

Architecture as Opportunities

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In this practice essay, Rohit Shinkre makes his recent renovation and extension of the Lycée Français Internationale de Pondicherry as an opportunity to write about and discuss many questions thrown up in the course of his engagement with the project. He discusses issues such as built spaces as resource, meanings of conservation, renewal, environmental sensitivity and such terms that are used constantly but rarely reflected upon. He makes a simple yet emphatic point that every design project should become a means to debate broader questions about the discipline. Critical reflection can generate a discourse to further design thinking in the practice of architecture



Figure 1: General View of the Site from SW. Main Entrance of the Heritage campus

The Lycée Project in Puducherry

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 The 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 Lycée occupies a 5800 sq.m. compound 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 4 building blocks, the earliest built, Block A, around mid-19th century, the next, Block B, in the early 20th century – both in load bearing brick walls. Then the Block C in mid-20th century and the last at the turn of the millennium – both in RCC. Ironically, it 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 essay is a result of many questions that the project raised and how they informed the design process. Doing a project is not just an exercise in design and execution, it can generate a discourse to further the thinking process in practice of architecture. I discuss some of these questions here.

Architecture and Design as Resource Management

The most eco-friendly building is the one that is already built. It is a shame that a structure built in early 2000s 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 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. Long life cycle 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 the quality of construction, in terms of the structural stability and weather resistance, but equally 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.

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 in Puducherry, are suffering from a kind of 'provincial sentimentalism' 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. In this project too, previous repairs, alterations, and incorporation of modern utilities such as plumbing and air conditioning were carried out without duly considering the nature of the structure. Our approach therefore was to try and heal and restore wherever we intervened in the old buildings in the compound. The works in the historic buildings such as creation of a new modern kitchen, additional toilets, air conditioning, replacement of damaged structural members etc. were done with utmost care of the old load bearing brick structure.

Based on local observations, we arrived at the following simple guidelines about building details.

- Remove cement plaster applied during subsequent renovations or repairs and restore the original lime plaster. The former trapped humidity and 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.
- Remove 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 is 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 Ferro-cement projections have been added to the old load bearing brick walls with Tor steel 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 Ferro-cement components to be replaced by conventional projections on wooden / mild steel brackets. This will be part of the next phase of the project.



Figure 2: External facade as per heritage conservation guidelines -- with castellated beams and polycarbonate cones peeping out

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 re-asserting the old 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 anywhere 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.

Environmental Sensitivity

Barring the heroic aberrations of the 20th 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:

Economy of resource is vital for any sustainable building practice. 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.



Figure 3: Simple structural grid. Lightness and economy.



Figure 4: Entrance canopy suspended between the old and the new. Initial sketch for the light well

It was a deliberate choice to avoid cantilevers to create a simple compressive structure. Even non-structural elements, like the railings, 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.

Climatic response and comfort conditions are guiding parameters. 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-based waterproofing with lime and jaggery is



Figure 5: *Each classroom is distinct with its own spatial qualities*

used; 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.

Architecture for Education — a different scenography

As Maurice Merleau-Ponty has said, we know not through our intellect but through our experience.

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 a space that is conducive to all of this is key. The typological 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. 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.

You have 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; offer the children a wide variety of spaces to be in; to be by



Figure 6: *The three trees and the children*

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. A 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 a birds gathered on the roof of the toilet block to peck on the seeds and flowers dropped by 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 use these. Though the structure is conventional RCC frame & 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.

Reflections

The 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 of 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. ■