

antarya



SPECTACULAR KITCHENS

SPECIAL FEATURE
COMPLETE KITCHEN
WITH VENETA CUCINE

MASTER STROKES
ARCHITECT PREMNATH



FUNDERMAX®

FUNDERMAX INTRODUCES HEXA FLOORING

Unique Surface | Durable | Skid Resistant | Impact Resistant | Safe
For Balconies, Patios, Decks, Stairways and more ...

exterior

**for
people
who
create**

FunderMax India Private Ltd.
504, 5th Floor, Brigade Towers, 135, Brigade Road,
Bangalore : 560025. India Ph.: +91-80-41117004
E-mail : officeindia@fundermax.biz

DEALERS ENQUIRIES SOLICITED

* Insist on genuine FunderMax panels only.



CHAIRPERSON'S FOREWORD

Dear IIID Bangalore Chapter members,

This issue of Antarya marks a new term with a new committee for IIID Bangalore Chapter for the period 2014-16. The new committee has a lot in store for you members in way of Designer Presentations and 'Out of the Box' events.

Internationally renowned Architects and Designers will showcase their work in the 'Master Architect Series' where Architect Shimul Javeri Kadri presented a Sensitive and Innovative body of work in September. A panel discussion was the First 'Out of the Box' event with the venue setting the stage for an interesting and evocative discussion.

Students and young professionals will also have events planned featuring Films of Important Architects and other educative programs.

We look forward to exciting times ahead for IIID members and urge members to get more members....May our Tribe increase.....!

Gayathri Shetty

Chairperson IIID BRC, 2014 – 16
gayathri@gnarchitects.com

www.trisha.co.in

Design is inspiration. Kitchens inspired by **Häcker** kitchen.germanMade.



1-A, Castle Street, Ashok Nagar, Bangalore - 25, India
T: +91 - 80 - 4113 1769 / 1770, E: info@trisha.co.in

To see our product range, please call: 97409 99350

 **TRISHA**[®]
Interiors Extraordinaire

KITCHEN - GERMAN MADE | EXCLUSIVE FURNITURE & SOFA BRANDS | HARDWARE & STYLEWARE | LIGHTING EXTRAORDINAIRE



EDITOR'S NOTE

A year just passed since publishing of the first issue of Antarya. With the support of the Architecture & Interior fraternity we released the Annual issue which set a new standard in the print media for designers.

The entire team of Antarya is geared up to bring the forthcoming issues with improvements and more reading material. We have expanded our team to cover more from professional and business members. Kitchen design has undergone a major metamorphosis over the past decade and a half, from being just a counter with a space for burner and a sink, to becoming a spotlight of the house.

Moving further, our next issue will feature Terracotta as the material in focus. This wonder material has been in use from prehistoric times. Technology has now rejuvenated it making it an ideal eco-friendly material. We look forward to greater participation from one and all in the forthcoming issues.

Cheers and Happy reading.

Dinesh Verma
Managing Editor
verma@acegrouparchitects.com



Reviews: Antarya Annual Issue

Many congratulations for a spectacular issue of Antarya. It has an amazing class about itself and the content is intellectually professional. In all aspects there is not a thing out of place and I can't think of anything else which is amiss. Kudos and wish you more success.

Architect Sukhen Padmanabha

With the relook at 'Antarya' I find it is so much better than many commercial architecture & interior design magazines, both in terms of presentation and content. It covers a wide spectrum of areas like projects, professional education, discussions and cultural and environmental issues. I would like to take this opportunity to congratulate Ar Bindi and her team for such an endeavour. It is almost a benchmark for other chapters to strive for. Best wishes and we look forward to more issues of 'Antarya'.

IIID Lucknow Regional Chapter



06

COVER STORY
SPECTACULAR KITCHENS



Featuring: Kiran Venkatesh & Vinita Chaitanya

14

SPECIAL FEATURE:
COMPLETE KITCHEN WITH VENETA CUCINE



Managing Editor
Dinesh Verma

Chief Correspondent & Content Editor
Nandhini Sundar

Editorial Board
Jaffer Khan, Sharukh Mistry,
Leena Kumar, Mahesh Chadaga

Art Director
Kumkum Nadig

Design
Kena Design, Bangalore
www.kenadesign.com
info@kenadesign.com

Print
Gaptch Press, Bangalore
www.daxgap.com
girish@daxgap.com

Cover Image
Dialogo Collection from Veneta Cucine

* FOR PRIVATE CIRCULATION ONLY



Published By
IIID BANGALORE REGIONAL CHAPTER
No.14, Temple Trees Rows, Cauvery Colony, Koramangala 1st Block, Bangalore 560047
Tel : +91 80 26494159

Copyright
IIID Bangalore Chapter has the copyright on design pictures and editorial content used in this magazine unless otherwise specified. No part of the magazine can be reproduced without the written permission of the publisher.



20
MASTER STROKES
ARCHITECT PREMNATH



26
YOUNG TURKS
VINOD + SHARATH
SAHIL TANVEER



30
CONVERSATIONS
H C THIMMIAH
VIRENDRA KHARE



38
GREEN SENSE
IN TUNE WITH NATURE
Dharmesh V Jadeja



46
SPECIAL FEATURE:
GREENING IT WITH BAMBOO
Siddhika Sarda



50
INNOVATIVE IDEAS
INTRODUCE A SMART FACADE
Naveen George Joseph



52
DESIGN CUES
HYBRID HERITAGE
Ekta Raheja



54
ACADEMIA
ARCHITECTURAL EDUCATION TODAY
Dr. Smita Khan



58
DESIGN IDEOLOGY
ZINGY TIMES & SPACES
K Jaisim



60
DESIGN SPECTACLES
REACHING BEYOND DESIGN
Raja Arjun



62
GREEN RESORTS
BUILT IN WOOD IN THE LAP OF NATURE



66
TRAVELOGUE
TASTE OF SPAIN
Shyamala Prabhu



AN ARCHITECTURAL PILGRIMAGE
Kavitha Sastry



79
HAPPENINGS



1) Vintage American Kitchen 2) Plate used during Indus Valley 3) Tudor Kitchen at Hampton Court

Image Credits: 1) Wikimedia Commons, 2) www.imgarcade.com 3) Wikimedia Commons



Spectacular KITCHENS

Move a few centuries back in time. The picture that emerges on thoughts of a meal being cooked is a figure bent over logs of firewood, intently blowing into the embers to stoke a fire. Or better still, the figure sweating over a large pot boiling over an expansive fire while on the side are evidences of hard manual labour of grinding, chopping to aid preparation of the meal. The accumulated black soot, ash omnipresent in the cooking area further reiterates the strenuous chore preparation of a meal entailed.

Journeying down civilization, the toil over the stove became less arduous, with a few amenities surfacing to aid easier meal preparation. The cooking areas became far cleaner permitting the basic levels of comfort. Yet, conspicuous in absence were gadgets that facilitate cooking, make meal making less manual. Even more conspicuous was the lack of aesthetic appeal in the décor. Elementary comfort in clean practical spaces was the essence of décor addressed during this period.

Cut to the present and the scene is diametrically opposite. Kitchens are now the pride of a residence, displaying styles and creativity that can be astounding. From featuring in back end of the residence, they have now moved to become an integral part of the living and dining area, featuring as a seamless expansion of these spaces. As for convenience, modern kitchens are totally gadget oriented, making preparation of meals a pleasure.

Kitchens of Indus valley

The kitchens during this era served as the extension from an open courtyard. Typically the kitchens opened from the courtyard on to a brick built fire place which formed the hub of the cooking. The cooking dishes used were invariably clay pots in a range of sizes and shapes, addressing cooking as well as storage of cooked food. Wealthier households opted for metal vessels of a wide variety though pottery continued to have a presence in these residences too. Copper, bronze were popularly used metals along with silver depending on the wealth of the household. Eating plates came with characteristic vertical sides, with silver eating plates being common amongst the wealthy.

Tudor kitchens

Ash filled stone fire places, sooty large chimneys, stone ovens for baking, coarsely plastered brick walls, raw stone floors, rough solid wooden tables for cutting and kneading, rugged open wood shelves were some of the distinctive trademarks of Tudor kitchens. Iron pots and kettles, iron trivets for brewing, brass and clay pots, wicker baskets, stone mashers, wood trays and bowls, large wooden spoons and forks, glass and ceramic bowls, glass and metal lanterns were common cooking aids in kitchens of this period. Evident along with the cooking dishes and sacks of grains were also stacks of piled firewood displaying the co-existence of all in the small space.

English country kitchens

This is the period when the kitchens became more refined and wore a clean fresh air. Depending on the type of house, a manor or an English cottage, the décor varied. Clean kitchen counters, attractive open wooden shelves, quaint chests to tuck away things, wooden work tables marked the old English country kitchens. Glass and ceramic was popular for the dishes used during this period. Strong colours were also part of the kitchen feature during this era. Colours like green were commonly used as in painting the open wooden shelves and closed chests. Floral drapes adorned the kitchen windows to enhance the décor. However, the period was sans the modern appliances, with the kitchen aids available being largely manual.



Vintage Italian kitchens

The vintage Italian kitchens are typically marked by a large centre table made of rough finished wood and surrounded by many seats made of wrought iron and wood. This essentially was to address their culture of sharing the recipes with the next generation where children would gather around at the table and learn cooking. Pots, pitchers, decorative jars, pots with herbs placed on counter tops, wrought iron light fixtures are characteristics of a vintage Italian kitchen. While the colours opted were more natural and earthy, the accent on décor was more comfort and a cozy environment. Paintings, if any on the wall veered more towards food.



- 4) English Country Kitchen
- 5) Vintage Italian Kitchen

Image Credits: 4) ISeeCubed: www.iseecubed.com 5) Chalon Handmade, UK: www.flickr.com/photos/chalonuk/



Traditional Indian kitchens

The traditional Indian kitchens were typically marked by open stone or cement shelves to house the large number of metal pots and pans. Commonly used metal was brass and copper, while silver found its way into wealthy households. Stainless steel made its presence only at a much later date. Coarsely plastered brick walls, stone floors marked the décor. The counter top was mostly stone and in many kitchens was placed at a lower level compared to the conventional height. This was to facilitate cooking while seated on the floor. Stone grinders and mashers were omnipresent in all the kitchens to aid the constant need to grind the masalas. The kitchen décor was totally practical with minimal or nil effort placed on aesthetics.

Modern kitchens

Kitchens are now no more places of cooking alone but have become the hub of the home, a place for interaction amongst family, a place where guests are entertained, a space that forms an extension of the living and dining area, a store house for gadgets that facilitates comfortable living and dining. Having transformed to become the central hub, the focus on bringing in creativity, innovative thinking into the design and reaching for a cooking area that is high on aesthetics too is not surprising while viewing the modern avatar of the kitchens. Ranging from the type of gadgets adopted, the styles incorporated and the materials used, modern kitchens serve as a stunning evolution in the function of cooking.



- 6) Traditional Indian Kitchen
- 7) Traditional Stone Grinders for wheat
- 8) Elegante Shell System, Essence Collection, Veneta Cucine

Image Credits: 6) Wikimedia 7) Wikimedia Commons 8) Veneta Cucine

SOUL OF RESIDENCE

Right: The kitchen is designed to tune in with the white and black theme of the residence along with its extensive play of geometry. The looped white counter brings in a sense of continuity and seamlessness while the geometry of the sloped walls, windows and the looped counter is complemented by the dark wood geometrically shaped dining table.



Top & Left: The design here strongly projects the liberating feel of the new age kitchen, with the play of courtyard that not only connects to the kitchen but also vertically to the private spaces on the upper level. The concept of an interactive family space where the kitchen forms the soul of the living area and is not tucked away into a corner is brought in by its seamless fusion with rest of the spaces. The black and grey glass mosaic tiles further serve as an arresting backdrop to this participatory kitchen.



Architect **Kiran Venkatesh** of INFORM Architects believes the kitchen is the soul of a residence, bringing the family together, serving as the active space for interaction. His design of this new age kitchen brings in the liberating and participatory feel, fusing the elements with the rest of the spaces to form a seamless work area that serves as the pride of a residence.

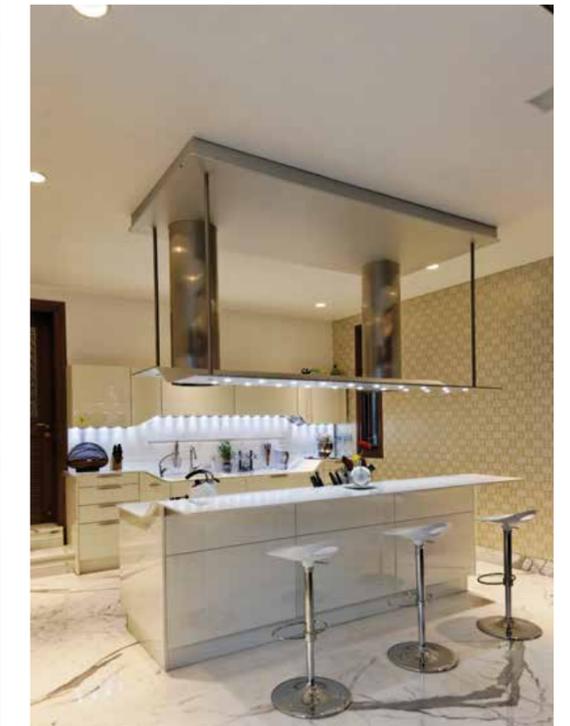
STYLING IT DIFFERENTLY



Top Left: The kitchen links the family room and dining space. Emerging almost like a corridor, the kitchen has been cleverly designed to eliminate the passage feel by cutting out a hatch where the contemporary smart kitchen leans over a charming counter as in a dry pantry. The use of travertine for the walls and lacquered glass lends character to the space.



Left: This expansive classical kitchen has sunlight streaming in through skylight vents and large windows. The island at the centre doubles up as an eating place and a space to interact in this practical yet aesthetically arresting kitchen. The presence of extra seating by the windows accentuates the interactive ambience of the space.



Right: Displaying the concept of a family kitchen in this semi-classic room, the use of white in the décor contrasts strikingly with the dark wood to offer a clean elegant feel. While the moulded fibre glass counter with its ergonomic shape enhances the aesthetics, the floral wallpaper lends cheer as well as connects to the dining and family areas seamlessly.



Interior Designer **Vinita Chaitanya** of Prism shows varied styles in which a kitchen can be designed to bring in the subtle aspects of specific site considerations. She has effectively used elements such as colours, materials, sunlight to alter the style and character of the space.

A complete kitchen with VENETA CUCINE

Step back in time and the kitchens you encounter invariably speak of ash from firewood, rugged stone floors, expansive sooty brick chimneys, rustic wooden tables, open shelves housing clay pots, metal pans. In short, a kitchen was a place that spelt hard work, clutter and even mess. As for comfort and aesthetics, reality was a far cry from it.



Tulipano, E Collection

WHY VENETA CUCINE

While aesthetics and convenience form an integral part of any modern kitchen, customising the same to suit specific practical requirements make a vast difference in the final outcome. Be it the storage units, work top, accessories, the manner of design opted and the ease of functionality it offers determines the position the kitchen ultimately occupies. Veneta Cucine India addresses these matters in five effective ways to offer a complete kitchen.

CUSTOMISED STORAGE

Each kitchen has its own unique requirement. Understanding and incorporating the same into the design forms an integral part. Veneta Cucine kitchens come with customised options to suit the most challenging requirements. Such a versatile option makes it easy to facilitate adaptations to emerge with individualised storage offers in modular kitchens.

A RANGE OF APPLIANCES

The key element that makes cooking a pleasure is the ease with which the function can be executed. The electro-domestic appliances that form the vital element to meet this criterion

come in a wide range from Veneta Cucine. The VC Plus range of appliances are exclusively designed to address the specific demands of Indian cooking. The range covers an entire spectrum of appliances starting from hobs, food warmers, sink and vapour hoods to wine coolers, water purifiers.

Incidentally, the burners and other appliances specific to Indian cooking requirements were introduced by Veneta Cucine based on recommendations from CCI. By introducing such customisation that aided preparation of Indian dishes such as dosas, rotis, CCI became the first company to offer the customer a choice as opposed to providing only cooking aids that catered to European practices.

THE PERFECT COUNTER

A factor that enhances the aesthetics while addressing functionality is the kitchen counter. These again require to be customised to suit particular modes

of cooking. Veneta Cucine kitchens come with a perfect fit work top based on individual requirements and inclinations. Veneta Cucine also comes with a special patented BBS System which is resistant to heat, is water repellent and has an anti-bacterial counter that makes it safe for even a child to eat directly off it.

STUNNING ACCESSORIES

Accessories breed comfort as they are major facilitators of convenient cooking. Veneta Cucine offers thoughtfully designed accessories where convenience is the key. Be it easy pull out trays, racks, weighing machines, recipe book holder, ironing table attachment, each is thoughtfully designed and placed to offer the user the ultimate in comfort and luxury.

CCI also comes with special accessories to meet the Indian market such as extra space to house large grinders, extra wide plate racks to stack traditional Thali plates, foot stools to reach higher levels.

LOCAL MARKET

While it is typical for first generation users to view a stunningly designed kitchen more as a showpiece than a utilitarian segment, CCI ensures style does not preclude function. Thus, every kitchen is designed to address functionality with acute sensitivity to local culture and habits. The CCI kitchens are tailor made to handle the harsh Indian cooking environment where aspects such as tropicalized appliances, humidity resistance, corrosion free products are actively incorporated.

AT YOUR SERVICE

Impeccable installation is CCI's forte. Unmatched quality in service and installation is offered through accredited service providers for ducting, copper gas piping, dado cladding to name a few. It goes one step further by coordinating activities with other service providers in electrical and civil divisions to ensure the final installation is perfect. Incidentally CCI is the only company

that does not outsource staff to deliver service. Its team comprises totally of in-house staff, trained to deliver perfection.

Operating from the premise that service delivered is as imperative as the quality of the product offered, especially when addressing a market where the user is either the household help or first generation customer, CCI offers lifetime guarantee and a 24/7 back up support to address issues.

OFFERING A TOTAL SOLUTION

Besides its expansive range of models and customised options to suit individual requirements, CCI through its wide range of boutiques across the country, offers a total solution in the area of cooking, be it in the superior design, quality of the products, Vaasthu compliance, health aspects such as incorporating an anti-bacterial carcass along with a life time guarantee and excellent after sales support.

MERGING PAST WITH PRESENT E COLLECTION

The fine lines of the past and the present get diffused when you go beyond the distinctions of the classic and modern, connect the same to the immediacy of the current state. The E Collection with its two exclusive models, Mirabeau and Artemisia, is the development of products where the skills of the fine craftsmen encounters a diffusion of the past and the present, aiding both to coexist, transforming the planks of Exclusivity, Elan and Excellence into contemporary Elegance.



Artemisia Collection, , E Collection

AN INDUSTRIAL DESIGN: ARTEMISIA

Introduced at the I Saloni Fair in Milan as a prototype, the newly launched 'E' model Artemisia blends product research and development where the craftsman's skill is combined with the method of industrial production. The concept here caters to the segment of clientele who do not make a distinction between classic and modern.

Introduced in finishes of Noce Canaletto Verticale, Glossy Lacquered Cord Grey and Top Quartz, this bronze shell system product comes with the AEG appliance and comes with two different solutions of one with the handle and the other without it.

LUXURY FUSED INTO FUNCTIONALITY: MIRABEAU

It is past revisited and given a modern functional avatar. The 'E' model Mirabeau brings back the richly decorated friezes of the 17th century. Designed in black and white with inlays in 22 carat gold and silver to serve as highlights, the kitchen packs in the elegance of a bygone era with the modern sensibilities and functional requirements. Available also in blue, Mirabeau comes with the luxurious Morano glass. In short, it is a manifestation of beauty, the ultimate in luxury and style embedded in a modern functional design.



Ca' Veneta, E Collection



Mirabeau Collection, E Collection



Ri-Flex, Essence Collection

MAXIMISING FUNCTIONALITY ESSENCE

The objective is to go beyond the 'Model' and offer an innovative appearance where the relationship between form and function goes beyond established standards. Essence offers real form to projects that focus on improving everyday living by maximising functionality. The image of the kitchen takes maximum advantage of Essence's design potential.

SUSPENDED TO FUNCTION: 20.14

Created by designer Giovannoni, the matt lacquered Cord Grey and Backstage In68 Maloja 20.14 comes with a push-pull Legrabox Blum and a Servo-drive Blum for the wall and tall unit. It is also teamed with the Bertazzoni range of appliances. The aesthetically suspended kitchen unit has wall detached panelling that permits insertion of niches.

INTERPRETING CRAFTSMANSHIP: DIALOGO

A design that builds in wood with contemporary sensibilities, Dialogo range offered by the Essence model interprets craftsmanship to offer a modern kitchen with a touch of tradition. The wooden frame, the rich oak with its intrinsic irregular lines, the decorative trims and the decisive proportions blended with subtle traditional styles make this kitchen an arresting, much sought after category.

CREATING MOST FROM LEAST DESIGN COMPATTO

The objective is to extract the maximum from minimum, create the most from the least. Design Compatto offers a compact size model where the strong relationship between design and function in a contemporary style focuses on a combination of compact appearance, enhanced functionality, reduced space requirements and innovative shapes. The journey begins with simplicity and moves towards optimising the solid structures to suit functionality, in a space that is reinvented and customised. Design Compatto is a collection that evolved from the designs offered by well-known architects and interior designers that Veneta Cucine worked with. These are models that are practical yet pack in cutting edge design.



Design Ecocompatta Collection

REDUCED TO MINIMUM: ECOCOMPATTA

Designed by Architect, interior designer and product designer Paolo Rizzatto, this model is sized down yet complete in functional components. Ecocompatta in its closed unit state appears as a solid body where each face is a parallelogram. The body is slightly detached from the wall and almost suspended in space where it transforms into a larger cupboard that is opened at the centre. This opening is screened by a shutter which opens on to a fully equipped, multi-purpose, integrated work top unit. The work top houses electrical appliances, a set of containers and a separated trash collection system. Essentially this model is designed and sized to meet very limited space and addresses challenges relating to distribution, size, function and systems of the kitchen. Aesthetically pleasing, the model is offered in black and white, with the doors enamelled completely with water based technology.



Liquida Collection

TOTALLY PRAGMATIC: LIQUIDA

This is indeed a totally practical kitchen where concrete realism, optimisation of space, pragmatic approach form the basic tenets on which the model is evolved. Markedly innovative in design, the high performance technical materials used are wholly recyclable, permitting them to be used to create new functional characteristics such as a door that slides into the cupboard. This iconic range under the Design Compatto model, developed by Giovannoni, an industrial and interior design studio founded by Elisa and Stefano Giovannoni, surprisingly is modestly priced in spite of its innovative design and attractive styling, offering added value.

ENTICING ADD ON RANGE ADD MORE

This new enticing product range of furniture and accessories offers the choice to bring home modern trends in multiple arresting styles. This eclectic range enables the customer to experience a complete kitchen space that goes beyond just cooking. The space thus doubles as an active and cheerful interactive area for the entire family. The visual language of the products under Add More is totally fluid, integrating together the styles of each model spontaneously.

Add More is a collection brought about through collaboration with renowned Italian designers such as Andrea Branzi, Cini Boeri, Paolo Campagnol, Danegani & Lauda, Michele De Lucchi and Paolo Rizzi. The Add More collection from Veneta Cucine offers a complete range of products from lighting, tables, chairs, accessories where the design goes beyond the simple distinction of the classic and modern to address the ever changing, dynamic and varied styles of living. The focus here is on the display of fine craftsmanship that transforms shape, form as well as real function.



INTERVIEW

Associated with the furniture and interior design industry for over three decades, **Ravi Karumbiah, Managing Director Veneta Cucine India** was the first to introduce modular kitchen systems in the country way back in 1994. Firmly believing in educating the consumer and offering a product that is not just trendy and aesthetically pleasing but also one that is utilitarian, Karumbiah was instrumental in architects and interior designers actively participating in exhibitions in Italy and visiting factories there. In a chat with Antarya, Karumbiah talks about changing perceptions of kitchens and customising them to suit Indian cooking culture.

Q. Perception of the Indian market towards kitchens has diametrically altered. Yet the style of Indian cooking remains the same. How would you adapt a modern kitchen to suit Indian way of cooking?

The methods of cooking vary across countries based on culture and cuisine adopted. India being diverse, the method of cooking varies within its boundaries too. A kitchen unit cannot be expected to have features that will universally satisfy consumers across cultures and countries. On the contrary, the models offered would have to incorporate specific features that address this diversity where they can be individually customised to suit particular aspects. A good way of addressing this diversity is to bring in a few additional changes in appliances and style of accessories.

Such customisation would dispel the view as well as the practical constraint where a standard European option is viewed as an ill fit to an Indian cooking scene. Besides, educating the customer with regard to use, offering multiple levels of post-sale services like a free service every six months, are ways by which this perception can be countered.

Q. There is a view that a custom designed kitchen is far superior in quality and functionality as compared to standard modular options. How would you alter this opinion?

Our modular system is so versatile that every kitchen can be customised to suit individual usage requirements. Essentially it is not about modular or conventional kitchens. It is about the kind of materials used in the kitchen. Technically, a machine made kitchen is far superior as well as consistent in quality as compared to a carpenter designed kitchen.

Q. What are the key as well as popular demands of Indian market for ready made kitchens? How do you address this through your product range?

The key issue addressed are the wet and dry kitchens as household help aid in cooking. This creates a need for a clear demarcation based on the user. Our cooking patterns also entail presence of extensive storage options. This in turn impacts the nature and quantum of accessories offered. Appliances that suit Indian way of cooking such as powerful cooker hood, sturdy and large hobs, sinks with both depth and width are some of the most sought after products. Water quality being questionable, having in place a good online water treatment system is imperative in any Indian kitchen. All this is planned keeping in focus the work triangle of the kitchen.

ARCHITECT PREM NATH OUTLINING EFFORTLESSLY

BY NANDHINI SUNDAR

Meet Architect PremNath, Principal Architect, PremNath & Associates, a master designer, his strokes made effortlessly, sometimes on the move from one meeting to another, yet leaving an indelible mark on the city's skyline. Based in Mumbai, PremNath has left his stamp on a trail of landmarks in this city, be it commercial spaces or residences. Interestingly, his first project, which happened to be a notable film star's residence, came to him by what he calls as a 'stroke of luck'. "It was a case of being in the right place at the right time", he says, giving his characteristic toothy grin.

Temple of Vedic Planetarium





The TWA offering him round the world tickets and executive stays at half the price certainly helped to make this three month globe-trotting possible, exposing him to high profile lifestyles.

He was barely six when the partition forced him to move to India along with his family from Pakistan. As could be expected, the going was tough. While his sparingly educated mother eked out a meagre living to support the family, he chipped in by selling newspapers. The residence was in Delhi, where street lights permitted him to pore over his books late into the night. Resilience and determination ensured a first class in his final year of school. Starry eyed, dreaming big, he was faced with the prospect of shutting the door on prospects of a higher education due to lack of funds. It seemed then natural to take up a job as a Blue Printing Boy in an Engineers office instead of enrolling in a college.

The tall lanky youth had certainly learnt life the hard way, before earning the degree that was to catapult him in the years to come to an iconic status where he would leave his firm footprints marking his presence. Luckily for him and luckily for the field of architecture, the young man soon heard about architecture, its gamut of reach and what it had in store for him. He discovered that he could work in this field and simultaneously earn a degree from the prestigious JJ School of Architecture, from where he passed out with highest honours in Design. Thus began his tryst with architecture, his learning curve starting from the practical field before moving on to

acquire academic knowledge and thence extending his strokes to fashion the iconic outlines.

While the first project was the celebrity home of a film star, his second project involving the interiors of Britannia's corporate interiors was similarly acquired by being in the right place at the right time. "My third project involving interiors of TWA Corporate office was the result of my work in my first two projects and these three together set the starting point of my career", he says. Having completed the TWA project, PremNath decided it was time to indulge his fancy of going around the world and viewing some of the spectacular architectural pieces across the globe. The TWA offering him round the world tickets and executive stays at half the price certainly helped to make this three month globe-trotting possible, exposing him to high profile lifestyles.

The return to his city saw the trickle of projects turning soon into a flood, with some of the distinguished residents of Mumbai reaching out to him to design their homes. Starting from the Ambani residence to famous film personalities, the cream of Mumbai was soon making a beeline to his office. He is credited with building the first revolving restaurant in the country, bringing a new addition to the Mumbai skyline. Interestingly, PremNath initially was still dabbling with more interiors



Paritosh Bungalow



Royal Resorts



Golden Palm Resorts



Sky Villas

than architecture, with most of these early projects veering towards that.

Given his ideology of being versatile where he believed in packing in the traditional with the latest techniques in construction as well as design interpretations, he is not surprisingly amongst the first set of architects to infuse latest technology, use of computers and design techniques. "Any new technology needs to be explored and used to the best advantage", contends PremNath. This led to him acquiring many firsts to his list of achievements, notable amongst which include the country's first Health Spa & Body Rejuvenation Resort – Golden Palms for World Resorts, Bangalore, India's first Gold Graded Green Township in Punjab, Futuristic Smart Hotels & Smart Buildings to name a few.

Typically before coming up with a design, be it architecture or interiors, PremNath believes in assessing at length not only the client requirements, but also their lifestyle, inclinations, their status, comfort zones. "This ensures the design offered is perfect and in sync with their expectations and requirements", he avers. Given that the designs are naturally evolved in keeping with the site conditions too along with client requirements, PremNath has turned an apparent disadvantage to his advantage, in particular cases turning this into one that aptly addresses sustainability too. His Ratnagiri project involving an 800 acre township development is one such case in point. "The site had an expansive sloping 50 acre wasteland which was converted into a lake. This led to a collection of over 600 million litres of water, addressing not only rainwater harvesting but also serving

as a reservoir for the over 4000 villas, apartments, school and commercial spaces in the township", he explains. In short, it was addressing sustainability and aesthetics with one master stroke.

His Central University project in Kashmir reflects similar elements of sustainability and using an apparent disadvantage to an advantage. The 600 acre site surrounded by snow-capped hills saw perennial flooding during rains. PremNath converted the core into a lake and elevated 150 acres of land around the lake. This elevation was greened and made home to low rise architecture that housed besides the main structure for the university, an entertainment theatre along the lake, making it picturesque and lively. Further, local materials and methodologies were adopted to ensure the structures were locally sensitive and sustainable. The Central University in Jammu reflects similar sentiments in design and ideology. Faced with an undulated waste land of 150 acres that had over 200 metres in variation in the slopes, where water gushed down from the nearby hills, PremNath decided to turn this into a water reservoir and Hydel power plant to generate over 2 MW of power per day. Thus, 25 per cent of the peak load and 50 per cent of normal load power requirement of the university was addressed by internal power generation.

His 150 acre HMEL township project in Punjab was incidentally the first township project in the country to receive Gold rating from the Ministry of Environment. Likewise, the Cygnus School in Vadodara was the first school project in the country to receive Platinum rating. With expansive courtyards, verandas, green fields, insulated walls and the right

"Start with a blank mind, listen to the client, work out the economics while addressing the specific needs, think about how different the design and methodologies used can be, sketch freehand based on these observations before the final designs are drawn."

orientation, the school has the right ambient temperature that requires no air conditioning even during peak summer while the water savings achieved through deft management is over 50 per cent.

Not only do his projects address sustainability, they also pack in the unexpected. The 65 acre Royal Palms conclave in Delhi is one such where he has created a 10 acre private beach, the water body replicating natural waves. The presence of Moorish villas, Mughal domes along with conventional gardens amidst the undulated terraces of green serves as an enchanting spectacle, a confluence of the old and new.

PremNath's designs are not confined to merely residences and commercial spaces alone. It extends to temples too, his temple architecture standing as tall and distinguished as his other creations. He is merited with designing the first ISKON temple in Mumbai after which he has done many more.

He is currently working on what is likely to be the largest temple in the world spanning over 5 lakh Sq feet. The structure will have a dome that is 400 feet high with a diameter of 200 feet. The temple is slated to come with seven levels, housing intricate stone jaalis, panels, spectacular inlays and mouldings. The foundation is done with stainless steel to avoid rusting. The concrete with copper-lined domes will



Vasant Valley School, Delhi

have a Petona finish. "The building will last over 500 years", says PremNath confidently.

As flamboyant as his personality is, so are his colour choices. For, PremNath is not one who would shy of making strong colour choices that can be both contrasting and visually arresting. "We used 20 colours in one space and this was for an office belonging to a media company", he grins. Not surprisingly, some of his interiors appear totally flashy and strong in colour choice while others are vibrant and charming, the colours bringing in a cheerful character to the spaces.

Given his penchant for working with the new and unexplored, wanting to be the first to experiment, be it technology, design methodology or new materials, PremNath is currently opting for a solar powered glass in one of his upcoming projects where the window glass serves

as a solar receptor that transforms into a power generator. "The project will have 400 rooms. The solar powered glass on these windows is expected to generate 400 KW of power", he says. Incidentally PremNath is the first in the country to adopt this technology in a hospitality industry project.

The 74 year old maverick, with his trademark pony tail, signs off with a few tips for the upcoming young architects. "Start with a blank mind, listen to the client, work out the economics while addressing the specific needs, think about how different the design and methodologies used can be, sketch freehand based on these observations before the final designs are drawn." Those tips perhaps amply explain why his master strokes outline the skyline so distinctly.



SIMPLE YET ARRESTING

Vinod + Sharath

For the young architects Sharath N A and Vinod Menon, graduates from the University School of Design, Mysore, design has been a passion to be addressed unhindered, permitting free indulgence in their design ideologies. This design ideology focuses not only on discovering and meeting client needs but aims to ensure it is in perfect sync with their design inclinations.

The bug to branch off on their own caught this duo from Mysore soon after graduating. Not surprising given that both were freelancing in the very first year after graduation, the project handled being the interiors of a duplex apartment unit. The step of starting their own design firm SPACE one year after finishing design school was thus an inevitable eventuality. This was so even though it was to run parallel with their post-graduation course in urban design.

While the eventual pattern of design may vary from being contemporary to rustic to earthy depending on specific requirements, the duo firmly believe there should be no specific signature style. "Creativity manifests only when there is free flow of design and style that is specific to the project and not to a particular inclination. However, inclinations in terms of the manner of design of a space and aesthetics would follow an ideology", says Vinod. With over 40 projects to their credit, completed over the last five years, their designs are essentially simple yet effective. For instance, their first project Riddharya Residence, built on a small site of 30x40 is so efficiently planned that it packs in a clinic, a double car park, a family room, a terrace garden along with three large bedrooms within its ground plus two levels. A sky lit space brings in abundant natural light into the interiors while elements such as sloped roof, wire cut bricks, stone and composite masonry give a variation in the structure to cut down on the vertical expanse while addressing aesthetics.

Their project Chitralaya which is a 6000 Sq ft residence is a stark contrast to this, housing an art museum within its space to showcase the personal art

collection. The 1600 Sq ft of museum space accommodated on the first level is perched over a column free basement. The residence is totally Vaastu compliant with the free flowing living spaces opening charmingly on to the outdoor green spaces. Shingles on the sloped roof lend an old world charm to the structure, with the design being a fine blend of the contemporary and vernacular. The Kumudha Spa is a design that accents on green elements, reflecting an old world charm, reminiscent of Mysore of yesteryears. The 2000 Sq ft of space reflects a rustic décor, with customised wood furniture offering cosy nooks to rest. The spa was designed by redesigning an existing old bungalow. Not surprisingly elements such as rafters in the ceiling were retained to contrast with the new additions.

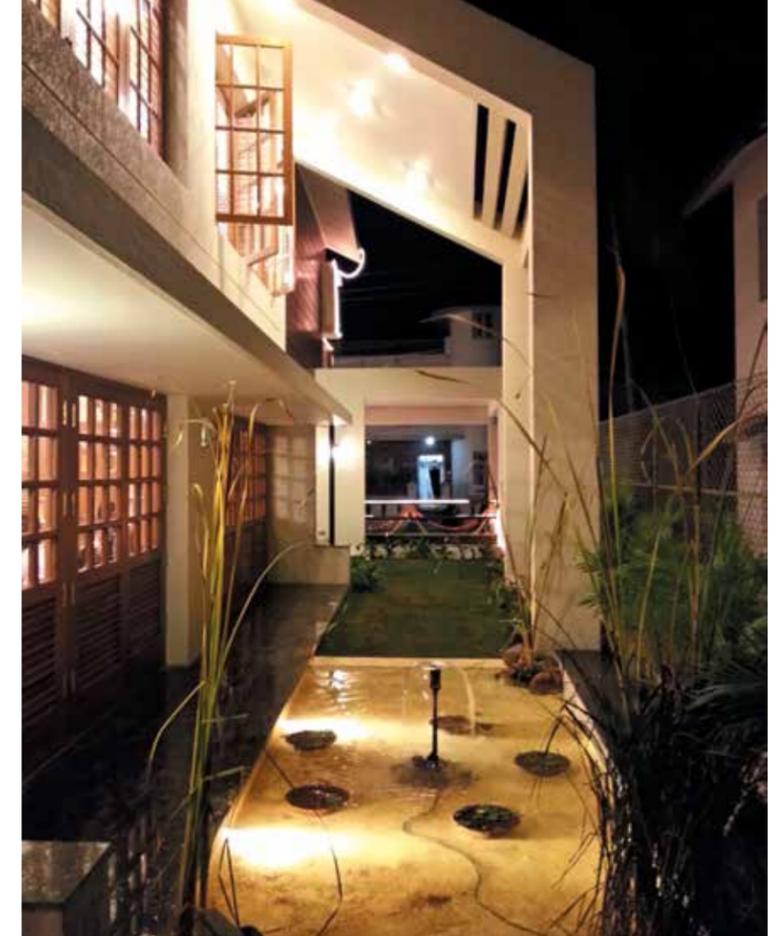
Likewise, the small shuttered wooden windows were retained, accentuating the old world charm while furnishings such as the reception table fashioned out of a sliced log of wood in its natural form amply complement the décor. The light fixtures used too lean towards old world décor to offer a perfect ambience of a bygone era. The Neroth Estate is a similar renovation, seeing the presence of Athangudi tiles, exquisite Burma teak columns from Karaikudi and plenty of colour and vibrancy. The sprawling 6000 Sq ft residence project of Sharath sees the presence of a charming pool and party area on the first level. "This was a project where we could indulge in our design style unhindered. Even cost was not a criteria, offering us a larger playing field in choosing the materials and design of the spaces", says Sharath.

The four bedroom house with its gym, home theatre, twin living spaces and large exterior courtyards, is tastefully

done, the laterite clad façade and vitrified tiles simulating wood lending an earthy flavour to the structure.

The inclination of the duo to bring in the feel of greenery into the interiors is borne out in the Ravishankar Residence which is essentially a twin house design. The clay tiled roofs and large verandas of the residence have the landscape permeating visually into the interiors. The large bay windows incorporated along with the open verandas, serve as excellent spaces to relax and unwind while soaking in the greenery.

Even in projects which cannot afford an expanse of green within their constrained spaces, the duo have ensured the visual connect is intact even if it is in the form of borrowing from a public green space. Thus, the Javeed Residence incorporates a larger play of glass in all its four bedrooms to offer the visual connect with the public park in front.



Top : Chitralaya Residence
Left : Neroth Estate Bungalow
Right : Farmhouse



MANIFESTING CREATIVITY

Sahil Tanveer

Just 27 years old, Sahil, on graduating from BV Bhoomaraddi College of Architecture in Hubli, decided to venture into the world of design on his own and thus was set up Redbricks Design Studio within three years of graduating. Prior to branching off on his own, he had brief stints with architect firms of which his tenure with Architect Rita Modi Joshi was over a year.

Salvage, recycle, reuse is his design mantra. Scavenge in scrap yards, use creativity to not only ensure their efficient and aesthetic use but also address the manner by which they can be easily dismantled and assembled. Opt for materials that would easily integrate with the soil. Play dexterously with colours, textures, light and angles to lend a unique, captivating dimension to the space. In short, use creativity to the hilt so it finally manifests as an arresting piece of design.

Propagating this thought process and implementing the same in his designs is Architect Sahil Tanveer, of Red Brick Design Studio.

His keen sense for arresting designs was evident even before he graduated, his thesis work involving the design of Navi Mumbai International Airport being judged as a topper in his class. His credits pertained to both the details listed as well as the overall design of the airport. An interesting facet of Sahil is his use of colours, be it in the interiors or on the façade. Viewing his designs, it is obvious he does not shy away from use of colours and uses them aesthetically without appearing harsh. One of his very first projects, Tourist Plaza displays this inclination, with the colourful façade proving to be distinctive.

His design of Redbricks Studio displays effectively his other passion to delve into scrap. "The objective was to give an industrial look to the design and this involved scavenging through scrap yards, using over a decade old teak wood plank leftovers, discarded doors, old tyres, junked lamp shades, an old sewing machine, binned bottles, old water heaters, antique chests amidst others", smiles Sahil. Not surprisingly, with

creativity sewn into these along with a splash of colours, the resulting studio was not only unique but stunning too. Thus, the studio saw old doors stepping into place, pieces of leftover teak wood used in furniture, old tyres painted a bright hue transforming into wall planters to house attractive plants. The salvaged old lamp shades were also painted colourfully to fill in the lighting design elements that ably complimented the presence of antique patterned design switches. Conduit pipes housing the wires were left exposed to enhance the rustic industrial look.

Further, the plaster on the walls was stripped to expose the bricks while the old sewing machine along with an old door was cleverly converted into an official desk. Salvaged binned bottles were inserted into the walls to let in light as well as create patterns as the light flows in. The discarded water heater found itself transforming into a brightly painted sheet holder. The antique desk that was picked up found a new avatar in the form of a coffee table while a bookshelf was effectively created merely with use of granite.

His project Nandini Milk Parlour is again a manifestation of creativity starting from the entrance gate where the blue screens and pergolas connect to the parlour, with the large hoarding beside it also lent strong character to address the aesthetics. While there is plenty of play of colour and lights within the parlour, black and white spots decorate the background wall to depict the presence of a cow. A highlight column is designed to give the illusion of the spaces around as emerging from it. The walls too incorporate designs to lend the feel of boxes projecting out.

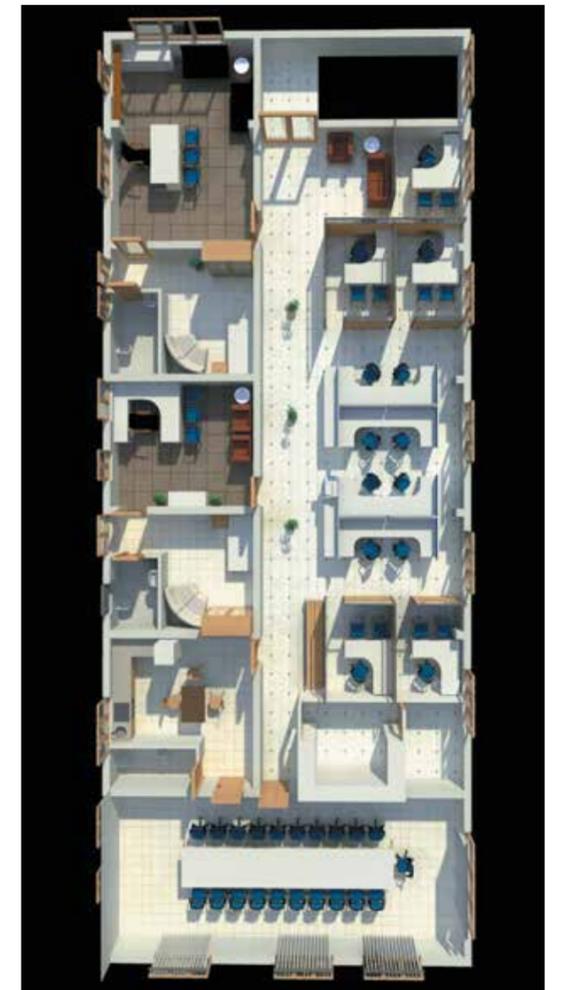
One of his first residence projects, Durgadas, built over a 4000 Sq feet site reflects a combination of the contemporary with the Colonial style sans ornamentation. Colour again plays a significant role in the structure, the façade representing an interesting play of the same while the stairs on the exterior, with a contrasting shade, gives the feel of a bright orange band streaking across the façade all the way up to the terrace. The entire detailing of the façade comes from the deft use of colours and textures, offering a different dimension to an otherwise plain elevation.

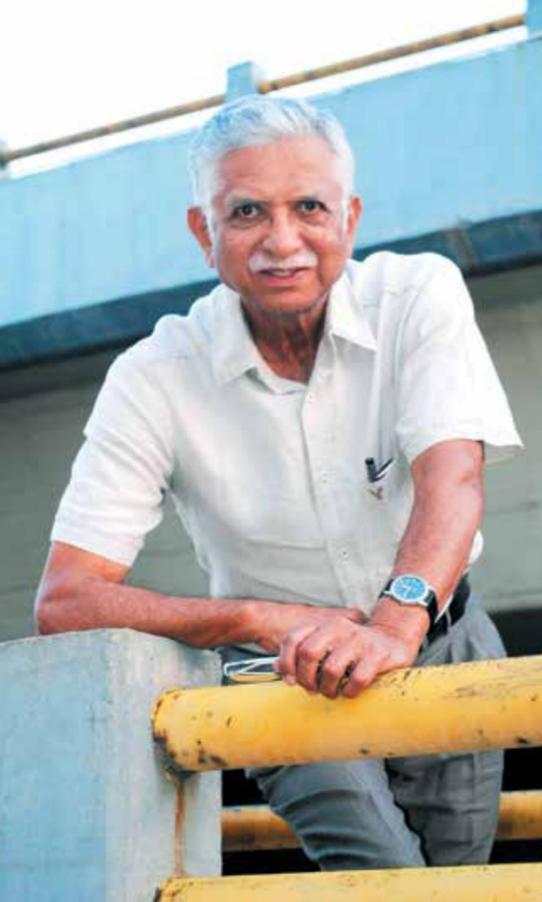
Sahil's work is not confined to just structures and interiors but extends to the landscape too. His work on the Belur Landscape project stands testimony to his green skills. He was entrusted with converting a 4.5 acre of farm land into a sprawling open air party zone. Sahil went about this task by converting three fourths of the site into a landscaped garden complete with spectacular water bodies to serve as a stunning visual treat. The charming pool features amidst this expanse of green, enhanced by the visual presence of village themed farmhouse. Presence of bullock carts stacked with bottles, accentuate the village ambience while chains roped to the roofs and reaching to the ground allow the rainwater to flow over them, enhancing the picturesque scene.

Top : Nandini Milk Parlour

Left : Bijapur Dairy

Below : Red Brick Design Studio





IN CONVERSATION WITH
H C THIMMAIAH

DESIGNING SENSIBLY

Timeless architecture is one that withstands the vagaries of time, the passage of fads and trends, says Architect Thimmaiah, of Thimmaiah & Prabhakar, speaking to Antarya on the multi-facets of designs and place of traditional and local sensibilities. He contends that a good design should effectively tackle issues of environmental impact from the drawing board instead of creating a problem and then finding a solution

Q. Architecture currently is veering towards designs that are iconic yet not contextually relevant. Are we losing touch with traditional sensibilities and the benefits of using localised materials and design ideologies?

As long as localised materials and the vernacular style is considered out-dated, context is considered irrelevant and the vernacular style is ignored, this trend will continue. However, while designing for a wide range of subjects for various budgets, one should focus on creating inspirational spaces at an affordable cost which can be achieved using local materials and locally sourced materials as much as possible. Local methods of construction as well as solutions to climate and geography can be effectively used to produce a more holistic end product. Architecture is also about creating that emotional connect between user and space and this can be one way of achieving this.

Q. Would fusing in traditional sensibilities into current design ideologies be a greener option than addressing reduction in energy consumption after creating a need for energy use?

Fusing traditional sensibilities along with current design ideologies would result in effective planning and design. Be it for smooth flow, hinder-free movement or aesthetic considerations. Not just in consideration of traditional sensibilities, good design in effect should effectively tackle issues of environmental impact and the long-term effects of global warming, energy consumption and carbon foot-print right from the drawing board and not create a problem which then has to be solved. Blind use of glazing, without consideration of the aspect to which the building is oriented, resulting in a high energy consuming interior, in terms of air-conditioning etc. would be one such example.



Jade Hills Farmhouse At Madikeri, Coorg.

Good design in effect should effectively tackle issues of environmental impact and the long-term effects of global warming, energy consumption and carbon footprint right from the drawing board and not create a problem which then has to be solved.

Q. How can traditional sensibilities be imbibed into contemporary architecture, where the flavour prevails without hindering modern functional requirements?

Traditional sensibilities of planning and design can always be combined with modern requirements. For example bringing in natural light and ventilation effectively is one of the basic tenets of traditional design and that is of relevance even in today's planning. There is a misconception that 'traditional' design translates to ornate detailing or aesthetics. It can simply mean traditional in its response to climate, traditional in the material palette used or simply traditional in the organic flow of space. All of which can be married with modern design practices. The fascinating accounts of the past architecture should be and can be showcased in this manner.

Q. What in your view is a truly green architecture?

Local materials, local design ideology, modern solutions and modern interpretations of the first two to create a harmonious result. We should not forget the very important role that local climatic conditions play in our everyday life. Lifestyle and local culture are other sensibilities that need to be sensitively tackled and cannot be ignored. A project that cohesively brings together all these diverse aspects can be said to have achieved the above.

Q. Would you say that vernacular architecture is more timeless compared to contemporary style where there is extensive play of steel and glass?

Steel and glass are necessities in minimal use of spaces. Don't we all agree that currently time takes precedence? The chorus from the 'end-user' or promoter is that they 'wanted it yesterday'. We need to cope with such expectations and combine with our own design sensibilities for a better design product. But what sets apart one building from another are the small details, the humility in form, the honesty of material palette, the respect for local design practices. What is timelessness? Something that withstands the vagaries of time



and passage of fads and trends. Something that is as relevant today as it was when it was built. Frank Lloyd Wright's iconic Falling Water is timeless in this sense. As astonishing and breath-taking today as it was when built in the 1970's. That is truly timeless architecture. Closer home, Moshe Safdie's Khalsa Heritage Centre beautifully blurs the line between modern and traditional.

Q. Before the advent of computers, sketches were hand drawn, with an intense connection of the mind and hand, transferring on to paper. With the absence of this free hand drawing, is this intuitive aspect of design disappearing?

It may or may not be. And of course this varies from person to person. The electronic media may be just what somebody like Frank Gehry needed to give free reign to his ideas. Some of his designs are inconceivable otherwise. So it may work for one, but someone else may need to go back to the drawing board for the same. Essentially, all the images are still drafted in the mind, whether we put it on

paper or on the computer. The real challenge is translating from mind to paper, regardless of the media in which we do so. At the end of the day, what is important are the things that have always been important for designers – a true expression of our design sensibilities without compromising on the brief given and without compromising our design ideologies

Q. What in your view should emerging architects keep in mind before venturing into their designs?

The basics are important and ultimately separate the good, bad and mediocre. Space-planning, energy efficiency, comfort, clean lines – all have to combine harmoniously to produce a result that is aesthetic and pleasing. Above all, sensitivity and respect to the environment, climate and to the local culture.

Images: Waterville Project



IN CONVERSATION WITH
VIRENDRA KHARE

ARCHITECT IS A CREATOR

An architect is essentially an artist but he should be adaptable to modern techniques to create new type of structures, opines Architect Virendra Khare of V K Associates. In a lengthy discussion with Antarya, he talks about technology, traditional architecture and contemporary designs.

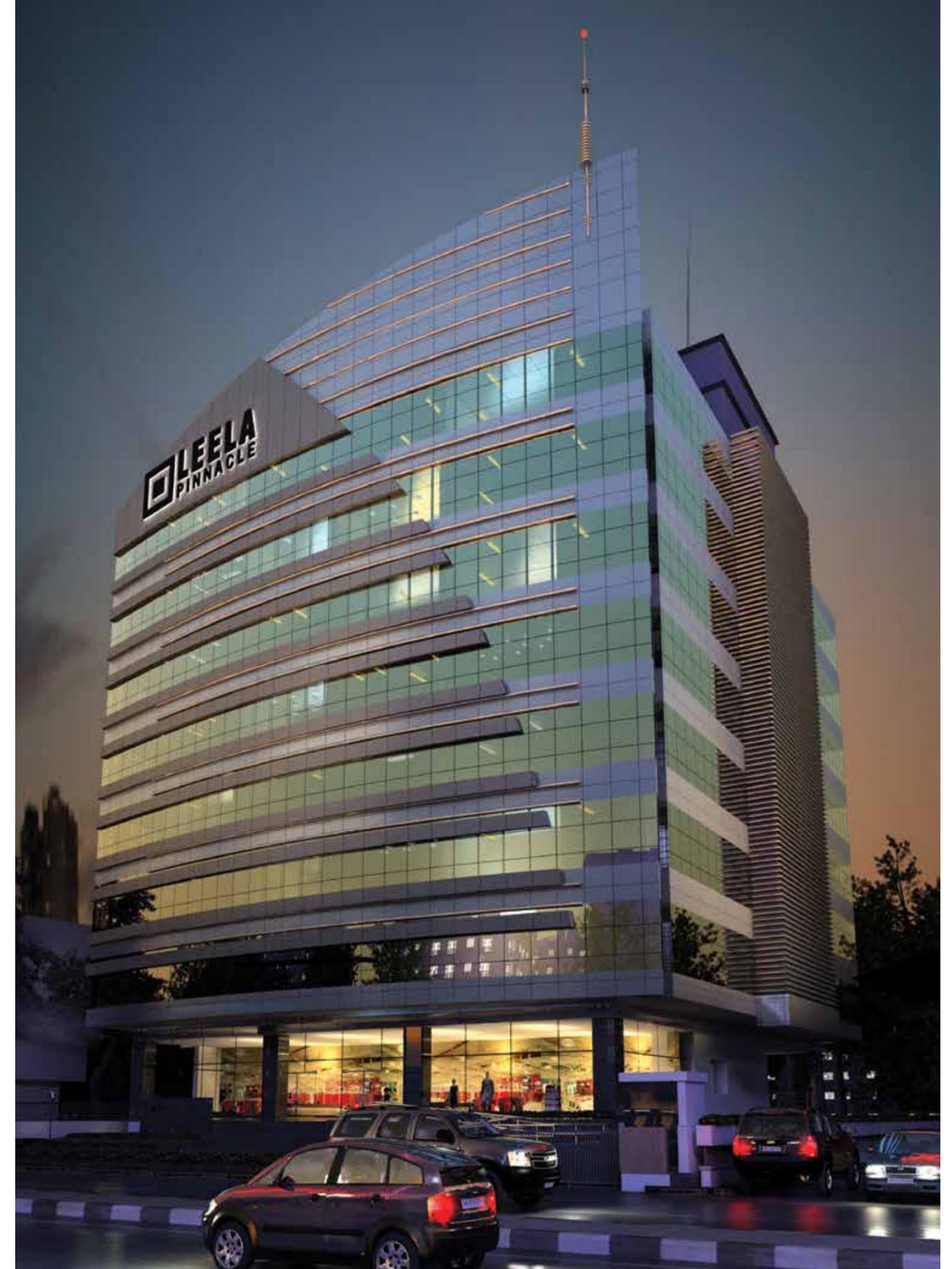
Designs per se are expected to reflect a particular design ideology, an intuitive stroke that assumes tangible manifestation. With software now aiding extensively to its final evolution, is this intuitive streak and free hand strokes losing significance?

An architect is basically an artist. His imagination and creativity comes out as sketches. But now architecture is more of technology. Modern techniques of construction and use of modern materials have given shape to new styles in architecture. The structures are now designed for sustainability, being recyclable and energy efficient. Structures by Zaha Hadid display new forms, shapes, materials. These are possible with modern drafting packages, which allow visualisation of the structure at designing stage. Software like SketchUp Revit, MicroStation, permits design in third dimension. In my opinion architects

should be adaptable to modern techniques of drafting and visualisation to create new types of structures. Software does not diminish this creativity but aids architects to reach the next level in architecture.

There is increasing urge to pursue design that is iconic even if it emerges out of context. Is this pursuit weaning designs away from rich local heritage and unique contextual features?

Architect is a creator. He creates structures that last for centuries. Currently we are in an age where there is cultural change every twenty five years. Needs of housing alters. Modern technology has modified living habits. There is cultural transformation. Use of modern construction materials and technology has given an entirely new form to modern buildings. Our ancestors defined beauty in architecture through different styles like Doric, Ionic,



Peninsula Land Nagpur Project



Mediterranean Bungalows

Corintheon, Neoclassic. The structures created following these principles of classical architecture can give an eternal beauty to buildings. One of the live examples is the Hiranandani Gardens Powai. Hafeez Contractor designed this beautiful residential area with principles of classical architecture and adopted it to modern needs, modern materials and construction technology. Yet, Swiss Re Building by Norman Foster on 30 St Mary Axe, London is an iconic building emerging from a skyline of classical buildings. Some call it an eyesore yet it appears as an interesting structure breaking the monotony of classical structures. Now this has become a trend with many additions to existing classical buildings with modern form and materials such as the Pyramid in Louvre Museum Paris.

Our designs especially for commercial spaces veer towards extensive use of glass and steel. How can this be circumvented without affecting infusion of natural light or functionality?

Our cities are growing vertically instead of horizontally. Vertical transportation is far easier than horizontal transportation. Vertical movement happens by escalators but horizontal happens through cars or public transportation.

This requires roads, parking lots etc. Creating such infrastructure involves high cost and time. Our quest for going vertical has resulted in invention of new building materials that are light weight and construction technology that reduces sizes of load bearing RCC columns to mix of steel encased concrete columns, thus enabling the designer to give more usable space. The new building materials also ease construction method and period. Aluminium Composite Panels and unitized glazing panels are result of this. They are partly prefabricated and require less time to erect. The use of glass has also resulted in larger floor plates as more area can be illuminated with larger glazing. The materials like ACP and Glazing are more energy efficient, as they provide good sound and thermal insulation to modern office buildings. In conventional type of buildings like Empire State Building in New York, the period of construction is very high and labour intensive. The traditional buildings had heavy structural members. To make them look less heavy they were carved with a lot of detailing, making them look beautiful and lighter. Modern architects believe less in decorating buildings by carvings as the structural members are hidden behind new materials like ACP, Prodema, Glazing, prefabricated hollow clay tiles.

Some of our local traditional skills are dying because of lack of market. Should we incorporate, wherever relevant, more vernacular sensibilities into designs to revive these dying skills and rich heritage?

Our local skills are dying, but more because of the labour intensive techniques employed. Traditional techniques employ unskilled or skilled but less educated labour. This manpower is diminishing. The new techniques require skilled or highly skilled manpower to undertake new techniques of construction. Low rise structures are suitable for local skills. Also traditional buildings are more expensive to build in terms of time and cost. With habitats changing and more motorable roads required, vernacular architecture is no more relevant given the space constraint.

Local materials and contextual designs are more sensitive to addressing green sensibilities by virtue of their environmental inclinations. How can these be infused effectively into contemporary design to make the structure naturally green?

Modern buildings are turning more ecofriendly with technology creeping into construction methods. Technology has not only changed building materials but has replaced conventional materials with more ecofriendly ones. Conventional red bricks have been replaced by Autoclaved Aerated Bricks and Gypsum Board walls, reducing dead weight on structure. Modern buildings generate lot of waste like sewage, Solid waste, garbage. The need to create a sustainable environment has resulted in the concept of recycle, reuse and refuse. Most consumables are now recyclable. Sewage discharged from buildings is treated and reused for flusing and gardening. Building materials are selected based on production methodology and the energy consumed.

A notable portion of your designs evince a leaning towards Colonial style, as evident in the large columns, the significant play of arches. Is this a reflection of your inclination or was it done to address specific design requirements?

I have great inclination and regard towards traditional architecture. Our ancestors created the real definition of beauty in architecture. They have defined the diameter of column for a height, worked



JP Realties

Architecture is a noble profession. Structures created by architects are immortal. They have life more than the life of architect himself.

out on optical illusions created by tall buildings and structures, created different structural elements like butresses, flying butresses, arches and beautified them with carvings. These are all evident in famous structures like Temple of Athena in Athens, Notre Dame Cathedral in Paris, Colosseum in Rome. Architecture is not complete without taking a lesson from its History. Right from selection of materials for different buildings to designing structural elements to decorating them to bring in beauty, there is something to learn.

What would your advice be for emerging architects?

Architecture is a noble profession. Structures created by architects are immortal. They have life more than the life of architect himself. Also he is a creator. So he has to be more sensitive towards creation of built environment. In modern context buildings designed by architects should be more eco-friendly, sustainable and aesthetically more appealing. The modern architect should be well conversant with traditional as well as modern architecture. Special attention should be paid to designs of public buildings as they last longer than residences.



IN TUNE WITH NATURE

DHARMESH V JADEJA, DUSTUDIO, AUROVILLE



local context. The earth architecture practiced here practises minimalism which involves minimal social cost, is culturally relevant and the materials used are predominantly local. Dharmesh V Jadeja of Dustudio, Auroville, who has designed many earthy buildings in Auroville and elsewhere, keeping this spirit of green architecture in mind, says, "Compartmentalisation of design into green, vernacular reduces the scope of green architecture. All our traditional skills are readily available. Seek and use them in design."

He thus points to use of earth and terracotta in Bihar, bamboo and earth in Gujarat, the Northeast, stone in Rajasthan, where the architecture is

also be addressed keeping the green element in mind, he says.

Dharmesh, a civil engineer by education, got into architecture and design to address his intense passion to build conforming to the elements of nature where the inspiration from traditional wisdom is combined with contemporary needs.

His tryst with Auroville and their philosophy of design gave him opportunity to explore further in this direction, eventually entering permanently the world of earth oriented designs. His structures predominantly use rammed earth blocks, stabilised stone dust walls, oxides for flooring, clay

"Compartmentalisation of design into green, vernacular reduces the scope of green architecture. All our traditional skills are readily available. Seek and use them in design."

What is green architecture? Is it low cost or is it high initial investment? Is it vernacular architecture? Is it different technology or is it merely simple plans and lack of wastage of resources? Is it maintenance free? Multiple questions are raised to interpret the actual meaning of green architecture. Perhaps it involves all of these and more. Perhaps the essence of it is to look at design differently, seek the relevance from the local context, where there is both restraint and resilience in the manner of design and methodologies adopted.

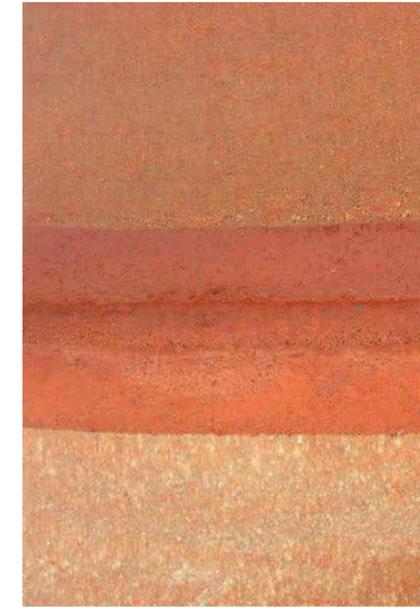
The methodologies adopted in Auroville in design and materials used, seeks to address the green element from the practical, functional aspect relevant to

not only green in terms of using locally available materials but also 'feels vernacular' in terms of design and construction methodologies as opposed to 'looking vernacular'. Referring to ecological architecture in contemporary space earning a significant place in world architecture, Dharmesh strongly feels that the knowledge of green architecture needs to be widely disseminated. Stating that 'build less' should be the general motto, he adds, "Every square foot of building reduced in turn reduces carbon footprint to that extent."

He further adds, "Good cross ventilation is crucial for climatic zones like ours which is hot and humid, solving most of the issues by right orientation" What material goes into each wall should

tiles, hollow terracotta blocks and stone while also effectively integrating the skills and work of local artisans into the structure. Traditional techniques like conical roofs, terracotta tubes used in Madhya Pradesh over two centuries back find their place in his structures. These act as excellent natural insulation of the interiors from heat ingress.

While his philosophy of designing the spaces is client centric, to address the specific requirements, Dharmesh believes in structuring even a standard requirement as a facilitator if the functionality warrants. To explain this better, he draws attention to a design element he noticed in Architect Laurie Baker's work. "In one of Laurie Baker's projects, a staircase was woven into



the kitchen to lead to the master bedroom to meet a specific requirement.

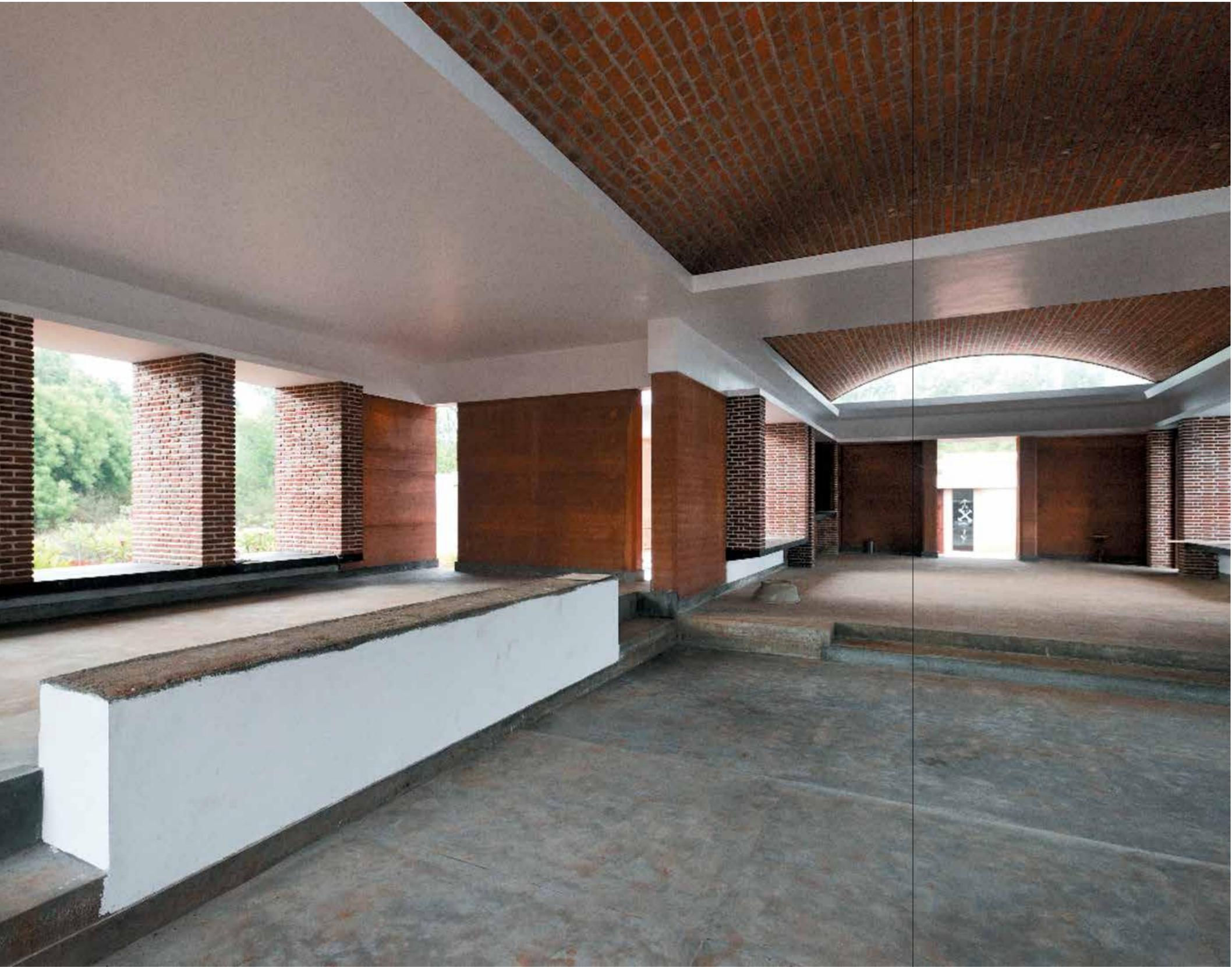
Yet the same was designed to not appear odd or disturb the tranquillity of the sleeping area above", he says. He believes in total absence of pretensions when it comes to aesthetics, leaving it to the materials used and design adopted to lend the same.

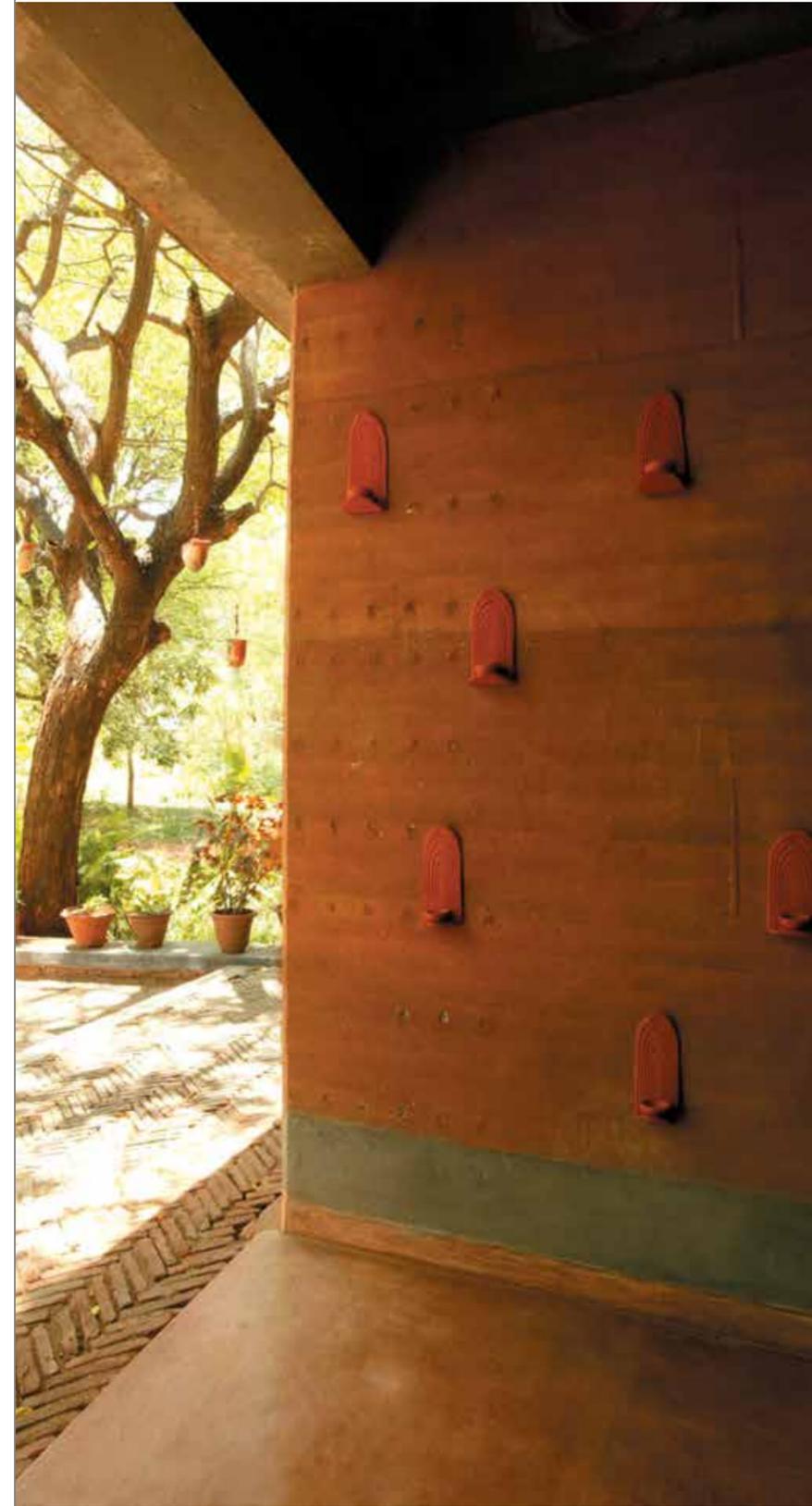
His intuitive designs veer intensively towards multi-purpose spaces that are fluid, while ensuring the built structure is not huge. While there is a total absence of visible compartmentalisation of spaces, the demarcation between inside and outside spaces too is absent. A total absence of extravagance is again evident in the manner of design, material use as well as décor. The large openings with plenty of ventilation and light, oriented right to ensure absence of heat ingress or harsh sunlight, connect the interiors seamlessly with the outdoors. The honest and rustic treatment of walls where there is negligible artificial treatment, with exposed brick and concrete prevailing in

abundance ensures the colour and textures brought in are purely through the features and natural colours of the materials used. While the technology used is totally local, the cost of construction is ensured to be below or just equal to normal average construction cost.

One of his early projects Atithi Griha, amply reflects these design inclinations with its salvaged columns, salvaged terracotta tiles, plenty of thermal comfort brought in through the presence of expansive verandas, courtyard, the open earthy and cool dining spaces. His projects Swayam as well as his upcoming new office block are equally earthy and reflective of natural elements in design. Stabilised rammed earth with about 5 per cent cement stabilisation that have been infused with red mud patterns, bring character to the walls while the cheese walls and terracotta tube vaults forming the ceiling serve as a spectacular contrast. Use of concrete has been substantially reduced by opting for filler slabs and terracotta plates or the roof.

The honest and rustic treatment of walls where there is negligible artificial treatment, with exposed brick and concrete prevailing in abundance ensures the colour and textures brought in are purely through the features and natural colours of the materials used.





While stones have also been used for walls and floors, the plaster used is again lime instead of cement. The windows are all salvaged from demolished sites. Thermal comfort is brought in through use of broken white ceramic tiles on the arched terracotta Guna tube roof (an ancient technique originating in Central India) where the tiles reflect the heat. Interesting elements such as tea glass embedded on the steps on the staircase to let through light, black oxide wall with ceramic, introduce an earthy décor that brings in cheer while connecting to the space totally to earth. His project Weekend Home reflects similar sentiments in design ideology and use of materials with brick vaulted roof, rammed earth walls, cement floors, salvaged windows, black oxide walls prevailing in the free flowing spaces. The exteriors are effortlessly fused into the interiors, the pool outside seeming to be literally part of the interior space.

A striking feature of all Dharmesh's design is an absence of loose furniture and the presence of internal courtyards or sky lit spaces. Furniture, be it seating, cot or even dining table, is built-in using stone, thus saving the use of wood or even metal. The Weekend Home is no exception to this, reflecting similar inclinations with a spectacular stone dining table forming a rustic highlight in the space while the skylight, stone and salvaged wood columns infuse character.

The integration of outdoors with the indoors through numerous courtyards is most evident in Dharmesh's residence. The residence, using similar materials, construction methodologies and design sensibilities in interior décor, has the interiors opening totally to the interior as well as the exterior courtyards.

Glass is completely absent in this integration with perforated sliding steelmesh being used when the space requires to be enclosed at night. "Glass causes intensive heat ingress. The perforated steel ensures ventilation continues even when space is enclosed while offering a view of the courtyard", says Dharmesh. Sure enough, in the sweltering summer heat, his residence feels like an oasis, remaining several notches cooler, surrounded by a thickset of fruit bearing trees and flowering plants.

GREENING IT WITH BAMBOO

ARCHITECT SIDDHIKA SARDA

The Green School, Bali, is essentially the result of an initiative taken by environmentalists and designers John and Cythia Hardy who wanted to create and motivate the option of sustainable living in communities.

It seems like a huge laboratory for bamboo construction, using organically grown bamboo as primary building material. Rigorously engineered and hand constructed, the building demonstrates the architectural properties of bamboo as well as its versatility. The Green School, Bali, is essentially the result of an initiative taken by environmentalists and designers John and Cythia Hardy who wanted to create and motivate the option of sustainable living in communities. The campus is located amidst a jungle of native plants and trees with organic gardens on both sides of the Ayung River in Sibang, Kaja.

The building, designed by Architect P T Bamber and spanning over 7542 Sqm, uses clusters of bamboo columns or long span bamboo arches as their structural approach is light weight. The bamboo is used vertically in the form of a group of bamboo columns, each 16 - 18 meters high, providing the structural mass for the three-storey high spaces in the Heart of School. In the Metapantigan Studio, bamboo is used to create long span arches to create spaces that can be used for social events. Each of these arches consists of three petung bamboos and the strength and stability of the structure relies on these arches.

The arches used in the gym are structural, providing an 18 metre column free span with a height of 14 metres. Most of the bamboo joints were tested at a 1:1 scale in the structural testing labs. The Kul Kul Bridge, which is also part of the campus, is a bamboo suspension bridge with a span of 20 metres and width of 2 metres, connecting both sides of the Ayung River. The Heart of the School, which incidentally is the largest bamboo structure in the world, comprises a three-storey building with three interconnecting spirals radiating from three lineally located nodes. The spiral roof form allows day light inside and the interweaving bamboo light columns



The Green School, Bali

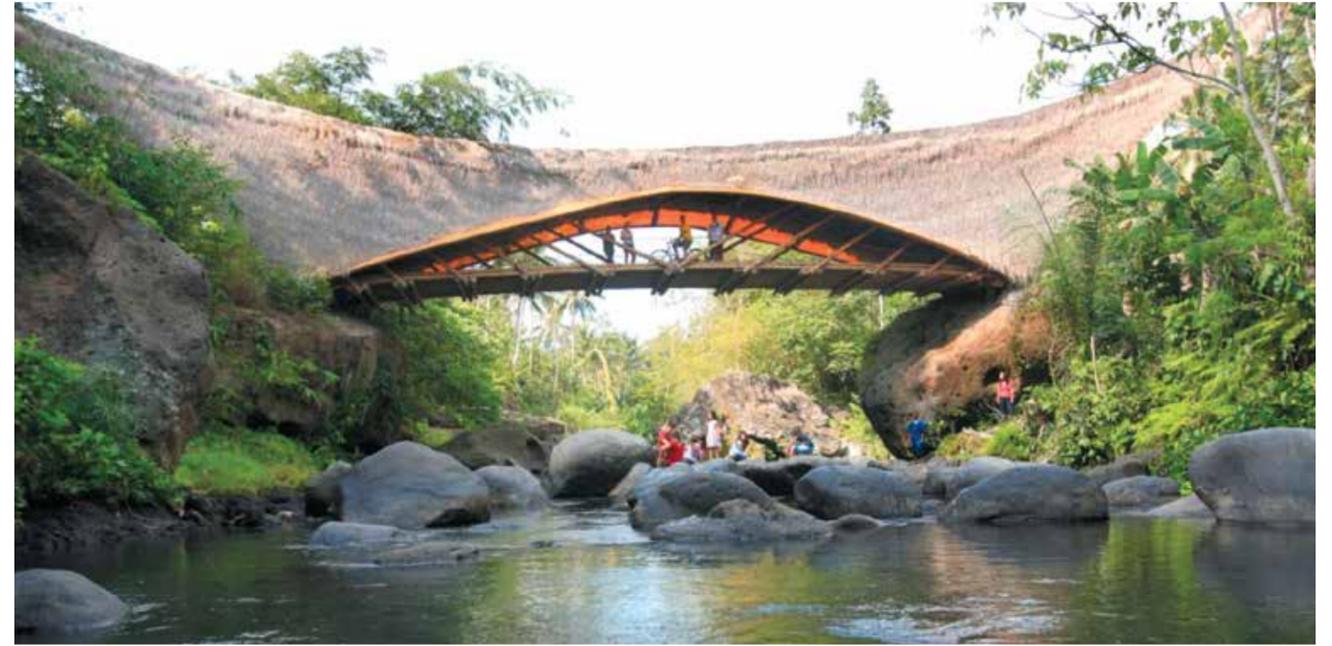


Large interior spaces around central columns

form a wooden ring creating a skylight at the three nodes. The thatch roof incorporates substantial overhangs to protect the open air interior spaces. The 60m long stilt structure is 20m tall with a floor space of 2000 Sq. It is constructed using more than 2500 bamboo poles. It houses the school library, meeting rooms, exhibition spaces, offices and a few classrooms.

The primary structure has been anchored to the foundation by using an innovative method of lacing river rocks and bamboo with reinforced steel connected to the concrete foundations. The bamboo connection to ground plane is tapped and filled with cement, creating a solid structural connection for wind loading. The secondary structure and rafter elements are made up of lighter weight bamboo. These are installed at 300 mm centres and fixed to the primary bamboo with bamboo pins.

Alang alang or Balinese grass strip tiles are overlapped and individually tied to form the roofing surface, adding additional bracing and strength to the structural



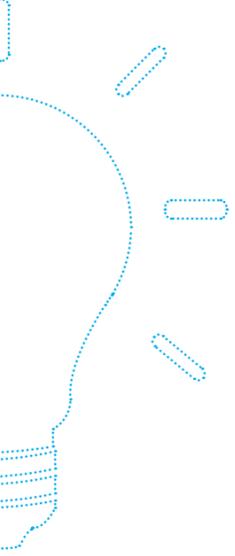
components. For the joinery, mortis and tenon joints and wooden pegs are used instead of nails. The roofs are a thatch material made up of coconut or sugar palm leaves, alang alang, grass or rice straw. The big tropical umbrellas seen in the buildings are susceptible to high wind uplift which requires the structural systems to provide appropriate anchorage and resistance.

The building, looking like bamboo hills amidst the forest environment, serves as a good example of vernacular architecture fused with contemporary designs. Locally available bamboo prevails on walls, roof, floors, staircases, tables, chairs as well as blackboards. The building incidentally has no doors or windows. Though the primary building material is bamboo, renewable resources such as local grass and traditional mud walls are also used, providing natural cooling. The bamboo structure is exposed and expressed in all buildings of the campus. Local mud with 15 per cent cement is used for all flooring while bamboo flooring is used for upper floors of building. Walking pathways are made with stones rather than cement or asphalt and roads are constructed from volcanic rock.

The campus is powered by alternative energy sources. While Photo voltaic panels offer a micro hydro-powered vortex generator and bio-gas is used instead of bio-diesel, bamboo sawdust is used to power water heating and cooking systems. The entire campus of the school is also an organic farm, inspiring students to be more passionate about the environment. Students participate regularly in the maintenance and farming of the land. Balinese homes in this region are not architect designed with the villagers building their own homes. The construction methodology used is generally a post and beam structure with wood or bamboo non-load bearing infill panels. The Green School incidentally follows similar principle, respecting the traditional vernacular architecture of the region while creatively lending a modern twist to the spaces.

Info credits:
The Green School, Bali
Aga Khan Award for Architecture
solaripedia.com
openarchitecturenetwork.org
ecology.com

Image credits:
The Green School, Bali



INTRODUCE A SMART FAÇADE

ARCHITECT NAVEEN GEORGE JOSEPH

Theoretically, a smart façade is a façade that changes as per external conditions. Although the concept has been around for the past few decades, it has received greater attention during the last three to four years, thanks to recent advances in chemical and material science. Innovations in this field have transformed the building envelope, considered to be a very passive element in buildings, to harness energy from the sun and wind.



PHOTOVOLTAIC CELLS

Solar cells are incorporated in the building envelope. Normal cladding elements are substituted with glass laminates embedded with photovoltaic cells. The latest technology uses solar cells that can be “printed” directly on to glass so that the wires or cells would not be visible. As sunlight falls on the glass façade, sufficient electricity is produced by the solar cells to run the building.

ALGAE FAÇADE

Splitterwerk Architects and Arup have unveiled a 2150 Sq ft wall in Germany, a “green façade” in the literal sense. The interesting colour of the façade is due to the millions of microscopic algae plants that it houses. These algae are being fed nutrients and oxygen to hasten biomass production. When exposed to direct sunlight, the fast-growing cells heat up the water which in turn is absorbed and stored by a system to be used for various needs later. Simultaneously, as the intensity of sunlight increases, the algae rapidly thrive and shade the building from excess sunlight.

BREATHING METAL SKIN

“Why can’t the building envelope be more adaptable and behave like human skin?” asks Doris Kim Sung, a biologist-turned-architect. Sung proposed a building skin that changes shape according to the temperature outside. She suggested the use of thermo-bimetal which is a fusion of two



thin layers of metal, each having a different coefficient of expansion, so that when temperature rises, one side heats up faster, causing the entire material to curl. Thus, it can curl shut when there is direct sunlight or curl the other way to let out the hot air.

MASHRABIYA FAÇADE

Modern architecture with steel and glass never suited the desert climate. It was always a challenge for architects to design such buildings in arid cities. Based on the Islamic Mashrabiya, architects at Aedas in Abu Dhabi came up with an innovative skin which opens and closes depending on the temperature of the façade, with the help of a series of faceted fibre glass rosettes. At night, when the temperature is low, they fold and close, exposing the actual glass façade and at day, as the temperature rises, they straighten up closing the actual façade from the sun.

SKYSCRAPERS WITH A HAIRY SKIN

Imagine a building with a skin having hairs. Swedish firm Belatchew Arkitekter has proposed working on an energy producing outer shell made of piezoelectric straws. Piezoelectricity is an electric charge that accumulates in certain solid materials when deformed. So when these straws are set in motion

by the wind, they produce electricity turning the entire skyscraper into an energy producing tower. Compared to the traditional wind turbine, they are almost silent, do not have any mechanical moving parts and a mild breeze is enough to generate sufficient power. This can make an entire building carbon neutral, that is, it produces as much energy as it consumes.

FAÇADE THAT DIGESTS POLLUTION

A material that could “eat” pollution from the air was unveiled by a chemical company named Alcoa back in 2011. The material contains titanium dioxide which cleans the air by releasing free radicals that can eliminate pollutants. Not only does the panel cleanse the air, but it can also clean itself. Mexico city’s Torre de Especialidades is one of the latest and most striking examples incorporating this material for its façade. Its unique shape reduces the air turbulence and slows the air for the material to react with the pollutants in the presence of the UV rays. Everyday this structure gulps pollutants equivalent to emissions from 8750 cars. Solar cells laced with titanium dioxide would be practically and financially more feasible as the cells generate power while titanium dioxide cleanses the air.



Info & Image credits:
www.architizer.com
www.arup.com
www.gizmodo.com
www.construction-manager.co.uk

HYBRID HERITAGE

ARCHITECT EKTA RAHEJA



The interiors of the palace are decorated with elegant wood carvings, floral motifs, cornices and relief paintings on the ceiling. These are some simple ways of introducing traditional elements into contemporary spaces.

Restoring and maintaining period features within a historical space help maintain the character, integrity and the precious remnants of a bygone era. Today adaptive design is more widely accepted as people are willing to go back to their roots and incorporate tradition into modern design. This has resulted in a décor that comprises heterogeneous elements — a mixture of textures, time periods, styles, trends, and colours. To put it more simply, these are spaces that integrate the old and new, antique and contemporary, serious and fanciful to create a dynamic canvas.

There is something special about a space that stimulates ones nostalgic senses. The Bangalore palace is a more recent example of a hybrid heritage where several décor styles have been mixed to make it unique. This palace was built in the Tudor style, complete with Gothic windows, foiled windows, battlements and turrets, resembling the Daria Daulat Palace in Srirangapatnam. The palace has been constructed largely of wood with the central courtyard complete with columns and arches of Moorish Architecture.

The interiors of the palace are decorated with elegant wood carvings, floral motifs, cornices and relief paintings on the ceiling. These are some simple ways of introducing traditional elements into contemporary spaces. Wooden columns and carvings can contrast modern furniture

with a rustic, vintage look that has richness and depth.

Retaining cornices and mouldings while painting them a pastel colour brings in the old world charm. Hand painted ceilings with traditional motifs and patterns create a sense of grandeur existent in most historical monuments.

The ground floor of the palace consists of the Maharaja's courtyard containing granite seats covered with fluorescent blue ceramic tiles. The courtyard has a bench and fountain which was a gift from the King of Spain Don Alphonso. Deposed of power in year 1931, he visited Bangalore and found solace in this courtyard, because the columns and arches were of Moorish Architecture reminiscent of back home. The Wadiyar's gracious hospitality made him present this fountain and bench made of bright coloured tiles by the leading art-deco ceramicist Seville. Today printed tiles find themselves in modern spaces to add old world panache to new world settings. Introducing patterned flooring offers different meanings while recalling wide travels. It also introduces interest in a space and brings alive the furniture.

The furniture in the palace, which is neo-classical, Victorian and Edwardian in style, was bought from John Roberts and Lazarus. Currently, mixing of furniture is more commonly found in restaurants and coffee shops to create the feeling of quaintness. Old furniture also is made to look contemporary by using bright pops of colour or modern bold prints to blend it with the new space. Furniture and accessories can be made cohesive by choosing similar tones of timber or a similar colour palette.



Likewise, introducing of found objects against sleek surfaces can make them stand out.

Our history is a pool of design cues and it is essential to strike the right balance between the old and new. Traditional Interiors can be redefined by viewing them through the prism of modernism which prevails in interior design today. The hybrid heritage aesthetic helps layering the two diverse ends to create a space which feels like it has evolved over the years while unfolding a story. Blending modern trends with inherited pieces and items that have sentimental importance is what makes a space unique.

Image credits:
Ekta Raheja



Architectural education today: Some soul searching

ARCHITECT DR. SMITA KHAN



There is only one kind of good luck;
and that is to have great teachers”.

This truthful statement from a college magazine set the theme for this article. I shall address some vital issues regarding teachers in architecture. As a society that places teachers on a pedestal next only to ones own parents, the expectations are lofty.

I have been associated for the past two decades in a dual capacity described self imposingly as ‘architect-teacher’. The positives of a dual enrichment made me stand my ground firmly; also because it was possible for me to do so. The candid thoughts regarding academics are based upon my observations and experiences in my involvement as faculty in a national institute of technology.

To have great teachers, there should be a supportive system; one that encourages, gives opportunities to enrich and grow, helps them to mature as individuals in their own right, and stand tall on the strength of their achievements. Only then will it be right to place them on the pedestal, if at all.

The current system has serious pitfalls. While a lot of debate goes into the nature of the architecture course, its contents, its orientation, not much focus is on the teachers. For ‘great teachers’ to come about, there needs to be some soul searching about how to make the academic experience encouraging and enriching for those imparting architectural education.

Architecture is an application-oriented discipline. Architects are visionaries who translate their knowledge into practical and everyday application in response to ground situations. In this endeavor they are majorly knowledge users than knowledge creators. Society acknowledges this role of the architect and this is determining factor for direction of achievement of its undergraduate course. The culmination thesis, essentially examines the ability of a student to ‘leap-to-form’ with knowledge gained in the 5-year study. Bachelor of Architecture aims to produce ‘a practicing architect’.

The strange part of this aim is that it hopes to achieve this through ‘non-practicing’ teachers. I have often come across harsh remarks from ‘practicing’ jurors loud mouthing the teacher’s ability to guide students on the more practical aspects of design. ‘Have your teachers ever designed a building?’ is a pet peeve setting the divide in our profession. While this is a contentious question, it is a pointer to a

paradox; the practical being learnt under the academician, who is not expected by any guideline to be associated with practice. On this issue, a comparison with the medical profession is solicited. Most medical teachers are also hands-on 'practical' doctors. It is a mandatory requirement for accreditation of a medical school and rightly so.

So while, such a slander is oft heard, unjust and demeaning to the academician with his different set of skills, it also points to a truth, given the present understanding of the contribution of an 'architect'. It is a challenge to be engaged in both endeavours, since most schools of architecture do not have a consultancy or a social outreach cell, wherein the academia can be connected and contributing to the field. Through such an arrangement, the students can be connected to issues of practice as well. Such an arrangement shall go a long way in making all-rounded and confident teachers. It shall be a boon for young teachers many of whom join after a very short and inadequate stint in the field.

I am conscious this suggestion shall not be well taken by managements, since this would make setting up of schools of architecture a tough job. Given the state of affairs of our architecture schools, should not such a requirement be made mandatory? It would encourage many more architects to consider teaching as a coveted career option.

Teacher's training is an integral part of academia. Currently it is sought through established means emulated by other academic disciplines. Standardized programs such as Short Term Training Programs (STTPS), Quality Improvement Programs (QIP-s) or Workshops are the accepted norm. The nature and current format of updating teachers needs drastic change.

These continuing education programs could be platforms for an excellent exchange within the profession of architecture, with fruitful exchanges between practice and academia. Wouldn't practice also enrich with inputs from academia? Could these be designed so that teachers spend some time in practice and vice versa? Can these be designed with more imagination to be creative and inspiring, reminiscent of our days at the architecture school as students?

The most recent 'enrichment' fatwa to hit academic circles in India is the mandatory doctoral enquiry. Encouragement of such program is indeed the need of the hour. Research in architecture is relatively new and is expected to fall in line

with methods adopted in engineering and allied fields. That architectural research can have its own unique methodology is being debated in academic circles.

While such an endeavour sharpens analysis and critical thinking, it is creative writing ability that supports such an enquiry. Our regimented education does not prepare us for such an ability of self-expression through creative writing. This realization came about in seeing many senior teachers struggling to keep up with this new fatwa with difficulty. For a profession like architecture, shouldn't its academic work also be a creative output? Its contribution to the field shall be enhanced in addressing issues that are practice linked. Should such a work not stand apart from drab engineering presentations? Relevant methods of architectural research can make it unique and suited to the field. Practitioners avoid referring to such work due to its rather drab, cryptic presentation, so the circle does not complete to fruition.

Teachers equipped with abilities to make research interesting and relevant can elevate to become scholars, researchers and authors in their own right. While in government institutions such opportunity is being opened up with miniscule funding, this should become the academic culture in every architecture school. Research funding and financial assistance to attend conferences are not available to many in the academia. This is also the reason for the abysmal number of publications from India in the national and international scenario. Mandating of such funding with appropriate returns should be encouraged in every architecture school.

Let there be freedom to grow, to enrich, to mature and to give, either with professional interaction and participation or by being a live contributor to research and writing. While doing so, let us not forget those qualities of a great teacher; he is not only wise, but is one who has forbearance and gentle demeanour to guide students into the fascinating world of knowledge and enquiry and an ability to contemplate from deep within. These are as vital to education as the skill to apply. Sadly, today these qualities are over simplified.

The current divide between practice and academia is detrimental. A positive synergy of academic research feeding forward into practice and vice versa would benefit both. Together they can transform the current policies in a positive manner. The need for ground implementation of this discourse is critical for betterment of architectural education.

Inducing critical and creative thinking in schools

**ARCHITECT JAFFER AA KHAN, RIBA
DIRECTOR MIDAS**

The architectural education in India needs a big revamp. With over 400 schools spread over 30 States and other Union territories, one would be surprised that the Royal Institute of British Architects, UK, does not validate a single school in this country. It is a fact that none of the institutions here are sought after and do not figure among the best schools in the world. How is that the AA School of Architecture in London stands out and is listed the world's best. How is it different from others? What do we miss here? Some may argue that our country has its own standards and we are least concerned about the global standing of our schools.

My recent visit to the American University of Sharjah, School of Architecture amazed me with the kind of work being done there. The school is accredited by NAAB and the infrastructure, which include labs, and studios are state of the art. Some of the design programs were of global standards and well researched. The faculty is truly multi-national and the quality of teaching and methodology adopted prepares the students to be at par with global standards.

How many schools involve in research in India. I mean quality research. How often are they open to ideas and debates? How often do we revise our syllabus? Do we ever think critically in our approach to architectural education here? The number of schools will soon cross 500; it is time we introspect on our role as teachers in architecture.

The fundamental aspect is the curriculum. The curriculum should be innovative and explorative. It should make students develop the capability in critical and creative thinking as they learn to generate and evaluate knowledge, clarify concepts and ideas, seek possibilities, consider alternatives and solve problems.

Critical and creative thinking are integral to activities that require students to think broadly and deeply using skills, behaviours and dispositions such as reason, logic, resourcefulness, imagination and innovation in all learning areas at their school and in their lives beyond school. Hence it is fundamental to students becoming successful learners.

Responding to the challenges of the 21st Century, with its complex environmental, social and economic pressures, it requires the young minds to be creative, innovative, enterprising and adaptable. The schools' role will be to motivate, build confidence and impart those skills that will enable a student to acquire critical and creative thinking more purposefully. The curriculum here becomes the most important aspect in this process.

At MIDAS we constantly search for new ideas. Our student projects, as a part of academics have the ability to provoke new thinking. We provide a platform to interact with other schools and share their experience. This enriches our students and faculty. Our association with AA London in the coming months will explore technology and new materials. This will help us to look beyond and be futuristic. We are going robotic.

ZINGY TIMES & SPACES

ARCHITECT K JAISIM

Alice wondered, Alibaba shined, Krishna romanced, Rama wandered, Hanuman flew, Shiva danced, Brahma wept, Vishnu slept, and all of us zinged. Today is not yesterday, and tomorrow has no idea. Thus it is written and to us architects it is envisioned that we all- whoever we are, mighty or slave, downtrodden or treasure hunter, we all need a home. A space we can call our own.

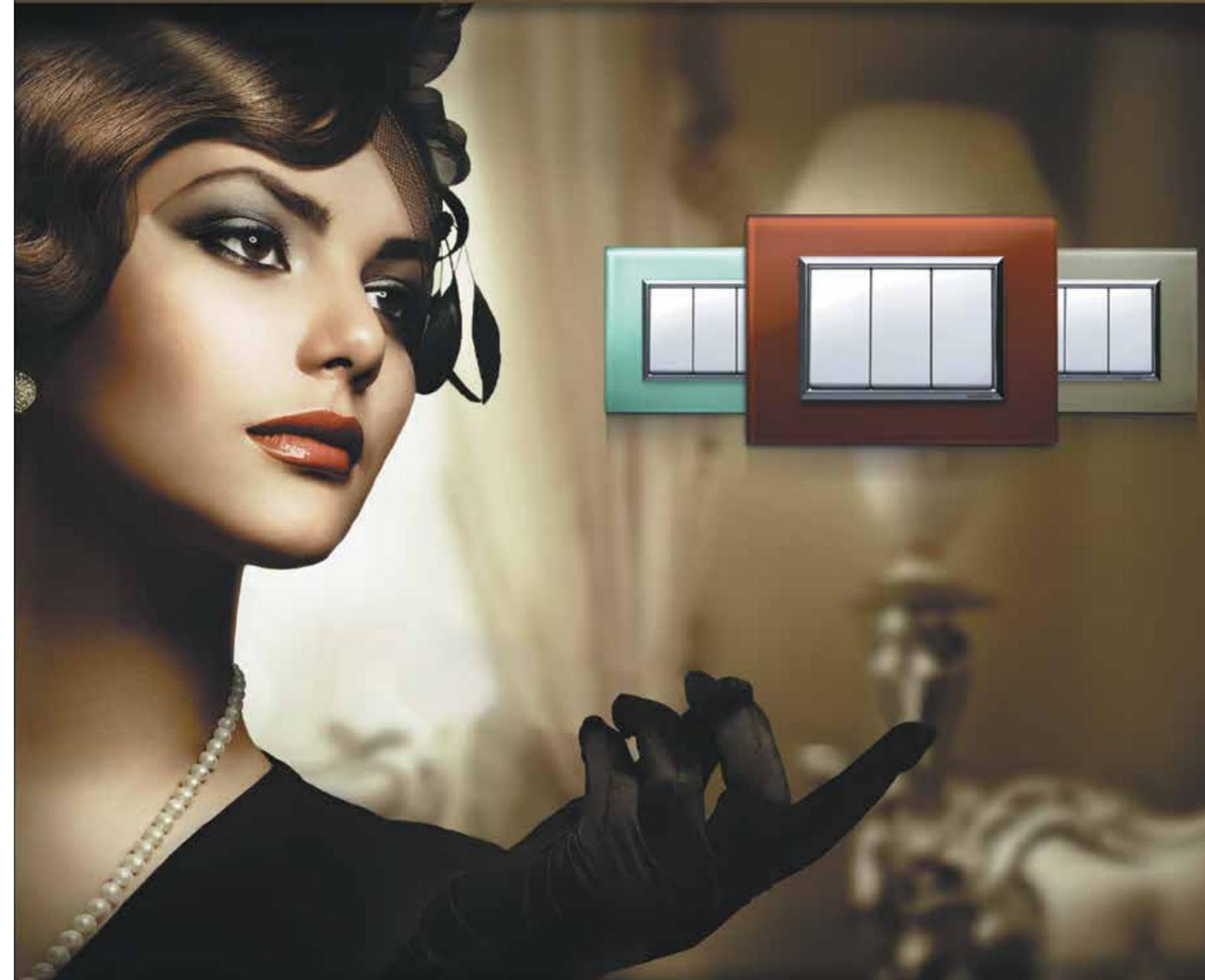
And Antarya in this space wants that individual zing. One cannot be another and neither other, me. Well, all that was well understood and respected till in walked an individual with a nose held so high, but of a demure build and nature that he surveyed all that he could not see. This was the era of the Architect. All and I mean all subjugated before him and delivered. He created master pieces. Yes pieces of the master! The Master creator had arrived. The Architects then together formed a guild to ensure that none crossed their lines. The Council was born. But alas it was not to last long. The Artists painted and carved all over his edifices, the engineers and technocrats morphed the images into three tent circuses. But in came a big surprise.

Like Cinderella, Tinkerbell waved the wand and suddenly a shower of stars descended. The Interior – Exterior designer decorator avatared into the real world. He zinged in. The magic wand waved. Water changed to wine. Iron to gold, bed sheets to curtains, walls, floors, and ceilings along with windows and doors got a new imagery. They all got life. Initially they muttered in silence and soon grimaced at each other to ponder and relate either in violence or in flirtation to create an atmosphere that challenged imagination. Morphing became the by-word. The language of imagery rolled into volumes. The media soon cluttered. Even politicians were dumb struck. Every space, internal or external must have a decorator leave alone a designer. The bureaucratic and business traders amassed wealth had no meaning, treasure troves were littered everywhere.

The built spaces transformed. Sanity knew new grounds. Time became now. The builders marched and matched these zingy spaces with zingy environments. These are days when one never sleeps nor is awake. Bombarded by an infusion of materials fusing into a zillion metamorphosed elements that challenge imagination into a sense of submission, to rest and accept the inevitable. This inevitability rests in the comfort of me too. After the morbid take over, the ordinary moderate glee's with aplomb having in a manner won the space in time.

Submission rather than presentation becomes the order. But the order of submission lies in the veil of the devil. Compromise is king. Yet, the home is our own. On the soft lap lie the senses of joy and happiness. The smile returns. It is a zingy home.

Loving beauty is taste. Creating it is art.



Presenting, a collection of awe-inspiring beauties in a range called **Myrah** by GreatWhite.

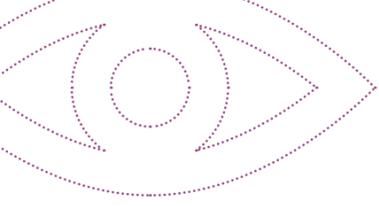
Now it's easy to get that steely look with **Edge Metal plates** made from real metal.

Or that sheen of real glass with the **Edge Liquid Glass plates**. Or just get the world to appreciate your class with the **Edge Stripes plates**. What's more, every **Myrah** switch comes with a lifetime replacement guarantee, which only makes its beauty eternal.

• Switches • MCB & RCCBs • Wires & Cables • Lighting & Luminaires



THE FUTURE OF BRIGHT



Reaching beyond design

ARCHITECT RAJA ARJUN

Gaudi, the visionary and brand ambassador of Catalan modernism is widely acclaimed for his design genius. Sagrada Familia, his magnum opus, that encapsulates everything that is Gaudi, is the most visited tourist attraction in Spain, drawing 2 million visitors. Seldom does one exit the structure without believing they have experienced something spectacular.

Visitors are in awe with its scale, the unique intricate gothic detailing. It successfully transports one into a fantasy world. The laser like shafts of light on a bright summers day, hold a gazillion particles in a Tyndall effect extravaganza. Even with a thousand visitors pouring in, the building commands a calming effect over everyone.

However, one has to look beyond the glitter and pantomime experience. To truly understand the unique architecture it is important to learn its story. Architecture has got more to do with tackling constantly evolving visions, adapting to fast changing landscape of context than just pure design. Sagarada Familia with its iconic status is no outsider to this.

On the extremely long construction period, Gaudi is said to have remarked:



“My client is not in a hurry.” When Gaudi died in 1926, the Basilica was between 15 and 25 per cent complete. After Gaudi’s death, work continued under the direction of Domènec Sugrañes i Gras until interrupted by the Spanish Civil War in 1936. Catalan anarchists destroyed parts of the unfinished Basilica and Gaudi’s models and workshop during the war. The present design is based on reconstructed versions of the plans that were burned in a fire as well as on modern adaptations.

Since 1940 Architects Francesc Quintana, Isidre Puig Boada, Lluís Bonet i Gari and Francesc Cardoner have carried on the work. Carles Buigas designed the illumination. The current Director and son of Lluís Bonet, Jordi Bonet i Armengol, has introduced computers into the design and construction process since

the 1980s. Mark Burry of New Zealand serves as Executive Architect and Researcher. Sculptures by J. Busquets, Etsuro Sotoo and the controversial Josep Subirachs decorate the fantastical façades.

The central nave vaulting was completed in 2000 and the main tasks since then have been the construction of the transept vaults and apse. As of 2006, work concentrated on the crossing and supporting structure for the main tower of Jesus Christ as well as the southern enclosure of the central nave, which will become the Glory façade.

On 19 April 2011, an arsonist started a small fire in the sacristy which forced the evacuation of tourists and construction workers, but caused minimal damage. The sacristy itself,



Late Gothic, Catalan Modernism and to Art Nouveau or Catalan Noucentisme.

Gaudi’s master stroke of preparing numerous scaled models to sustain its construction reflects modern day risk management. By emphasizing on design laws over design details, he left enough scope for interpretations; this mix is clearly reflected in the collage like chiselled façades.

The structure itself is ingeniously solved with Gaudi’s inventive inverted hyperbolic models. Like every great designer, he went beyond convention and existing practices to nurture the Sagrada dream. It is also probably amongst the first crowd funded architectural ventures, with the church today built by the proceeds of its visitors and a long growing list of benefactors.

With its rich story and an equally dynamic design approach, the Sagrada Familia is historic and yet strangely futuristic. It has been criticized and praised for over a century, yet one cannot deny it is a co-created, crowd funded architectural and engineering master piece and the design world waits patiently to witness completion of this Goliath.

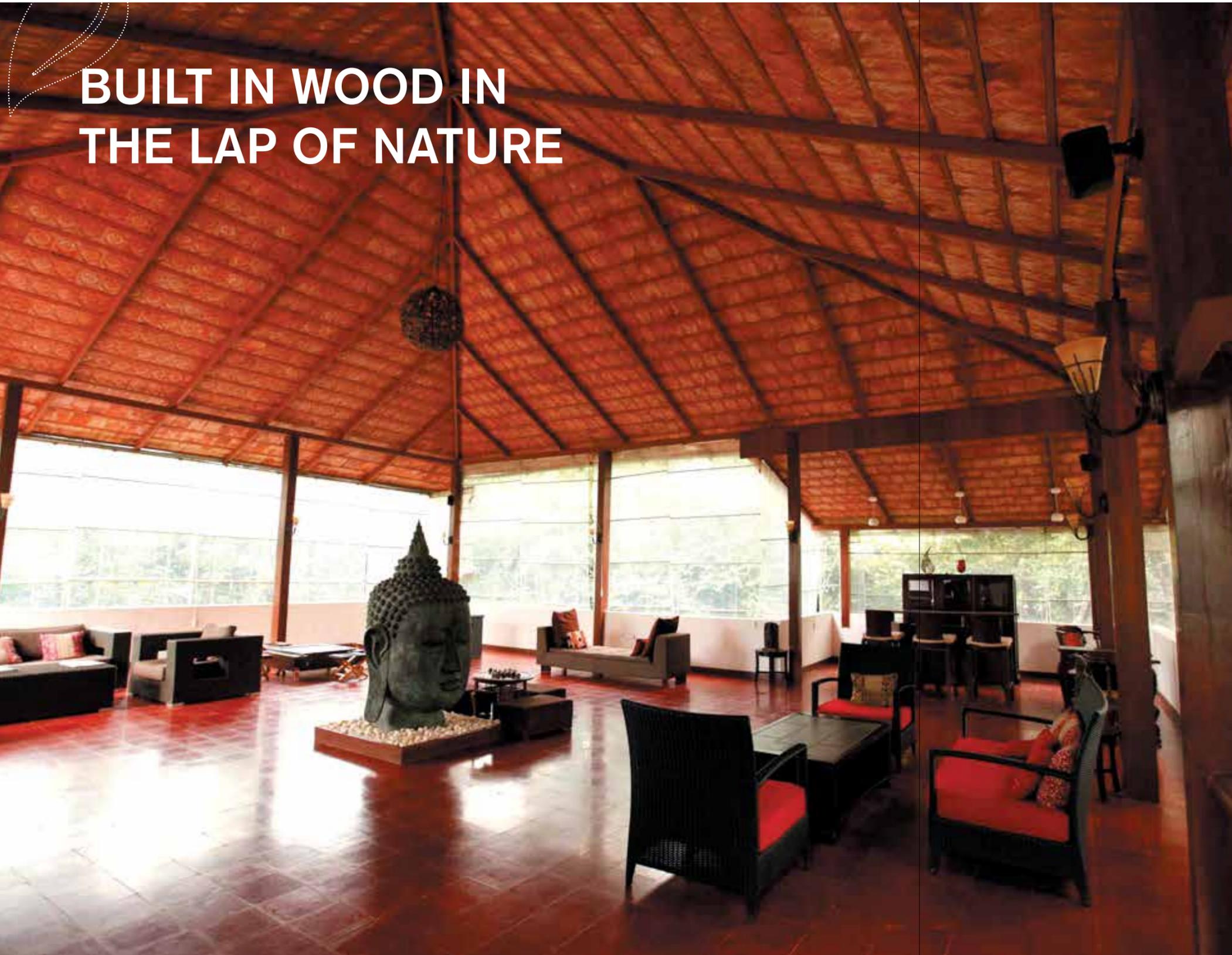
however, was destroyed by fire, which took 45 minutes to contain. While never intended to be a Cathedral, the Sagrada Familia was planned from the outset to be a cathedral-sized building. Its ground-plan has obvious links to earlier Spanish cathedrals such as Burgos Cathedral, Leon Cathedral and Seville Cathedral. In common with Catalan and many other European Gothic cathedrals, the Sagrada Familia is short in comparison to its width and has a great complexity of parts, which include double aisles, an ambulatory with a chevet of seven apsidal chapels, a multitude of towers and three portals, each widely different in structure as well as ornament.

While it is common for cathedrals in Spain to be surrounded by numerous chapels and ecclesiastical buildings, the plan of this church has an unusual feature: a covered passage or cloister forms a rectangle enclosing the church and passes through the narthex of each of its three portals. With this peculiarity aside, the plan, influenced by Villar’s crypt, barely hints at the complexity of Gaudi’s design or its deviations from traditional church architecture.

As a result, the style of la Sagrada Familia is variously likened to Spanish

Image credits:
www.barcelona-home.com
www.travelinnate.com/sagrada-familia/
www.wikipedia.com
Info credit: www.sagradafamilia.cat

BUILT IN WOOD IN THE LAP OF NATURE



It is a long winding road dotted with coffee plantations that leads to this eco resort. While the structures are built totally in wood to merge into the environs, **Nandhini Sundar** finds the ambience too totally drenched in uncorrupted nature, the deafening sounds of silence broken only by the frequent calls of life living amidst the wilderness.

The road was long and winding through the innumerable coffee plantations that lined both sides as we bumped up and down over the very last stretch of the pot holed tracks. Our car came to sudden stop in what we found was nothing but thick woods and plantations. Could this be the place? We wondered aloud. For, except the sign board indicating the name of the resort, there was no sign of any habitation.

Looking at our fairly confused faces, the guard pointed towards a steep incline and directed us to proceed, but not before mentioning that the cottages are tucked away out of sight and barely discernible as they blend completely with the environs. And sure it was, we realised on getting off the car and viewing the reception. Made totally of wood, the reception area seemed more like an extension of the woody terrain, the dense trees almost camouflaging its presence. Meriyanda, the eco resort in Coorg, barely two years old, was born out of the passion of its proprietor Sanjanthi Poovayya to build a stay that is totally in tune with nature, both in material and design as well as its presence amidst thick woods in the lap of nature with the sounds heard totally confined to birds and insects. Home to over 8 cottages along with large suites that come with multiple bedrooms and large living, dining and kitchen as seen in a regular residence, Meriyanda serves as a totally unique experience, one that you would loathe to leave behind.

Built by Architect Ravindra Kumar of Pragrup, the cottages as well as the suites and reception area are built totally in wood where pre-cast concrete columns support the wood construction. All the cottages are built on the sides of the valley with minimal disturbance to existing flora. Thus the wooden structures emerge almost imperceptibly on the slopes of the hills surrounded completely by tall trees and thick vegetation that includes coffee plants.

Be it the walls or the roof or floors, the entire structure is made of wood. The sloped wooden roofs rest on wooden walls that are constructed with wooden planks with a portion of the walls being glass in the form of large windows. Even the bathrooms display wooden flooring, with the shower and other wet regions incorporating stone. A large balcony, which is again not surprisingly totally made of wood, offers the quiet spot to relax on the antique styled reclining wooden chairs.



Speaking of the design, Ravindra says, "A building should fuse in the elements of nature, the existing life forms. When the structure is finally pulled down, it should merge into the earth without leaving behind any traces of footprints."

Image credits: Mahesh Chadaga

Speaking of the design, Ravindra says, "A building should fuse in the elements of nature, the existing life forms. When the structure is finally pulled down, it should merge into the earth without leaving behind any traces of footprints."

A deafening silence prevails broken only by the incessant calling of crickets. Time seems to have come to a stand still as you view the unpolluted thick dark woods, the rain drenched leaves speaking of freshness and cheer, a newness that is almost akin to a rebirth. The air is crisp and a wee bit chilly, the nip in the refreshing air reminiscent of untouched hilly terrains that have seen only the presence of flora and fauna. It is a case of being totally fused with nature, snipped completely from the stressful trappings of the daily civilized life. While the neatly designed wooden cottages are tucked away imperceptibly amidst the thick dark woods, a fairly steep, picturesque pathway leads up to the King's and Queen's villa. These large suites built as villas with spacious living and sleeping areas offer a spectacular view of the valley from their woody interiors. The villas, erected totally in wood, incorporate large glass windows that bring in the stunning outdoors. The large wooden patios with their wooden reclining seats further serve as a magnificent pavilion to view the expanse of green while listening to the continuous chirping of birds and call of crickets.

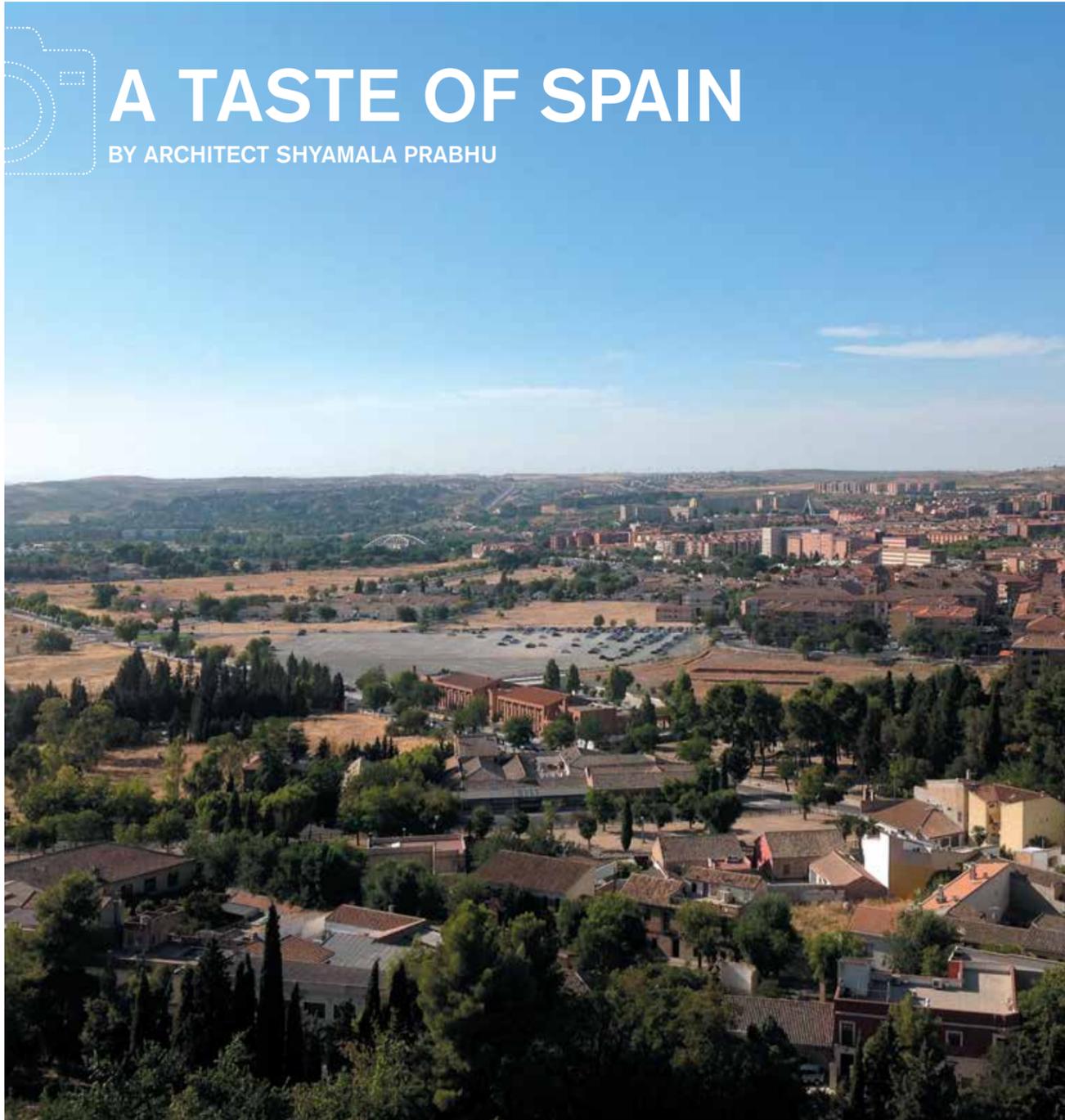
After having thus gazed at the greens for what seems an eternity, we embarked on a long walk through the estate to reach the large stream that borders the resort. A quaint woody shelter serves as a picnic spot by the stream where one could have a packed breakfast or lunch and relax with a book. An ancient looking rope bridge



allows you to cross over the stream to the neighbouring estate. The view of the gushing waters underneath the rope bridge, when heavy rains swell the stream, is enchanting to say the least.

Now, if you thought the novelty of the resort is confined to its woody architecture, its picturesque stream and its green soaked environs, offering you the feel of having escaped into a nook that is totally severed from civilization, then it is time to taste some of the exotic delicacies dished up by Chef Prakash Bahadur. Be it a plate of wholesome home food for lunch or a plate of fresh fruits for breakfast or mouth-watering Chinese and Thai cuisine, pork treats or even a simple crisp *dosa*, the presentation of the food as well as the exquisite taste of the dishes cooked to perfection makes meal times a virtual treat to look forward to. So intense was the pampering received, for the mind and body that when it was time to pack up and say goodbye, it was done so with great reluctance. So relaxing and rejuvenating was the experience and so hard to part was its uncorrupted settings that we finally took the step homeward after resolving to visit again and yet again.





A TASTE OF SPAIN

BY ARCHITECT SHYAMALA PRABHU

Spain is an enchanting, diverse country, located in the southwest of Europe. Interestingly it has both the Atlantic and Mediterranean coastline that serves as a visual treat on a drive through the countryside. Spain was considered as Europe's leading power throughout the 16th century and most part of 17th century, a position

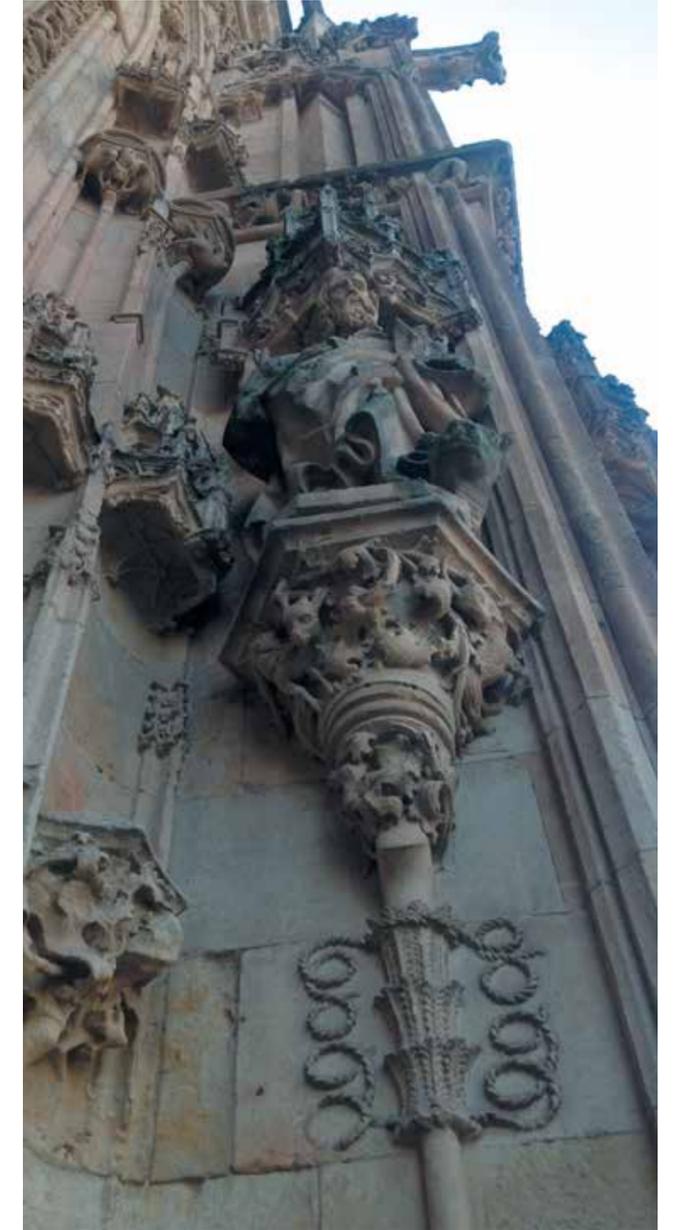
reinforced by trade and wealth from colonial possessions. Spain is further noted for its climate, geographic location, popular coastline, diverse landscape, historical legacy, vibrant culture and excellent infrastructure.



The Royal Palace

My first Glimpse of Spain was the capital city Madrid. And the first site to visit was "The Royal Palace", residence of the Royal Family. The palace was built in the 18th century by order of Philip V, on the site of the Old Alcazar fortress, a former Moorish Castle. The work began in 1738 and the building was completed in 1764. The southeast wing and the Great Staircase of honour were designed by Sabatini.

A striking feature is the square floor plan with the large central courtyard, with about 3000 odd rooms, making it a city within a city. The artistic style is Neoclassical but another view veers to Baroque style. Some of the striking features are the Royal Guards room, the column room, hall of mirrors and arresting paintings by Goya, Rueben and El Greco. The building with a history of nearly 250 years is awe inspiring to say the least.



Salamanca

Salamanca, the University town, is situated in the north-western part of Spain close to Madrid. The old city was declared a UNESCO world heritage site in 1988. The city owes its essential features to the university. The remarkable group of buildings in the Gothic, Renaissance and Baroque styles, ranging from the 15th to the 18th century, grew up around the institution that proclaimed itself as "Mother of Virtues" of sciences and Arts.

Salamanca is one of the core centres for a dynasty of architects, decorators and sculptors from Catalonia. This is amply evident from the stunning architecture and carvings in stone which appear as sheer poetry.

"The Plaza Mayor", the heart and Soul of Salamanca, which I personally would rate as the most beautiful plaza in Spain, was constructed between 1729 -1755. Its Baroque style architecture of the 18th century includes Spanish decorations of cut tablets, equilateral arches and four level structures. Much of

the day and night life of Salamanca takes place in the "Plaza Mayor". Small boutiques, trinket and souvenir shops feature inside the Plaza. These are amply complemented by a line of cafés and restaurants, an integral part of Spanish culture. The picturesque Plaza bustling with activity till the wee hours also has Musical groups called Tunas playing in the courtyard, entertaining the gathered audience. The town hall of Salamanca is also situated here.



Toledo

Toledo is an old Imperial City from the 6th century, close to Madrid, popularly known as Dives Toletana, meaning the rich Toledana in Latin. The spectacular aerial view of this city can be humbling, making you emotional as you experience history unveiling before you.

Toledo is incredibly beautiful and charming, a vast change from the city of Madrid. The small winding streets, the plazas, play grounds and parks are all systematically laid out, yet not obvious when viewed from a distance.

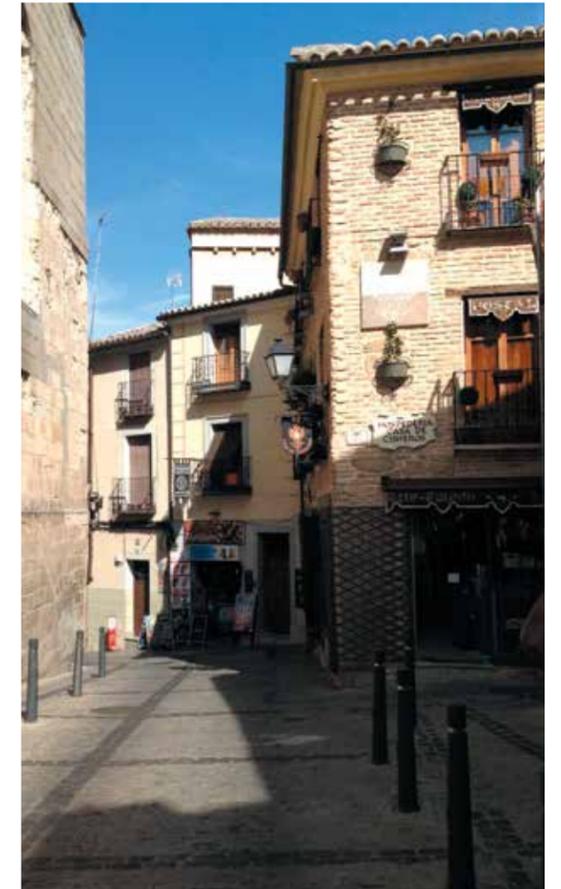
At one point several religions viz. Islam, Judaism, and Christianity coexisted peacefully in this magnificent city. It is



amply evident from the architecture that reflects mosque style buildings, synagogues and churches.

The highlight here is the Cathedral of Toledo. Built in the 13th century in Gothic style, the structure is estimated to have begun in 1226 under the rule of Ferdinand III, with the last Gothic contributions made in 15th century, in 1493. Built with white limestone from the quarries of Olihueles near Toledo, the structure displays a remarkable incorporation of light and structural achievement of the ambulatory vaults.

Image credits:
Architect Shyamala Prabhu





I had first visited Berlin way back in 1995, it was a grey day in October with a cold unrelenting drizzle. I can recall distinctly being awed and intimidated on sighting three large architectural master pieces of the Reichstag, Brandenburg gate and Pariser Platz. It was the starting point of our architectural journey titled "retracing modernity-from Bauhaus to Biennale". Back in Berlin after almost two decades,

on yet another cold drizzling day, the transformation perceived was phenomenal. Since the fall of the Wall in 1989 along with the movement of the government from Bonn to Berlin in 1999, reunited Berlin has metamorphosed. There is a refreshing buzz about the city, an excitement in the air, bustling with energy and enthusiasm as it comes to terms with the past to make headways into the future.



AN ARCHITECTURAL PILGRIMAGE

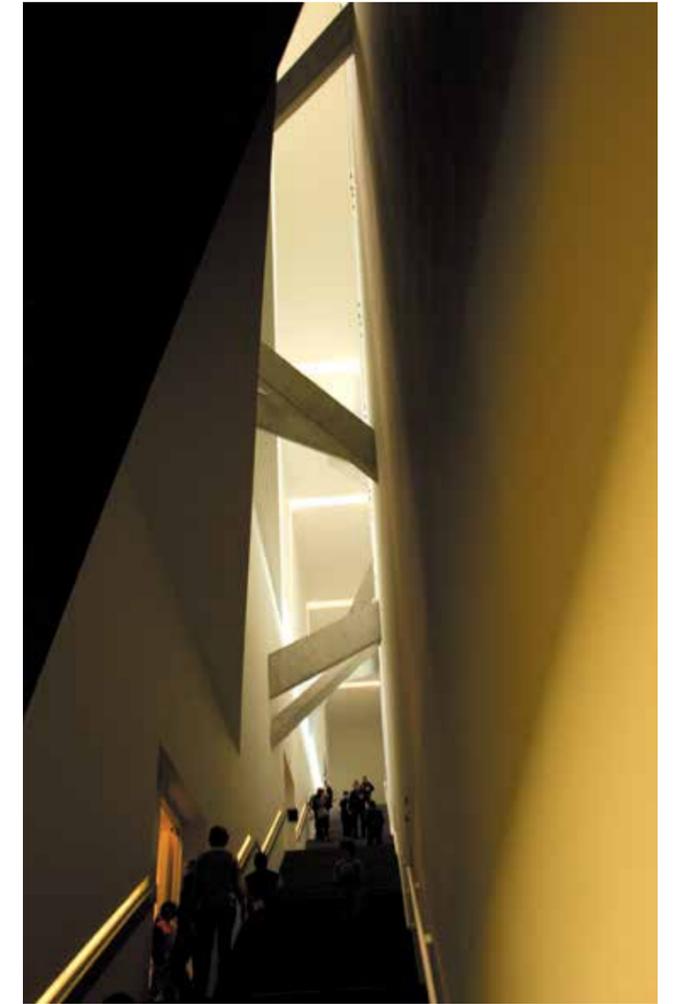
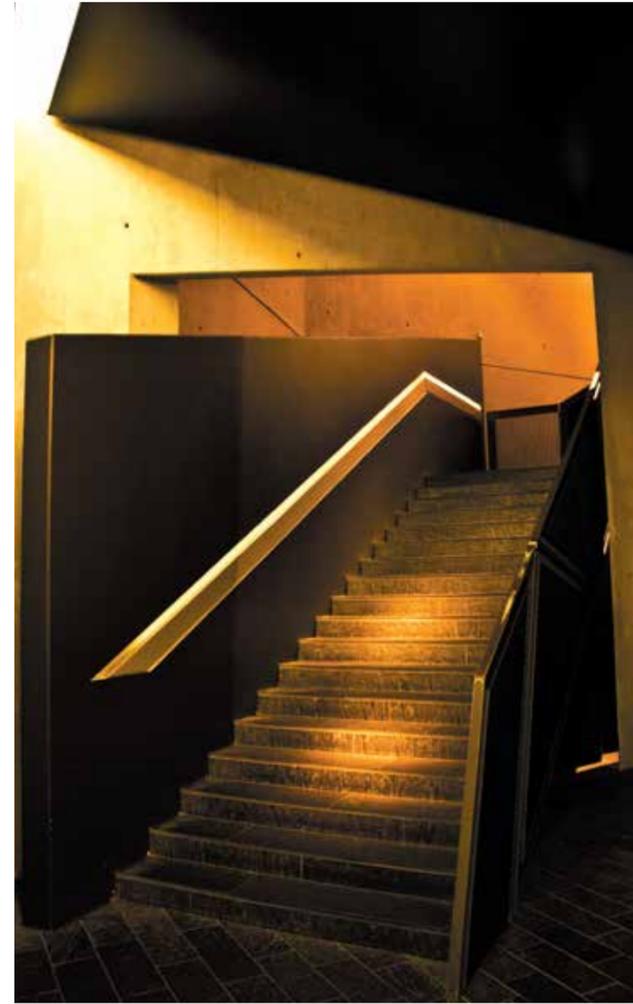
BY ARCHITECT KAVITHA SASTRY



The Bauhaus Archive: Museum of Design

The Bauhaus, founded in 1919 by Walter Gropius and closed in 1933 under the pressure of the National Socialists, is considered as the most significant Art School of the 20th Century. Hence the Museum of Design was set up to collect all documents related to the activities and cultural philosophy of the Bauhaus, so they would be accessible to the public. This was done through support from Bauhaus Masters and former students, most of whom were forced to leave Germany in 1933.

Imagine a School of Design, that combined crafts and the Fine Arts, the syllabus comprising of Architecture, Building Studies, Urban Planning, Print making, Painting, Pottery, Book binding, Sculpture, Textile design, Carpentry, Metal workshop, Typography, Commercial Art, Photography, Lighting, Theatre and Music. And these were taught by masters like Walter Gropius, Mies Van der Roh, Vassily Kandinsky, Paul Klee, Oskar Schlemmer, Feininger, Gerhard Marcks, Herbert Bayer. Those were exciting times indeed.



Reichstag: The German Parliament

Designed by British architect Norman Foster, the rebuilt Reichstag is capped by a glass dome symbolic of rebirth and the transparent policy of the new Bundestag. On entering the glass and steel cupola, the spiralling ramps slowly ascend to the observation platform on the roof, offering stunning 360 degree views of the historical city. In the centre is an inverted cone, 'a light sculptor' constructed of mirrors that offers multiple split images of the futuristic interiors, a magical ascension of sorts. Interestingly, the mirrored cone has a primary function. It reflects natural light down into the plenary chamber while a computerized moveable sun shield powered by solar panels, tracks the path of the sun to block the glare.



Jewish Museum Building

The Museum is fearless and Deconstructivist, symbolically star shaped in plan, with sharp angles, violent slashes on its skin and a wounded body of zigzag form mirroring the dark history of the Jews. Designed to commemorate the enormous intellectual, economic and cultural contributions of the Jewish community while chronicling their history from 4th century onwards, it integrates physically and spiritually the meaning of Holocaust into the consciousness of the citizens of Berlin.

Titled "Between the Lines" by Architect Daniel Libeskind, the voids created by spaces between the lines represent the absence of Jews in Germany. The approach through an old Baroque building incidentally does not prepare you for the drama that is to unfold inside. A staircase descends 10 m under the existing foundation, leading to three underground axial routes, each



with a different story of continuity, exile and death. The first and longest axis, traces a path leading to the Stair of Continuity, up and through the exhibition spaces, emphasizing continuity. The second leads into the Garden of Exile and Emigration, remembering those forced to leave Berlin. The third leads to a Dead end-the Holocaust Void.

Installation Shalekhet-Fallen Leaves – Scattered over the floor of the memory void are 10,000 open mouthed steel faces with frozen screams. This hard hitting permanent installation by Israeli artist Menashe Kadishman powerfully compliments the spatial feel of the voids emphasizing the irretrievable loss of innocent Jews murdered in Europe.



Memorial to the Murdered Jews of Europe

An open air museum covering a four acre site, the memorial designed by Eisenman Architects comprises 2711 Stelae, or concrete slabs, of varying heights in a grid undulating over the site with an underground documentation centre. On the outset, the exterior appearance of the The Field of Stelae is inviting and encouraged us to walk into it. But once inside, the height of the Stelae, their slight difference in angle, the regimented rows evoked a mixture of emotions, almost eerie and unsettling; akin to a walk through a cemetery.

Image credits:
Architect Jaya Krishnan



rainjoy showers
by
Artize

artize.in

Watch on : [YouTube](#) artizerainjoy

Faucets | Showers | Ceramics | Wellness

CRESCENT

HAPPENINGS IN BRC : AUGUST TO SEPTEMBER 2014



Change of guard: New Chairperson takes on the reins

It was the end of a glorious tenure of Chairperson Architect Bindi Saolapurkar under whose stewardship of BRC, design magazine Antarya was born. The outgoing team handed over the reins to the new team headed by the incoming Chairperson Architect Gayathri Shetty for the new term 2014-16. Stating that her term had been one where promises were fulfilled, Saolapurkar added, "We have taken it further from where our managing committee took over. It has been a journey of trial and grit but also one of joy and satisfaction. I was fortunate to have a team that supported me unconditionally and worked tirelessly to achieve our targets."

Taking over the reins from Saolapurkar, Gayathri Shetty said the programs planned over the next two years would be varied and inclusive. "We intend to have a 'Super Series' once in two months where designers of international repute will present their works. Along with this, a series of exhibitions on art, heritage and culture is planned to be introduced." She further added that a series of young architects work will be showcased in a new format.

**Panel Discussion:
Renationalisation and design impact**

Design has its own differential hues, each displaying an individuality and creativity, offering multiple dimensions in space. The influence and impact on this design can be manifold and diverse in its spheres. But each certainly leaves its indelible mark, changing the skyline in its final manifestation. Discussing vociferously on this multi-faceted tangible creative element was a panel hosted by IIID Bangalore Regional Chapter, picking the topic of Renationalisation and Globalisation.

Participants in this vibrant discussion included, besides the active audience, Architects Ravi Shankar, Dominic Dube, Sabina Reddy, Naresh Narasimhan, Sudarshan Holla and Ravindra Kumar. An interesting discussion was initiated by Naresh on the emerging generic cities as an offshoot of globalisation. It almost amounts to cloning, he lamented. "There is no room for cultural presence in such a structure. We need to consciously discard this technique where there is deadly monotony and instead bring in character", he voiced. While Dominic contended that it is all about attitude, the quantum of love and effort put into the ultimate design and structure, Sudarshan averred that it

is increasingly becoming difficult to pick on what is copied given the extensive globalisation of design. "The accent is more on style than sustainability. Even when sustainability is addressed, it is linked to ratings rather than vernacular sensitivities", he added.

Sabina opined that the lack is pronounced because of total absence of exposure of students to local heritage, local crafts. "We also take our environment for granted", she said. Dominic added, "When the moment of serenity or joy is imbibed into the built form, an understanding is reached that allows millions of styles to coexist."

Calling for a common sense design, Naresh strongly propounded a need for a deep sensitivity to the environment and designing climate sensitive buildings. "Copying the west works against this principle", he said. Agreeing with the points raised by the panellists, members of the audience also called for an integration of local crafts and sensitivities into the design schools to circumvent the current low exposure of students to local materials, crafts and culture.

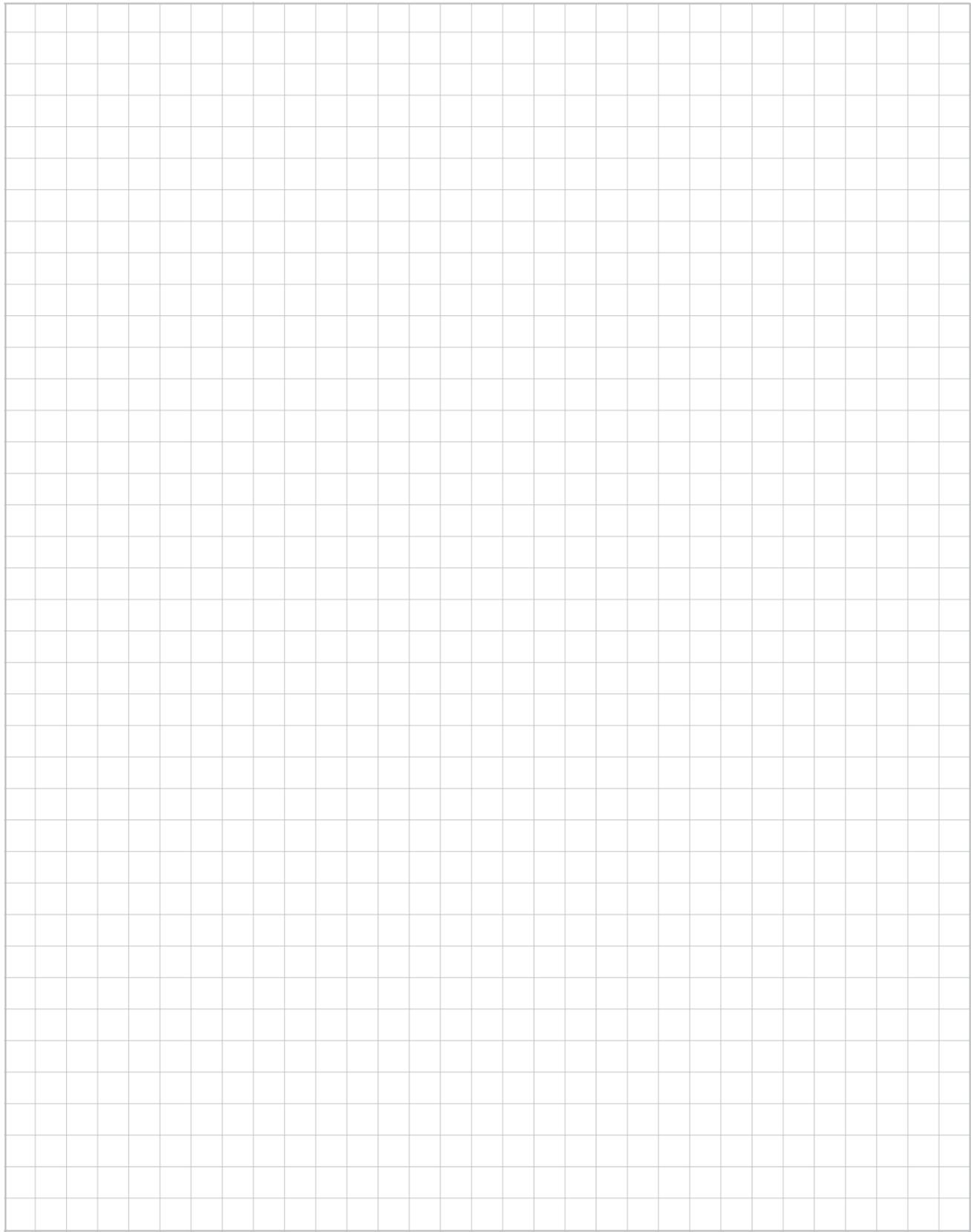


**Architect presentation:
On evolving courtyards**

Designing environments rooted in nature where the sun and wind have an unhindered say while being totally in tune with the local context that in short is the design ideology of Architect Shimul Javeri Kadri, Principal Architect, SJK Architects. Presenting the topic "Evolving Courtyards" at an event hosted by IIID BRC, Shimul spoke on the presence of courtyards effectively transforming the language of a space.

Winner of the WAF Small Project of the Year award 2012 along with multiple other national and international awards, Shimul has extensively used courtyards in her various projects to bring in the sun and wind, enhancing the aesthetics while shutting the need for artificial lighting and ventilation.

Disapproving of the extensive use of aluminium and glass, Shimul stated that the influence from West should be reversed to ensure an Indian identity within the globalised Indian city. Calling for localised solutions to be brought into design Shimul added that courtyards are omnipresent in the buildings of the tropics and the most unifying characteristic of Indian architecture.



Large.
Thin.
Lightweight.
3000 mm X 1000 mm X 3mm



The Ultimate **Surface**
Interiors . Exteriors



Residential

Enhancing the quality of life

Incorporated in 1989 by business manager and designer Paul Ameloot, today Delta Light® has developed to become a market leader and trendsetter in architectural lighting. Presenting innovative lighting designs, the company is recognised throughout the world for its subtle blend of ambience, elegance, functionality, outstanding quality & design, both in interior and exterior lighting.

Each room of the house requires specific attention. From kitchen to living room, bedroom, bathroom to corridors, home office, swimming pool or garden, Delta Light® has extensive expertise and a wide range of lighting solutions when it comes to lighting design for private homes.



BANGALORE
No. 4, King Street, Richmond Town, Bangalore – 560025, Phone No. 080 41511581, Email chandrika@defasolutions.com

HYDERABAD
No. 8-2-584/1, First Floor, Mohammed Habeeb Plaza, Rd. No. 9, Banjara Hills, Hyderabad – 500034, Phone No. 040 40161028, Email chandrika@defasolutions.com

DELHI
B-205, First Floor, Green Field Colony, Near Suraj Kund, Delhi – NCR-121003, Phone No. 09811112028, Email defasolutions.delhi@gmail.com

deltalight.com

