INDIAN ARCHITECT & BUILDER

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I A&B

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ChemTECH WORLD EXPO 2022

SPECIALTY ChemICAL WORLD EXPO 2022

Bio Pharma World Expo 2022

30th International Exhibition and Conferences

22-25 February 2022

Venue: Bombay Exhibition Center, Goregaon (East), Mumbai, India

Concurrent Events

EPC 2022 Engineering Procurement Construction | Refining & Petro CHEMICALS 2022 | LAB ANALYTIX World Expo 2022 | Industry AUTOMATION & Control 2022 | PVF Pumps, Valves & Fittings WORLD EXPO 2022 | WaterEX WORLD EXPO 2022 | Paint & Surface Coating World Expo 2022 | BOILERO World Expo 2022

Scope for CHEMTECH + Biopharma World Expo 2022

- Refining & Petrochemical products
- Biotechnologies
- Chemical & Pharma Processing Equipment
- EPC Services
- Automation Technologies
- Environment Solutions
- Water & Wastewater Treatment Technologies
- Pumps & Valves
- Pipes & Fittings
- Packaging Solutions
- Material Handling Systems
- Analytical & Laboratory Technologies
- Consulting Services
- Equipment Fabricators

Scope for Specialty Chemicals World Expo 2022

- Agrochemicals Intermediates
- Adhesives & Sealants
- Agrochemicals & Crop Protection
- Bulk Drugs & Intermediates
- Enzymes
- Colorants, Dyes & Pigments
- Cosmetics & Personal Care Ingredients
- Hygiene & Cleaning Chemicals
- Laboratory Chemicals
- Surfactants
- Water Treatment Chemicals
- Catalysts
- Electronic Chemicals
- Flavours & Fragrances
- Contract Manufacturers

FACTS & FIGURES - CHEMTECH WORLD EXPO 2019

612	18962	18	85	923	2150
EXHIBITORS	VISITORS	COUNTRIES	SPEAKERS	DELEGATES	STUDENTS

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exterior

The art of making business seems like pleasure.

Project: Sattva Galleria, Bangalore
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Viega India redefines functionality with their adjustable bathrooms

Adjustable Bathrooms; a dream come true for senior citizens

Viega India, one of the leading manufacturers of installation technology for sanitary and heating, has introduced a unique concept where things adapt to people with their adjustable bathroom designs.

The ability to live in familiar and comfortable surroundings at a ripe old age is an understandable wish shared by several senior citizens. This can easily be a reality through the choice of age-friendly accommodation. This starts right from the bathroom, a sanctuary of relaxation and self-care. Early planning of this space can yield rich dividends later in life. Several factors should be taken into consideration to ensure maximum 'room to manoeuvre'. Additionally, proper planning with the washbasin, toilet areas, bathtubs, spacious shower with or without sills also contribute in making a functional and pleasing bathroom.

Mr. Manoj Maithani, speaking on Adjustable Bathrooms, "At Viega, we aim to create products that are functional and suit the needs of our customers. We want to provide a comfortable lifestyle to everyone, and we place great emphasis on this factor right from the designing stage. Our new range of adjustable bathroom designs which are intelligently planned and executed will provide a space that evoke a sense of style and yet be highly functional making lives easier."

In Viega's adjustable bathroom design, it showcases how bathrooms can be designed for all ages without compromising on comfort. These are the washbasin and toilet that can be height-adjusted at the touch of a button, foldaway support for more ease of use.

Further dwelling in to the unique design points, the stylish and functional floor-level shower channel provides easy access not just to older age groups but even other family members. A popular solution is seen in Viega's Advantix Vario wall drain which is extremely narrow and blends in elegantly with the overall design solution. The first adjustment option; height-adjustable washbasin which has been common in kitchens and offices for a long time has now arrived in the bathroom. This washbasin element from Viega can be adjusted for height and can be moved up to 20 cm vertically – steplessly, easily and at any time. At the touch of a button, the ceramic section travels upwards within a range of approximately 70 to 90 centimetres from floor level. To move it down it is enough just to lean on the basin in order to move it to a position that makes washing from a sitting position comfortably easy. The Viega Eco Plus washbasin element can be combined with many different individual ceramic units and is completely independent of electrical power.

The second adjustment option; height-adjustable toilet is also set to make lives easy. Adults and differently abled people find it easier to stand up if the toilet is higher, whereas a lower seat is more suitable for children. Viega's height adjustable WC element now makes it possible to adjust the sitting height to each person's individual needs – at any time. Here, too, the touch of a button is enough, and the WC ceramic unit travels up to 8 centimetres up or down. It can be combined with many WC ceramic units and all Viega flush plates from the Visign range.

At the end, it boils down to how one wishes to live then they are older. To ensure being able to remain in one's own home for as long as possible, it is generally necessary to make some modifications, and plan. Products that adapt to suit the needs of all are now also available for bathrooms. They are aesthetically pleasing and extremely flexible that they can be installed long before they become a necessity. The fittings are there to be adjusted to people, not the other way around. ■

For more details contact:
Viega India Pvt. Ltd.
1005 DLH Park S. V. Road, Goregaon West, Mumbai, Maharashtra 400062
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A Collection that brings Inspiration and Comfort to Commercial Spaces

Shaw Contract strives for design excellence in everything they do.

Shaw Contract India : March - 28 - 2019 : Shaw Contract, a design leader in commercial flooring solutions and surfaces for the hospitality industry, is pleased to introduce Forum, a collection designed for today's rapidly evolving hospitality-centric environments. We no longer look at hotels just as places to sleep, but as places to gather, connect and rejuvenate. Forum embraces this shifting perception as a collection for seekers and explorers; a catalyst for new communities, for spontaneity, for comfort, for places that welcome and inspire.

The collection features a subtle palette of light, neutral tones, interspersed with calligraphic lines in a rich black, to create an aesthetic range from artful notes of contrast to harmonious blends in a distinctive set of 17 broadloom patterns and 10 18" x 36" carpet tile patterns. Contemporary clean lines blend with patterns that have a soft painterly edge, in an inspired fusion of textures and large-scale geometry. The designs include lines that merge and overlap, bold curves and strong graphical elements that make it highly adaptable at all scales. Tactile comfort alludes to sisal, jute and natural handwoven references that add a crafted feel and a tangible sense of well-being. In addition to the broadloom and tile patterns, the Forum collection explores shape and form through four distinctive rugs, designed to inspire and suggest custom opportunities. Rugs add a delicate balance to the functionality, aesthetics and emotional impact of a space.

Alyssa Gagnon, Designer for Shaw Hospitality, explains: "The designs are a fusion of cultural and craft influences, using pattern and texture to evoke a sense of wellbeing, but also as a means of visual stimulation."

Both the visual and tactile elements of Forum enhance the versatility of this collection, which is designed to complement a full range of modern hospitality settings – from large social spaces to intimate areas. As an artful response to the changing design industry, Forum creates impactful environments infused with a feeling of comfort and a sense of exploration that welcomes us to new territories. ■

About Shaw Contract :

Shaw Contract is the global commercial division of the US-based Shaw Industries Group Inc., a wholly owned subsidiary of Berkshire Hathaway, Inc. Shaw Contract has been active in India for two decades and has built two state-of-the-art Experience Centres in Bengaluru and Mumbai, in addition to regional offices at Delhi, Hyderabad, Pune and Chennai.

Shaw Contract flooring has been installed throughout India in over 3,000 designed environments in a wide range of sectors including corporate, hospitality, retail, healthcare, and education. Shaw Contract believes that the ground beneath our feet should have a positive impact on how we live, learn, work, and play.

For more details please visit
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Pioneers in manufacturing Architectural Products and Handrails & Balusters, Kich has been delivering ace quality and elegant solutions. Manufacturing Handrails & Balusters for years together, our main focus has been customer satisfaction and thus, have worked to our full potential to attain it. Kich has established an enormous amount of trust in the market and perhaps that's why our company leads as an example to many.






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Kich Architectural Products Ltd, is one of the most trusted and reputed names in the Architectural Industry. Established in 1992, the company has mushroomed into a multi-national conglomerate that manufactures Premium quality products. From Hardware Products to Bathroom Accessories, the company manufactures all and has its foundation stone in Rajkot, Gujarat.

Since its inception, Kich has taken into account each and every international quality parameter and thus, has delivered ace quality products. Kich Architectural Products are the epitome of enduring strength, stunning aesthetics, unique designs and impeccable functionality. With a vast network of 68+ product galleries, 2 application centers, 500+ dealers and a team of more than 60 marketing executives across the country, Kich has always been able to deliver uncompromised pre and post sales service support to its customers.

Kich Architectural Products Pvt. Ltd., has been manufacturing ace quality and utterly stylish, elegant, corrosion resistant and long-lasting Handrails & Baluster Systems for commercial as well as residential spaces. The company has carved a niche for itself in the industry and has been a symbol of trust for decades now. Kich has always focused on innovation and thus, every now and then, it launches sustainable and swanky products for customers of all segments.

The company has domestic as well as international presence through projects that use these Handrails and Baluster Systems. Some of these projects are, Parliament House (New Delhi), Vadodara International Airport, Mahatma Mandir, Saifai International Cricket Stadium (Etawah), Golden Temple, Sabarmati River Front, IIT-Delhi, Nalanda University and others domestically. Internationally Kich set foot in the International markets long ago and some of our successful projects were; Seychelles International Airport, Dar-es-Salaam International Airport, Nagum Skya (Uganda), BAPS (Los Angeles), High Commission of India (Mauritius) and others. These Handrails and Baluster Systems have a backing of being India's number one brand to introduce Knock-down railing in India.

The Managing Director of Kich Architectural Products Pvt Ltd, Mr Bharat Hapani says, "Kich products have always been a mark of excellence and elegance. We put our earnest efforts to practice to come up with ace quality products so that they can deliver remarkable craftsmanship and long-lasting durability. Kich Railings are a perfect example of our sincere efforts. Rigorous and regular tests are conducted repeatedly to ensure that the product can perform successfully under adverse conditions. For us, safety is paramount and thus, we make sure to deliver the right quality product to one and all." ■

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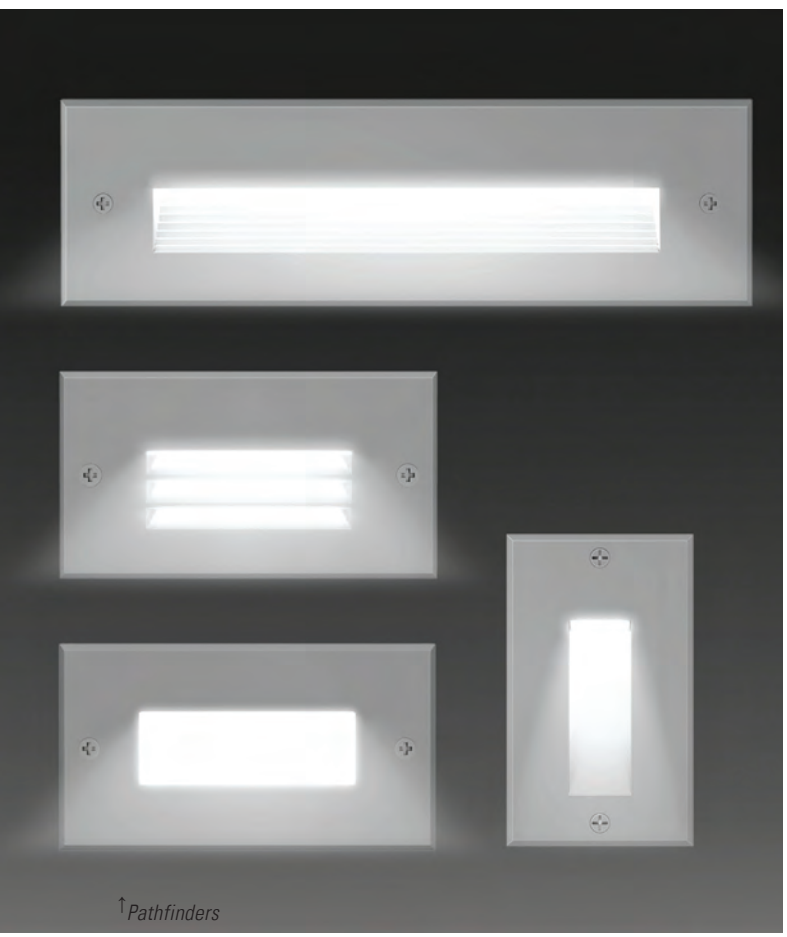
Issue Repeat from IAB May 2019

K-LITE Introduces LED Landscape – Redefined

↑ *Ajna Bollards*

↑ *Landscape Luminaire*

↑ *Up Down Luminaires*



↑ *Pathfinders*

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Innovation in Highways & Waterways

7th December, 2018, IHC, New Delhi

Over 175 delegates & 18 Speakers were part of the third edition of RHW Conference (Railways, Highways & Waterways), which focussed on Innovation in Highways & Waterways, held on 7th December, 2018 at Silver Oak, India Habitat Center, New Delhi.

The third Edition of RHW Conference was held successfully on 7th December, 2018 in New Delhi.Initiated by IA&B magazine in 2016, RHW Conference has attempted to highlight Integrated & innovative planning as well as new Technologies which fosters the development of the various transport modes – Railways, Highways as well as Waterways in a manner that will lead to realization of an efficient, sustainable, safe and regionally balanced transportation system. The inaugural edition focussed on the theme "Changing Urban Skyline", whereas second edition focussed on "Technology & Challenges in Bridges modernization & Maintenance".

2018 Edition focussed on the theme "Innovation in Highways & Waterways. The Conference was supported by Ministry of Road, Transport & Highways, Ministry of Steel and Department of Transport & Logistics under Ministry of Commerce. It was actively supported by NHAI, NHIDCL, Construction Industry Development Council, India Chapter of American Concrete Institute, Indian Institution of Bridge Engineers, and Construction Chemicals Manufacturers Association. The Conference received a very active support from Industry Partners with L&T Construction being Gold Partner, IRB, SREI & Outokumpu being Associate Partners. The Conference was attended by over 175 delegates comprising Structural Engineers, Bridge & Highway Engineers, Architects, Consultants, Professionals from EPC Companies / Construction/ Infrastructure related Companies, Government officials from Roads, Railways, Waterways & Steel Ministry, members from Association & Nodal bodies, Researchers, Academicians & Students.

The focus of the 2018 edition of the Conference was to highlight Innovation & New Technologies in Highways & Waterways Sector and also share Case studies in innovation from Highways, Inland Waterways Sector. The Conference program was finalized under the leadership of Mr R.K. Pandey, Member Projects of NHAI who was the Chairman- Advisory Board for this conference. Mr Pandey presided two advisory board meetings which was attended by over 25 advisory board members from various companies related to theme of the conference. The technical committee headed by Mr R.P.Indoria, Director- ITL & Ex DG, Road Development, MORT & (H), finalized the content and extended invitation to speakers and suggested topics for the speakers' presentation.

The Inaugural Session witnessed Opening Address by Mr R K Pandey, Member Projects of NHAI & Chairman - Advisory Committee who highlighted on the theme and on the importance of Innovation & New Technologies in Highways & Waterways Sector in India. The Technical address by Mr Charanjit Shah, Founding Principal of Creative Group focussed on "Towards the Future: The Promise of Intermodal Transportation Systems". Mr Yatinder Pal Singh Suri, MD & Country Head of Outokumpu India delivered Keynote Address on Infrastructure & Sustainability. The Vote of thanks was delivered by Mr Raman Aggarwal, Sr VP & Head - Corporate Affairs, SREI Equipment Finance Limited.

↑ *Lighting of the Lamp (L to R) - Mr Yatinder Suri, Mr R P Indoria, Mr R K Pandey, Mr Maulik Jasubhai, Mr Raman Aggarwal, Mr Charanjit Shah.*

↑ *Opening Address by Mr R K Pandey, Member Projects, NHAI & Chairman - Advisory Committee.*

↑ *Address by Mr R P Indoria,Director, ITL Limited & Technical Chairman - RHW.*

↑ *Technical Address at Inaugural Session- Mr Charanjit Shah.*

↑ *Technical Address by Mr K K Gupta.*

↑ *Technical Session : Innovation in Waterways (L to R) – Mr A K Bansal, Mr Sanjay Garg, Mr Raj Singh.*

↑ *Technical Session: New Technologies (L to R) – Mr Manoj Kumar, Mr Andrew Backhouse, Mr Ashutosh Chandwar.*

The first Technical Session focussed on Innovation in Highways Sector.

The session witnessed presentation by 5 Keynote Speakers. The session Chairman Mr R P Indoria, Director ITL and Former DG (Road Development), Ministry of Road Transport & Highways presented the introductory note and gave his vital inputs. Mr K K Gupta, VP & Head Special Initiatives, Larsen & Toubro Limited focussed on Implementation of Highway Projects, highlighting on formats, ease of doing business, major risks involved, revised MCA, impact of imbalances in Contract Management, Global best practices and key initiatives taken by Government of India for faster delivery of Highway Projects. Mr Shishir Bansal, Chief Project Manager, DTTDC presented the casestudy on the challenges and engineering in the construction of Signature Bridge- An Asymmetric Cable Stayed Bridges in Delhi. Mr Vinay Gupta, Director & CEO, Tandon Consultants presented on Innovation in Bridge Engineering & Construction showcasing various case studies. Mr Somnath Bhattacharjee, President at SREI Equipment Finance Limited presented on Infrastructure Finance- Requirements, Financing Gap & Key Challenges. Mr Apollo Sharma, CEO, Storemore Storage Solutions Pvt Ltd was the concluding speaker of the session who shared his inputs from user perspectives, highlighting the top Retail & Logistics Trend.

The Second Technical Session focussed on Innovation in Inland Waterways Sector.

The session was chaired by Mr A K Bansal, Director Traffic, Inland Waterways Authority of India (IWAI). Mr Bansal gave brief Overview of IWAI, ongoing development in National Waterways - 1 & 2, standardized vessel design for Waterways and other innovation areas. Mr Sanjay Garg, Partner & Leader Capital Projects, PWC India highlighted on the need for Innovation in Waterways Transport System, Innovation in Communication Systems, Innovation in Vessel Designs, use of non- conventional fuel propulsions and how it can create green development. The concluding presentation in the session was made by Mr Raj Singh, Managing Director, Exotic Heritage Group who shared his journey, experiences and case studies on how he is putting Ganga and India on the World Map in River Cruising.

The third Technical Session focussed on New Technologies.

Mr Manoj Kumar, CGM Technical (Bharat Mala), NHAI highlighted on various case studies and measures by Government of India to enable Inland Waterway and Coastal Movement through Highway Connectivity. He gave overview and different components of Bharat Mala project.

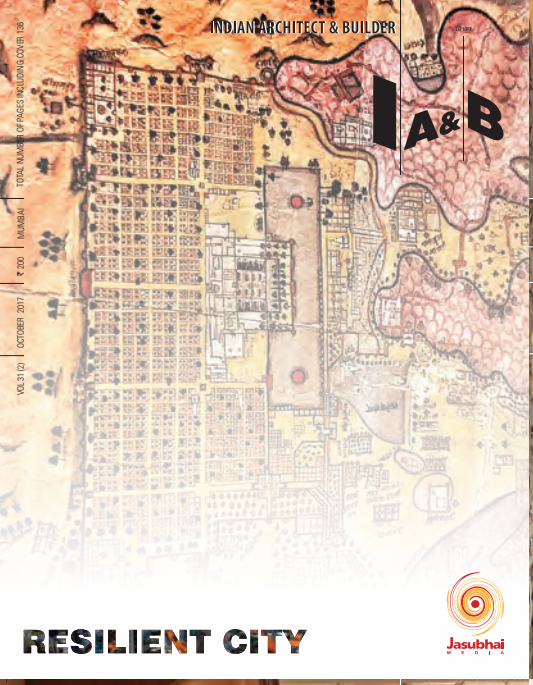
↑ *Technical Session : Innovation in Highways (L to R) – Mr Vinay Gupta, Mr Shishir Bansal, Mr R P Indoria, Mr Somnath Bhattacharjee, Mr K K Gupta, Mr Apollo Sharma.*

↑ *Valedictory Session (L to R) – Mr A K Bansal, Mr K K Gupta, Mr A Bhattacharya, Mr Yatinder Suri.*

Mr Andrew Backhouse, Technical Market Development & Customer Service from Outokumpu shared case studies on sustainable bridges along the coastal areas as well as hill areas of the country. The Concluding Presentation was made by Mr Ashutosh Chandwar, CTO, Peak Infrastructure Management Service Limited who made his presentation on Tunnels – Safest Solution for Traffic sharing casestudy of Chenani Nashri Tunnel Project.

The Valedictory Session in the evening witnessed the concluding remarks and summary of Key points discussed in each technical sessions which were presented by Mr K K Gupta, Mr A K Bansal, Mr A Bhattacharya & Mr Yatinder Suri. The Networking Cocktail & Dinner presented an opportunity for further interactions and discussions.

The Conference was appreciated by all the panel of speakers, delegates, industry partners, association bodies who shared their valuable feedback post conference on the content of the conference. IA&B will carry this journey forward in future editions and is thankful to all the advisory board members , Mr R K Pandey & Mr R P Indoria, panel of speakers, industry partners and most important the delegates who helped in successfully organizing the 2018 edition. ■



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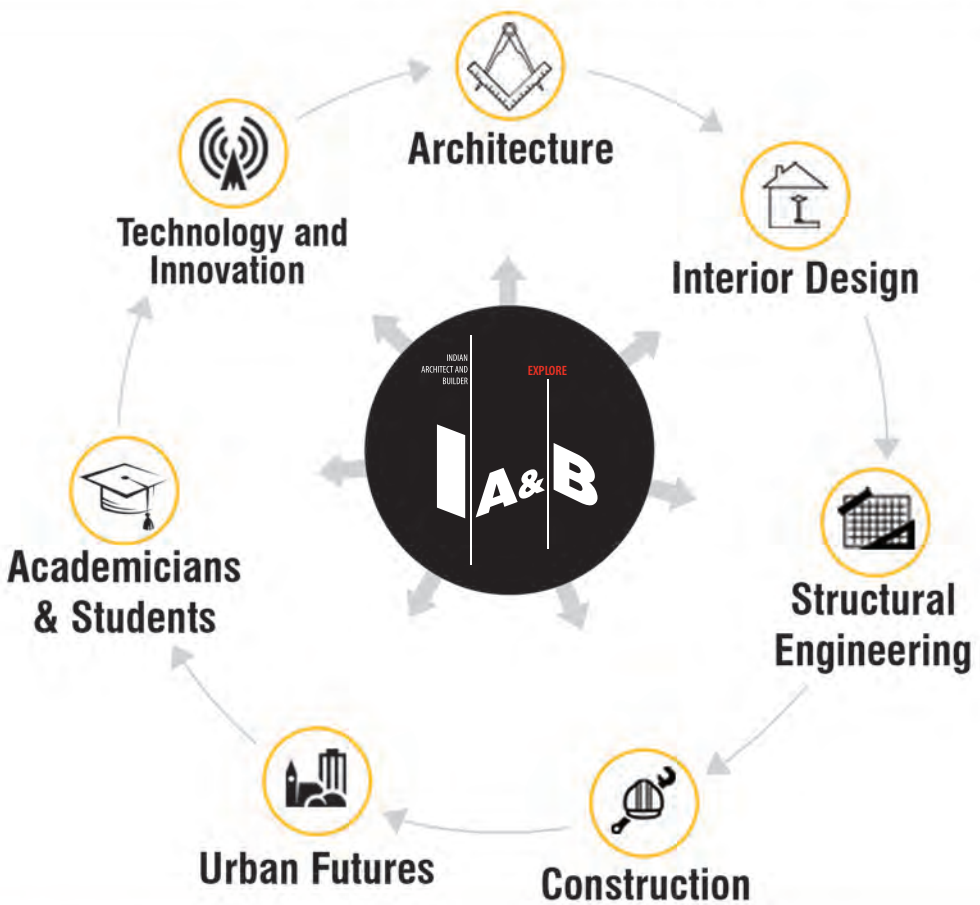

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Jasubhai MEDIA

SHUBHRA RAJE

shubhra raje_built environments

Potentials within a creative practice for new discoveries within the familiar

Shubhra Raje describes her work as borne out of conditions that "keep you on your toes; ever vigilant, always looking for that foothold to anchor oneself. There is not much choice, but plenty of opportunities." With a design intensive practice based out of the United States and India, she is inspired by the exciting shift in the dialogue between architecture and its context, in which the architect's methods and approaches are being consistently re-evaluated. She also ascribes to an expanded definition of sustainability that moves beyond experimentation with new materials and technologies to include such concepts as social and economic stewardship.

Text: Shubhra Raje
Images: Courtesy of Shubhra Raje

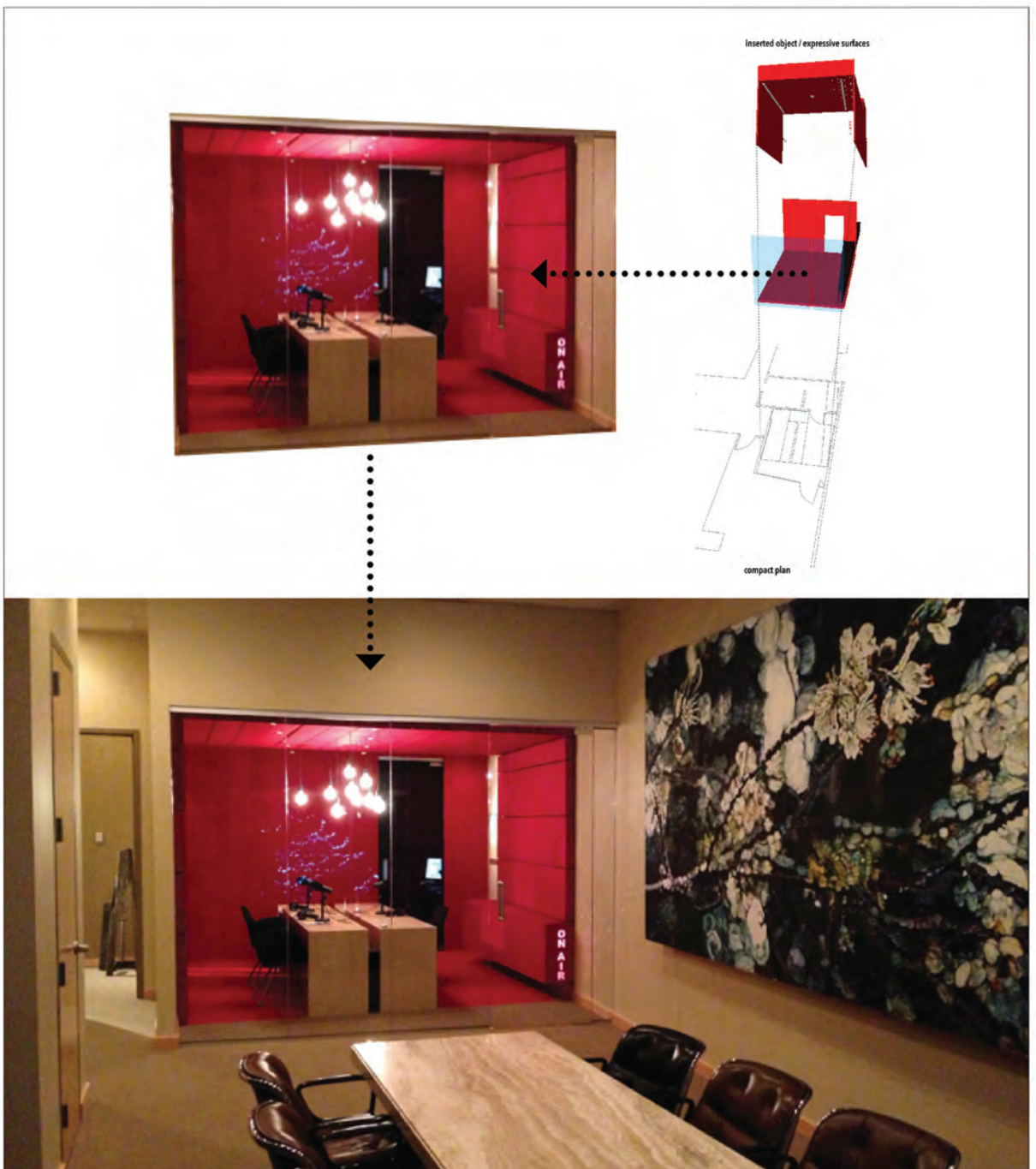
The presentation begins with the premise that although most conversations involving the future includes the notion of change and the idea of newness, creation of novel things is not the only creativity in the pursuit of newness. The sensitivity that allows one to discover the unknown in the familiar is equally creative. Elaborating on the critical engagement with the familiar, Shubhra subsequently focuses on the project of architecture itself, opening up everyday conditions and the daily language of the practice of architecture that we take for granted. Such an engagement allows us a deeper understanding of the context of architecture, and the potentials within a creative practice for discoveries. Her examination plays on the conventional understanding of the traditional hierarchies of the important and the essential within the design process, and argues that more often than not, these are formal expectations.

Her lecture presents a need for a more empathetic (and playful) approach, with a willingness to engage with the inherent habits, conventions or limitations that invariably constrain the architectural project, and ask what rituals and opportunities are available for them to become the generators of the design proposition in order to find a project's own reality. She calls upon diverse projects within her practice - renovations, urban insertions, school campuses, rehabilitation of historical structures as well as workshops with students - as test cases to illustrate how creatively engaging with the specificities of context in order to find relevance and to catalyze the inevitable constraints along the way, established the design trajectories and the material outcomes in each of the projects. ■

↑The window becomes an accomplice in construing a visual structure for the desiring gaze, and begins to reconstitute the cultural expectations of the view. It is a way to enter and meet the neighborhood unconscious, punctuating through the built to present a kind of a collage of the incongruous, the unintended and the overlooked.
~ May, 2016. Downtown Aurora Visual Arts, Aurora CO (USA). Photo: Shubhra Raje

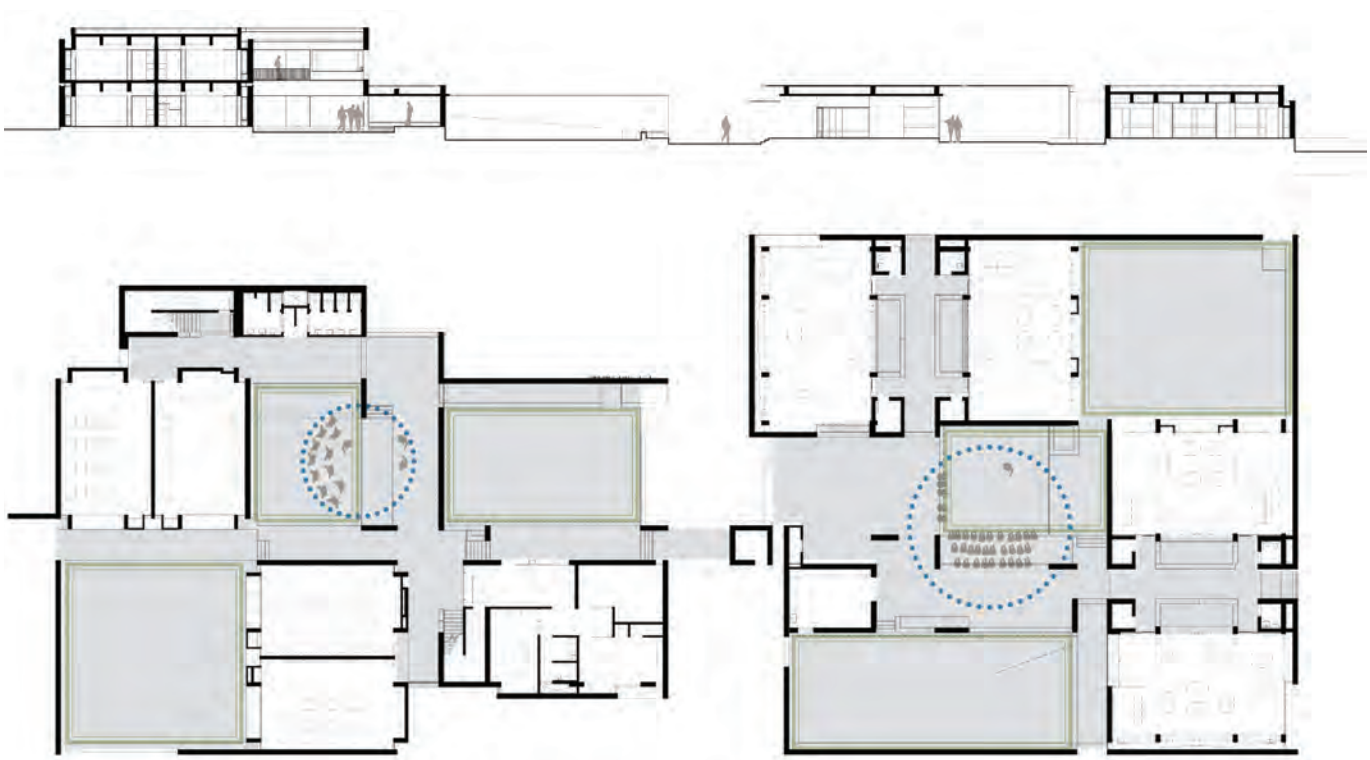
↑The almost exaggeratedly thick cedar faced walls and alcoves are less a facade to the building as they are accessories to the plaza, acknowledging the plaza as a room.
~ June 2017. Downtown Aurora Visual Arts, Aurora CO (USA). Photo: Shubhra Raje

Elaborating on the critical engagement with the familiar, Shubhra subsequently focuses on the project of architecture itself, opening up everyday conditions and the daily language of the practice of architecture that we take for granted.



↑The design of the recording studio, housed within a local museum, fuses a compact plan with an expressive surface that cloaks the walls, floor and ceiling to create a distinctive object that is perceived to be inserted into the existing space, perversely continuing the logic of exhibiting art in museums.
~ Aug 2012. Untitled Art Show Studio, Englewood CO (USA). Photo: Shubhra Raje

†The surface performs various functions: as defination, as acoustic damper, as visual seduction. Seen through the glass storefront, it serves as a visual attractor within the museum space, while the vitality of the architectural surface and color become the studio's advertisement.
~ Aug 2012. Untitled Art Show Studio, Englewood CO (USA). Photo: Shubhra Raje



↑The architecture of the school is one of open spaces, surrounded by just enough built form to make ine feel one is "inside"
~ Sept 2015. Aparna School, Jharsuguda (India). Photo: Shubhra Raje

↳ The outdoor room and its accessories, become the lobby, the dining, the nap area, the play area... an indispensable area, rather than a left-over area. Dealing effectively with context necessitates an inventiveness about living patterns, about activity beyond "function". And this cycle of activity, played out day after day, reinforces patterns of living that generates the meaning of use, and the culture of the place.
~ Dec 2016. Aparna School, Jharsuguda (India). Photo: Shubhra Raje

↑Selective use of exposed concrete has created opportunities for expressing concrete casting, its biography such as it is, holding the work accountable instead of hiding it.
~ Dec 2016. Aparna School, Jharsuguda (India). Photo: Shubhra Raje

↑The goal has been to preserve the 5000 year old structure as a ruin, with new material limited to where necessary to stabilize existing walls, so that we can follow the genesis of the structure and how it changes as things are rubbed out and drawn over, while the traces of the earlier versions of its histories continue to be clear.
~ Photo Credits: Greg Maka, for the North Abydos Expedition (abydos.org)

↑ Various examples in the documentation, recording and evaluation of sites and completed work. Facilitated alongside theatre makers and storytellers, workshops often include users, members from the community where the projects are located and students, and serve as provocations for curiosity, and by extension, a provocation to cultivate an engagement and empathy with our context.
~ Photos (L-R): Shubhra Raje, Mugdha Pargunde, Mare Trevathan

OLGA CHEPELIANSKAIA

Founder and Principal Consultant of UNICITI

A tangible path to building better cities

Olga Chepelianskaia is an international sustainability expert and Founder of UNICITI. She specializes on sustainable and climate resilient urban development in Asian cities, ecosystem and heritage revival, climate change and clean energy. Over 14 years of her professional engagement, she managed 5 major international programs, covered over 20 cities and 40 countries, and worked with 7 top international institutions: ADB, CDIA, Rockefeller Foundation, UNDP, UNECE, UNEP and UNESCAP. Lately, she served as an Urban Planning Expert at the International Design Charette for New Hanzheng Riverside Avenue in Wuhan, China, organized by ISOCARP, UN-Habitat and Wuhan Planning and Design Institute (WPDI) and at an International Design Workshop on Grand Canal National Culture Park in Suzhou, China, organized by ISOCARP, Urban Planning Society of China (UPSC) and the Jiangsu Institute of Urban Planning and Design (JUP).

Text: Shriti Das
Edited: Olga Chepelianskaia
Images: Courtesy of Olga Chepelianskaia as presented for the presentation at the 361 Degree Design Conference.

Rapidly urbanising cities of the Global South are confronted with major challenges – poverty, exclusion, climate change, depleting natural resources, implications of rural-urban influx, and so on. Not only every practitioner in the world, but even the commoner, the student and the child are aware of the growing urban instabilities across the globe and the consequences of apathy towards them. Amidst these hyper-popular and well-established facts, Olga Chepelianskaia brings to the fore a crisp, solution-oriented approach. At the 361 Degree Design Conference, she outlined opportunities within the current urban scenarios that can lead to liveable and sustainable cities. She stresses that we are entering a critical decade to make an impactful change: indeed, over 60% of the infrastructure the world will see by 2030 is yet to be built (The World Bank). This offers young designers, students and present practitioners avenues to make a significant change. Once these buildings, communities, cities and countries are built, they will dictate the lives of our succeeding generations for decades. Hence it is imperative that change transpires in the present, given the little window of opportunity we have to offer better living standards for the future.

Olga has visited over 300 cities in her life, is acquainted with multiple languages and has observed the urban fabric of many settlements. And, in her opinion, cities that resonate with her as liveable and uplifting are predominantly heritage cities. This raises a pertinent

question: if citizens aspire for qualities that historical settlements offer – human scale, public places, pedestrianised streets, local building materials, local context tailored urban design – why are cities today planned in a starkly opposite fashion? Citing an example of 3 Asian cities – Mumbai, Bangkok and Manila – Olga brings to the fore an interesting observation: that cityscapes are visually similar to one another with edifices in steel and glass despite representing very different cultures. She points at the loss of identity as urbanisation continues to emerge as cookie-cutter reproduction of standardised design. Same goes for Indian cities: Agra, Vishakhapatnam and Shimla are from distinct geographical and social contexts, yet they resemble one another in character. They could be any tier-2 cities in the country. Here, Olga points the irony that while clothing, food, cultural practices change significantly as one moves from one Indian state to another, buildings no longer represent this diversity. Cities are becoming compositions of concrete boxes instead of featuring and highlighting the unique identity of each city's history, culture and ethos.

Olga stated that we need the uniqueness of the urban form because it determines our physical and mental well-being. Citizens aspire to happiness, inspiration, social cohesion, sense of belonging, but these needs are hardly on the agenda of city planners, architects or, a fortiori, real estate developers. The effect of the built-form on our mental wellbeing is seldom discussed. However, 'Consequences of building uniform across the world are much bigger than we think', Olga argues. If we don't take into consideration uniqueness and individual contexts, we are also compromising on both our physical and mental needs. And this can easily be demonstrated by looking into three major imperatives of today: 1. climate resilience, 2. economic competitiveness and 3. Physical & mental health.

1. Climate resilience:

- Looking at climate adaptation, Asia is the world's most vulnerable continent to climate change. Over 40 million people living in coastal areas will be affected by floods by 2025. Out of 10 most vulnerable nations to climate change, 6 countries are located in Asia and India is amongst them. In June 2018, Niti Ayog released a report on the water status in India, which says that 20 major Indian cities – as major as Delhi, Bengaluru, Chennai or Hyderabad – will deplete their ground water by 2020. Many Asian cities have reached a paradoxical situation where floods ravage habitations yet people face severe water scarcity. And this catastrophe is man-made – it is a result of ad-hoc planning and construction.

- Coming to climate mitigation now, we don't give sufficient attention to massive energy consumption and carbon emissions related to the way we build our cities today. Indeed, when we talk about energy efficiency in buildings, we essentially mean operational energy. Embodied energy, which is the energy required to extract and manufacture building materials, transport them to the construction site, make the building, maintain it, eventually demolish it and dispose of the waste, is on the other hand highly under-looked at. It turns out that only manufacturing of today's uniform building materials such as cement, glass, steel and aluminium represents 25% of global final energy demand and 20% of global CO_2 emissions. In other words, the Paris Agreement is highly compromised if we don't deal with the way we build cities today.

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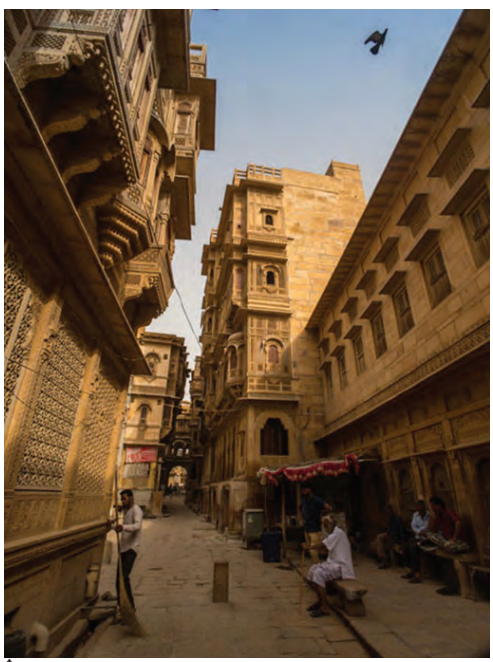


↑ *The city of Jaisalmer with hot and arid climate has narrow streets with structures on either side that mitigate heat, jharokas create additional shade, jaalis facilitate passive cooling and so on. This demonstrates that the city has evolved in accordance with its local climate.*

↑ *Heritage design techniques maintain comfortable climatic conditions.*

2. Economic competitiveness:

- Olga here compares Singapore and India. Singapore, despite being infinitely smaller than India, receives a larger international tourist inflow. And this despite hosting only one World Heritage Site versus 35 in India, in addition to its extremely rich unprotected natural and cultural heritage. The critical difference lies in the fact that Singapore offers a holistic experience of the urban fabric. Modern constructions are built with a greater sensitivity to the local context and to the sense of aesthetics, and they create all-inclusive environments. Identity in Singapore is the core basis for all development plans, master-plans, district plans and guidelines.

- In addition to a holistic experience of the urban fabric, digital revolution is another key element of economic competitiveness to consider. In the past, the industrial revolution played a huge role in urbanisation. Citizens migrated to cities despite poor living conditions because they sought work in factories. Now circumstances have changed. People are increasingly working in services. One can work, study and perhaps even consult doctors from remote locations. In other words, qualified work force no longer needs to live in cities that offer little quality of life. Cities will need to compete for qualified human resources and offer a quality urban environment to attract them.

3. Physical and mental health:

- Pollution, traffic, badly built homes, etc. affect our mind and bodies. Olga shared outcomes of an experiment conducted by Colin Ellard. People were wired with sensors and asked to walk alongside minimal, blank facades. The same citizens later walked along heritage buildings with ornamentation and creative details. It was observed that the level of stress in the former was high whereas in the latter case people felt relaxed and joyful.

- To this experiment, Olga superimposed the argument of social justice. She displayed an example of an affordable housing neighbourhood, in which uniform concrete houses stay at nearly no distance from each other to a rich neighbourhood in South Delhi, which features green areas, open spaces and diverse architecture. Designers do recognise the need for affordable housing, but they overlook mental wellbeing in them. This is the reality of most urban areas and it is deeply unfair to its citizens.

So, what can urban practitioners do to build differently today? The first logical action is acknowledging the importance of our emotional connect with our built environment. Olga quotes Christopher Alexander who states that it is everyone's birth-right to live in a thriving environment, "The birth right I speak of… is the fact that people have become inured to ugliness and accept the ravages of developers without even knowing that anything is wrong."

The second pertinent point is to harness on the local context rather than apply a 'one-size-fits-all' solution to design. For example, the city of Jaisalmer with hot and arid climate has narrow streets with structures on either side that mitigate heat. In addition, Jharokas create additional shade, jaalis facilitate passive cooling and so on. This demonstrates that the city has evolved in accordance with its local climate. And Olga argues such an approach is possible today. A successful example is the Asian Games Village in Delhi designed by Raj Rewal. It uses Jaisalmer as a design model. It has courtyards in the complex. The buildings in the complex create shaded spaces for the user. Another traditional technique is earthen pots for passive cooling. By simply placing earthen pots on roofs one can reduce the internal temperature by 5 degrees. Another aspect is to use appropriate building materials. Showcasing 2 buildings in Shimla, a historic building and a contemporary building, Olga mentions that the latter is a stone building with a wooden storey. Being located in an earthquake prone zone, the building is thus constructed to face an earthquake. Its sloping roof navigates snow with ease. The second building, of a modern uniform style, can be found anywhere In India as it is a typical structure built in concrete. It offers little respite from weather conditions and doesn't reflect the local context. There are economic

↑ *Jaisalmer.*

↑ *Asian Games Village by Raj Rewal is inspired from the pattern of Jaisalmer.*

↑ *A housing scheme for the masses versus a private residence: Is mental and physical wellbeing in built-spaces the prerogative of a select few?*

↑*The case of Chanderi: An image illustrating the character of cement-paved street (L) versus local stone (R). Upon learning that the officials were planning to repave the stone roads of Chanderi with cement, Olga and her colleague created a comparative tabular chart of cement-concrete versus local stone. The chart stated the cost, maintenance, aesthetics, lifespan, safety, porosity, etc. of both materials. Information was shared with the authorities and the project was reviewed.*

constraints to building with stone, wood and other local materials, but designers should be aware and open to alternative ways of building. Olga then highlights the importance of jointly seeking alternatives and the key role of designers in sharing technical knowledge with clients. She illustrates this with a heritage revival project she undertook in Chanderi, Madhya Pradesh. Upon travelling to the city, she witnessed a highly integrated urban fabric. It had retained 70% of its heritage buildings and had traditional stone pavements that complimented its precincts. But she also discovered that the city authorities were planning to repave the streets with cement. Cement streets would disrupt the fabric and unsettle the character of the city. Cement is also not conducive to the environment. Olga and her colleague created a comparative tabular chart of cement-concrete versus local stone. The chart stated the cost, maintenance, aesthetics, lifespan, safety, porosity, etc. of both materials. Information was shared with the authorities and the project was reviewed. This example demonstrates that, in many cases, municipal authorities and clients are sensitive to well-argued ideas. Designers should take a responsibility and provide them with relevant information on why and how sustainable and local context tailored way of building bring in multiple benefits.

The final compelling action that Olga advocates is to connect likeminded individuals and inform/lobby decision-makers. There are prominent architects with path breaking ideas that can positively change the way cities are built and inhabited. But they are unable to materialise their ideas because often existing policies do not allow their ideas to be implemented. Their voices don't generate sufficient impact being stand-alone voices. If however such likeminded people come together, they can set in motion policies and laws for a sound future. For example, the American Institute of Architects started a petition stating that the United States must take a different position in the Paris

↑*Local and contextual versus mass-built concrete buildings: A case study of 2 buildings in Shimla. One is rooted to the context, while the other is faceless and monotonous.*

↑*Asian Games Village by Raj Rewal is inspired from the pattern of Jaisalmer.*

Agreement after president Trump withdrew from the said agreement on climate change. While the petition hasn't changed the President's position, it is creating an impact at the State and municipal levels. To put all her ideas onto a tangible path, Olga shares a project called Sustainable Cities through Heritage Revival – SEHER Asia. The project looks at learnings from the past and assimilates them with opportunities offered by new technologies to build better cities. The project recently launched a platform to connect practitioners; architects, urban designers and planners, real estate developers, economists and other key stakeholders in India. These professionals elaborate cohesive solutions to urgent urban development challenges, highlighting that quality of life in cities comes from up-scaling and mainstreaming local context tailored sustainable ways of building. Compressed stabilised earth blocks technique (CSEB) is one such breakthrough idea that emerged in India. CSEB are biodegradable, they use local material and labour, are ecologically sound and allow to build faster than with conventional mud. This technique is gradually gaining momentum in the country. Olga highlights that such break-throughs and their further up-scaling needs to catalyse our efforts today.

Touching upon urban development models, Olga cites Ashok B. Lall who supports the high density low rise development model for India. Mentioning Mumbai's Bhendi Bazaar redevelopment project that has proposed high-rise buildings, Olga states that the local character will be lost in the process of creating high rise buildings in the current historic complex and the morphology will disappear. Perhaps Mumbai does need its tall buildings in places, but a major part of Indian urban dwellers still reside in small and medium cities where compact low rise development is more suitable to its people. People do not prefer high rise homes in India. In addition, the cost and resources needed to build and to demolish tall building are enormous. In comparison, human scale buildings require much less resources consumption and develop and disappear in a much more organic mode.

To conclude Olga shares the example of Sao Paulo that developed much before Asian cities. Its urban fabric offers a glimpse of what Asia may develop into in the next few decades: concrete jungles with decadent high rises and very limited green spaces. Indeed, high rise buildings are very intense and costly in maintenance and, if one continues to build cities on these lines, the emerging habitation will be faceless and monotonous. It is hence imperative to look for ways to reach what we intimately aspire to: unique, local context rooted, human scale sustainable cities that offer uplifting experiences to citizens and visitors. ■

PINKISH SHAH

S+PS Architects

Designing play, production and progress

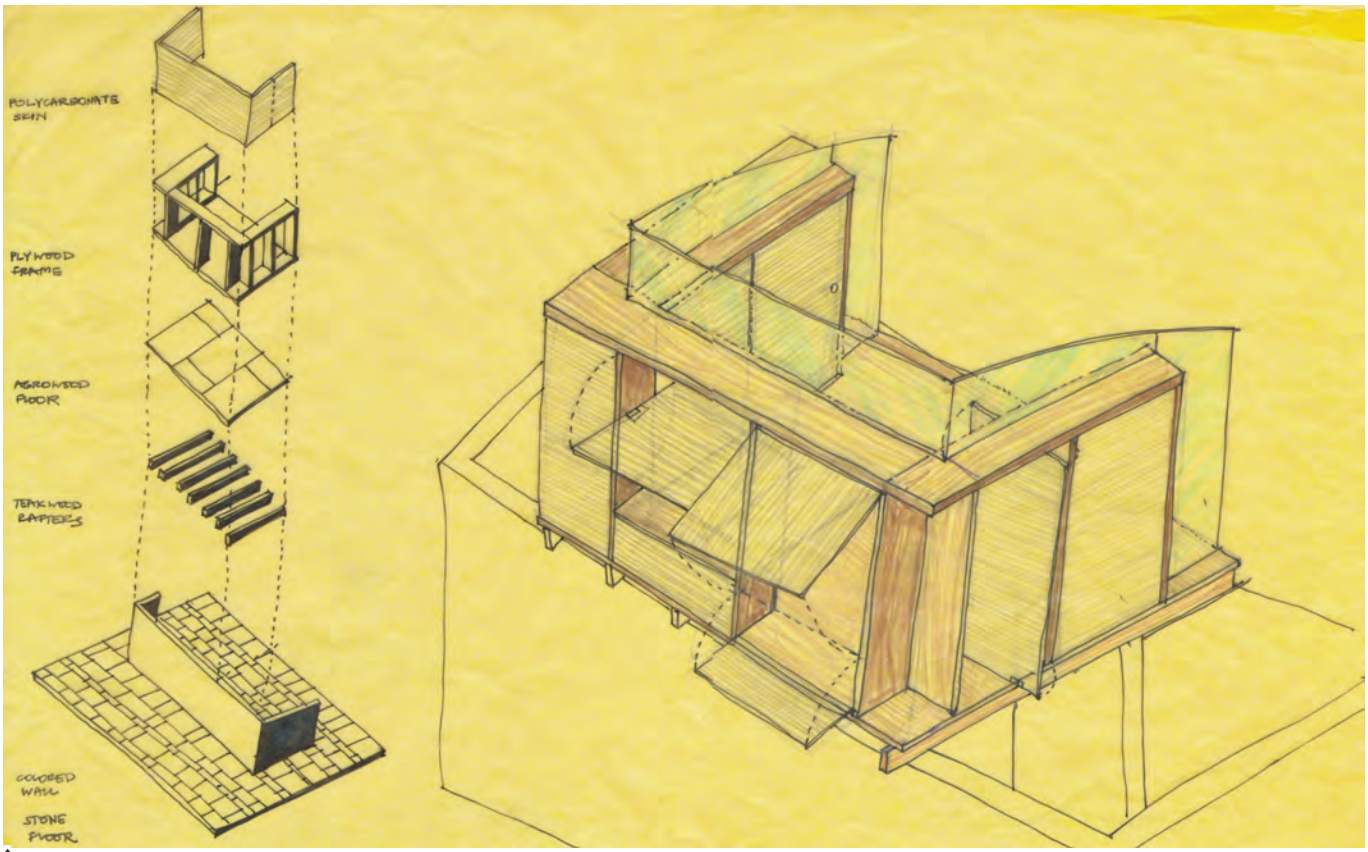
One of the Founding Partners and Design Principals of S+PS Architects, Pinkish Shah is the recipient of HUDCO Design Awards, 2017, Cost effective Rural/Urban (Innovative/ Emerging) Housing, Design; DESIGN FOR ASIA AWARDS 2017, Hong Kong - Gold Award, etc. among many accolades.

Pinkish is Dean of Academic Affairs at Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies, since January 2017 and has been involved as Visiting Design Faculty and Thesis Design Guide since 2002. Pinkish is also co-founder of The Mumbai Architecture Project (MAP). The MAP is an open collective of people who like to make sense of the built environment that we live in, find ways to learn, probe, discover and unearth new paths and create journeys to discover ourselves and the world around us.

Text: Shriti Das
Edited: Pinkish Shah
Images: Pinkish Shah, Sebastian Zachariah, Ira Gosalia

Pinkish Shah, Founding Partner and Design Principal of S+PS Architects demonstrated 4 projects in an attempt to illustrate concerns that outline their practice. The ideas that emerged delved on the concepts of dwelling and play, dwelling and nature, dwelling and sustainability and dwelling and identity. Choosing to highlight these perspectives through residential projects, he looked at the commonality within their works with threads that ran across the 4 projects. The idea involved throwing light on homes, housing, dwelling and domesticity across 4 scales, from projects including a child's room, a suburban duplex apartment, a multi-generational family's villa, and a mass housing project.

The first project that Pinkish chose to demonstrate was the 'Playbox', a child's room built within an existing home. The seemingly small-scale project illustrates clarity of material use and structural systems, adaptability in form and use, and a close connect to context; principles that spill-over to their projects irrespective of size or scale. Playbox is a lightweight room constructed over the wall that divides the living-room and kitchen. The skeleton was a plywood floor and frame wrapped in polycarbonate sheets. The box not only accommodates a bed, study and other functional aspects that create a habitable room but also engages with its user to transform her space in accordance with her wishes. The box is fitted with shutters that open and close as the child desires. The project supersedes the realm of form and function as it introduces an element of play. These notions of pushing the envelope are further discussed in projects that vary from standalone homes to larger housing projects.



↑ *The Playbox – a child's room built within an existing home.*

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↑ *The Nest transpired within a shell that had a reinforced cement concrete (RCC) slab, which had random cutouts alongside structural faults. Its slab was demolished to achieve a large volume that was subsequently overlaid with the concept of nesting solids.*

The second project was a duplex apartment in a suburb. It transpired within a shell that had a reinforced cement concrete (RCC) slab, which had random cutouts alongside structural faults. The slab was demolished to achieve a large volume that was subsequently overlaid with the concept of nesting solids. They devised a configuration wherein they created objects within objects that give no inkling of the aesthetics or design language within one another. Once the slab was demolished, the architects achieved a shell finished in brickwork. Instead of a conventional upper floor, the architects suspended the first 'object'- an enigmatic container, the bedroom on the upper level by means of a skeleton created in a Mild Steel (MS) plate that is scalloped at its bottom and sides. The floating bedroom doesn't touch the walls on either side. The RCC slab that was demolished was recreated in toughened glass around the suspended bedroom for visual connect. Further, within the raw steel bedroom, the interiors are clad in warm wood, creating an element of surprise for the user. The walk-in closet forms the eventual 'nested object' was commissioned to a 'Gond' artist who created the artwork on the outer surface.

The third project moves beyond the aforementioned entities of design and visual ingenuity by touching upon larger societal issues. We are a generation that is manufacturing and consuming copious amounts of produce. As a result waste is constantly rising. It is a major environmental concern that has several social implications. Waste in India is seen as unhygienic and perceived with repression and disgust. Under such circumstances, S+PS Architects proposes positioning waste in the cycle of cultural production; of writing about it, creating art and so on, citing examples of artists like Louise Nevelson and Richard Hamilton, who produce artwork, collages, montages from refuse and debris. Within this context, Pinkish states that Mumbai offers many avenues and examples of recycling waste. Within the informal settlements, waste is recycled and used as settlers are pressed for resources. And here, within these neighborhoods, emerges a built collage of materials and even expressions (if one may say so). Similarly, the Collage House located in Parsik Hill,

↑ *The Nest: The architects devised a configuration wherein they created objects within objects that give no inkling of the aesthetics or design language within one another.*

↑ *The Collage House.*

↑ *The Collage House: Since the site was surrounded by new constructions, the architects created vistas within the structure primarily centered around a courtyard.*

↑ *The Collage House: The focal feature of the residence is its façade engineered from reused doors and windows.*

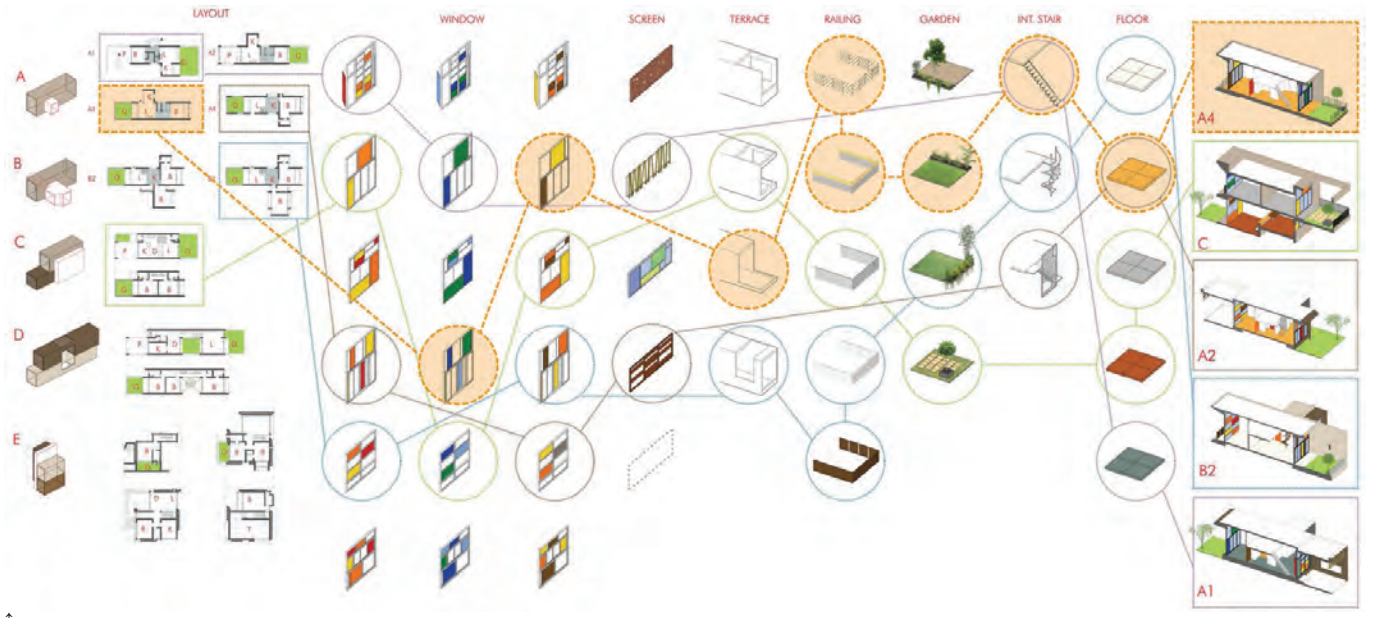
Navi Mumbai is inspired by recycling and collage. Even whilst located on a hill, the site was surrounded by new construction and buildings that had the architects creating internal vistas for the users by accommodating an internal courtyard that is elevated to house a rainwater tank underneath it.

The focal feature of the residence is its façade that is engineered from reused doors and windows. They were procured from 'Do Tanki' a large recycling market in Mumbai. The market is home to the city's discarded doors, windows, staircases and other knickknacks. The architects and the clients sorted the required doors and windows over several visits and compiled their data and specifications by documenting their sizes, quantities and so on. Once on site they, involved traditional carpenters and craftsmen who pieced the door and windows together into a collage-like assembly that was surrounded by a lightweight polycarbonate sheet all around. This composition is suspended in front of the wall instead of being embedded within it. It is almost an antithesis of the conventional door-window configuration wherein punctures are created in walls that are then shielded by either doors or windows. During transit to the site from the market, the doors and windows had their glass panes broken. The replacement glass was procured from Dharavi, another informal settlement in Mumbai known for its recycling enterprises.

The architects reused stone waste from site and cut them into different sized slivers, which were clad on walls. As the stone fell short, stone-waste was bought from stone-yards and the design-scheme continued. A side open space houses a lap-pool that uses collected rainwater. During monsoons, water is collected from the roofs and channelized through pipes into the tank under the courtyard and is then used in the pool. Pinkish emphasizes that such seemingly contradictory aspirations of clients can be made sustainable by thinking of water systems in a non-wasteful and judicious manner. The staircases and the entire second floor of the bedrooms also uses salvaged wood sourced from the 'Do Tanki' market.

↑ *The Collage House: During monsoons, water is collected from the roofs and channelized through pipes into the tank under the courtyard and is then used in the pool.*

↑ *Design.I.Y Housing in Lonavala is a mass-housing project that alongside being a prototype, ironically, breaks away from the monotony of prototypes. While each structure is preordained, the details are unique to each house.*



↑ *The options matrix where users can play with preferences and design their homes by choosing materials, finishes, patterns and more.*

> ***Systems as illustrated in the Design.I.Y Housing Project involve the homeowner and designer with a more holistic approach; integrating the richness of the informal with the efficiency of the organised.***

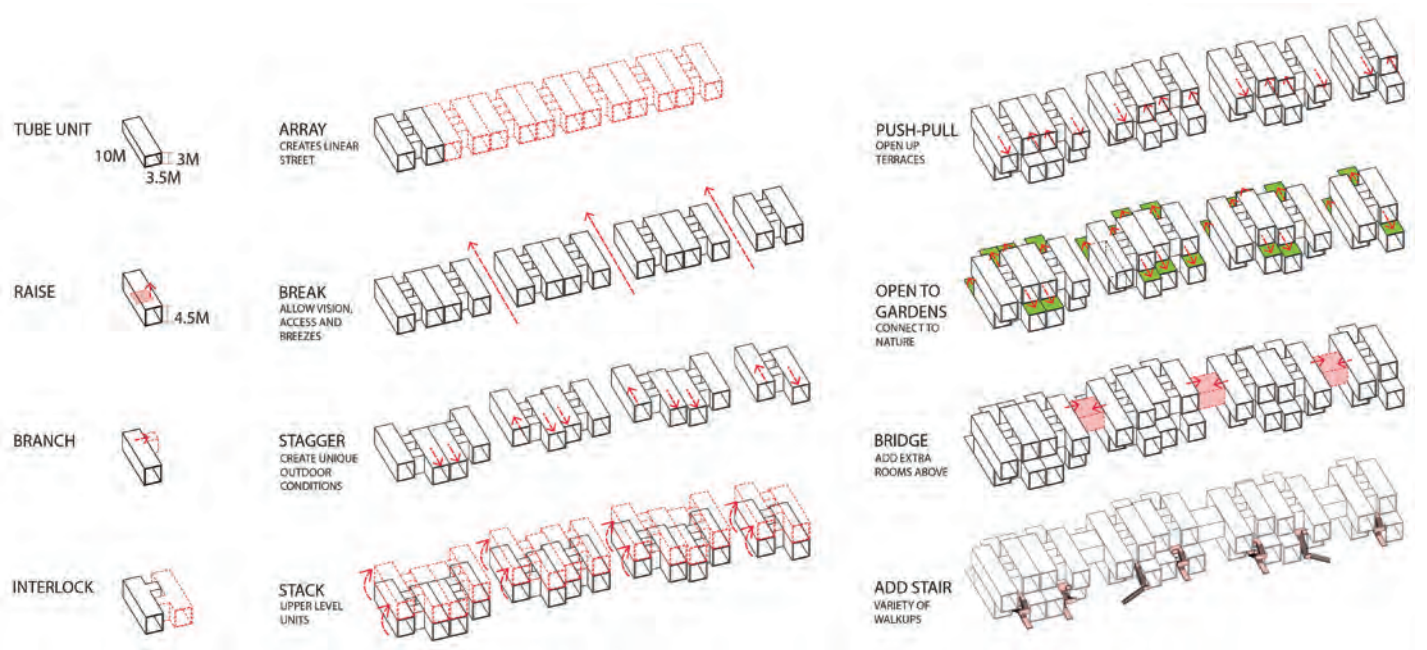
Printing blocks were obtained from a vendor who was closing his fabric printing shop and were composed on the back of a cupboard.

Another feature within the home is borrowed from the elevators in old buildings in Mumbai amalgamated with an Indian craft. Elevators in old buildings in Fort area of Mumbai are commonly enclosed in an industrial metal-wire mesh. The clients being Krishna devotees, the architects embodied the idea of the '*Vrindavan*' Garden within the mesh with Lord Krishna, '*gopis*', grazing cows, etc. The graphic quality is drawn from 'Sanjhi', the paper-cutting art of Mathura in Uttar Pradesh. The architects studied Sanjhi paper cutouts and post several iterations; they were replicated in the jaali mesh, which was hand-woven in Bengaluru. The house is an endless plethora of such craft and details that are found at every turn. Like the water tank that was cast with a tarpaulin sheet as formwork that endowed it an organic, seemingly lightweight demeanor as opposed to the generic boxed tanks in regular homes.

While Pinkish addressed social, environmental and traditional design entities within the architectural domain, the last project, Design.I.Y Housing in Lonavala, touched upon matters that are pertinent but seldom discussed. Housing is perhaps the most crucial, and projects are undertaken on huge scales. And it is the single-most entity that sees little to zero innovation. Citing the example of informal settlements again, he mentions that each home is different, handmade and expresses an identity. It is not by choice that the settlements are built in this manner but there is definitely an individuality that comes to the fore. But within the formal sector, homes built within gated communities, apartments, etc. are cookie-cutter modules being repetitive and faceless.

Lately multiple are ways being explored to create customized experiences across entities; be it online, crowdsourcing, fashion and even furniture. But architecture is still to catch-up. Hence, for a housing project, the firm began looking at redefining the fundamental block; a 3.5m x 10m enclosure with a height of 3m. This block was modified to house its ceiling at 4.5m instead of 3m to allow a loft in the residential unit. This module was then used to create homes that ranged from single room apartments to 5-bedroom homes. They allotted a garden area to each unit as well at both levels. The idea of multiplying a prototype emerged from an earlier exploration of using pre-fabricated units that could be assembled faster at site. The architects then segregated each component of the buildings; windows, doors, staircases, railings, etc. and offered options to customize each to a desired material, colour and finish. They obtained an options matrix where users could play with preferences and design their homes. As a result each home, each prototype is devised in a unique manner. This process could be simplified and made interactive with a mobile app allowing users to choose elements to create their own homes. While the architects control the basic composition and proportions; the final form that manifests is a play of materials, patterns, colours, etc.

For the aggregation on the site, the architects employed a series of operations that used this standardization to create adequate variety across the site. The public components of the project like the shopping; offices and two banquet hall are planned near the entrance gate within a 'Darwaza' building allowing for a public interface to the complex. The street pattern that develops allows the user to traverse the site in multiple ways, on foot. The mix of sizes and functions allot a favourable ratio of public and private spaces.



DEVELOPMENT OF HOUSING
Design.I.Y Housing

It is interesting to note that while the fundamental functions and control lay in the hands of the architects; of navigation and circulation, cross-ventilation, master-planning, walkability, etc. the user engages with design in a more personal and individual manner. The client-architect conflict often arises (especially in residential projects) but is seldom discussed or acknowledged. Systems as illustrated in the Design.I.Y Housing Project involve the homeowner and designer with a more holistic approach; integrating the richness of the informal with the efficiency of the organised. While design is always reviewed and critiqued by gauging ingenuity, functional efficiency, proportions and aesthetics, social implications, ecological responsibilities and similar entities; the above discussed projects push the envelope by introducing further nuances to design. A child's room that enables play, boundaries and freedom of choice; an apartment that borrows from play objects; a villa that incorporates sustainability, craft and more; and finally a mass-housing project that alongside being a prototype, ironically, breaks away from the monotony of prototypes. ■

GURJIT SINGH MATHAROO

Matharoo Associates

Architecture as a catalyst

Matharoo Associates is a 25 year old practice that began operations in Ahmedabad, India. In 2013, Gurjit Singh Matharoo was conferred an International Fellow of the Royal Institute of British Architects, only the third Indian after Dr B.V. Doshi and Charles Correa to be honoured. The diverse range of projects have brought the firm International and Domestic recognition, including the 2011 International Architecture Award by the Chicago Athenaeum, the 2010 Architectural Review House Award and the 2009 AR Emerging Architecture Award, to name a few.

Text: Sharmila Chakravorty & Matharoo Associates
Edited: Matharoo Associates
Images: Courtesy of Matharoo Associates

Speaking at the 361 degrees conference, Gurjit Singh Matharoo of Matharoo Associates started off by mentioning how presenting projects at events is a wonderful opportunity for architects to introspect their work, and re-evaluate the concepts and ideas that shape their projects. His works presented dealt with how the practice envisions architecture to be a catalyst – without itself being consumed, enhancing the relationship between man and nature - both, nature within us and the nature outside of us.

The first project was for a client that had approached the studio for a weekend house in Ahmedabad that would be completely open to nature yet provide all creature comforts including protection from 45 degree heat, the monsoon rain and insects. Matharoo Associates toyed with the idea of openness to evolve a concept that would eventually become the house, as they drew inspiration from the nostalgic imagery of a mosquito net on a bed they used as children – a safe haven that offered shelter for those inside while delicate enough to not make them feel constricted.

With the idea of having a 12x12m column free space that was open to the verdant landscape of the site, a single monolithic 90 ton concrete slab is suspended as part of a composite structure elaborate steel framework. The undercroft is enveloped in gossamer layers of sliding mosquito nets, roll up blinds and folding glass panels that provide desired degrees of privacy, shelter and exposure to nature, enabling the space to be modulated at will to suit the weather and psyche, from completely accessible and open to the outside, to fully closed and dark inside. An all-encompassing cabinet forms the pulsating heart, holding everything needed from the kitchen, dining and TV unit to the plumbing, AC units and the lighting. Interesting the name for the house 'Net House' refers not only to the net that envelopes it, but in its simplicity to the dictionary meaning – 'clear of all else, subject to no further deductions'.

↑ *Net House. © Edmund Sumner.*

↑ *CREDAI Headquarters. © Dinesh Mehta.*

↑ *CREDAI Headquarters. © Dinesh Mehta.*

The main house that Matharoo Associates is building for the clients on the same site, has a completely different approach. It creates a similar open-ness in each of the spaces although it is a partially subterranean one – with the roof seemingly extending out of the landscape and replete with a cycle track!

For the next category – Open – the Headquarters for the Real Estate Developers Association CREDAI was showcased. Besides the obvious function of a closed office space, the building was to accommodate regular public events - a place where everybody feels welcome and free to walk in unhindered. Approaching this duality, the architects took the brief quite literally and creating a closed building where the 4-storey high façade walls could be opened to create a public interface and adjust it as required!

A house by the sea in Raigad was the next project – inspired by the imagery of abandoned ships and forts along the coast. A massive curved wall built in locally available stone plays host to all the services and closed functions. A pool placed next to the wall extends partly outside, and all living spaces are placed towards the sea – seemingly suspended between these two waters and intricately connected with nature. The project follows some stories during construction, including how the initial sketch posed a great Vastu challenge and funnily enough, a mirrored plan checked all points and allowing the design to proceed.

The following two categories - moving, and reveal - are about architecture inciting an emotional response and a sense of discovery as one begins to inhabit a space. In one project, a house for a large joint family, the plan of the house is interpreted as a linear pavilion, ensuring that every space in the house is lined with glass on the facing sides – the first enclosure. The second enclosure is a layer of massive 15' high, 9' wide and 1'6"mm thick Bidaser stone walls along the entire perimeter – an impregnable shell.

↑ *Weekend House by the Sea.*

↑ *Moving Landscapes. © Bharat Aggarwal.*

His works presented dealt with how the practice envisions architecture to be a catalyst – without itself being consumed, enhancing the relationship between man and nature - both, nature within us and the nature outside of us.

↑*Pool - Matharoo Associates' Studio. © Bharat Aggarwal.*

At the push of a button, this imposingly heavy stone wall cracks open, as it becomes an array of panels spinning gently about their centres or sliding away to reveal a transparent cocooned interior, to be employed at will whenever desired and dissolved when not.

Resonating with the harshest aspects of nature, in motion, these walls intermingle with the glass inside and the wild landscape outside - the third enclosure, to sometimes allow a glimpse of the outdoors, sometimes reflect it and sometimes reflecting themselves. It is in this layering of space and screen, the houses' entire envelope becomes an interface to mediate between the artifice of the inside and site outside.

Similarly, their own office space 'Pool' in Ahmedabad is a series of discoveries. The 900 sq.mt site is longitudinally divided into two halves, one kept for the building and the other left as landscape. Moreover with the pool in the mandatory front margin that is reminiscent of their old studio by the Sabarmati River, the linear studio is nestled between water and green at all times. The architects say that there was a self-imposed challenge set for themselves – to build the most optimum construct for a given brief - an approach that was both maddening and self-consuming. Here, the structure itself becomes the envelope, ensuring least material usage, low cost of construction and multiplicity of usage. Through the large gaps left between the minimal structure, the interior merges seamlessly with the surroundings – where light and air (occasionally animals and birds!) flow through.

This porous container in concrete is wrapped with a filigree of steel louvers that were custom designed and locally fabricated. On the South, these 8'x8' shutters, can be lifted to any position by hand as they slide up and pivot, affording desired degrees of privacy, shelter and exposure to sun. This outer shield continues as a steel roofing on the top to create a heat shield, and has been installed instead of and for the price of traditional waterproofing and insulation. The resulting large covered space at the roof level is a bonus - home to an auxiliary studio for large models and paintings, and student workshops to take place from time to time. Working in conjunction with the steel cover around the pool for heat dissipation, the studio never needs artificial lighting during office hours, and the air conditioning runs for a maximum of 4 hours, and only during the 3 months of peak Ahmedabad 48 degree summer! Of the interesting features of the office is a powder toilet, cast in a single piece of concrete. When you pull the handle, the wooden door stays stationary and instead the entire 1.5 tonne concrete toilet swings open, its plumbing and drainage moving along with it – making for the unexpected element of delight.

Gurjit Singh Matharoo also introduced us to another brilliant idea – PITStudio, where instead of traditional training, students are instead to travel to mentors' work place to become active participants in their methodology. It includes three design studios in extremely varying geographical contexts, giving them invaluable experience and knowledge. ■

MONISH SIRIPURAPU

Ant Studio

What next?

Monish Kumar Siripurapu graduated from the School of Planning and Architecture (SPA), Delhi in 2009 and started Ant Studio in 2010. Monish is a Tata scholar and received the prestigious JN Tata scholarship in 2015 for his PG Diploma in Robotic Fabrication from Institute for Advanced Architecture of Catalonia (IAAC), Spain. In collaboration with his colleagues, he has won many national and international architectural competitions. His works have been published in well-renowned architectural journals. Recently, out of 180 start-ups from 22 countries, Ant Studio was awarded one of the 12 winners of the Asia Pacific Low Carbon Footprint Challenge by UN Environment Programme for his CoolAnt Product.

Text: Shriti Das
Images: Courtesy of Ant Studio

↑ *The Tree-House: a project in Kerala.*

While technology cannot be denied or stopped there is always room for intervention. Monish advocates using material alongside technology that leaves nil or minimal carbon footprint.

There is a single line of consensus that designers, engineers, planners, environmentalists and perhaps every practice and vocation will agree upon. It is the undeniable fact that technology is an inevitable part of the future. Monish Siripurapu, the founder and principal architect of Ant Studio reiterates that technology has enabled digital fabrication, virtual reality and much more over the last few years. These possibilities trigger a larger question; what is next? Monish questions if there will ever be an end to the technologies and innovations. And further argues that, while structural systems become more sophisticated, computational tools are getting more efficient by the day; each of these contraptions leave an impact, a carbon footprint on earth. And with time this impression has spiralled into large repercussions of climate change, calamities and more.

While technology cannot be denied or stopped there is always room for intervention. Monish advocates using material alongside technology that leaves nil or minimal carbon footprint. Tracing the trajectory of his practice, Monish discussed his journey of design that began from architectural projects with common briefs to projects that enabled some ingenious works.

He cited an example of his first architectural project, a residential project in the Himalayas. The site, with a stepped terrain was enveloped by peaks on all sides. The studio wished to adopt the imagery of the terrain and build upon it. However the client wished for a British-style house with a fireplace. The studio envisaged a house that would "hug the site tightly". The home was created with 3 courtyards and steps that captured vistas into each room. The second project that Monish demonstrated is one in Kerala with mountains on 3 sides and rubber-tree forests. The water-table being high, the site floods easily. The building is designed in a triangular fashion to capture the panoramic views. To combat flooding, the structure is raised off the ground by steel members that resemble tree branches. The studio tried incorporating elements from local architecture like wood, terracotta tiles and merged the building with its surroundings. Another project involved razing a residence near Noida. The structure had a large steel roof. Instead of demolishing the entire structure, the architects retained the structural system but incorporated the client's functional requirements.

While the aforementioned are works have been executed with sound design; they are still offer limited avenues to bring about change in the larger context. While most architects and designers aspire being instruments of bigger change, opportunities are few. Capital and the cost of experimentation, the willingness of clients and even land policies, etc. are few challenges that architects have to navigate if they wish to disrupt an existing system of planning and building. Like a project proposal for a builder in Delhi involved merging two plots to maximise the Floor Area Ratio (FAR) by incorporating negative spaces into the design. Ant Studio proposed a design program wherein the central area is captured as a naturally ventilated bio-atrium that doubles as a congregation space. While the project did not see the light of the day it propelled the studio into envisaging possibilities of a world that is taken over by nature and not buildings. Possibilities of flying cars enabling large open spaces for pedestrians were discussed. For a housing project in Durg, Monish discussed the common elements that are adapted into design; courtyards, bigger volumes of space, nature imbibed int interiors, safety for seniors and infants and so on. As the plot faced the Shivnath River, there's also an aspect of maximising the river-facing views. Even if housing projects imbibe these salient design features, Monish argues that the homes still stand on concrete grounds. The plot may encompass sprawling lawns but the user often steps onto a concrete road outside their home to access the lawns and gardens. For the project, the studio designed the plots in grids and intersections that reduced road area by 25%.

↑ *To combat flooding, the structure is raised off the ground by steel members that resemble tree branches.*

↑ *The building is designed in a triangular fashion to capture the panoramic views.*

> *"Monish argues whether one really needs to cool an entire space or can we cool only the ambient area around the individual."*

They experimented with terraces to create cut-outs that would bring light into courtyards created for the homes. Moving towards experimental projects, Monish elucidated on reinterpreting brickwork and masonry using computational design. Brick is the basic building-block of structures. The studio tried creating patterns in brick in a manner that minimises material and introduces new designs to construction. They created a boundary wall with a 4-inch thick doubly covered brick wall. It was conceived using computational design and implemented it with robotic fabrication. But the wall itself was constructed by hand. It was to display that machinery, mass-production and craft can work in tandem in architecture.

The last project that Monish discussed was also one that did create a larger impact in the architectural and design fraternity even while the project was a regular undertaking, if one may say so. The project involved designing a cafe for DEKI in the docking area of their factory in addition to an installation. The space allotted for the café was barely 3-meters wide with little light. They created a doubly curved exposed-brick wall that was flat near the ground but curved towards the ceiling; creating a play of light and shadow. The studio also noticed that the presence of a diesel generator was increasing the indoor temperature drastically by directing hot air into the docking area. The client wanted an installation or a screen that would block the hot air. The studio again reverted to brick and its main element; terracotta. Terracotta has been used since ages to cool water and air. Ancient Egyptians fanned terracotta pots filled with water for cool air. Taking a cue, the studio created a brick jaali and allowed hot air to pass through its openings as they poured water from top. They observed a substantial temperature drop in the process. Working with different geometries, they noticed that the beehive configuration maximised the surface-area leading to greater cooling. The circular geometry also renders structural stability and the system is aerodynamically sound. They devised the length and width with support from a CFT engineer and the installation could reduce ambient temperatures by 15 degrees.

↑ *The Cafeteria at DEKI.*

↑ *The Deki co oling system.*

↑ *Before finalizing the cooling contraption, the studio had created a brick jaali and allowed hot air to pass through its openings as they poured water from top. They observed a substantial temperature drop in the process.*

After the success of the installation, the studio is working towards deploying the system indoors. Monish argues whether one really needs to cool an entire space or can we look at cooling solely the ambient area around the individual. If that vision of personal cooling is translated into reality, it could revolutionize cooling the way personal computers did in the 80s'. They are working on a mechanism that is designed like a pot that works like a plant. Post it's lifecycle, it can become a plant. It cools till a range of 6-feet and doesn't mandate an enclosed space.

While on the topic of cooling, Monish also makes a pertinent point, highlighting the parody of cooling systems. Cooling is a simple process but the air-conditioning mechanisms over the years have evolved in a manner that have, ironically, contributed to global warming. Air-conditioning units create heat islands around them; the ozone layer is depleted and so on. Currently, only 5% of the population in India uses air-conditioning. The situation is bound to deteriorate given the rate at which the country is urbanising. And it is the callously designed and seemingly modern, steel and glass buildings that require air-conditioning. Each building or product that is built and consumed leaves a carbon footprint. It is not only important to reduce usage but also to work backwards and eliminate footprints that have accumulated. Moving forward, working with limited resources that leave minimal impact will ordain a liveable future. If technology has enabled as many wonders and inventions; the aforementioned too can be dispensed by technology itself. ■

↑ *The beehive configuration maximised the surface-area for greater cooling. The circular geometry also renders structural stability and the system is aerodynamically sound.*

AYAZ BASRAI

The Busride Design

Looking to the future, backed by solid traditional knowledge

Ayaz Basrai is a graduate from the National Institute of Design, Ahmedabad. Busride Design was launched by Ayaz Basrai along with his architect brother Zameer, a CEPT graduate. Busride has dabbled in designing Bollywood sets, miniature sets, exhibitions and kiosks, retail galleries, restaurants and boutique hotels, amongst built environments. They've also worked in the area of street art and graffiti, illustration, heritage conservation and urban planning; which Ayaz says, informs their practice in profound ways.

Text: Sharmila Chakravorty
Edited: Ayaz Basrai
Images: Courtesy of Ayaz Basrai

Speaking at the 361 degrees conference, Ayaz Basrai of Bandra-based The Busride Design Studio outlined the many enquiries and experiments the studio was engaged in. Describing the studio as a polyvalent entity that deals with a mixed bag of projects from sandcastles for Disney to more permanent ones like restaurants and bars, and retail stores, their success perhaps stems out of the giving up of coherence, and resigning to chaos. The studio is also informed by age-old 'gyaan' floating around all over Bandra; a church they pass by often has a sign that reads – No one ever moved forward while being chained to the past.

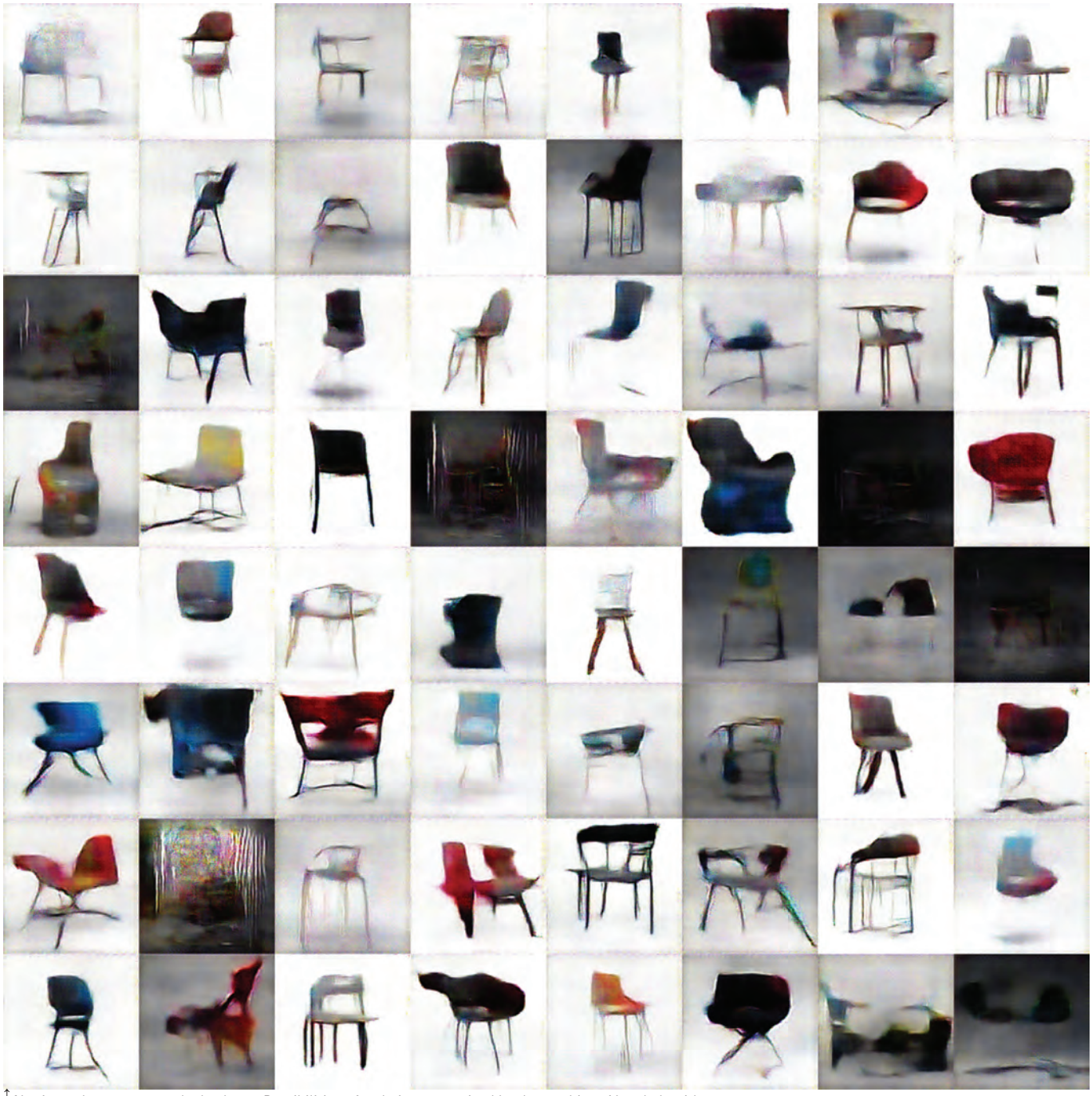
Designing for the future and the notion of time

With this as the starting point, the studio pursues a number of enquiries and experiments – mainly around the notion of time. In the most conventional sense, our idea of time is going on an upward projection from the past to the future, in a linear way. This is reinforced by western notions of science, our day to day experiences of reading clocks, etc. However, the Eastern notion of time is cyclical, as a constantly repeating loop, always in reoccurrence. This, he says, is really just the idea that everything that is happening right now, has happened in the past and is going to happen sometime in the future. This notion helps lay more responsibility on the maintenance of things we use, and the importance of creating closed loop economies.

The inspiration for this enquiry into the notion of time actually came from a Heritage Lab they recently conducted in their studio in Goa, related to them by the incredible Professor Neelkanth Chhaya. This notion of time comes from the Samudra Manthan, a story from Indian mythology. Roughly translated to 'the churning of the oceans' it is a creation myth where a 'rishi' (sage) sets into motion a massive churn, with the serpent Vasuki, coiled

↑ *Ayaz's speculations included using 3D printers at Mohen-jo-daro to recreate the structure, in a way mixing far future with the deep past.*

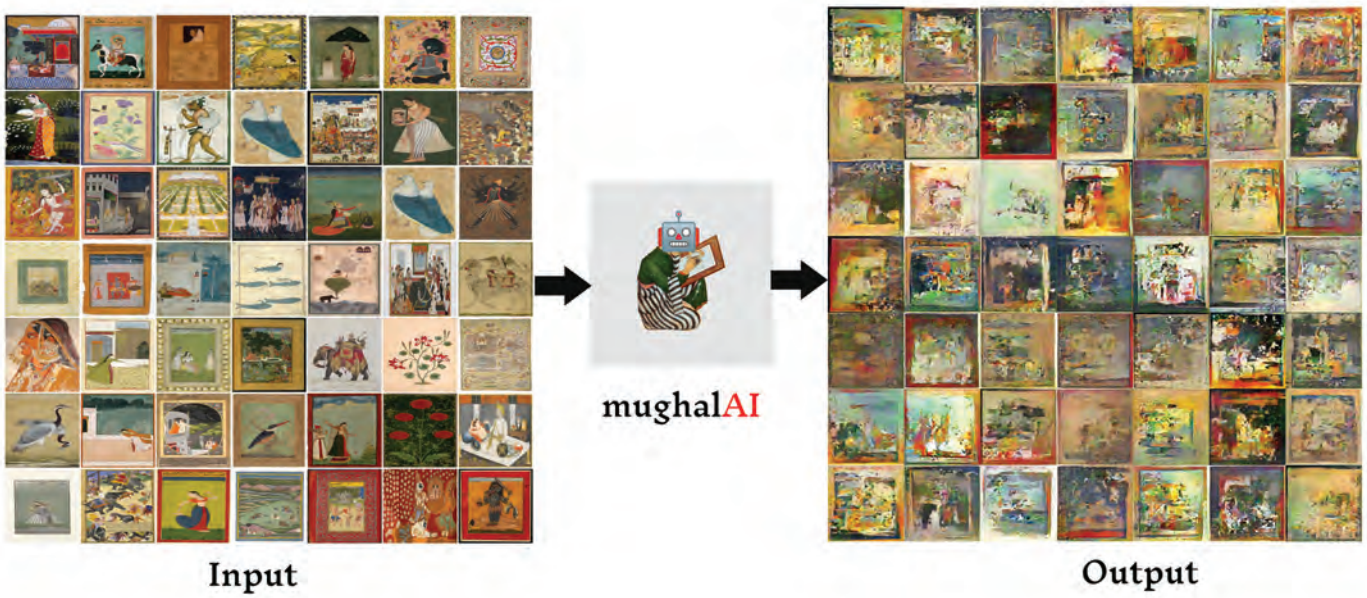
↑ *Drones to augment conservation efforts at Humayun's tomb: Machine learning loops could help drones predict and preempt inlay patterns, and help human accelerate conservation work.*



↑ *Not just 4 legs, a seat and a backrest: Possibilities of a chair as conceived by the machine, AI and algorithms.*

thrice around the mythical mount Mandar – an inverted mountain dipped into an ocean of milk – being pulled on either side by 'devas' (gods) and 'asuras' (demons). In the story, a lot of good and bad comes out of this churn. One of the bad things is the spewing of poison from the serpent's mouth – which Shiva holds in his throat, giving him the moniker 'neel-kanth' as the poison turns his neck blue. The good thing that comes of the churn is the 'amrut' or the elixir of immortality, which Vishnu steals and hands over to the gods.

Reinterpreting this multi-layered story into something decodable, the studio worked on a schematic diagrammatic view, encapsulating all of its characters and storylines into a single graphic. The interpretations are insightful, and perhaps more relevant to us today than they were in mythical times. The ocean of milk represents infinite resilience, fluid and always in motion. The mountain represents unbreakable will and purpose.



↑ *Another experiment is the Mughal-AI, reimagining what it would be like if there was an algorithm present in the court of Akbar, giving him recommendations much like Netflix does to us.*

The 'devas' and the 'auras' perhaps represent self-image. Shiva, on the other hand, having consumed the poison and yet disallowed it to affect his outlook or actions in his life, represents generosity. Interestingly, the elixir which is an important element of the story comes out of this constant churn – forming the basis of the notion of time as a relentless churn. This exercise of decoding and putting into a diagram the elements of the Samudra Manthan story contribute immensely to the studio's work and their outlook on things in general.

Story as a generator

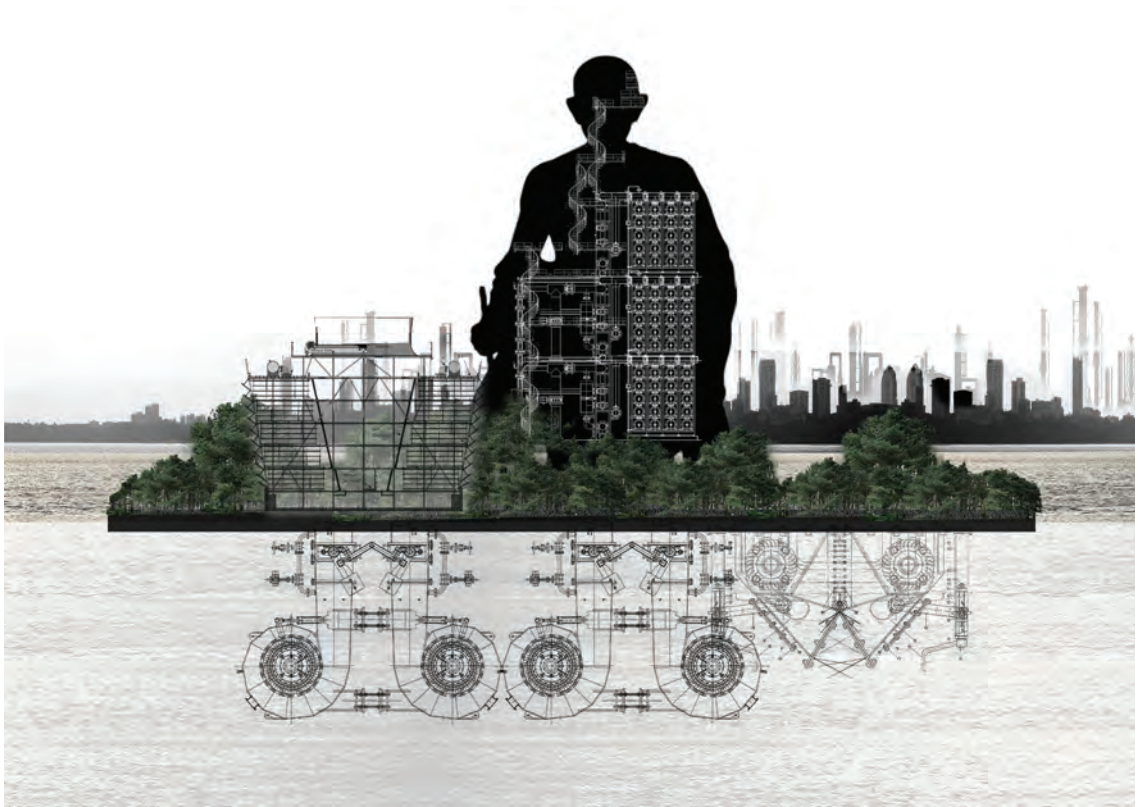
Using one of the emerging tools in design practice – Speculative Fiction – the studio examines how one can tell a compelling story and create a ripple-effect of change. By imagining make-believe situations for the future and recording reactions to these situations, the studio gains a sense of where culture is headed, as well as meaningful design directions to explore. Thus, using speculative fiction as a sort of forecasting tool, the studio has come up with a lot of interesting, quirky work.

The studio posits, in relation to colonizing Mars, that the Gujarati population would be well suited to live on Mars! Ayaz argues that they are well adjusted to extreme temperature variations, vegetarian (growing meat on Mars could pose a massive problem), and used to living in close proximity to other people (judging from the high density of population in the old Ahmedabad area). As a really strange provocation, they designed a newspaper from the year 2063, with this news as well as another where they speculate that massive Lithium deposits have been detected under the old city. In doing this, the studio experiments the idea of putting a price on heritage. Where would one draw the line, what level of importance would heritage assume if something valuable was found under a heritage city? What would our response be? What would we choose as more important? Speculative fiction hence becomes a tool to live out probable futures and select ones that we feel are meaningful to inhabit. We can then actively build steps towards achieving that future, which gives more meaning to the present.

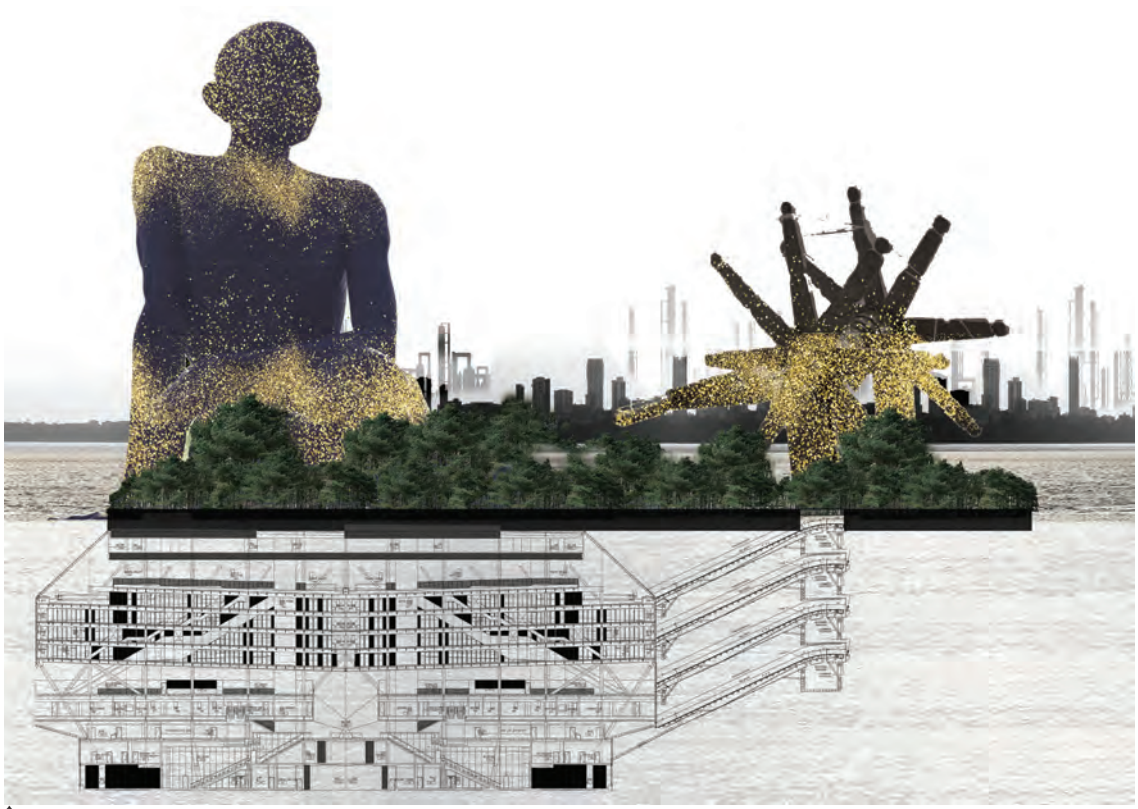
Their other speculations include using 3D printers at Mohen-jo-daro to recreate falling or dilapidated part of the ruins, in a way seamlessly mixing the far future with the deep past. Other experiments include imagining the possibility of using drones to augment conservation efforts at Humayun's tomb. Machine learning loops could help drones predict and preempt inlay patterns, and help augment and assist the human craftsmen and speed-up conservation work.

↑ *Visualising the future – Technology need not be deployed in a way that is only functional. The aesthetic artifacts and edifices of the past perhaps draw towards an idea that maybe we can place beauty at the core of things; form and function can emerge from therein.*


DANGER
HIGH VOLTAG
KEEP OUT
ATTENTION
DANGE
HARD HAT
AREA



↑ *Gandhi desalination plant.*



↑ *Gandhi E-waste Plant.*

↑ *Gandhi Energy Harvest Monument.*

Similarly, they also looked at the possibility of using seeded paper for printing time-bound political propaganda such as birthday wishes, so that after a while, the whole poster turns into a lush patch with wildflowers. An Artificial-Intelligence (AI) powered microphone that shuts off every time you lie, and to be deployed in elections in 2035 perhaps, is also an interesting idea they are exploring!

They also question our current paradigm of creating larger-than-life statues, and how these could transcend mere ornamentation and symbology, and become "performative". Statues that function as coral reef regeneration scaffoldings, affordable housing, desalination plants, mode of mass transport that becomes a mural every night when the trains park themselves, grain silos and seed banks etc. are other topical scenarios that the studio has explored with speculative fiction. The idea is to see if these speculative stories can suggest the direction in which better solutions for the future can be pursued.

The concept of beautiful problems

We are surrounded by age-old solutions that are as beautiful as they are functional. The step wells, for instance, with their stories of water diviners tapping land and finding water 10-storeys deep. The beauty of the structures and stunning architecture mixed with intuition (intelligence that is yet to be decoded by the current generation) and deep science to solve water problems for arid and drought-prone areas. So why not use this concept to build a modern-day sun temple, with solar panels, instead of our unimaginative and dystopic way of deploying so called "green" technology today? Technology doesn't have to be merely functional, a lot of beauty in thought process existed in the past, and we could bring that discourse into the limelight today.

The technology advantage

The studio sees technology as a massive opportunity from which some truly magical solutions can be devised. They tried to train a machine learning algorithm in the studio to start

His works presented dealt with how the practice envisions architecture to be a catalyst – without itself being consumed, enhancing the relationship between man and nature - both, nature within us

↑ *Possibilities with Mughal AI.*

understanding the nuances of a chair. These are just the first steps in helping machines decode what is a chair. We could perhaps eventually connect this to a printer, and print out the machine's interpretation of what a chair is, which might be fundamentally very different than what we think of as a chair. Another experiment is the Mughal-Artificial Intelligence (MughalAI), reimagining what it would be like if there was an algorithm present in the court of Akbar, giving him recommendations much like Netflix does to us. They are also trying to train an algorithm to reinterpret the 'lota' in their version of The India Report by Charles and Ray Eames, but for 2035. They are attempting to figure out a more inclusive crafts report given the rise of AI, and the report needs to integrate both these influences in theory. The basic idea behind the studio's experiments is to say that the human and the machine now exist on a slider, close together; no longer as disparate entities. We now have the chance to use this slider and determine what part human and what part machine we want a solution to be.

Expecting the churn

The "experience" of time that is the central element to the Samudra Manthan story is reminiscent of our chaotic life wherein you are being pulled in multiple directions at one time. The only way to make sense of this is to stop thinking in a linear way, where there is a problem-and-solution kind of framing. This thought process is the legacy of the 60s, but we need to start thinking in networks. So in the last 4 years, the studio has started populating a culture map for 2035. The idea is to create a collective future map, and approach it with a sense of madness so as to make sense of it all.

Reimagining the role of architects

Workflow framing in the Indian context is such that one has a client with a list of demands

– a site, a vision, a budget, a brief etc. After agreeable terms are laid out, the architect/designer creates a shared language and aesthetic with the client, and sets shared goals and responsibilities so as to bring the client's vision to tangible life. This output is judged based on efficiencies, biases, testing, compliance issues etc. If one was to take a break here, and assess this workflow, interesting insights are to be found. In a workshop, the studio discovered fascinating statistics that in 2016, only 6% of homes were designed by architects, while hundreds of studios competing to design a single museum. This is an indication of the huge skew in the allocation of resources, where talent is moving rapidly in what we see as poster projects. The ecosystem of how projects trickle down to architecture studios, architects come in during the 'how it should look' phase, and not at the 'what is needed; is this needed at all' phase. We are not empowered as a discipline to question this process, or the client.

An alternative, ideal workflow frame would be a think-tank of architects and designers that conceive projects, question the needs of the city much before those of clients. Then, together, they create an open source marketplace, much like Airbnb or Uber. Site services are made available by deployable drones, with a village-level rental economy, state-of-the-art technology that can be used at a village-level where it is most required and additive manufacturing training through workshops with strong local craft integration. Local craftsmen are part of the advisory board to realise the crafts' potential for each of these small areas that this can be deployed. The clients then come into this ecosystem, at a much later stage. This is the ideal workflow, something that we are now getting used to when we download music, or book a hotel room or a cab. If we do not preempt this workflow change now, we will be blindsided, and suffer massive consequences. This is how we can truly be design-forward. We can add a lot of value to this self-learning system, only if we can conceive of it first. ■

DR. REINHARD KOENIG

Principal Scientist | Smart and Resilient Cities

Intelligent urban planning and computational architecture

Reinhard is Professor for Computational Architecture at Bauhaus-University Weimar and Principal Scientist at the Center for Energy at the Smart and Resilient Cities competence unit at the Austrian Institute of Technology (AIT) in Vienna. In addition, he acts as Co-PI in the Big Data Informed Urban Design group at the Future Cities Lab (FCL) at the Singapore ETH Centre. His current research interests are applicability of multi-criteria optimization techniques for planning synthesis, cognitive design computing and correlations of computed measures of spatial configurations with human cognition and usage of space.

Text: Sharmila Chakravorty
Images: Courtesy of Dr. Reinhard Koenig

In the past, when architects and planners were faced with issues such a large-scale, affordable housing, or developing new cities, the approach was to look for prototypical solutions that were very industrial in nature. These solutions were usually reproduced several times, in several places, without any customization or consideration for context or other parameters. As a result, the output was not qualitatively great for several reasons.

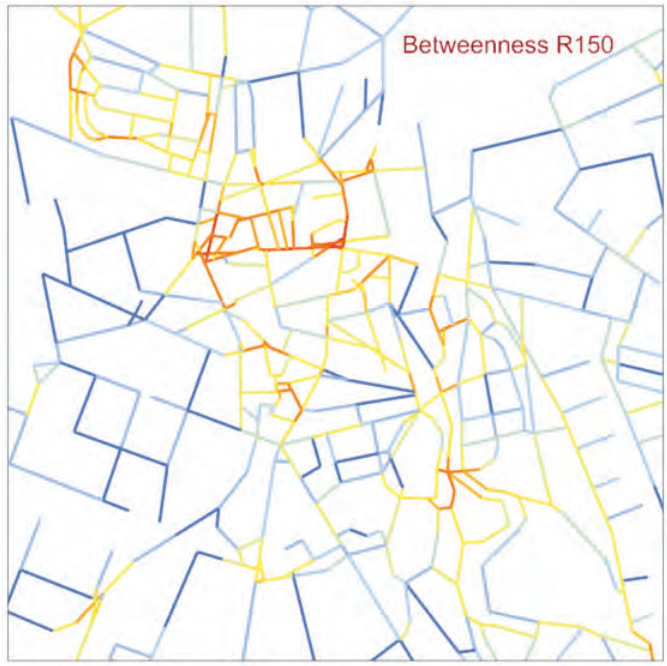
How you approach a problem is what matter

Every site has certain strengths that architects use to their advantage while designing projects. However, in large-scale affordable housing schemes, for instance, the focus is on providing shelters to a large number of inhabitants, without much attention to the site's strengths. As a result, the built structures might not make the best use of available light, space, ventilation etc. Similarly, in the case of city planning, the design might not have taken into consideration issues like traffic decongestion and circulation. Further, these solutions also disregard beauty, as they focus heavily on functionality. We have seen several such failures in the past. While the solution benefited people in the sense that it provided a place to stay, or a city to locate them in, it did not add to their lives qualitatively. They were not socially inclusive, and let to several problems in terms of crime too. Eventually, many of these buildings were demolished, and many cities were deemed dangerous and unlivable.

New-age solution for age-old problems

The abovementioned problems still plague our society in new ways, and form the backdrop for Dr. Reinhard Koenig's work. Given that he works in the context of developing countries, very often he sees past mistakes of the West being repeated in contemporary times in developing countries. They look to the West for solutions, and when resources such as money, planning and design talent, etc. are anyway low, it seems to them like the most logical solution to copy formats from the West, not taking into account the solutions' obvious failure.

Shortest paths // Metric, angular, travel time distances

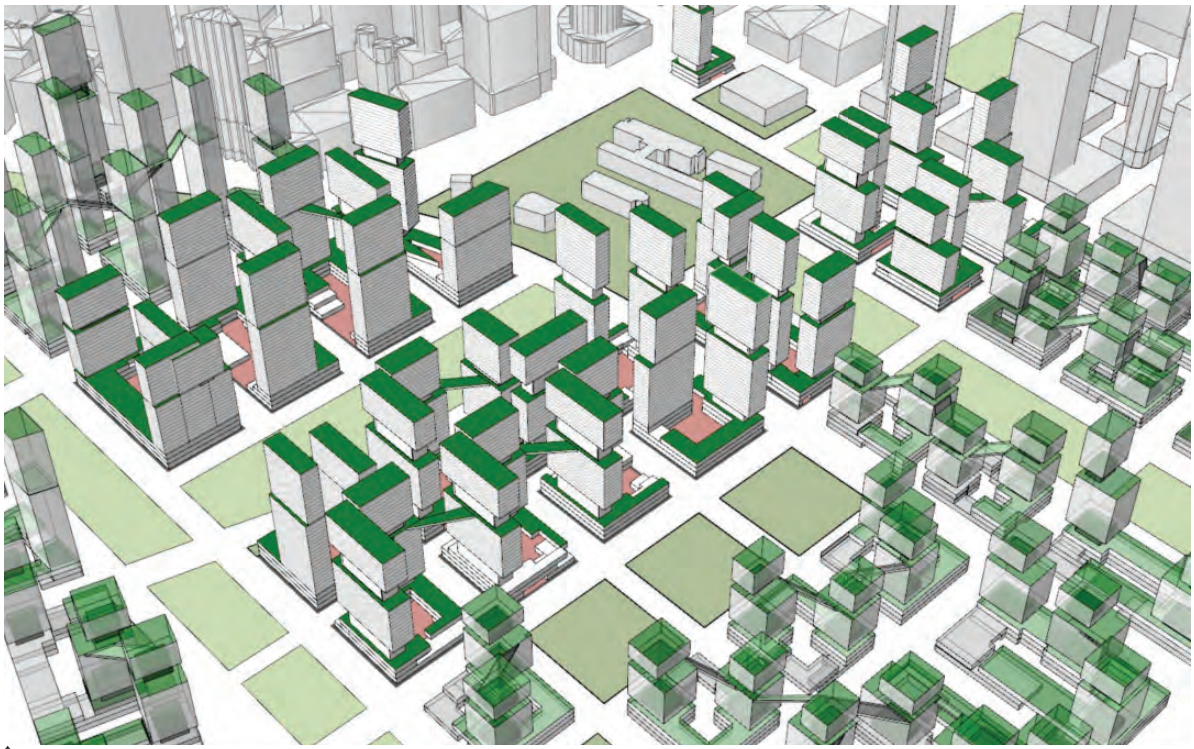


Graph centrality measures such as Betweenness and Closeness and Gravity centrality for different radii

"Dr. Reinhard Koenig's tool could help us build new and programmable cities with computational architecture and integrated planning strategies, helping us, and other developing nations to streamline their urban planning practices and make the best use of their resources while giving citizens the best possible living conditions."

Custom weighting of origins and destination is possible for all centrality measures

↑ *Image provided by Sven Schneider.*



↑ *The software tool developed by Dr Reinhard Koenig can help us obtain optimised masterplans based on various parameters and requirements. Image provided by Pol Foreman.*

↑ *The tool computes several options so as to come up with a dynamic masterplan that changes with changing times and requirements. Image provided by Martin Dennemark.*

And developing countries have increasing housing and city planning requirements, which need to be met quickly, so the problem compounds itself. Without efficient solutions, they keep on building based on formats which have failed in the past, setting themselves up for low-quality outputs that would eventually pose bigger problems.

Computational architecture offers pragmatic solutions

In thinking about solutions for such situations, Dr. Reinhard Koenig turned to computation, technology, artificial intelligence, and other new-age technologies to augment human

The tool helps planners take an informed decision when allocating spaces within the masterplan to various functions, thereby evenly distributing amenities, as well as vehicular traffic throughout the new area. Image provided by Katja Knecht, Yufan Miao, Kateryna Konieva, Reinhard Koenig.

intelligence in order to come up with the best solutions suited to different, and dynamic, contexts and requirements. The software and tools designed for this purpose can help planners and other stakeholders feed in the contexts, constraints, requirements, parameters, etc. to get visual feedback, which can be used to make models and simulations to accurately predict and therefore respond to site-specific demands. This tool can thus compute accessibility maps, create links for economic thinking, the idea of centrality, spatial planning, traffic planning, etc. to help planners make better, more informed decisions. The plan can be fine-tuned so that after the analysis stage, relevant information can be linked to synthesis. Networks can be generated, thereby creating something new, something meaningful through a continuous feedback loop. This can be done for various scales, from cities, to housing complexes, to individual buildings. So efficient designs for massive new cities can be generated automatically, using different parameters. From the several options thus generated, the most ideal solution can be sought.

This tool is especially helpful when designing masterplans for new cities in that the tool takes into account the element of dynamism. Most of our current masterplans outline a city's future over 10-20 years. However, the conditions and requirements of this city keep changing in those many years. Yet, the masterplan largely remains fixed. Dr. Reinhard Koenig's tool allows several stakeholders, institutions, clients, etc. to feed dynamic information resulting in a dynamic masterplan. While it sound brilliant in theory, in practice too, the tool has been extremely helpful in creating smart designs and adaptive masterplans.

Good in theory, better in practice

There have been a number of instances where the tool has been put to use. For instance, the tool has been implemented in Singapore to develop a new area. The idea was to explore the most modern wat to plan and design this space, and to see how the tool can enhance the act of planning. He then showed several other projects from developing nations wherein the tool has added considerable value. Overall, the tool holds a lot of promise to even deal with issues such as mass migration to cities and other developed parts of countries, which are then put under tremendous strain due to overpopulation. This especially holds true for India, where we see more and more inhabitation in the cities. Dr. Reinhard Koenig's tool could help us build new and programmable cities with computational architecture and integrated planning strategies, helping us, and other developing nations to streamline their urban planning practices and make the best use of their resources while giving citizens the best possible living conditions. ■

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ICON LECTURERS OVER THE YEARS

Dr B V Doshi,
Pritzker Laureates, 2018
India

"India is diverse economically, socially, culturally and climatically. We need to stop talking about buildings and talk about a sense of community. That is what identity stems from."

Richard Meier,
USA
Pritzker 1984 Laureate

"I think, any work of architecture that has, with it, some discussion, and some polemic, is good. It shows that people are interested and people are involved."

Fumihiko Maki,
Japan
Pritzker 1993 Laureate

"Time was able to give us the ability to reflect on what we had done and became the mediator between the city and its architecture."

Late Charles Correa,
India
Padma Vibhushan, Padmashri, RIBA Gold Medal

"Place represents that part of truth that belongs to architecture."

Massimiliano Fuksas,
Italy
Crystal Globe IAA Grand Prix 2015

"Architecture is probably the easiest and simplest interpretation of art and culture."

Peter Rich,
South Africa
Building of the Year award at WAF

"You cannot reinvent the wheel with architecture; it has all been done before."

Toyoo Ito,
Japan
Pritzker 2013 Laureate

"Asian Architecture and cities have inherited the culture of integrating with nature and are opened to nature."

Sir Peter Cook,
UK
Royal Gold Medal of the RIBA

"History of architecture seems to be preoccupied by the form of the window, the decoration of the window, the acknowledgement of the window."

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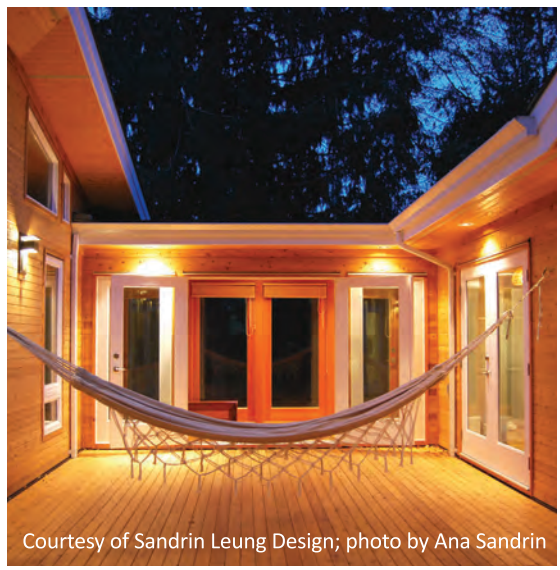

Courtesy of Sandrin Leung Design; photo by Ana Sandrin

Western red cedar's properties like natural resistance to termite, rot and decay, attractive colour, and its ability to not splinter, makes it ideal for applications such as decking, outdoor furniture and playground equipment.

B.C. wood species: Western hemlock | Yellow cedar | Douglas fir | Western red cedar | Spruce-pine-fir (SPF)

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