



# A GIANT METAMORPHOSIS

Text: *From Design Detail*

**T**wo diverse areas in India similar due to its absence of interesting topographical features and rough climate has undergone a giant metamorphosis with two unique projects spanning the area. The Apollo Headquarters and Pearl Academy by Morphogenesis stands apart for its aesthetic sensibilities and employment of energy efficient methods.

## Apollo Headquarters

The Apollo Tyres Headquarters materialised in a vast expanse of an empty field and sits within the conceptual, functional and aesthetic framework of a contemporary corporate design agenda. The flat site devoid of any topographical character, prompted the designers to generate an unusual morphology resembling a sealed box within which the office environment is predictably placed.



1. Glass-enclosed  
balconies offering the texture  
of glass.  
2. Extensively framed  
against the sunset  
skies.



The Headquarters was conceptually conceived to have the texture and fabric resembling those of Jaipur. The fragmented morphology employing striations and layering paved the way for a 'micro-city'. Spatial and programmatic striations create overlaps between the built/open spaces and the programmatic requirements. Moreover, nine metre wide parallel linear strips running SE-NW were grafted across the site to form various zones like nature zone, work zone, transaction zone and the like. It also helped to provide an interface and permeability between the striations. A movement spine traversing the programmatic striations stimulates the activity zones and restructures the office space.

This morphology further helps to articulate the thermal banking and day lighting

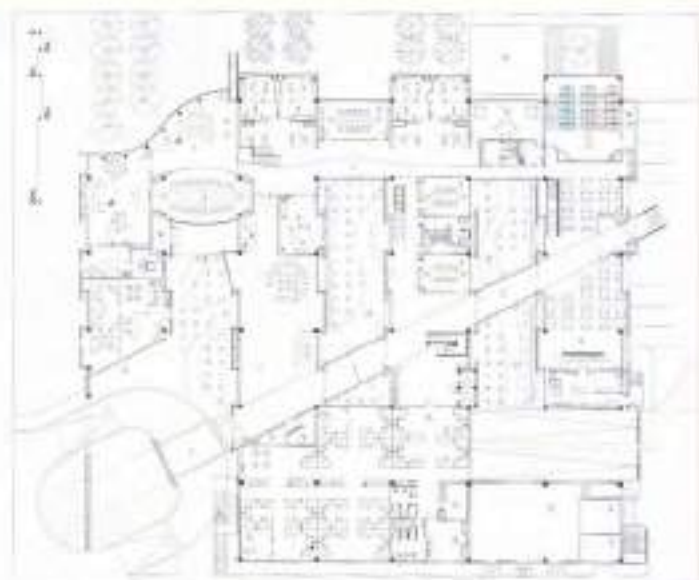
strategy. Internal and external courtyards about the striations and terraces are provided to bring in maximum daylight. The terrace gardens also provide a high level of thermal insulation. A staggered skin treatment using solid and glass planes further enhances temperature modulation. The solid set of planes is staggered to shade the glass surfaces and give protection from the sun while keeping the glare out. This also ensures that solar ingress is limited to the winter months. The result of this strategy is an air-conditioning system which averages about 250 square feet per ton of air conditioning which is far better than the industry standards.

An integrated building management system is employed by monitoring the entry/exits through three main access points using

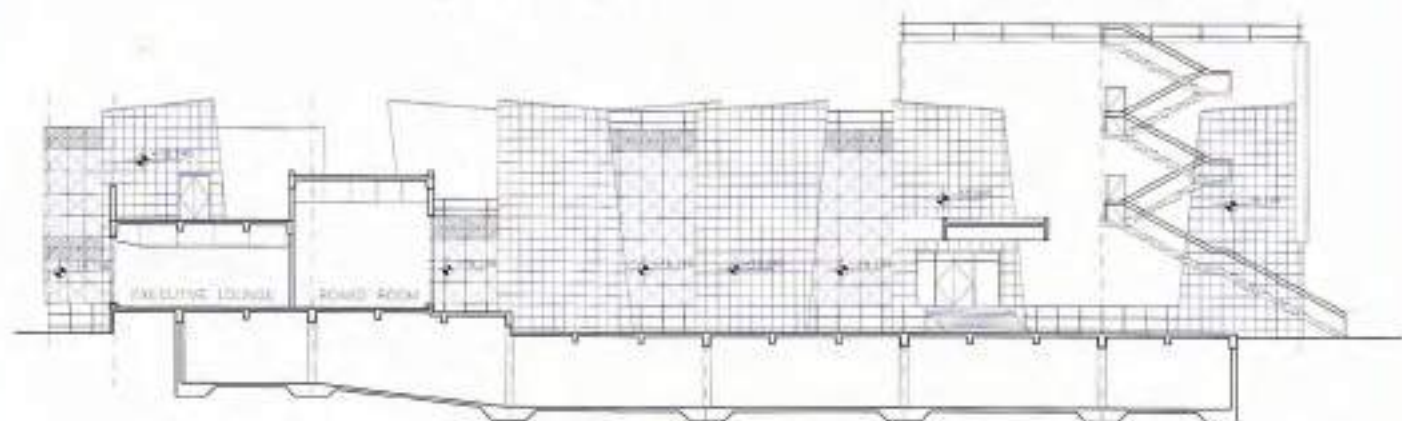


SITE PLAN

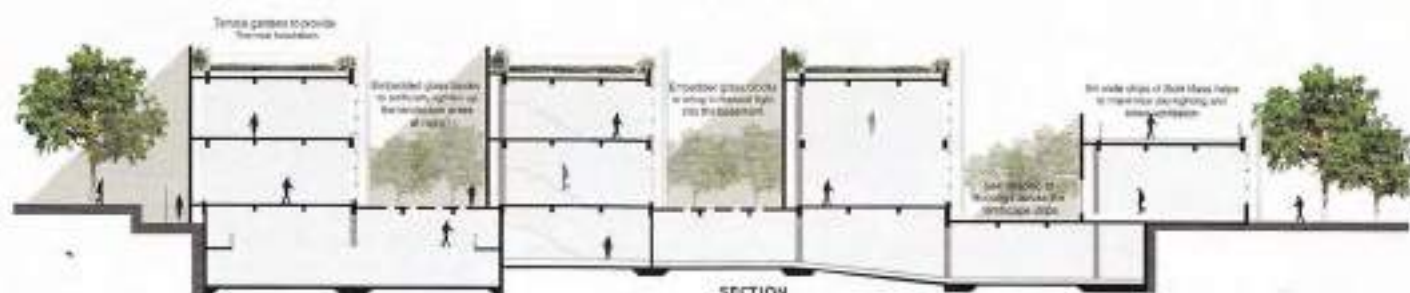
- LEGEND
- |                     |               |
|---------------------|---------------|
| 1. Entry gate       | 5. Landscape  |
| 2. Entry porch      | 6. Courtyard  |
| 3. Ramp to basement | 7. Deck       |
| 4. Parking          | 8. Guard room |



GROUND FLOOR PLAN

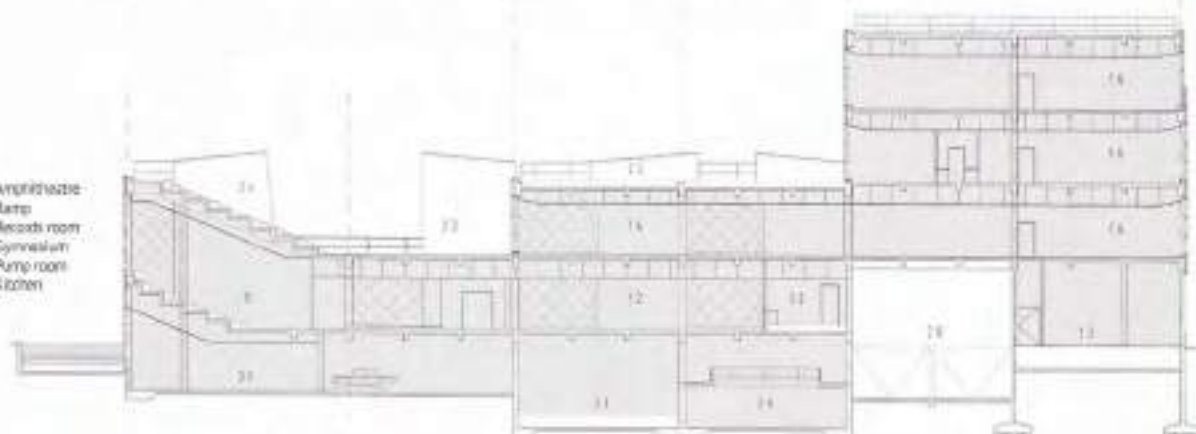


SECTIONAL ELEVATION



SECTION

- LEGEND
- |                     |                  |
|---------------------|------------------|
| 11. Training Centre | 24. Amphitheatre |
| 12. Canteen         | 25. Ramp         |
| 13. DG Set room     | 26. Records room |
| 14. Office bay      | 27. Gymnasium    |
| 22. Terrace garden  | 28. Pump room    |
| 25. Terrace         | 32. Kitchen      |



SECTION



#### FACT FILE

PROJECT :	APOLLO TYRES HEADQUARTERS
LOCATION :	GURGAON, HARYANA, INDIA
PRACTICE :	MAORPHADGENSIS
DESIGN TEAM :	PROOPTO GHOSH MS DEW (AIA) ARVIND GUPTA RAVI JAITLEY
CLIENT :	APOLLO TYRES LTD.
AREA :	1,00,000 sq.ft.
YEAR :	2000
PHOTOS :	JATINDER MARWAHA



proximity readers and regulating all services such as air conditioning, electrical systems and lighting based on occupancy, it helps to achieve an interactive control of the facility management system and complete energy efficiency in a well-integrated environment.

The building also predominates in its aesthetic sensibility. The external fire escape staircase made of rippling stainless steel has been provided with an artistic touch. The building facade is fragmented with

a series of broken angular planes in glass and aluminium. A curved, reflective glass wall forms the entrance to the building. The building has no formal entrance and the distinction between the interior and exterior space is lost in the morphology of the building. While incorporating an energy conscious design with modern architectural aesthetics, the Apollo Tyres Corporate Office adds one more feather to the crown of Morphogenesis.

3) Dividers connecting the open spaces

4) Curved reflective glass wall forming the entrance

5) Proximity readers provided at the entry point monitors the people



## PEARL ACADEMY

The Pearl Academy located in a typical hot, dry, desert type climate on the outskirts of Jaipur has a radical architecture that is a fusion of tradition and contemporary. The institute's design blends the indoors with the outdoors seamlessly creating interactive spaces for students to work in multifunctional zones.

As a solution to budgetary constraints, cost effective solutions were used and also various passive climate controls were incorporated to overcome the adverse climate. The Academy's design is a confluence of

modern adaptations of traditional Indo-Islamic architectural elements like passive cooling strategies prevalent in the hot dry desert climate of Rajasthan such as open courtyards, water body, a step well or *baoli* and *jaalis*. All these elements derived from their historic usages, underwent a modern treatment before becoming an integral part of the daily life of students.

The traditional 'jaali' work acts as a double skin of 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 facades. The outer skin is

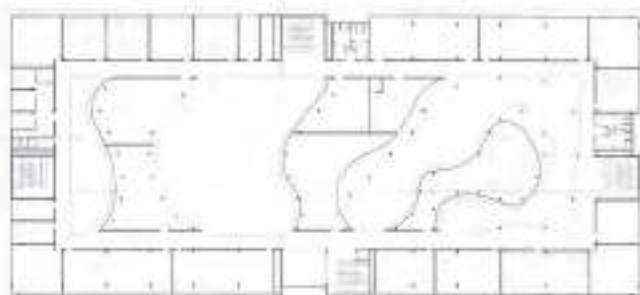




MODEL IMAGE



SECTION - STACK EFFECT



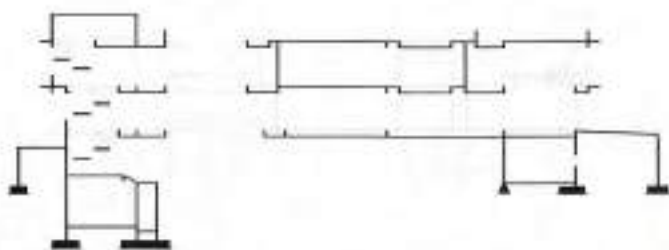
FIRST FLOOR PLAN



UNDERBELLY VIEW

#### FACT FILE

PROJECT	PEARL ACADEMY
LOCATION	JALPUR, RAJASTHAN, INDIA
PRACTICE	MORPHOGENESIS
DESIGN TEAM	JOHN ALOK DE CRUZ RACHNA AGARWAL ANNA BERGBOOM RUOKAJIT SABHANEY SHRUTI DIMRI, RUCHI UNDA
CLIENT	PEARL ACADEMY OF FASHION
BUILT-UP AREA	2,15,000 SQ. FT.
YEAR	2008
PHOTOS	ANDRE J FANTHOMÉ AND EDMUND SUMNER



SECTION B

SECTION A

## MORPHOGENESIS



Morphogenesis is one of India's leading award-winning Architecture and Urban Design practice founded by Mani Rastogi and Sonali Rastogi. They have won over 75 international and national awards, and been published in over 500 international and national publications. Morphogenesis is globally recognized for its diverse work that encompasses a range of typologies across Architecture, Interiors and Landscape Urbanism.

The firm has ranked for the sixth time running, among the Top 100 Architectural Design Firms worldwide by Building Design Magazine, UK in WA100 2017. The firm is the first Indian practice to win a WAF Award, and is a five times winner of the Indian Institute of Architects Award for Excellence in Architecture. Mani, along with Sonali Rastogi, has been awarded Laureate of the Singapore Institute of Architects-Getz Award for Emergent Architecture in Asia for having made a significant contribution in shaping the changing landscape of Asia through their vision and commitment.

6) Under water cooling maintains a cool and cozy atmosphere in the building.

7) The shadow design formed by the 'jaali' facade.

8) The step well is inspired by the traditional 'baoli'.



6



7



8

four feet away from the building and reduces the direct heat gain through fenestrations, yet allowing for diffused daylight. The jaali thus, serves the function of three filters- air, light, and privacy.

Various schemes like self-shading sliver courts and under water cooling has been devised to maintain a cool and cozy atmosphere in the classrooms and studios. The entire building is raised above the ground and a scooped out under belly forms a natural thermal sink which is cooled by water bodies through evaporative cooling. This water body is fed by the recycled water from the sewage treatment plant. The under belly which is thermally banked on all sides also serves as a large student recreation

and exhibition zone and forms the anchor for the entire project. This system allows to maintain the temperature at 27 degree, while the outside temperature rises to 47 degree celsius.

The construction has been done with special emphasis on cost efficiency and energy efficiency. Materials like local stone, steel, glass and concrete have been used to suit to the climatic needs with a minimum cost. The institute is fully self-sufficient in terms of captive power and water supply and promotes rain water harvesting and waste water re-cycling through the use of a sewage treatment plant. Thus, it serves as a successful model for cost effective passive architecture in desert regions. **SD**