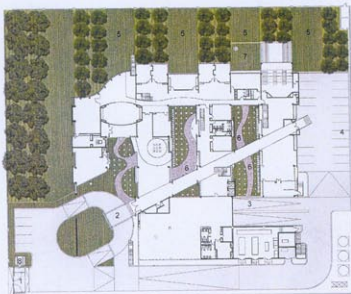
Gurgaon, India

The corporate headquarters of the Apollo Tyres group, addresses issues central to the rapidly evolving Indian workplace. By taking into consideration the global context of the workplace, requirements of flexibility and adaptability and the incorporation of incorporation of passive environmental strategies to provide both occupant comfort and efficient infrastructure, Apollo House has become an exemplar for the corporate workspace in India today.

The design's conceptual strength comes from the spatial and programmatic striation which creates overlaps between the exterior and the interior and between the various programmatic requirements creating a vibrant and creative work environment. The design is a radical departure from the structured differentiated spaces of the traditional office and the monology of the open plan halls that have dominated office planning. Here the continuous re-articulation of space created by a movement spine traversing the programmatic striations and the rhythmic articulation of the linear courtyards restructures the office space as a microcosm of the democratic city. The Striations are a series of parallel, linear strips running SE-NW and are grafted across the entire site. The major programmatic categories are divided into different programmatic zones, which are then accommodated in the parallel striations. This technique provides maximum interface in between each striation, leading to higher permeability and interface in between the programs.

The internal spatial and programmatic decomposition creates a microcosm of the civic environment rich with the potential for social transactions. The morphology blurs the interface between the inside and outside within the site, while resisting the public gaze.

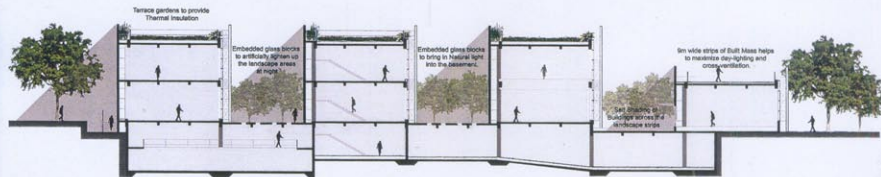
The design takes into consideration the importance and relevance of energy conscious design within the modern work culture. The skin of the building comprises of 2 sets of planes – a solid set of planes whose primary purpose is to shade the set of glass planes. This ensures that despite a substantial amount of glass being used, solar ingress is only limited to the winter months when the air-conditioning system is not required. The reliance on artificial lighting is also substantially reduced as courtyards are used to increase natural light levels on the floor plates. Finally, a series of terrace gardens provide a high level of thermal insulation.



LEGEND

1. Entry gate
2. Entry porch
3. Ramp to basement
4. Parking
5. Landscape
7. Courtyard
8. Guard room
9. Sunken court





Morphogenesis



Residence in New Delhi

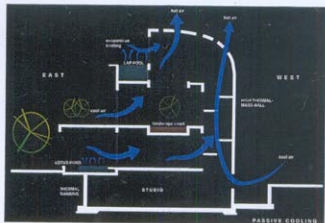
India

The house sets about to create its own terrain, a veritable oasis, within its inscribed territory. The forecourt is landscaped with gracious steps and pools. Crisp clear planes are articulated with materials: stone, wood, concrete which are simply striated or set in interlocking patterns. Transparency is achieved not only by glass, but a combination of water, reflection, and modulated lighting.

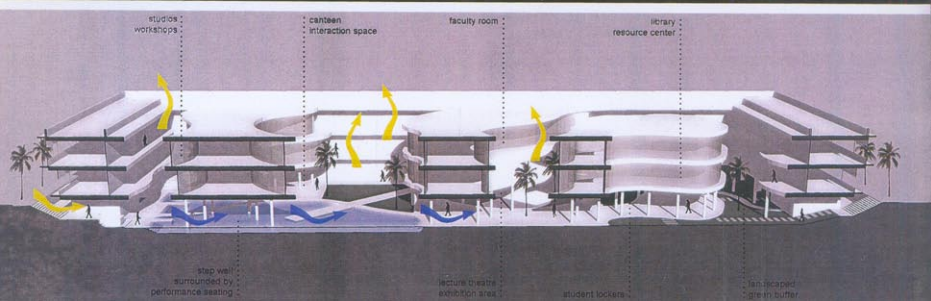
This residence multitasks as a house for three generations of a family and their many visitors. The house can be identified by overlapping spatial categories split into three levels: the private domain of the nuclear family (bedrooms and breakfast room), the shared inter-generational spaces such as the family room, kitchen and dining areas, and the fluid public domain of the lobby and living spaces. The public domain is activated each time the house opens its doors for "Manthan", a cultural event that promotes an energetic exchange of ideas between various creative disciplines.

One navigates the complex program of the house through a series of spatial episodes that are expressed via volumes. These episodes are distributed across the house, revealed at chosen moments: when descending steps cascade to subterranean offices or rooms and furniture framed by large picture windows. Moving through the house, it is immediately clear that the central space is the fulcrum of the project. The ceiling is dotted by circular skylights with an interior garden below, a green sanctuary within the house. A lap pool fed by harvested rain water runs the length of the terrace on the second floor.

Environmental design plays an integral role in achieving a network of green and open spaces. The house is imagined as a porous object whereby air movement and visual connectivity permeate into the built form. The planning, orientation, structure and materiality of the house respond to the essential passive energy efficient techniques suitable to the Delhi climate. It incorporates high thermal mass in the west, earth damping for the basement studios, landscape buffers on the south, and high performance surfaces on the east and a large cavity on the barrel roof as well as the lap pool which helps with heat absorption on the top terraces. The courtyard concept has been radically re-interpreted and along with landscape, earth, daylight simulators and carbon-dioxide sensors. There is an entire eco-system living and growing in the heart of the house.







Morphogenesis

Pearl Academy of Fashion

Jaipur, India

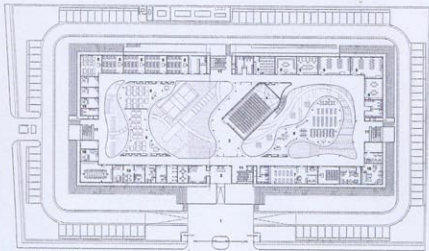
The Pearl Academy of Fashion is designed as a low cost, environmentally sensitive campus, first of its kind in India. The design creates a series of multifunctional spaces which blend the indoors with the outdoors seamlessly. Many elements of this thermally adaptive environment borrow from the tradition of passive cooling techniques prevalent in the hot-dry desert climate of Rajasthan.

Environmental design is also employed as a strategy to lower energy costs in the long run. Passive climate control methods reduce/eliminate the dependence on expensive mechanical cooling and heating methods in a state with scarce resources. The design takes two almost invisible Rajasthani architectural motifs and gives them a contemporary twist: the stone screen known as the "jaali" and the open-to-sky courtyard.

A double skin based on the "jaali" acts as a thermal buffer between the building and the surroundings. The density of the perforated outer skin has been derived using computational shadow analysis based on orientation of the façades. The screen situated four feet away from the wall reduces the direct heat gain. Drip channels running along the inner face of the screen allow for passive downdraft evaporative cooling, thus reducing the incident wind temperature.

The traditional courtyards take on amorphous shapes within the regulated form of the cloister-like periphery. The shaded courtyards help control the temperature of internal spaces and open step-wells, while allowing sufficient day lighting inside studios and classrooms. The entire building is raised above the ground. The resultant scooped-out underbelly forms a natural thermal sink by way of a water body. The water body which is fed by the recycled water from the sewage treatment plant helps in the creation of a microclimate through evaporative cooling. This underbelly, which is thermally banked on all sides, serves as a large recreation and exhibition zone. Passive environmental design helps achieve temperatures of about 27 degree Celsius inside the building even when the outside temperatures are at 47 degree Celsius. During the night, when the desert temperature drops, this floor slowly dissipates the heat to the surroundings, keeping the area thermally comfortable.

Materials such as local stone, mosaic flooring with steel, glass and concrete help meet the climatic needs of the region while retaining the progressive design intent, keeping in line with the aims of the institute. It promotes rainwater harvesting and wastewater re-cycling through the use of a sewage treatment plant. While it has become a successful model for cost-effective passive architecture in desert regions, the design and facilities of the campus complement the ideology of the Pearl Academy of Fashion – a cutting edge design institute with a sustainable approach.



Ground Floor Plan

1. main entrance
2. reception
3. auditorium area
4. lecture theater
5. studio
6. library
7. resource center
8. canteen
9. staff
10. administrative offices
11. classroom
12. canteen
13. lecture seating
14. kitchen
15. bookshop
16. lockers
17. shop



