

Architecture for Humanity: Open Classroom Design Competition**Arch 384. Competition Elective****Saeran Vasanthakumar / 20203297**

“...continuity of these ideas of type, such as they are, and the esteemed examples which have established their identity and assured their continued cultural resonance, constitute an established line of inquiry in which new work may be effectively grounded.”

The Harvard Architectural Review. Volume 5. Precedent and Invention. Between History and Tradition

John E. Hancock.

Italian architect and theoretician Aldo Rossi in his book, “The Architecture of the City” described typology as an irreducible element that emerged from collective historical and cultural processes (41, Rossi). Today however accelerated transnational flows shift the balance of local and global processes that are wrought through the city. While globalization is not new - it has existed in some form or the other since 1492 (25, Harvey) - the logic of late capitalism produces a magnitude of planetary interconnectivity and interdependence never conceived of before. The specificity of the contemporary city is thus increasingly shaped by forces that lie beyond it: the arrhythmia of foreign capital, labour and information that is layered, filtered and inserted into the existing palimpsest of the city. As typology is an abstraction that only exists relative to these phenomena of social, spatial and historical processes (308, Forty), it presents an effective construct through which to investigate architecture our expanded field of the city.

As part of an international open design competition for schools in impoverished neighbourhoods, organized by Architecture for Humanity a global charitable organization, I designed the retrofit

of a low cost private school in the city of Hyderabad in India. Competition entrants were able to choose their own school, or design one from three existing school partners. For my first category hosted by Rumi Schools of Excellence, I placed top three and received a commendation by the organization.

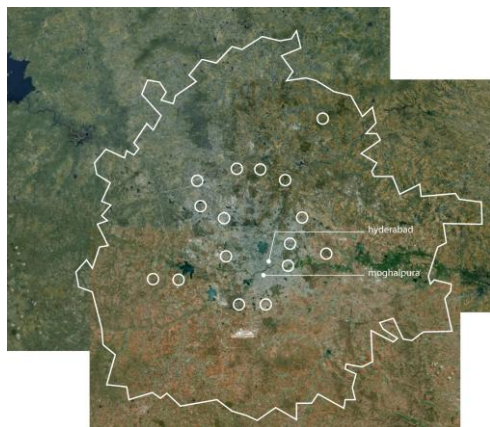
The project attempted to move beyond the upgrade and retrofit requested in the brief, and detaches itself from the development narrative inherent to it. Instead it sought through independent research to deconstruct the broad forces and institutions that drive urban development, and tactically mobilize their latent resources. Using typology as a lens to investigate cultural-historical processes, this text looks at the global forces driving the material and social dynamic of India's urban centers, and the resolution of this through architectural intervention.

“...the significance that Muratori attached to the ‘types’ he identified was that it enabled one to demonstrate in concrete terms all those aspects of the process of the city – growth, milieu, class – which historical geographers had previously treated only as abstractions.”

Words and Buildings A Vocabulary of Modern Architecture: Type

Forty, Adrian.

As abstract processes manifest concrete typologies, any local intervention demands an inquiry into the systems that drive it. Beginning with the 1970's crisis-induced restructuring of the global sphere, this section will briefly outline the repositioning of the Indian economy within international markets. Following the appointment of economist Manmohan Singh as finance minister, India began to phase in the neoliberalisation of its economy in 1991, beginning with the



1. Hyderabad District: SEZ / IT Zones

dismantling of mechanisms of redistribution, the radical deregulation of industries and the redirection of public investment towards large-scale energy, telecommunication and transportation infrastructures for speculative heavy and high-tech industries (p.562, Ramachandrajiah). Thus India's restructured industries offered an attractive draw for foreign investment seeking to avoid local labour market rigidities. India offered Free Trade Zones (FTZs), for relocating primary and secondary sectors, Special Economic Zones (SEZs) for emerging high-tech software and information industries (p.2, Taubenbock), and most importantly: a surplus of workers disrupted from their traditional economic systems with lower standards of labour and wages. Finance Minister Singh was thus heralded as the architect of the much celebrated high-tech boom that followed in cities such as: Bangalore, Pune, Chennai and the city in which the project is situated, Hyderabad. Nicknamed Cyberabad the city hosts several major companies, public sector enterprises with central research and training institutions as well as universities and professional colleges (p.2 Taubenbock) and is thus a prominent urban node within the global knowledge economy.

As these transnational processes materialize in local territories, wrought through cultural typologies, corollary intra-urban adjustments need to be studied. With a population of 5.8 million in 2004 and growth rate of 2.42% per year, Hyderabad will become a megacity of 10.5 million by 2015. (p.8, Davis). An analysis of Hyderabad through remote-sensing and GIS undertaken by a research group from University Karlsruhe in Germany done between 1989 and 2001

demonstrates the spatial trajectory of population growth in response to these pressures.

Successively low-densities of growth along the urban periphery take the form of ring-shaped development while the central core of the city experiences an additional layer of density (p.5 Taubenbock). Global processes in Hyderabad thus simultaneously concentrates and transfers urban development into the city and adjacent rural territories respectively.

The researchers from the University of Karlsruhe concluded in their analysis that the current urban development in Hyderabad is unable to keep up with its growth (p.1, Taubenbock). This thickening of the urban core and expansion of the periphery thus also frames the socio-spatial polarization of the city. With the dismantling of mechanisms of progressive social welfare, and continued disruption of existing rural and urban communities for FTZs and SEZs, and corresponding pressures of gentrification the city drives underprivileged residents into the slums of the city and thus intensifies socio-spatial and socio-economic polarizations.¹



2. Population Growth

The material construction of the city thus extends back to global processes and the division, intensification and expansion of existing social orders in Hyderabad projects itself on the ground.

Typology and makes legible the conflict of class in its built form. After all, if history, according

¹ In particular Hyderabad's prolific IT sector contributes to this socio-economic, socio-spatial division. The high mobility of capital, labour, information and commodity it mediates is contingent, perhaps counter-intuitively, on fixed infrastructures. Fiber-optic networks, airports, highways, large-scale power stations and ports require investments that cut into social welfare programs, and stimulate a host of other global processes (reciprocal flows of transnational capital, culture and labour) that work to stimulate gentrification of the core,

to German philosopher Walter Benjamin, is a distortion of events that serve the interests of the dominant powers, then the city - the collective memory of society (39, Rossi) - is the same. The task at hand is to look beyond the constructed narrative of Hyderabad², as a high-tech boom town, and attempt to objectively understand the multiple processes that in relation with the built form comprise the city.

“...the two most common schemes of typological classification have been by use – churches, prisons, banks, airports, etc.; and by morphology – buildings with long hall-shaped interiors, centrally planned buildings, buildings with courtyards, buildings with interconnecting compartments, or with separated compartments, and so on.”

“Typology was a means of describing the relationship between buildings and city of which they formed part, and thereby of showing how individual buildings were manifestations of the collective, and historical processes of urban development...”

Words and Buildings A Vocabulary of Modern Architecture: Type

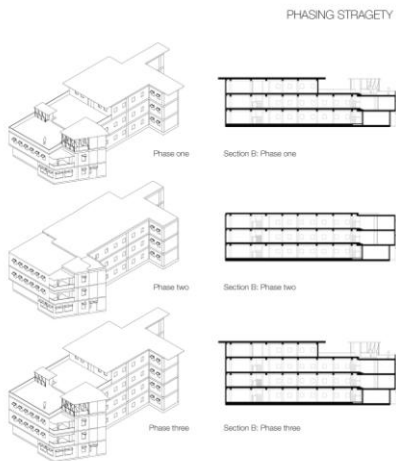
Forty, Adrian.



3Rumi Schools of Excellence

² As constructs like globalization and political states, as well as false dichotomies of nature and city and formal and informal systems finally begin to reveal their limitations, disciplines across a variety of fields look to new ways of analysis and action. Paul Krugman’s ‘new economic geography’, Jeffrey Sachs’ focus on regional complexes (23, Harvey), the redefining of our geological era as the Anthropocene, and the remapping of the world according to manmade ecological communities of ‘anthromes’ are all attempts to model a more interdependent and interconnected narrative of our global systems (“Maps: How Mankind”).

Typology in this text was used as a way to anchor the analysis of global abstractions to built form, and thus the primary precedent for the built form of the project are these urban processes themselves. The secondary precedents were the existing Rumi schools and schools in higher-income neighbourhoods like the Adharshila Vatika School and School Without Walls Senior High school. The competition entry thus looked to address the multiple dimensions of the city through an intervention that attempted to reflect these complexities. This can be examined through the two historical focuses of typological study: typology of form and function, and typology of processes.



Drawing from the form and function of local typologies, the school redesign sought to leverage and integrate itself into its environment. This was done through: the creation of a landmark structure, its mediation of the public realm, incorporation of adaptable systems. The built form of low-income, mixed-use and high-density neighbourhoods like Moghalpura, is accreted over time through ad-hoc constructions, and appropriation of space (“Urban Classroom”).

The Rumi Schools of Orient are built along this same logic. The schools are expanded one floor at a time as student demand increases, with construction often occurring during the academic term (“Urban Classroom”). The project proposal thus uses the logic of incremental expansion to drive the massing. This allows the building to be systematically built up as needed, and creates

space for the rooftop garden program. With the rooftop garden, and the height of most Rumi Schools (often the highest in the neighbourhoods) (“Urban Classroom”), the building is meant to function as an urban artefact within its community. The structural demands of the soil loads drive the design and allocation of the garden. Thus the tectonics and placement of the roof garden allows the eccentricities of the ad-hoc building construction to express its specific character as its roofscape. The rooftop garden is conceived, in this sense, as an expressive gesture that serves as an icon for the school.



The building stacks all the communal spaces, the rooftop garden, the library and the computer lab adjacent to street to act as an interface for the school. This allows the more public programs to buffer the classroom spaces from the noise and pollution of the street. With Hyderabad’s IT sector in mind, the computer lab was prioritized as

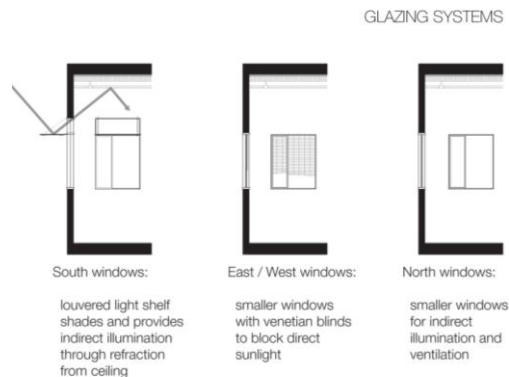
4 School Without Walls Senior High School



program that could most effectively increase student demand. Thus the computer lab is placed at ground level, with a glass curtain wall (backed with steel mesh for security), that forces direct visual engagement, while reproducing the sequence of storefront advertising of the adjacent commercial buildings.

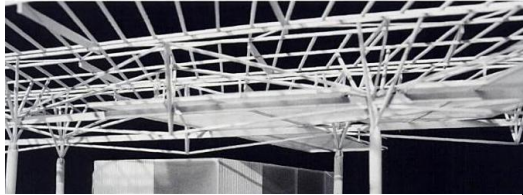
5 Adharshila Vatika School

As the decision was made early on to accept the existing irregularities of the existing structure, the second floor library placement used the eccentric shifts in height to create a depressed, courtyard-like space that function as informal seating for the library. Similar to the facade strategy



of the computer lab, the second floor fenestration reproduces the sequence and scale of the adjacent residential typology. In contrast to the computer lab the reserved fenestration gives the library a more subdued interior atmosphere, in light and visual axes. In order to move the computer lab adjacent to the street, the existing entrance, consisting of a long corridor bounded by blank walls, was relocated. The new entrance is recessed from the street to give the entrance a more intimate, and visually interesting sequence.

In order to better accommodate the fluctuating pressures of student demand and environment, the building introduces design strategies for greater adaptability. Alternating classroom walls were removed and replaced with collapsible screens, and circular desks are specified to allow teachers to, respectively, reconfigure space and accommodate extra seating more easily. The existing facade had many unbuilt voids which may have been left open to vent heat cheaply. The redesign created a sealed envelope and introduced operable windows, customized to specific orientation to allow the teachers to control interior temperature, ventilation and lighting conditions, as well as avoid costly mechanical systems. These pragmatic strategies of increased adaptability allow the school to accommodate for the radically transforming conditions of the intensifying megacity. Alongside the construction of the building as a community icon, and the negotiation of



6. Logical Activities Zone, Stan Allen Architects

the public realm, the building thus works to integrate and leverage its existing conditions, relative to the local form and function of the neighbourhood.



7 Rooftop Wastelands, McGill School of Architecture

As the prior research demonstrated global and urban processes drive the socio-spatial and socio-economic projection, the project also is designed to tactically engage and plug into these processes to aid the school community. Inspired by the Logistical Activities Zone, by Stan Allen and the Rooftop Wastelands project by

the School of Architecture at McGill University, the rooftop learning garden was thus conceived as an eco-infrastructural framework that embodies and engages Hyderabad's ecological, urban and rural practice and processes through: resource production, harvesting and material specification.

The eco-infrastructure would thus encourage local food production, create a more pleasant micro-climate for the school, and introduce new community spaces and functions to the neighbourhood. Additionally, it confronts the serious issue of Hyderabad's depleting groundwater reservoirs in the face of an exploding urban population (573, Ramachandarajah). The roof garden containers and exposed roof areas of the project function together to capture, store and reuse all rainwater, for its grey-water systems and food production.



8. Materiality and Industrial Estates in Hyderabad District

The material products, fabrication, and assemblies specified for the project are linked to the local industrial estates of the Hyderabad district (p.1, Taubenbock). The material palette of the project is thus limited to brick, aluminum and steel metals, local timber products and in the case of the garden infrastructure – can be specified to be constructed from factory cast-offs.

In this way the project's materiality, roof garden and computer lab articulates and links multiple flows that constitute contemporary urbanism. In this way the project design conceives of architecture as successive dimensions of form, function and process, wrought through respective local typologies, that can negotiate the multiple processes of a constantly transforming urban ecology.

“It was from the concept of ‘type’ that Rossi subsequently developed his idea of ‘analogies’, of an ‘analogical architecture’, whereby a whole city might be represented through a single building...”

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Forty, Adrian.

This essay demonstrates through the concept of typology that the city is comprised of a multiplicity of processes, of routes of exchange and transfer drawn and redrawn relative to the fixed structures of society. It is thus a combination of temporal processes existing in tension with spatial form in its totality that constitutes the city. Meaningful humanitarian intervention thus lies in creating process-oriented flexible urban ecologies, that deconstructs the broad forces and institutions that drive urban development, and tactically mobilize their latent resources through built form for the community.

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