

ARCHITECTURE AS OPPORTUNITIES

Ar. Rohit Shinkre

Fact File

Project Name

▶ Lycée Français Internationale de Pondicherry (LFIP) or the French High-School of Puducherry

Client

▶ AEFÉ, French Government Agency for Overseas Education

Location

▶ Puducherry

Total Area

▶ 5800 sq.m

Completion Date

▶ Building work - April 2018; Sports Court & Landscape Sept. 2018; Security Works - Oct. 2020.

Design Team :

Design Lead

▶ Rohit Shinkre

Project Architects

▶ Saurabh Mhatre, Sonal More

Interior Designer

▶ Komal Valanju

Structural design & conservation consultants

▶ INTACH, Puducherry Chapter

MEP Consultants

▶ Auro Associates

General Contractor

▶ Saravannan Reddiar

Electrical

▶ Kumar Electrical Services

Plumbing

▶ Aurokeethana Aquatech

HVAC

▶ Elite HVAC / Bluestar



Simple structural grid. Lightness and economy.

The renovation and extension of the Lycée Français Internationale de Pondicherry (LFIP) or the French High-School of Puducherry has been a landmark project for me. Like many architects of my generation Maurice Merleau-Ponty's Phenomenology of Perception and Robert Venturi's Complexity and Contradiction in Architecture had a profound influence on my approach to architectural design. The idea of architecture being 'a machine to live in' though intellectually attractive is a reductive of its potential.

The Project

The Lycée occupies a compound of 5800 sq.m in the heart of the White town of Puducherry which is one of the most actively conserved historic urban precincts in India, thanks to the untiring efforts of the local INTACH chapter. The complex has four building blocks, the earliest built around the mid-nineteenth century, the next in the early twentieth century; both in load bearing brick walls, then one in the mid- twentieth century in and the last at the turn of the millennium- both in RCC. Ironically, it was the last addition that was to be demolished. The project was about renovation and modernisation of parts of the existing historic buildings and an extension for new spaces for the primary school. This article is about the many questions that the project raised and how they informed the design process.

Architecture and Design as Resource Management:

The eco-friendliest building is the one that is already built. It is a shame that a structure built in the early part of the twenty-first century needs to be demolished. Its design was unable to adapt to changing use and its poor build quality did not justify any major investment in renovation. It is to be noted that the other historic blocks, though much older, were in better condition and more conducive for adaptive transformation and modernisation, basically because they were better designed. This is a glaring comment on the general state of architectural design and construction in India; more so here since it stands in direct comparison with other historic buildings.

Architecture is resource management too. A long lifecycle can and must be a simple measurable criterion to assess good architectural design and construction particularly in the quest for sustainability. Long life is a statement about not only the quality of construction, in terms of the structural stability and weather resistance, but also about design and planning in terms of spatial adaptability and user appropriation. Such essential values rarely find place in the discussion in the design and construction community or in the media. It is rare to see a project being covered say 10 to 15 years after it is 'inhabited'. A longer-term critical view on architecture may serve better in defending more enduring values of architecture. Highlighting these is even more important in the consumerist abyss that we are faced with. This reinforced our commitment to design / build to last.

Environmental Sensitivity:

Barring the heroic aberrations of the twentieth century that continue till today, good architecture has always been environmentally sensitive. Here too, without being obsessed about the rating systems, the design is traditionally sensitive to its natural and built environment in multiple ways:

a) Economy of resource: Optimisation is a fundamental value of architectural design and planning. The project achieves a remarkable built-up to usable space ratio. The RCC structural frame is rationalised.

It was a deliberate choice to avoid cantilevers to create a simple compressive structure. Even non-structural elements, express lightness, and economy, without compromising on performance. The design of entrance canopy that covers the hold area where students wait in safety before rushing in or out of the school is a case in point. It is suspended with an articulated joint to allow and withstand uplift in case of strong cyclonic winds that are frequent in the region. It is like a hyphen floating between the old and the new with magical lightness. The engineering performance is not a 'look what I can do' gesture but responds to very specific functional, urban, architectural and structural demands.

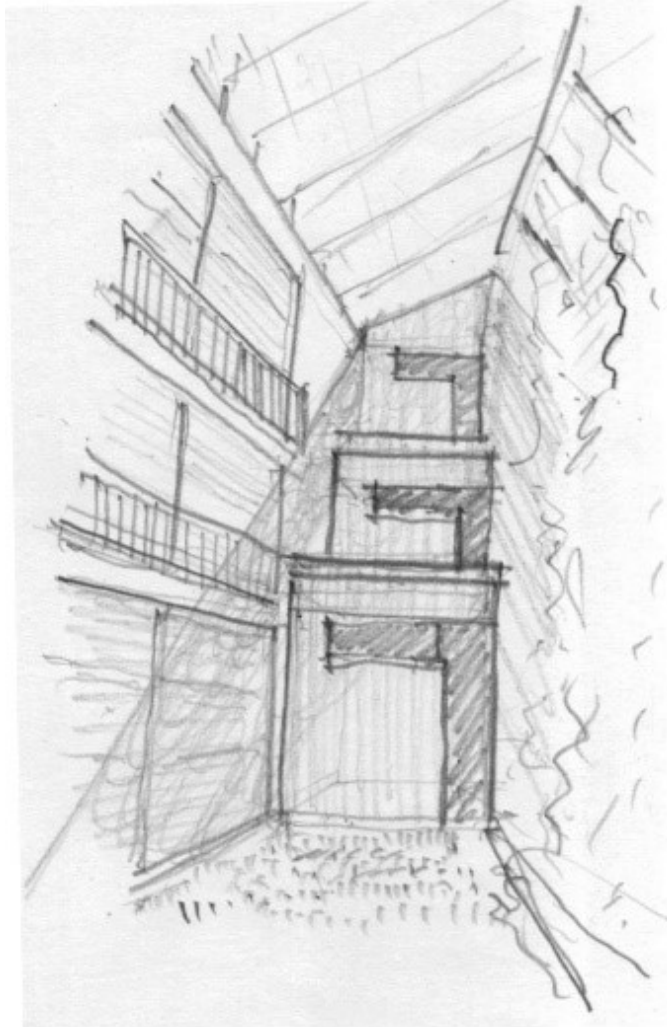


Entrance canopy suspended between the old and the new.

b) Climate Response and Comfort: Being in an urban context the orientation of the building blocks is dictated by the existing alignments. All passive measures to reduce radiation heat gain are considered. Terracotta screens shield the open corridors, conventional brickbat with lime and jaggery is used to provide thermal insulation and waterproofing. Traditional terracotta tiles with wide joints are used to withstand extreme thermal variations. Though the classrooms are air conditioned the light well created along the adjoining property wall allows for better daylighting but also for natural ventilation whenever desired.

About Conservation:

Architectural and urban conservation is a nascent and somewhat elitist concern in India. It can go from fetishist activism in some privileged parts, like the Puducherry White town, to total disregard in other parts of the country. Most people here are struggling with survival and basic developmental challenges and it is understandable that heritage conservation is not a public priority. The question of built heritage conservation in the demographic and urban reality of India, however, needs some debate. A fundamental question would be why buildings should be conserved and if so which ones and for how long? Can we afford our cities to be fossilised in historic architectural styles? Architecture and cities in designated heritage precincts, such as this, are suffering



Initial sketch for the light well

from a kind of 'provincial sentimentalism' (Pallasma, 2005) imposed by ill-advised city authorities. Conservation policy is reduced to replication of historic architectural features. The city and its architecture are 'made-up' for the tourists, the nostalgic and metropolitan investors while the living urban reality of Puducherry has shifted to other quarters. Our cities may turn into Disneyland and architecture would fail in its task of the defence of the authenticity of human experience. The swing is from one extreme to the other and points to the need to seek a middle ground between total disregard for heritage that has been the norm and meaningless replication that is advocated here.

Conservation is also, and perhaps primarily, about construction and details. Quite often casual renovations / stylistic conservation affects the structural integrity and thus lifespan of historic buildings. Here too, previous repairs, alterations, and incorporation of modern utilities such as plumbing and air conditioning were carried without duly considering the nature of the structure. Our approach was to try and heal and restore wherever we intervened in the old buildings. The works in the historic buildings, creation of a new modern kitchen, additional toilets, air conditioning, replacement of damaged structural members were done with utmost care of the old load bearing brick structure. Some simple guidelines and details were prepared based on local observations:

- Removing cement plaster applied during subsequent renovations or repairs and restoring the original lime plaster. The former trapped humidity had over a period totally compromised the compressive strength of the brick walls. This caused the collapse of the Hôtel de Ville of Puducherry in 2014. Though this process was not complete in all the premises it was done wherever we intervened, and the owners have been advised to gradually undertake this wherever required.
- Removing false ceilings so that real ceiling is visible, and any damage or cracks can be immediately identified. Partial false ceilings were used wherever required for acoustic purpose in the dining hall, classrooms, reading rooms and laboratories. Custom designed light fixtures integrating acoustic panels were used.
- Wash basin counter was detached from the walls standing on a SS frame so that water does not seep into the old brick walls.
- Refrigerant and drainpipes for air conditioning were housed in a double skin HDPE pipe wherever crossing through the old walls to arrest dampness due to condensation that was generally observed.
- Pre-cast ferrocement projections have been added to the old load bearing brick walls with torsteel ties embedded in local punctures. Such senseless 'restoration' and modernisation work is inducing failures in the otherwise very simple and safe load bearing structure. We have recommended these violations to be corrected and the ferrocement components to be replaced by conventional projections on wooden / mild steel brackets. This will be part of the next phase of the project.

About renewal:

The extension is a significant event in the life of this historic and influential institution. It is a renaissance of sorts. The architecture must support this renewal. By replicating its old architectural features, you are also reasserting the old



External façade as per heritage conservation guidelines... with castellated beams and polycarbonate cones peeping out



Image A: Each classroom is distinct with its own spatial qualities.

colonial legacy and missing out an opportunity to project contemporary, multi-cultural and humanist values that the institution upholds today. The design has to negotiate the contradiction between the citatory conservation guidelines and the desire for a renewal. As a result, the new extension has street façades that complies to the former and internal courtyard side façades that express the latter. Though the loss of architectural 'integrity' is regrettable the 'schizophrenic' dual personality of the extension conveys the conflicting appreciation of history and culture. Built heritage conservation guidelines would do well in defining architectural controls in terms of scale and typological references to climate responsive space and construction rather than imposing specific architectural features like bands, cornices, railings etc.

Architecture for education; a different scenography:

We know not through our intellect but through our experience.
Maurice Merleau-Ponty

This experience in architecture is also scenography of a different kind: architecture as the container of the human experience. Observation, curiosity, wonder, and dialogue are key to education and space is conducive to all of this. The typology of the school building, as we know it, take us to the early industrial era stressing normalisation, addressing children as a group rather than individuals. Most of us have suffered the monotony of the array of identical classrooms served by long corridors during long school years. Many may have become totally insensitive to space and its characteristics as a result.



Image B: Each classroom is distinct with its own spatial qualities.



The three trees and the children



Here, every opportunity of sensorial engagement is exploited. The project despite or rather because of its small scale, is dense in spatial experiences that provoke a dialogue with self, with nature, with the community within the school and out of it.

Each of the new classrooms is different by design: the plan, the daylighting within, and the views and extensions without are unique to each class. It allows teachers and learners to respond to their space. The individuality of each child and the teachers is not neutralised by the repetition of a standard classroom. Individuals and groups can respond to specific spatial conditions, which they have.

There are the projecting balconies, the raintree courtyard, the play area with the banyan, the adjoining 'Préau'- a stilted open hall and finally the open-air classroom on the terrace shaded by deep concrete fins which offer the children a wide variety of spaces to be in, to be by oneself, with a friend or two, in a small committee or a large group. Particularly during the 'recreation' (recess) time, each child makes a choice of how and where to be. The place is not regimental but affords these individual liberties to the children. They deserve that.

Three existing trees are an integral part of the project. A large window highlights the teak tree along the neighbouring plot. Seating around the majestic banyan protects it and draws cool shade from it. A small amphitheatre is created around the raintree as a space for contemplation and communion with it. The foundation design of the load bearing curved walls of the toilet block was with micro plies wherever possible supporting a plinth beam above the root layer to protect the root base of the rain tree. It is hoped that the children will be more aware of their beauty, their strength and fragility, notice the changing seasons and the rich biodiversity that they so generously support.

During a site visit I noticed that many birds gathered on the roof of the toilet block to peck on the seeds and flowers fallen from the raintree, the design and profile of the sky-lighting ventilators was changed to depict that... I am sure some clever kids will get it and smile... for others it is still a nice-looking form!

Social education is an important part of school years. Children learn to deal with others, their peers in class, the student community and the world outside of their homes and the school. Puducherry has a lot to offer to a growing child. Its architecture directly reflects its social and linguistic diversity and history. A lot of traditional building crafts are

still alive here. The design wants to manifest of this. Though the structure is conventional RCC frame and slab, traditional brick bat and lime-based techniques were used to insulate and waterproof the terraces. Local crafts find their way in the project through the terracotta and ferrocement components. The characteristics colours of the old and new quarters of Puducherry are cited here on the internal walls of the light well and on the stairwell. Contextuality was defined with very different parameters.

Thinking back, it appears that the thought behind these spaces draws on very personal experiences from my school days. One of our friends had restricted mobility and everyday each one of us used to take turns to spend the recess with him- sitting in a corner, playing a board game, reading, or just watching the others playing. This happened despite the space being available for it. The spatial inadequacy of the typical school building was well understood. Schooldays are a fertile ground for lifetime memories, mostly good ones. This school wants to be worthy of those memories.

We created opportunities to engage the school children even during construction. A group of them volunteered to work alongside the artisans to create mosaics on the seating in the raintree courtyard. Multilingual greetings and good wishes adorn the mosaic. Signage boards for the toilet blocks were also made in the same manner. Similarly, books arranged in fluid stacks like an installation art that allowed children to literally continue to be amidst them during the renovation of the library. The interest, participation, animation, and ownership that such initiatives generated is part of the legacy of the project.

In conclusion, the project was an exercise to enrich the primary functional scope of the project through design thinking. Architecture offers many specific opportunities to engage its users, to create a pleasant environment and to debate broader questions about the discipline. It's the role of the architect to be attentive to these contextual specificities. The project is born of the place... it is simultaneously universal and specific.

REFERENCES

Pallasmaa, Juhani (2005). *Encounters: Architectural Essays*



Ar. Rohit Shinkre is a practising architect and educator based in Mumbai. His professional experience over the past 25 years covers a variety of projects from infrastructure works, urban planning to interior design for a very diverse user base from MNCs and diplomatic missions to city authorities. He is an active educator, starting as a design studio mentor at his alma mater ENSAP-Val de Seine, he is now Professor Design at the Rachana Sansad's Academy of Architecture. He is currently a doctoral candidate at the Faculte d'Architecture La Cambre Horta, ULB, Brussels. His research interests are urbanism and informality. rohitshinkre@rsarchitects.net