

MAISON DE L'INDE CITÉ UNIVERSITAIRE

Scholars' Residence, G+7 in timber structure India House

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India House : View of the North façade of the new building View of the West façade of the old building

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View of the Brazil House View of the South façade of the old and new buildings

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In an effort to develop greater technological and intellectual

cooperation between France and India, the Indian government decided to expand India House, which will provide accommodation for approximately 100 Indian students and researchers in Paris. The new building has **the capacity of 72 rooms**, and is constructed near the existing building, which was inaugurated in 1968 in the Cité Internationale Universitaire de Paris.

The architecture is a result of requirements. The first relates to the developers' concern for **an environmental approach**; the second is that **the construction be as compact and condensed as possible**, given Paris' dense urban environment, and more specifically given the landscape and historic context of the Cité Universitaire. Designed on the garden city model, the "cité internationale universitaire" master plan organizes the buildings as objects delicately placed within the park. Respecting the existing natural landscape, is as much of a major stake as taking precautions with the direct facing views of neighboring houses, Morocco House and Brazil House.

In 2013, India House's new building, heralds a new architectural era in the International Cité Universitaire.

The project consists of **a pillar beam timber structure** assembled around a

central vertical distribution structure made of concrete. Like **a beehive**, the modules form a compact aggregate of south and east facing residential spaces, offering each resident the individual comfort of low energy building. The rooms are prolonged by generous balconies, which include sun screens that offer necessary protection from the sun during the summer, and recall the modernist architectural style of the neighboring House of Brazil, designed by Le Corbusier. The modules also refer to the architectural works of Indian architects like Balkrishna Doshi. The interior plan encourages student community living by providing every floor with a shared kitchen-dining space, which itself opens onto the patio.



Aerial view of the Cité Internationale Universitaire de Paris and Parc Montsouris.

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1. Urban Concepts

1.1 The Cité Internationale Universitaire

The Cité Internationale Universitaire de Paris (CIUP) is a unique campus, both in terms of the institution as well as the site, spread over an area of 34 hectares in Paris. It has a remarkable architectural and natural heritage.

The CIUP is a collection of noteworthy architectures with 40 houses and various equipments. The majority of these buildings are protected and some are listed or registered

as historical monuments. Famous architects participated in the design of these houses, among whom, were Le Corbusier (for the swiss foundation or Brazil House) or Claude Parent, with Iran House (now it is the Fondation Avicenne), built in 1969, which is still today one of the most recent building of the Cité Universitaire.

At the beginning of this century, a new phase of densification started in the Cité Universitaire, prefigured by a development zone map. This one focuses on new buildings which will complete the façade on south, along the beltway.

The construction site of the new building for India House is located in the north, in the historical Cité Jardin part of the CIUP.



Master plan of the Cité Universitaire - Paris 14ème



1.2 India House

Located along the Pierre de Coubertin avenue and the Jourdan boulevard, near the Charléty stadium, the existing India House is one of the latest buildings of the CIUP. It was inaugurated in July,

1.3 The new building establishment

According to the Paris city planning rules, the Cité Universitaire rules and the compliance with the other houses, the new building project features an L-shaped design located in the north of the plot. It generates a patio between the two buildings of the House. The patio opens to the south allowing natural light to fill the living spaces and offices.

1968.

Two Indian architects, Mr. Benjamin and Mr. H.R Laroya designed the House assisted by the French architect, Gaston Leclaire.

It has 104 rooms on six floors, one studio and one apartment for senior researchers and a hall that can accommodate 200 people, located in a building overhang. Elements of red brick, green mosaic tiles and violet sandstone give color to the all.

Master plan

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Ground Level Plan

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2. Architectural Concepts

The entrance level is located on the ground level (+61,20 NGF altitude). The main entrance door opens on the descending alley leading to the Morocco House.

The ground floor integrates the meeting room and the different services (the laundry rooms, the locker room, the luggage storage, the garbage and recycling cans room,...). The entrance hall has a glass pane transparent and is visible from the access road and the back alley is set free from any columns, so that vehicles can access the garages. A 2.30 m high clearance is maintained under the first block of rooms' lower slab bridging over the alley. Bikes can be safely parked nearby.

The **first floor** of the new building is aligned with the ground floor level of the existing building (+64,40 NGF) to create a link. All the other floors are calibrated

on the existing building to create a harmony of proportion between the two buildings (h=2,85m slab to slab).

In a L-shape building, the blind area located at the two aisles' junction is a preferential location for vertical distributions systems. The elevator shaft, the stairway, the vertical electrical wires distribution and the water pipes columns as well as the vertical ventilation ducts columns for common kitchens and dining rooms are located in this area, in a massive and stable **concrete CORE**.

Around this CORE, three massive walls hold the horizontal corridor slabs that distribute all rooms. They constitute the inner façades of the rooms. Punched doors and local openings allow for technical maintenance perforate them. **The rooms** are placed against the three walls. Each room is constituted by a 6,67m long x 2,95 m wide and 2,50 m high **linear tube opened towards landscape** on its outside extremity. A loggia with peripheral overhangs extends the indoor living space to the outdoor.

The common kitchen and dining rooms are located on the western side of the long aisle. They are opened with a glass façade onto the patio created in between the new and the old building. They face the kitchens and dining rooms existing in the old Maison de l'Inde. No intimate proximity is generated and a sense of community can emerge between students by speaking to each other from one building to another.





Main floor plan

Space organization sketch



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Axonometric view of the new building for India House

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Section A-A 'on the old building of India House, patio, kitchens and rooms

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Section B-B 'rooms, on the patio

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Rooms Plan - 1 : 50





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View of the common room in Ground Floor

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3. Indian Culture

1.2 Modern architecture in India is our reference for the design.

For the architecture of the Maison de l'Inde extension building, the style of concerving balconies and the loggias and the stacking of these modular loggias, inspired by B.V. Doshi, becomes the theme. Stacking of loggias defines the Southern and Eastern facades.

Here, taking advantage of a small piece of outdoor space and gaining as much as possible from the sun are the main objectives architectural. Brisesoleil and deep loggias, once used by Le Corbusier and Doshi, become the most prominent architectonics in the building because they play a major role in a passive and comfortable style of architecture.

The project is an evolution of modernist repetitive rigor though. According to depth and outside cut inclination we can create a curved surface made of only three types of standard modules. Combination and alternation soften the cartesian geometry and introduces a more organic reference adapted to the living spaces.



Mural fresco in the kitchen-dining room on the 5th floor, «The Magic Bowl»

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View of a kitchen

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View from a kitchen to the courtyard

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4. Principles of Construction

4.1 Organization of the site

The owners of India House wanted to have the new facility for the academic year 2013/2014. In this project, the speed of implementation was the key factor in the economic balance of the operation, the project management team has paid special attention to the technical feasibility of the project , and proposed suited construction technology for this purpose.

The overall construction schedule spans thirteen months.

4.2 Construction system

For the first time in France, a residential building , rising seven floors, completely made of wood has been made, which consists of a structure with glued laminated panels of timber. This arrangement was possible due to the modification of the technical instruction No. 249, on the spread of fire through walls and façades of a building. The principle lies in the heart of the building and the reinforced concrete foundations, providing stability, fire safety and the presence of a thermal inertial mass. The construction is based on 15,00m deep hollow wells bored in the

coarse limestone soil.

The pre-fabricated bathrooms , all furniture and technical equipment as well as the windows and balconies that pile around the central concrete core, are assembled during construction of the building .

This project is about constructive rationality to provide more space and comfort to students.

4.3 Energy Systems

The building is heated by radiators fed by a conventional hot water system connected to the network CPCU (Paris district heating company) through plate heat exchangers located on ground level.

The domestic hot water is produced in the same sub-station CPCU to ground level. An additional solar DHW (35%) is provided by 20 m2 of solar panels on the roof. The storage tanks are in turn located on the ground floor of the building. The distribution of rooms is by the vertical columns of each stack of modules.

VMC provides a humidity controlled air exchange and its regulation in every room.



Construction process

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Balconies, straight configuration

Stack balconies with variation of depth and tilt to ensure the best sunscreen



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For the slab wood thread - balcony



Detail of assembly



For the vertical structure of the wooden balconies.

- 14. Cladding, preservated wood + Rock wool, th. 80 mm
- 13. Composite panel, lacquered aluminium, th. 8 mm
- 12. Wood slab, spruce glued laminated timber, th. 120 mm
- 11. Waterproofing, epdm layer
- 10. Balcony casement, lacquered and welded steel
- 9. Flooring strip, composite wood, th. 25 mm

8. Lacquered steel shelf

7. Galvanized steel balustrade, tube profil 30 x 50 mm

6. Exterior millwork, preservated wood

5. Exterior canvas blind on slide

4. Lining plaster board + Rpck wool, th. 200 mm

3. Plaster broad , two layers hanging + Rock wool, th. 80 mm

2. Wood slab, spruce glued laminated timber, th. 100 mm

1. Floating floor, th. 14 mm, on acoustic insulation and fireboard

Detail between rooms and loggias

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Timber structure. Floor room detail



the western part of the pr





The overlapping stages of construction.

Site progress. 2013.05.18.

View from the existing building.

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PROGRAM

Construction of a new building of 72 independent rooms and common premises to increase the accommodation capacity for students, researchers and professors of the existing India House, located in the south-eastern part of the Cité Internationale Universitaire de Paris

WORK SITE SCHEDULE

August 2012 - Fall 2013

PROJECT DIRECTOR AND CONSULTANT

India House - Mr. Bikas Sanyal (Director) VE Consulting - Valérie Elbaz (Assistant)

ARCHITECTS & ENGINEERS TEAM

Lipsky + Rollet architects with : Gaujard Technology (timber structures engineers), C&E (structure engineers), INEX (HVAC systems engineers), ExNdo (environnemental design engineers), Michel Forgue (quantity surveyor engineers), Atelier Rouch (acoustic engineers), France Engineering Services (site operation manager).

Galerie Hervé Perdriolle: Warlis Artist (Sadashiv & Kishore Soma Mashe)

CONTRACTORS

Les Puisatiers Réunis (specialized foundations), EGMB (building fabric & VRD), Rübner (timber structure, façade, exterior woodwork, interior and exterior steelwork), Billon (CVC plumbing), AMICA (electric equipment), Schindler (elevator), Smac (sealing), Baudet SA (prefabricated bathrooms), Protherm (dividing walls and ceilings), EDR Sannoise (painter), firma MEblowa NAWrocki (interior design furniture), Koval (flooring), Voisins Parcs et Jardins (planting). RBC furniture. Laboratoire IRB, Ruedi Baur graphic designer

BUDGET (FINANCING BY THE GOVERNMENT OF INDIA) 4 300 000 € (excluding tax)

SURFACE

2 861 sqm SHON

HOT WATER PANELS 20 sqm

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