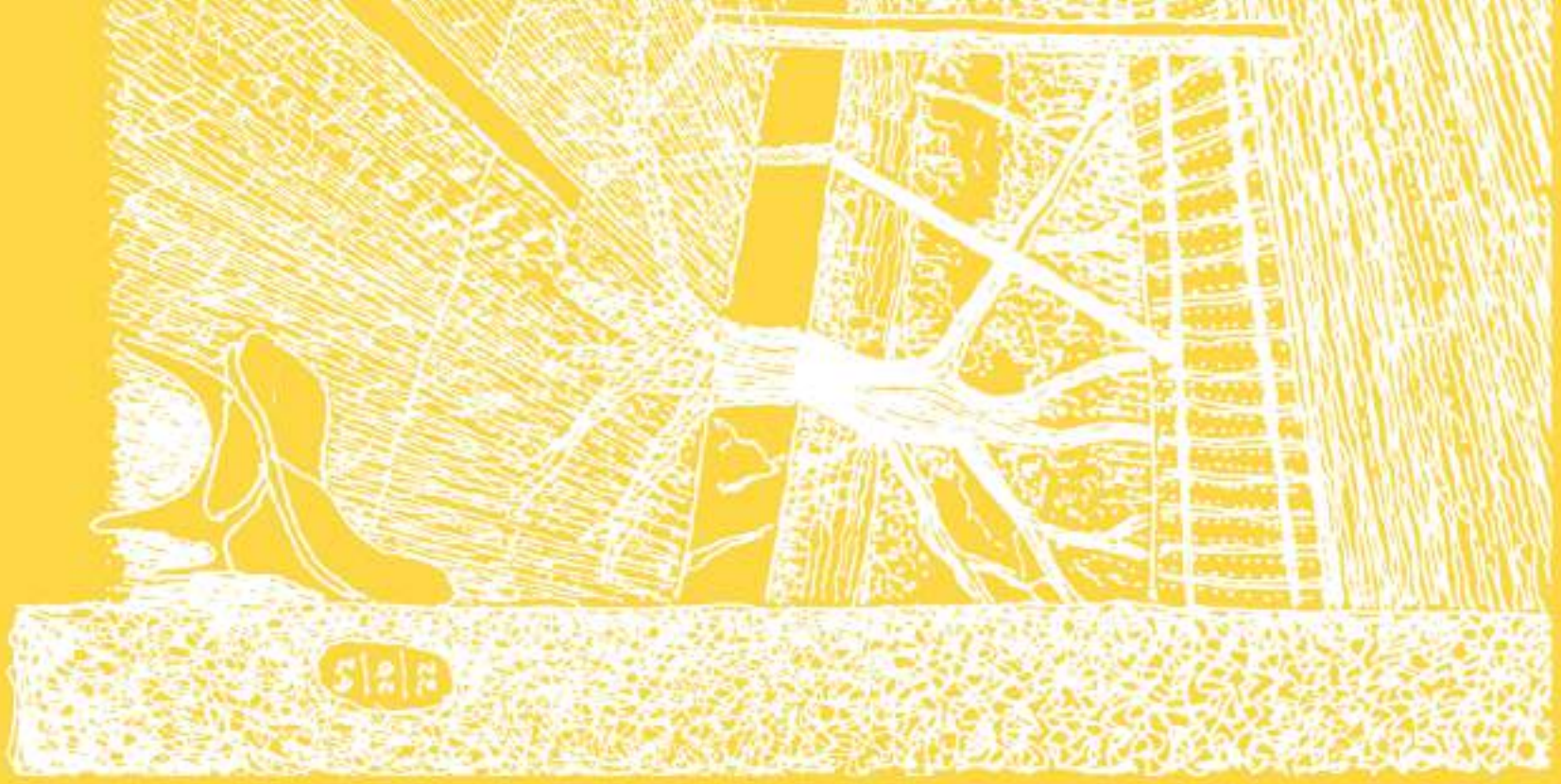

FOLIO 5 THE ROOFS WE RAISE

inscape

AN OFFICIAL PUBLICATION OF THE INDIAN INSTITUTE OF INTERIOR DESIGNERS

1972-2022

Beneath the quiet rooflines etched by Peter Rich, a softer narrative unfolds in the golden sky. Set amidst the serene landscapes near Ahmedabad, Neelkanth Chhaya's retreat offers a seamless dialogue between nature and shelter, where architecture and interior dissolve into one living experience. The sloped roof gathers the monsoon's grace, its light overhang framing distant horizons, while shifting leaves, dappled shadows, and filtered light transform the interiors into spaces of calm reflection.

More than design, this is a sanctuary of spirit, where material, craft, and light converge to evoke belonging and stillness. In its restraint lies depth; in its form, a quiet hymn to the roots we lay, the paths we trace, the roofs we raise and the dreams we choose to inhabit.

The Roofs We Raise

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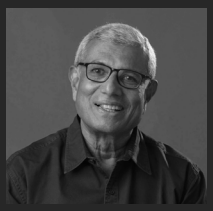

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Foreword

Dear Readers,

To raise a roof is one of the most ancient and universal acts in architecture. It is the first gesture of care. Shelter. Security. It is also a gesture of ambition, of aspiration and elevation.

In this Golden Jubilee year of the Indian Institute of Interior Designers, The Roofs We Raise could not be a more fitting theme. It speaks not only of construction, but also of intent. Of reaching upward with purpose.

This has been a standout year in IIID's journey. From a landmark National Convention to the prestige of the National Awards, every initiative this term has reflected our drive toward excellence. But if there is one project that will leave a lasting imprint beyond events and timelines, it is the Inscape Golden Jubilee Rainbow Series.

With its world-class design, thematic depth, and author curation, Inscape has become a benchmark for what a design publication can be. It is not just beautiful, it is thoughtful. And it represents our collective will to elevate the design dialogue in India to global standards.

The Roofs We Raise is a testament to that effort. It explores the roof not just as a structural top but as a cultural idea, where people gather, where stories echo, where shade becomes a statement, and where sustainability meets symbolism. It reminds us that even as we cover spaces, we are revealing attitudes.

I commend the editorial team for the clarity, elegance, and rigour they bring to this series. Each author featured in this volume brings their own brilliance, be it in craft, philosophy, or experimentation. Together, they form a rich canopy of voices.

As President of IIID, I believe this publication series marks a turning point. We are not just celebrating 50 years; we are building a bridge to the next era, one in which India takes its rightful place as a global design destination.

Let this folio travel far, and let its ideas rise higher!

AR. SAROSH WADIA
PRESIDENT - IIID

Editor's Note

JABEEN ZACHARIAS
EDITOR, IIID INSCAPE

ABOVE ALL...

Often, we define shelter as "a roof over one's head." It's a phrase that crosses cultures and languages; a symbol of dignity, of arrival, of being anchored somewhere in the world. A roof is where home begins, the most basic dream of belonging. That inverted profile, like the bliss and blessing of a cupped hand, adorns every child's sketch of a house and stays with us till the day we die.

We've come a long way since then. The roofs we raise today stretch too high, seal too tight, flatten or curve into complex systems with insulation and layers. Vaults, domes, flat plates, designed for comfort, silence, control. But in all this, we've forgotten the comfort of a night breeze. We've lost the moon, the stars, the hush of a drifting cloud. Roofs, once an umbrella that offered views and connections to the world, have now become the sky itself.

And yet, just beyond the gated homes and glass towers, you'll find another kind of roof. The tarp over a pavement dweller. The bamboo sheet over a roadside stall. The tin roof that sings when it rains. They offer little protection, but never lose sight of the sky. They hold no grandeur, but they hold the stars.

In the quiet poise of a sloping tile, in the proud stretch of a concrete slab, in the gentle bow of a bamboo vault, the roof speaks. It decides how much sky to allow, how much heat to temper, how much wind to welcome. It shapes how tall you need to feel, how much hope you can breathe. It decides whether we sit in shadow or light, whether we will rest or rise. In the darkness of night, it is also where, as grown-up children, we lie back looking and listening, for looming shadows, for whispers from angels or ghosts.

To roof is to raise, not just a structure, but our aspirations, our imagination. A state of being! The fifth folio in our Rainbow Series looks upward, to The Roofs We Raise, not just as shelter, but as a profound act of care. For centuries, a raised roof has meant a promise of safety, sanctuary, and status. From the thatch of the hut to the towering skyscraper, they stand tall, bracing against storms, bearing loads, and guarding us through time. Under them, families gather, rain becomes a lullaby, stories echo off rafters, and silence settles.

Today, we raise roofs under very different skies, hotter, harsher, more crowded, yet more isolated. The roof is no longer just a cover; it has become a canvas, a space of politics and possibility. Do we reflect or absorb? Harvest or hoard? Keep it for solitude or share it for sustenance? Is it a pause for the eye or a promise to the planet? Roofs are not passive closures. They are active gestures of defiance, of invitation, of remembrance. In their pitch, their curve, their span, they hold the wisdom of vernaculars and the vision of futures not

A roof that shelters, a sky that frees, between structure and infinity lies the space we curate.
Photo by Kathaleen Young

In the quiet poise of a sloping tile, in the proud stretch of a concrete slab, in the gentle bow of a bamboo vault, the roof speaks.

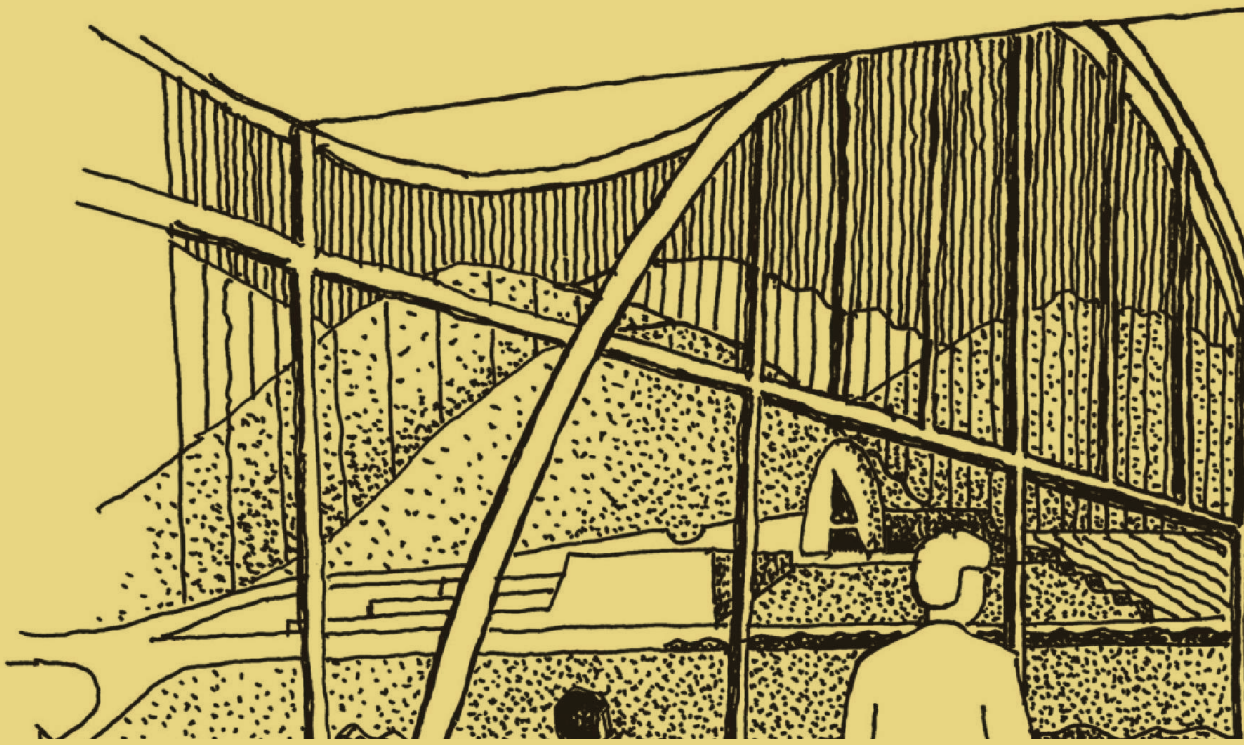
yet built. To raise a roof is to say: This space matters! These people matter! This sky with echoes of the universe, raised to bring in moonlight, starlight, and rainbows, matters.

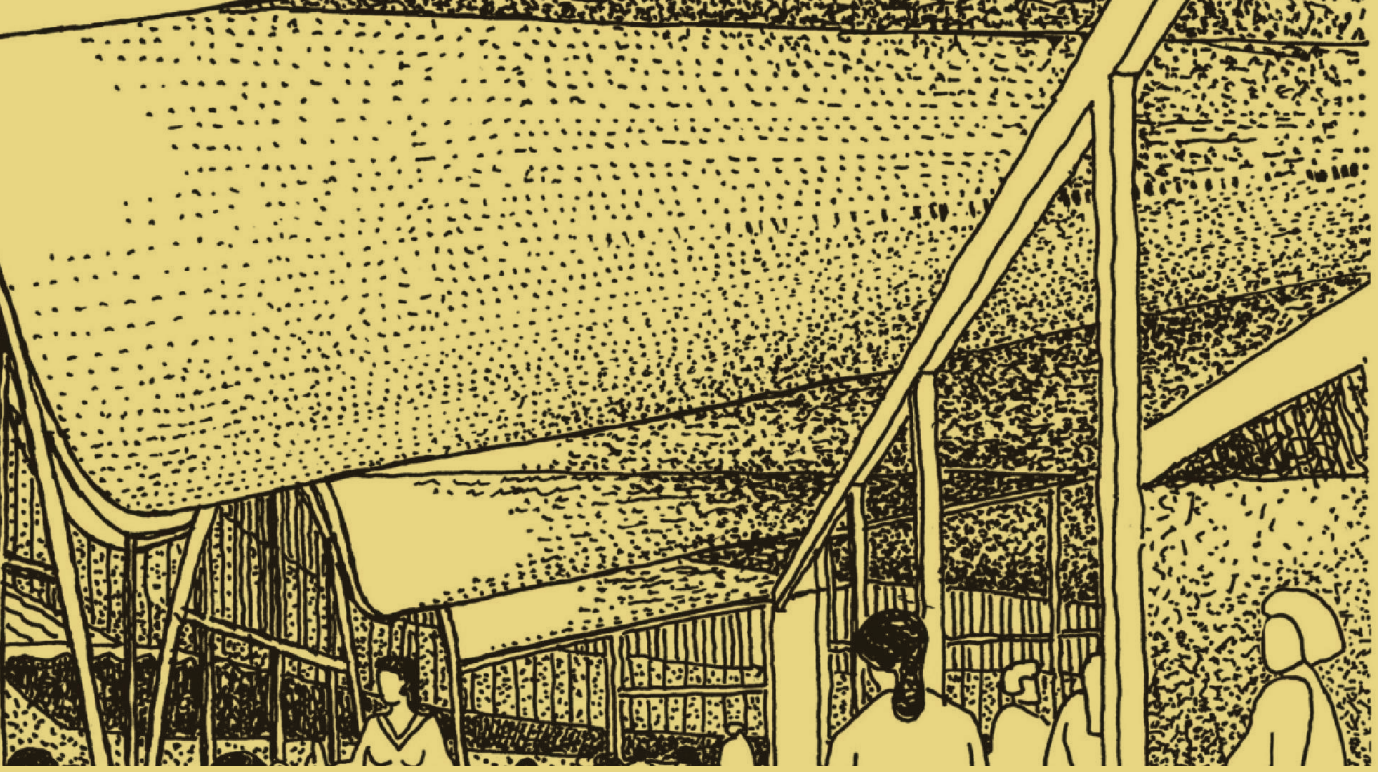
Folio 5 of Inscape, The Roofs We Raise, turns our gaze upward, not only in awe of our aspirations to break the ceiling, but in humility before the vastness of the sky and the challenges of our times. It gathers voices that reimagine the roof not as a cap, but as a calling. Not just form or function, but philosophy. Threshold. Trust.

With reflections from Brinda Somaya, insights from Parul Zaveri, the academic lens of Tapan Chakravarty, the grounded voice of Sandeep Virmani, and the millennial narrative of Senthil and Aparna's project- the Maya Somaiya Library, this folio asks: Can a roof protect without isolating? Can it cover without dividing? Can it give wings to our dreams without clipping them?

At a time when the sky of our ultimate home, our planet Earth, stands ripped of ozone, polluted with toxins, we as designers must look upward with new eyes. The one true roof we all live under also rests, urgently, in our hands.

May we raise our roofs high enough for hope to percolate.
And low enough for kindness to stay close.





Above and Beyond:

Roofs, Memory, and Meaning with Brinda Somaya

A CONVERSATION BETWEEN BRINDA SOMAYA (BS) AND JABEEN ZACHARIAS (JZ), EDITOR- IIID INSCAPE AT MUMBAI, 3 JULY 2025

In this evocative conversation, we turn our gaze upward, to that often-overlooked element that quietly crowns our spaces: the roof. Architect and conservationist Brinda Somaya joins Jabeen Zacharias, Editor of IIID Inscape, in a conversation that journeys from childhood terraces in Mumbai to monastery rooftops in Ladakh, from sloped memories to solar futures.

With characteristic warmth and wisdom, Somaya reflects on the roof not just as a structural element, but as a bearer of meaning, emotional, cultural, environmental, and spiritual. From ancient craft to contemporary sustainability, from the quiet power of symmetry to the radical honesty of material, the dialogue unfolds with depth and grace.

Here, the roof becomes metaphor and memory, conscience and canvas. Whether you're an architect, designer, student, or simply someone who's ever stood beneath a sky and felt held, this is a conversation to linger with.

Brinda Somaya is a leading Indian architect and urban conservationist who founded Somaya and Kalappa Consultants (SNK) in 1978, now known as Somaya Sampat. Educated at Mumbai University and Smith College (USA), she blends architecture, conservation, and social equity in projects ranging from heritage restoration to institutional campuses. Her notable works include the restoration of the St. Thomas' Cathedral in Mumbai and the Louis Kahn buildings at IIM Ahmedabad. She is the first Indian woman to receive the Indian Institute of Architects Gold Medal and the Honorary Fellowship of the American Institute of Architects, a rare distinction that acknowledges her global impact. She has received numerous accolades, including the IIA Baburao Mhatre Gold Medal, multiple UNESCO Asia-Pacific Heritage Awards, and the Wienerberger Golden Architect Award for lifetime achievement. As founder of the HECAR Foundation, she has documented and celebrated architectural heritage and women in design. She is currently the A.D. White Professor-at-Large at Cornell University and serves on the Board of the LafargeHolcim Foundation for Sustainable Construction.

JZ: In curating the coffee table collection for IIID Inscape Rainbow Series, we aim to pick the simplest of architectural elements and ask, what lies beneath them? Let me begin by asking what comes to your mind when you hear the word "roof"?

BS: The very first image that comes to me isn't of a building, but of a place. Tibet, the "roof of the world." As a child, I remember reading those words and being completely captivated. It wasn't about architecture then, it was about scale, mystery and awe. The idea that there was a place so high, it kissed the sky, stirred something deep in me. I think that sense of wonder never left.

JZ: What are your earlier memories of Roofs? Are there some special moments, experiences which you can think of or that follow you from the past?

BS: Yes, I remember growing up in a ground-floor flat in Mumbai, a modest apartment designed by Claude Batley, no less. It had its charm, but the real enchantment lay above. The flat on the top floor had a beautiful, warm, sloping wooden roof. I would often sneak upstairs, just to be near it, to feel its height, its embrace. That roof felt like freedom. And in Bangalore, at my grandfather's home, the terrace was our kingdom. My cousins and I would gather there, chasing each other around mango-laden branches, inventing games, and watching the monsoon sky change colour. It was chaotic, full of laughter, and unforgettable. That roof wasn't shelter. It was stage, mischief, communion. So yes, when I hear the word roof, I don't think of tiles or trusses. Even before I knew the language of design, the roof meant something to me. It was a place of elevation, of imagination, of shared moments and private dreams. It wasn't just a structure overhead, it was a space I longed for, returned to, and carried within.

Suspended above centuries of craft and currency, the ceiling at the Money and Jewellery Gallery at CSMVS Museum, Mumbai, becomes a quiet frame, letting gold, silver, and stories shine.

JZ: Since we're speaking of beginnings, I must ask, was architecture something you always wanted to do? Or did it find you another way?

BS: Actually, I wanted to be an archaeologist. I was completely fascinated by history and discovery. Even as a child, the idea of digging up something ancient, of holding a piece of the past in your hand, excited me deeply. But when the time came to decide on a career, architecture was suggested to me as something that also involved history, creativity, and making. I hadn't met any architects then, I didn't know what the profession entailed. But I was drawn to it intuitively.

Brinda Somaya's grandfather's house

So no, it wasn't a deeply conscious choice in the beginning, it was more of an unfolding. Once I entered the field, I began to understand its power, how it brings together people, place and purpose. And I kept learning.

In a way, I think architecture chose me, and I just kept saying yes.

JZ: As an architect, when you began designing, how did your relationship with the roof evolve? Did it remain emotional, or did it become pragmatic?

BS: Oh, the emotions never leave. But yes, you acquire tools. You begin to understand how orientation affects rain, how the slope can carry light, how height changes acoustics, and how materials behave. But the core remains the same. I still feel that a roof must evoke something. For instance, in our Banyan Park project for Tata Consultancy, we worked with oculi, circular punctures in the roof that brought in daylight but kept out rain. It wasn't just about function. It was about grace. The way light fell through those openings created patterns, a certain movement, a rhythm. People would pause. That's when I know the roof is doing more than covering a space. It's animating it.

And you're right, there is this idea that roofs are technical. Slabs, pitches, trusses. But they can also be soft. They can be the most humane element of a building. Sometimes, I don't even want to add a false ceiling. I want the roof to be seen as it is, raw, real. If the services can be handled well, why add another layer? The original surface already holds so much integrity.

Above the lobby, at the Bharat Bhawan 2, BPCL, the ceiling unfolds like a measured breath, layer upon layer, rib upon rib, each arc a quiet gesture of rhythm and order.

Inside the Bombay House, the head office of the Tata Group

The House in the Valley quietly echoes the land's flowing curves.

JZ: That touches upon something I often wrestle with as an interior designer. We inherit the roof from the architect. Often, we try to hide it- false ceilings, panels, lights. But what if we simply embraced it? Let it be the sky of the interior. Do you find that approach varies across your architectural and interior work?

BS: Absolutely. And in some interiors, we do end up adding ceilings. But it should never be automatic. Every space must ask- what does this roof want to do? In some of our institutional work, especially when the structural roof itself is well-proportioned and expressive, we leave it as is. We treat it as a visible ceiling. But when acoustics demand softening, or when services need covering, we intervene. The trick is to always treat the false ceiling as another roof, not as camouflage, but as a gesture. It must belong.

JZ: What about material? Roofs are perhaps the most materially diverse elements in Indian architecture. Do you find that material leads form when you design roofs?

BS: Often, yes. Material is not just substance. It is memory, aspiration, climate, and cost. In villages, we might love the look and sustainability of bamboo or mud. But the client, the community, often wants concrete. To them, it means permanence- safety. They don't want to rebuild every decade. They want a roof their children will inherit. I remember, during post-earthquake reconstruction in Kutch, we had designed a small asymmetrical roof for structural reasons. But the village head, a remarkable woman, told me flatly: "No. It must be equal on both sides." I asked why. She said, "Because we live and understand symmetry better." It was a cultural belief! An emotional demand! And I changed the design. Because that's architecture too. Listening.

JZ: And doesn't it raise the question: whom are we building for? Are we designing for the drawing board, or for the dreams of the people who live under these roofs?

BS: Exactly. As architects, we are not above our users. We're their translators. And sometimes, their students. Every roof has two sides, what we want to do, and what the people need it to be. That tension can be creative. It forces us to ask- what is appropriate? Not just aesthetically, but ethically.

Bhadli Village in Kutch

JZ: We often speak of roofs in functional terms, but what about their spiritual and symbolic power? Especially in sacred spaces- how do roofs participate in that?

BS: The roof is the only part of a building that addresses the heavens directly. Walls contain. Floors support. But the roof- the roof aspires. It rises, curves, and opens. In spiritual architecture, that gesture is profound. A dome in a mosque, a temple's shikhara, these aren't just design choices. They hold echoes, light, and prayer. They announce presence!

I remember once standing beneath a centuries-old dome in Ahmedabad. A whisper travelled across and felt like prayer; that moment stayed with me. Even in our secular projects, I try to retain that resonance. In schools or institutions, a ceiling that admits soft daylight, that creates stillness, these are quiet gestures of reverence. Every roof, no matter how modest, has the potential to lift the spirit if we allow it to speak and are there to listen.

JZ: You've often worked closely with artisans, painters, carpenters, masons. How do they shape your ceilings and roofs? Is that collaboration still alive in today's fast-track builds?

BS: Collaboration with artisans is sacred to me. I've never thought of the ceiling as a blank canvas; it's a surface of expression. In Nalanda School, we worked with artists to paint the wall and ceiling corners, almost like temple friezes. In private homes, we used Madhubani art beneath extended eaves. In some projects, we leave the rafters exposed, letting timber speak. The hands that shape a beam or carve a bracket infuse soul into a structure. In today's prefab world, this craft is endangered. But I believe it will return. People are yearning for touch, for hand-wrought honesty. The roof is a beautiful place to let that shine.

Shelter reinterpreted for play at the CSMVS Museum, Mumbai.

JZ: We often think of roofs as protective covers, but in many communities, they come alive as places of gathering, play, or quiet exchange. Have you witnessed roofs transforming into such social or emotional spaces, especially in schools, homes, or public projects?

BS: Oh, many times! The most delightful is always the school terrace. Children use it as a playground, a stage, a space for secrets. In one tribal school we built, the roof became a moonlit theatre. In cities, I've seen families grow vegetables, fly kites, and host music on the terrace. It becomes an emotional extension of the home. And in some institutional projects, like the NCPA campus, we created canopied courtyards where people would gather informally under the shade. These are roofed spaces, yes, but they're really about warmth, interaction, and pause. A good roof can do that, hold you, without enclosing you.

A Unique view of the Goa Institute of Management, Sanquelim

JZ: Today's conversations on the roof include a world facing climate change, the roof has to do more. Do you see the roof as an environmental actor now, harvesting, cooling, generating? How have you embraced this shift?

BS: Wholeheartedly! The roof is no longer passive, it must participate. At the Goa Institute of Management, our campus is now entirely solar-powered. The roofs do that work. They also channel rainwater into recharge pits, helping restore groundwater levels. We designed slopes, solar arrays, and thermal buffers, all built into the roof itself. But sustainability isn't only about large systems or budgets. I've read of an NGO in Tamil Nadu enabling communities to grow vegetables on flat roofs. Women dry chillies and grow greens on their terraces, that too is design. In Rajasthan, families paint their roofs white to reflect heat and cool their homes. These are environmental decisions made quietly, every day.

I often think of the ozone layer as Earth's roof, delicate, invisible, and protective. It shields life, and yet we've taken it for granted. That's how we treat our man-made roofs as well: load them with tanks, dish antennas, and heat-absorbing concrete. The fragility of the ozone is a lesson. Every roof must be treated with care. It is not just a surface, it is the skin of our shelter. When we ignore that, we invite rupture. Both need healing. Both need reverence.

Design must empower that kind of everyday ecology. A good roof should collect, protect, and breathe. It's not just shelter, it's a solution. It is a sanctuary. The best ones always have been.

JZ: So much of our architectural memory is defined by roofs. But today's skylines are changing. Sloped tiled roofs are vanishing. Boxy slabs dominate. Do you feel we're losing something?

BS: In some ways, yes. Old homes aged beautifully. They wore time like a shawl. Today's buildings often look tired too soon. But I also believe in not romanticising the past too much. Every generation has its aspirations. What matters is- are we building with awareness? Are we choosing concrete because it works, or because it sells? Are we erasing the past, or evolving from it? We must teach young architects that design is not decoration. It's a responsibility. And beauty is not a trend. It is the truth, well expressed.

JZ: There's a quiet strength in how you describe the roof- almost as if it were the conscience of a building. Was there ever a roof that moved you deeply, not as an architect, but simply as a human being?

BS: Yes. A flat monastery roof in Ladakh, vast, silent, open to the sky. I stood there one morning, completely alone, and it felt like the world was holding its breath. No bells, no wind, just stillness. That moment changed me. The roof wasn't designed to impress. It was designed to disappear. To erase itself by framing the sky. That, to me, is the essence of architecture, when something vanishes and yet remains unforgettable.

Perhaps the roof is the conscience of a building. Because when everything else falls away- the ornament, the paint, the detailing- what remains is what holds you. And what covers you! A good roof doesn't just protect you from the elements. It anchors memory. It outlives fashion. It survives time. I often think: a roof that disappears into the sky, yet holds space for the spirit below, that's the kind of legacy I hope architecture can offer.

JZ: Today, we're seeing a new wave of tools, AI, digital visualisations, even virtual reconstructions of ancient spaces. What are your thoughts on how technology is reshaping the way we imagine and design? And how do you see this affecting the relationship between senior and younger architects?

BS: I'll be honest, I was sceptical at first. But then I saw my grandsons using AI to recreate ancient places like Nalanda, and something shifted. They animated roof tiles that no longer exist. They gave memory a new form. That's when I realised, this is not about replacement, it's about remembering differently.

Technology can open incredible doors. But what it must never replace is experience. That's where collaboration becomes vital. I've always believed senior and junior architects must walk together. One brings memory, grounding, the quiet weight of having built, the other brings speed, freshness, new tools. We meet somewhere in the middle. Even with my daughter, our studio conversations are often about flow, not just in space, but in learning. And roofs, too, benefit from this balance, tradition shaping form, technology helping it perform. We need both the heart and the head.

JZ: Brinda, if you had to leave one thought with our readers, young designers, seasoned professionals, curious laypersons, about roofs, what would that be?

Brinda Somaya with her daughter Nandini Sampat

BS: That the roof is not an afterthought. It is the beginning of belonging. To build a roof is to take responsibility. To offer safety. To shape emotion. To frame the sky. Whether you're designing for a school, a shrine, or a simple home, remember that the roof is not just what covers life. It is what uplifts it.

In a world that's always in flux, the roof reminds us of what shelters us, not just from the elements, but from chaos, doubt, and forgetfulness. As Brinda Somaya gently unfolds its many layers, we are reminded that design is never just about form or function; it is also about feeling, memory, and care.

To build a roof is to make a promise, to hold, to honour, to protect. And perhaps, in listening to this conversation, we are invited to look up a little more often, to notice the quiet guardians above us, and to ask: what stories do our own rooftops carry?

Parul Zaveri co-founded Abhikram with the Late Nimish Patel over four decades ago, laying the groundwork for a practice that would transform the discourse on sustainable design in India. Visionaries in conservation, adaptive reuse, and passive design, their work revived indigenous materials, traditional crafts, and time-honoured building techniques, long before these became part of the mainstream sustainability vocabulary.

Abhikram's contributions have earned over 30 national and international accolades, including the UNESCO Asia-Pacific Heritage Award and the Ashden Award (UK's "Green Oscars"), marking the practice as a benchmark in environmentally and culturally responsive architecture. Their work has been documented in more than sixty books and journals globally.

Today, Parul Zaveri continues to steward heritage and sustainability as Co-Chairperson of the Heritage Committee of the Gujarat Institute of Civil Engineers & Architects, and as a member of the Heritage Committee of the Ahmedabad Municipal Corporation. Alongside these roles, she is archiving Abhikram's profound legacy and nurturing the land through organic farming at Kanika Organic Farm, living the very values her practice has long espoused.

Lines That Rise Before Walls

A roof is the first gesture that rises to meet the sky.

PARUL ZAVERI

Across time and terrain, roof-making has meant far more than protection from the elements. It has embodied care, cultural identity, and spatial dignity, standing as a lasting symbol of belonging. As an architectural element, the roof mediates between the human scale and the expanse of the sky.

In its highest expression, it becomes a conversation with the cosmos, its metaphysical parent, the boundless and sheltering sky. To build a roof is not merely to block sun or rain, but to hold space between the terrestrial and the celestial.

Most traditional buildings honour their land and context with quiet resilience, often outlasting many of their modern counterparts. The craftsmen who carried this knowledge became our teachers and collaborators. Through conservation work, from evolving policies for Udaipur with INTACH to restoring palaces in Amber, Jaigarh, Nahargarh, Jaisalmer, Jaipur, and Bikaner, we have been continually inspired by living craft traditions and the cultural wisdom they sustain.

At Abhikram, this understanding continues to guide our architectural practice across regions and typologies. Again and again, we find that the most meaningful roofs are those that grow organically from their place. Respect for climate, material, and culture is not an afterthought; it is the genesis of design.

This sensitivity is not a modern revelation, but a deeply rooted tradition. Classical Indian architectural treatises offer rigorous, context-specific guidance on roof-making, reminding us that form and wisdom are not opposed, but intertwined.

The Mānasāra, a seminal text on residential architecture, prescribes:

शीघ्रीष्मुष्ये तीत्ये छायां चात्रै कुर्याति घर्षेषु छायां यान्त्ये शाल्येषु प्रज्ञेयुः ।

In hot and dry regions, provide deep chhajjas (projecting eaves); in rainy areas, sloped tiled roofs must be preferred.

Similarly, the Mayamata, an Agamic text of South India, recommends:

जलप्रदेशे निर्मलानां श्लान्त्रणानुक्रा छद्दा भवेति ।

Where rains fall in abundance, let the roof be steep and well-drained; in arid lands, a flat terrace is appropriate.

These ancient prescriptions remind us that a roof is not a universal typology, but a response. In coastal Kerala, steeply sloped roofs shed monsoon rains and shade verandahs; in quake-prone Kutch, conical bhunga roofs offer seismic stability and thermal comfort. These are not stylistic choices, they are culture refined through survival. Form carries meaning too! The temple shikhara rises as an axis between earth and divine; palace domes and chhatris speak of power and ceremony; while in humble homes, the verandah roof shelters daily life, gatherings, and grain, mediating between sky and hearth.

This essay began as an exploration of roof systems across India, how architecture negotiates shelter and symbolism. But the deeper we looked, the more we returned to the quiet, enduring values that shape our practice at Abhikram. For us, the roof is never just structural. It is the first gesture of care, rising in response to sun, rain, memory, and community. It connects people not only to place, but to time and belief. Often, it is the first design decision, growing from the land up, in dialogue with climate, craftspeople, and culture.

So the shift in this feature, from typological overview to a reflection through our projects, is not accidental. It is a return to the source.

The oldest architectural questions remain the most vital: How do we live with the land? What do we inherit? What do we leave behind? Traditional wisdom, inscribed in texts, embodied by craftspeople, has always been our compass. We have learned more from lime and light, the curve of a chhajja, or the silence beneath a dome, than from any drawing board.

How do we live with the land? What do we inherit? What do we leave behind?

This is not a catalogue of roofs. It is a reflection on what gives architecture meaning. The roof is simply the lens, through it, we see continuity, humility, coexistence, and care. If our work is included here, it is not to show a style, but to honour a way of thinking. One where design begins with listening.

Let every roof remind us: enduring architecture doesn't arrive fully formed. It is seeded in memory, shaped by hands, and always open to the sky.

An artisan shaping the mud-based formwork, reviving time-honoured techniques of domed construction at Tree of Life Resort | Courtesy: Abhikram & Tree of Life

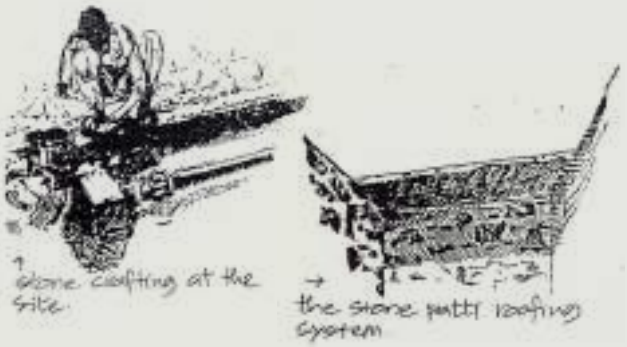
At the Tree of Life Resort (2007–2011) near Jaipur, a series of modest domes create a man-made skyline that gently counters the surrounding hills. Built entirely without cement, dressed stone, drawings, or structural consultants, these lime mortar and random rubble domes, built on mud-based formwork, are a quiet assertion of trust in traditional craft. The 14 villas, each named after a flower, reinterpret local arts and crafts in a contemporary idiom: a bedroom beneath a 3.6 m dome, a spacious toilet under a 1.8 m dome, and a central fountain anchoring daily life.

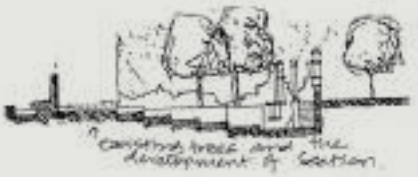
At Aam Niwas (1985 onwards) near Jaipur, the roof became a site of material innovation grounded in tradition. Stone patties spanned up to 4 m with brackets, while waterproofing used lime, gur (jaggery), and methi (fenugreek), reinforced with stone chips and insulated by inverted kullads. The interiors echoed this ethos, unplastered ceilings, jharokhas and jalis for airflow, and elements crafted on-site by artisans. Patterned terrazzo tiles and Anokhi's block-printed fabrics added a Jaipuri character, shaped through close collaboration between owner Faith Singh, Abhikram, and local craftspeople.

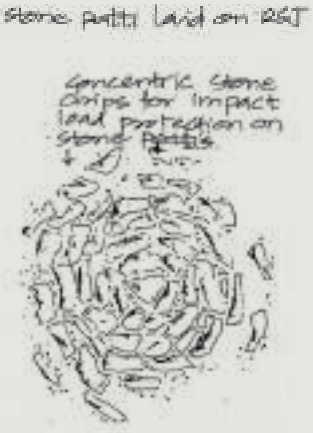
As the Samarāṅgaṇa Sūtradhāra (Ch. 65) advises:

अति देशे चये यथा खटाच्छायाः गृष्मे विशेषाह् कुर्याति ।

According to the country and climate, design the chhatra or roof to reflect both the function and the spirit of the place.







Traditional waterproofing with lime, jaggery, methi, and inverted kullads for insulation at Aam Niwas Courtesy: Abhikram

Crafted interiors blend with a climate-responsive roof, together shaping the interiors that feel both timeless and naturally comfortable at Aam Niwas | Courtesy: Abhikram, Beautiful Homes of India, Interiors India & ElleDecor Feb 2003

Samarāṅgaṇa Sūtradhāra (Ch. 65 – On Chhatras and Roofs):

छत्रं यथास्थानं कार्यं लोकशोभाय च स्मृतम् ।

chatram yathāsthānam kāryam lokaśobhāya ca smṛtam
" The roof or chhatra must be positioned with purpose, for the delight and dignity of the people."

At The Celebration Mall (2012), Udaipur, large Mewari-style domes in steel and fibreglass reinterpret palace architecture, allowing everyday visitors to experience its grandeur. Spanning five retail floors and two basements, the atrium's steel-framed ribbed domes filter daylight deep inside, making roofs both symbolic and sustainable. Ceiling themes on each floor, inspired by local flora and fauna, were hand-painted by local artisans. I-sections shaped like elephant trunks support the domes, echoing palatial canopies and reinforcing the story of daylight harvesting.

At The Celebration Mall, steel-framed Mewari domes reinterpret tradition while patterned fiberglass filter daylight deep inside making roofs both symbolic and sustainable | Courtesy: Abhikram

In the Mud House, two bhungas are linked by a timber and bamboo roof that rests over sun-dried mud walls adorned with Kutchi mirror work
Courtesy: Abhikram & Inside Outside Dec 1997

In the Mud House (1995), Ahmedabad, two circular bhungas were linked by an interpolated roof geometry that balanced shared space with autonomy. The roof, built from locally sourced wood and bamboo, rested on sun-dried earthen walls excavated on-site and adorned with Kutchi mud and mirror work. Horizontal beams, vertical posts, and a central keystone formed the framework, packed with mud and layered with thatch for insulation and rain protection, making the roof not just shelter, but a bridge between earth and sky, tradition and adaptation.

The Bṛhat Samhitā, in its chapter on dwelling construction, echoes this climate-responsive thinking:

पूर्व्यामुख्यानां च्छायानां सूर्याच्च कुर्येत् ।

Open courtyards and sloped roofs must be oriented based on the direction of wind and sun.

As a cultural heritage conservation and adaptive reuse project, Achalayatan (2006–2010) treated the roof not merely as climate protection, but as an act of coexistence, honouring both memory and living ecology. None of the 129 fruit trees on site were cut; branches pass through verandahs, slabs, and rooflines. To minimise RCC and retain architectural language, the first-floor roof was built entirely from locally sourced Valsadi teak, used throughout for continuity. Layered with waterproof ply, tar-felt, and Mangalore tiles, the high ceilings kept interiors airy. Carved details and crafted interiors integrated architecture with artistry. Verandahs and courtyards unfolded beneath the canopy, each with its own rhythm. Ultimately, the roof blurred the line between structure and ecology, becoming not a cover, but a framework for shared living.

Achalayatan where the bathroom roof yields to an old tree, and high ceilings invite light, breeze, and the quiet presence of nature into living spaces
Courtesy: Samir Pathak

At Achalayatan, the roof shaped itself around existing trees, letting branches pierce through roofs and pergolas. A roof not as a divider, but as a framework for shared living | Courtesy: Samir Pathak

At Udaivilas Gold-leafed domes crowned with Indian-made glass chandeliers add warmth and splendour to the space | Courtesy: Abhikram & EIH

At Udaivilas (1989–2002), the domes and chhatris became vessels of continuity, memory, and identity. The brief was clear: reflect Mewar's living traditions. This called for a close study of local precedents and Mandan's treatises, which informed the proportions and symbolism of these palatial forms.

"At Udaivilas the dome is not just decoration it is dialogue: between past and present, craft and concrete, sky and shelter."

In Udaipur, domes are more than skyline markers, they shape spaces of gathering and transition. Inspired by the City Palace, the design weaves domes of varied scales, onion and garlic-shaped, with petal bases and finials, true to Mewari tradition. Each dome becomes a distinct expression of form, colour, texture, and meaning.

Structurally, the project followed a hybrid path, melding traditional craftsmanship with modern engineering. Though the domes were cast in concrete, their forms were shaped with brickwork and finished in Ghutai: a polished lime plaster made from stone powder, egg white, tamarind, and turmeric-tinted pigment. This created a satin-like cream surface that gently caught the morning sun, echoing local traditions.

More than form or finish, the domes at Udaivilas became canvases of cultural expression. A sky-blue dome with cloud motifs opened the restaurant to the heavens; another, in deep indigo, evoked the night sky. The grand lobby dome, gold-leafed and ringed with painted flowers, rises above a chandelier reflected in fountains and polished floors. Smaller domes carry thekri mirror work, while niches in the Candle Room glow with delicate floral thekri, deepening the sense of sanctity. Painted in natural vegetable dyes, interior domes radiate warmth throughout the day.

As guests move from frescoed domes to intimate cupolas, they encounter an unfolding narrative of light, colour, and craft. The skyline, dotted with onion- and garlic-shaped domes, kangras, and chhatris, mirrors the City Palace silhouette, animating solids and voids in dialogue with the ever-changing sky.

From lime domes built without drawings to steel-framed canopies filtering daylight, our journey across places and times has revealed a simple truth: the roof is never just overhead cover. At Abhikram, each roof emerges in dialogue with climate, context, traditional wisdom, and contemporary life. The “Roofs we Raise” are not about finishing structures, they are about continuing stories. Stories shaped by the hands that build them, the natural materials that sustain them, and the belief that architecture begins with something deeply human: offering shelter, dignity, and a sense of wonder beneath the open sky.

ऊर्ध्वं प्रसारयेत् छाद्यं व्योमसदृशं सुशोभनम् ।

ūrdhvam prasārayet chādyam vyomasadṛśam suśobhanam
“Let the roof extend upward, radiant like the sky, an element of beauty and openness.” (Mayamata)

“Let the roof extend upward, radiant like the sky , an element of beauty and openness.”

Onion- and garlic-shaped domes with petal bases and finials, true to the Mewari tradition at Udaivilas | Courtesy: Abhikram

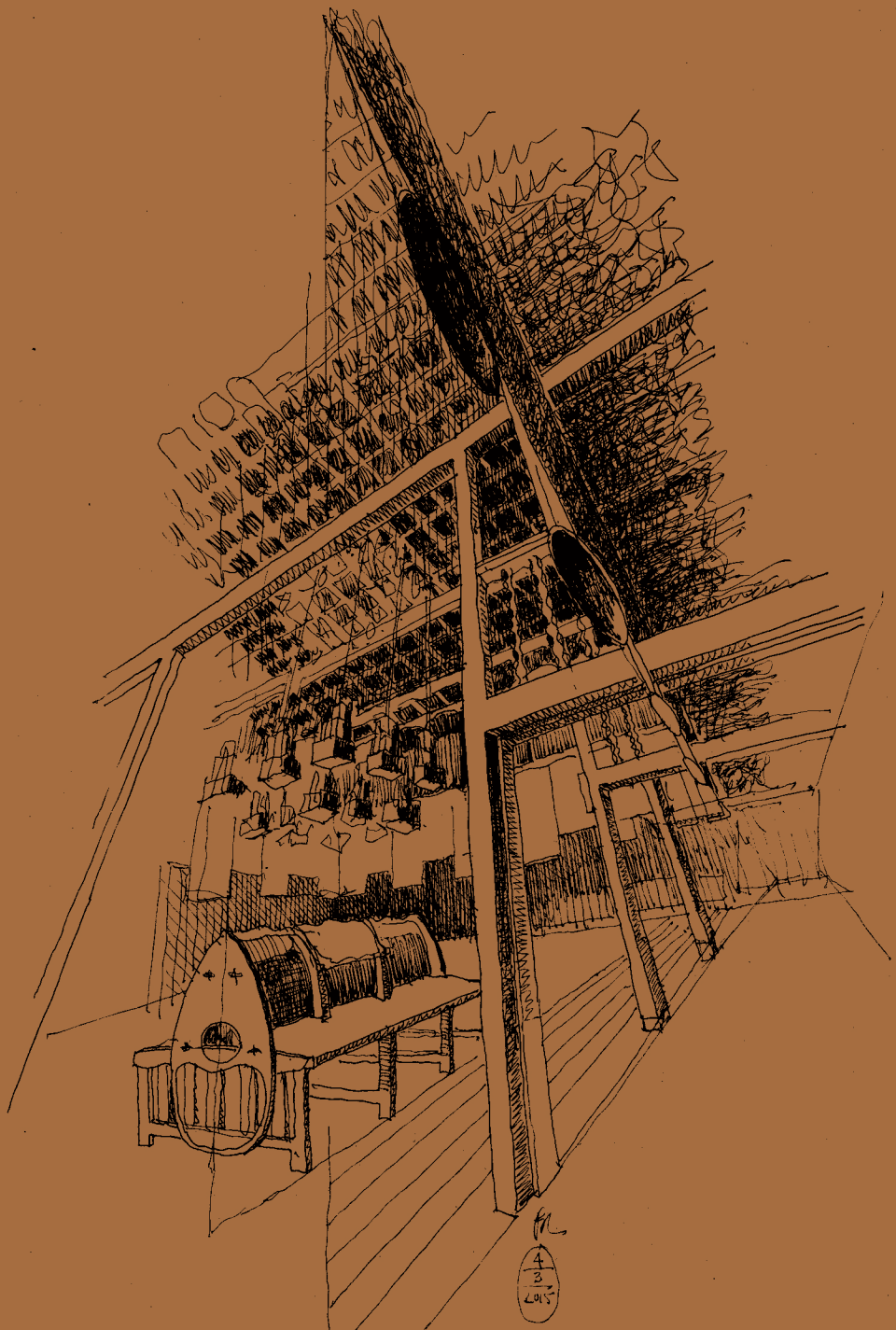
This paper has been prepared with the research assistance of Ar. Priya Ramakrishnan (Conservation Architect)

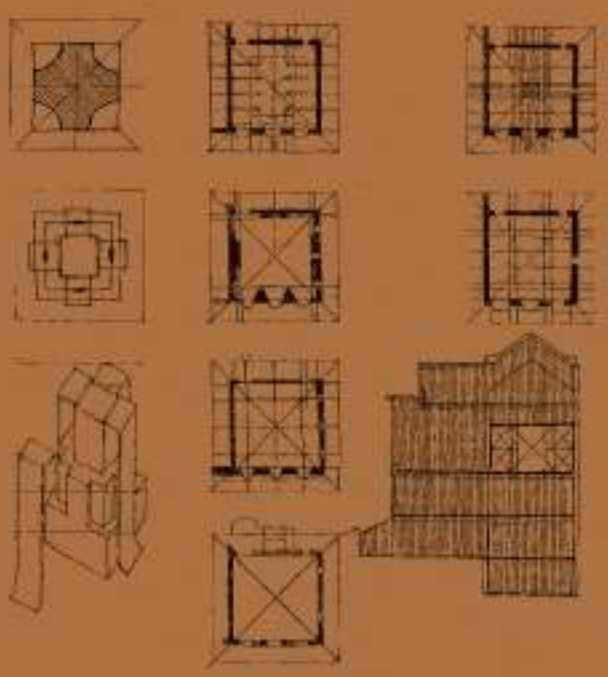
Shelters of Spirit, Structures of Meaning

PETER RICH

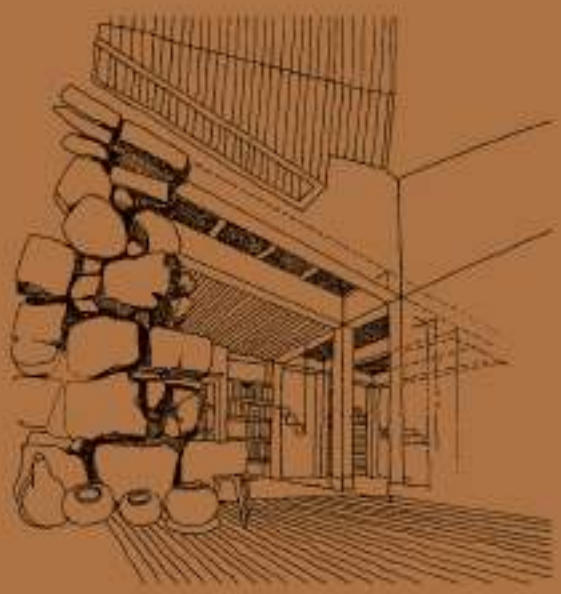
In this compelling sketch-based narrative, Peter Rich reflects on ten roof structures across the globe, drawing connections between cultural heritage, material ingenuity, and spatial meaning. From Mackintosh's tartan grid in Glasgow to the sacred geometry of Hampi and the expressive vaults of South Africa, Rich explores how roofs can be both technical solutions and poetic gestures. His insights reveal the roof not just as shelter, but as symbol, structure, and spirit.

Peter Rich is a celebrated South African architect whose work gracefully bridges ancient spatial traditions with contemporary design. Internationally acclaimed for his community-centric approach, Rich rose to global prominence with the Mapungubwe Interpretation Centre, awarded World Building of the Year in 2009. His accolades include the UK Earth Award, a shortlist for the Aga Khan Award, and the Gold Medal from the South African Institute of Architects. He is also an International Fellow of both the RIBA and AIA. As both educator and practitioner, Rich remains a powerful voice for architecture that is inclusive, deeply human, and profoundly rooted in place.


CONSTRUCTING SPACE

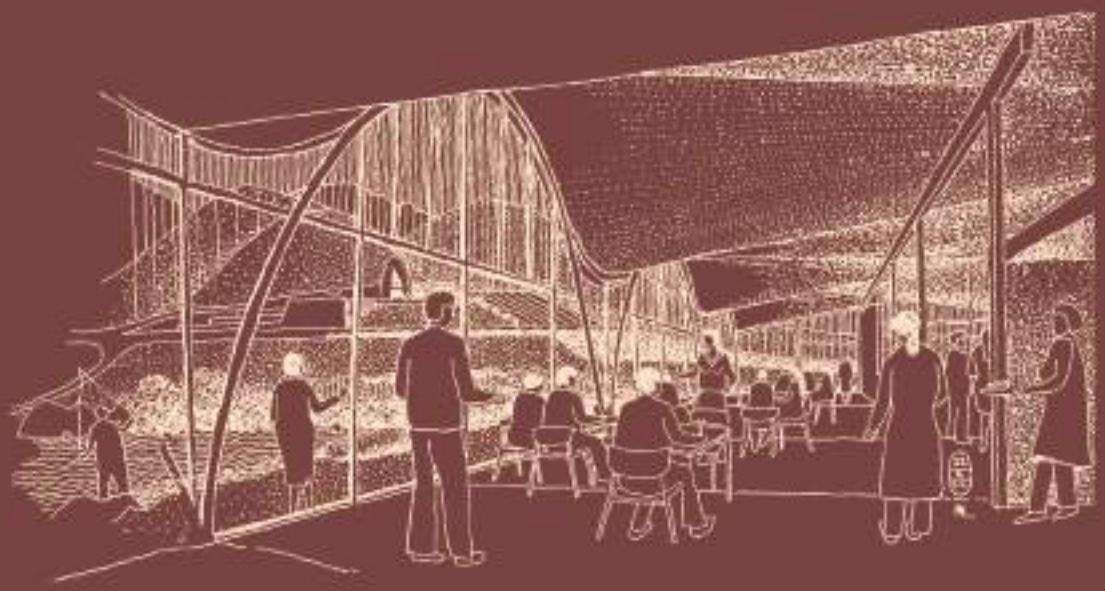


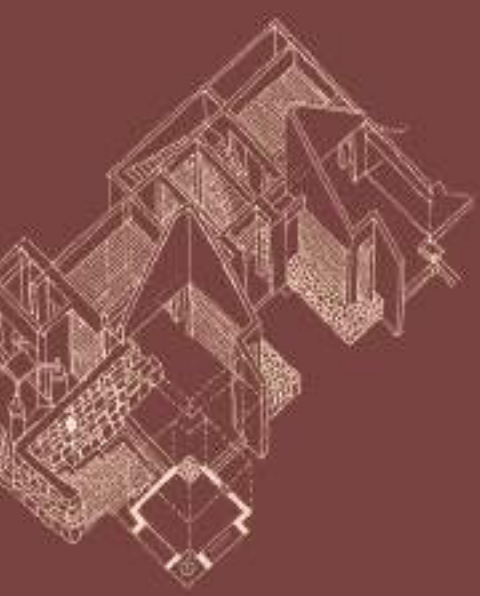
Walking into Mackintosh's library at the Glasgow School of Art is like entering a carefully composed piece of music, each element placed with intention, each silence holding meaning. The roof is the first thing that speaks, its timber grid drawing your eyes upward, as if inviting thought to rise. But it's not just a ceiling; it's a quiet order that holds the room together, giving shape to the air and rhythm to the light. This is Mackintosh's genius. The library, a perfect cube in plan, is anything but static. A three-sided gallery wraps around, suspending space within space, allowing the section to do more than support, it defines the mood. Here, plan and section co-compose, one generating, the other elevating.

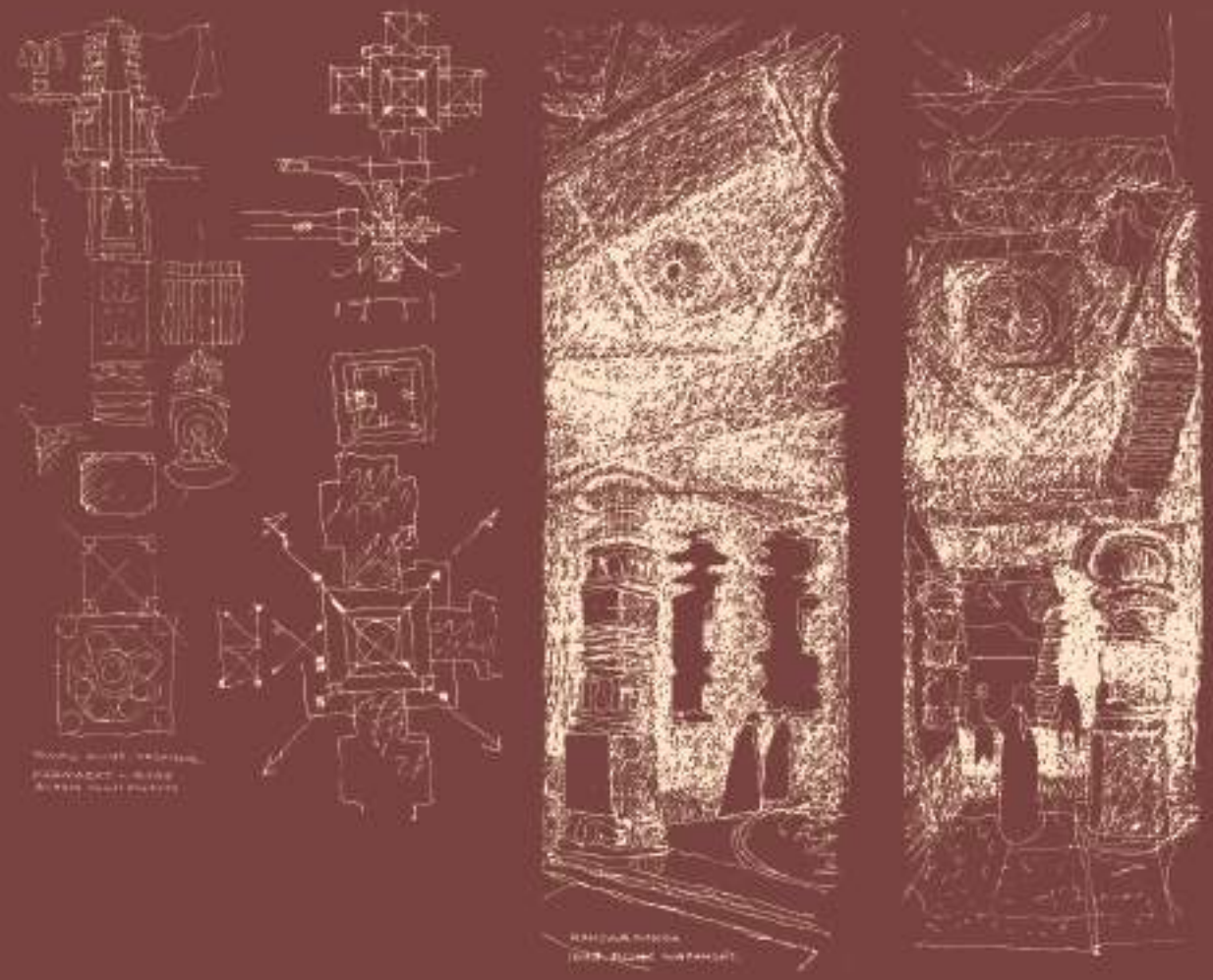


If Glasgow reveals light, timber, and structure breathing life into symmetry, Westridge House in Johannesburg explores how movement makes space come alive. Beneath a wide pyramidal roof, space shifts and spirals, drawing from Loos's Raumplan and African spatial thinking. Downstand beams sketch out a tartan grid, structural and ceremonial. Rooms unfold in rhythm, thresholds dissolve into landscape, and the house feels less like a composition and more like a lived story.

At Ranah in China, the roof becomes terrain, an undulating canopy of laminated bamboo that echoes the foothills beyond. Its structural members rotate gently along a central beam, balancing load and lyricism. Drawing inspiration from Gaudí, Corbusier, and Fagan, the design honours simplicity, care, and craft. The result is a shelter that feels grown from the ground it rests on.



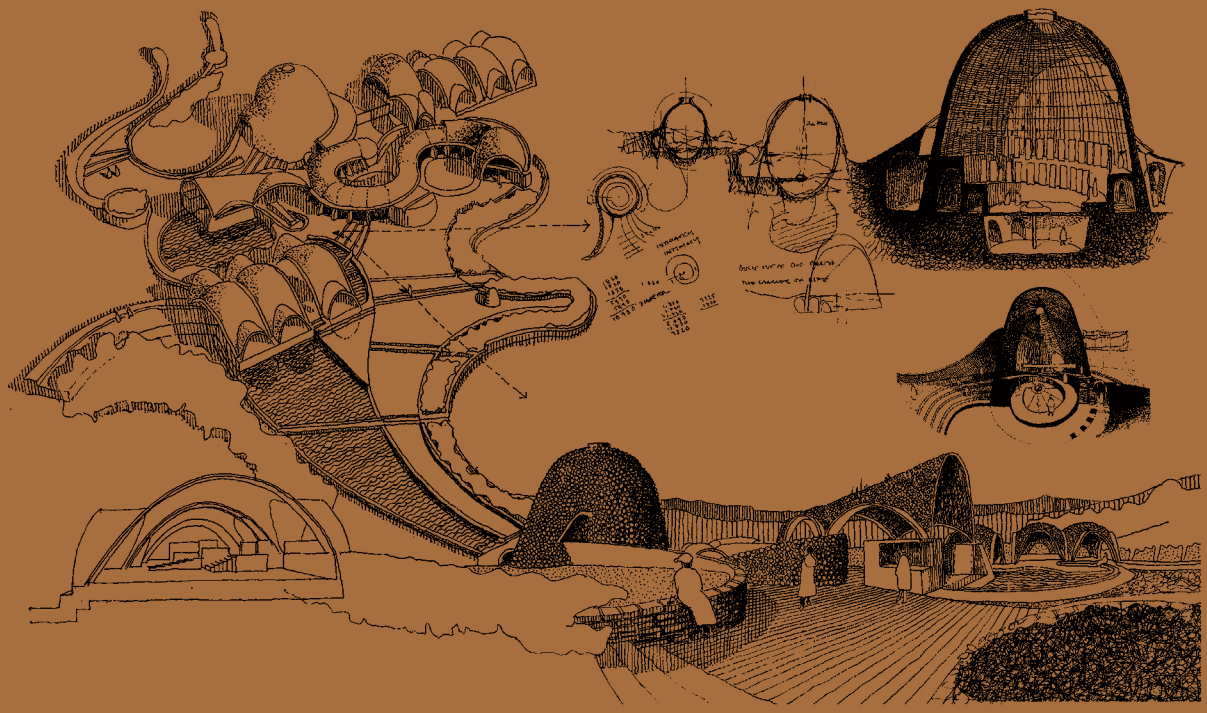




In Warangal, stone becomes atmosphere. A carved ceiling filters light like leaves through a canopy, and columns rise in silhouette, framing earth and sky. Geometry here is sacred, not abstract, a quiet mathematics of devotion. The roof gathers shadow, silence, and prayer into one spatial breath.

Further south, among the ruins of Hampi, a modest structure reveals profound meaning. A square within a square, centred around a framed aedicule, speaks of the ancestral and unseen. Short timber bearers radiate outward, echoing the chatra, a geometry of memory, belief, and the metaphysical held in form.

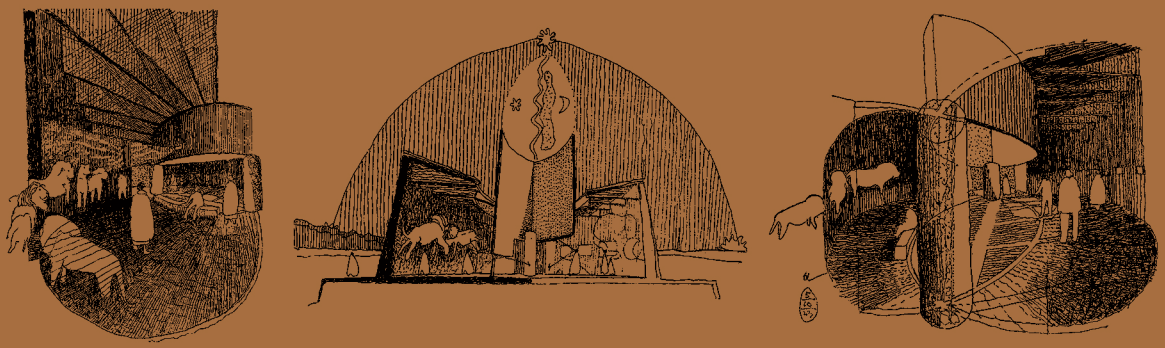
At Neelkanth Chhaya's retreat near Ahmedabad, a quiet platform rests above a rainwater tank, sheltered by a sloped roof that gathers the monsoon. A slender overhang frames the distant horizon, while filtered foliage softens the view. Here, architecture becomes an act of reverence, a place to pause, listen, and locate oneself within the rhythms of nature and the cosmos.



This same reverence shapes the Amazwi Voices of Women Centre, where soaring timbrel vaults rise lightly from the earth. Built from minimal means yet full of presence, the vaults are both protective and expressive. They give form to resilience, and to the strength of voices long held in silence.

On a ridge near Kruger National Park, the White Lion Interpretation Centre stands between sky and memory. Rooted in the vesica piscis, its “Eye to the Sky” opens the centre to sun, rain, and reflection. Flanking butterfly roofs shroud sacred darkness in light, turning shadow into invocation, silence into presence.

In Hazyview, the Sam Nzima Centre is a space for truth-telling and transformation. Earth-cement vaults fold gently under a sawtooth roof that channels soft southern light. Inspired by the coral tree’s petal, symbol of resistance, the building holds grief and hope in quiet balance, a monument to healing through knowledge.



And finally, Ronchamp. Le Corbusier's chapel hovers in contradiction, massive yet lifted, dark yet luminous. Its concrete shell floats on a ring of light, transforming roof into metaphor. Here, architecture becomes prayer, and structure becomes silence.

Each of these roofs, crafted, remembered, imagined, Wreveals something larger than construction. They hold not just space, but meaning. In their shade and shadow, we find echoes of culture, spirit, and the deep human longing to belong, to shelter, to transcend.

REFLECTIONS ON SHELTER, STRUCTURE, SPACE AND STORY

TAPAN K. CHAKRAVARTY

Prof. Tapan K. Chakravarty is an Architect, Urban Designer and Educator. He is alumnus of School of Planning & Architecture (Delhi) and Nottingham-Trent University (UK). Professionally engaged since 1985, he has worked with several Architecture & Urban Design firms in Delhi; and has also engaged with UNDP and INTACH. He runs a small Architecture & Design practice in Delhi.

Academically engaged since 1987, he has associated himself with eminent Institutes across India; and continues to engage with teaching & mentoring, curriculum structuring and pedagogical practices in Architecture & Design Education. His interests include Vernacular Architecture, Traditional Settlements, and Design Education.

UNDER COVER

Text & Photos: Tapan K. Chakravarty | Sketches: Siddhartha Mitra

When an apple fell on Newton's head, it set him thinking about the path that pesky fruit took once it detached from a branch above. This seemingly innocuous incident culminated in Newton's Law of Universal Gravitation. Yet a quiet bystander, a silently observant designer, stood conjecturing Newton's presence beneath that branch. Newton certainly wasn't there to pluck apples for pleasure; else, the falling fruit would have struck his upturned face rather than the crown of his head. A plausible reason would be that the inventor had paused for some rest or was simply killing time sitting under a tree. Who doesn't like to sit under a tree? Not atop a tree, not beside a tree, but simply under its cover, relishing its shelter.

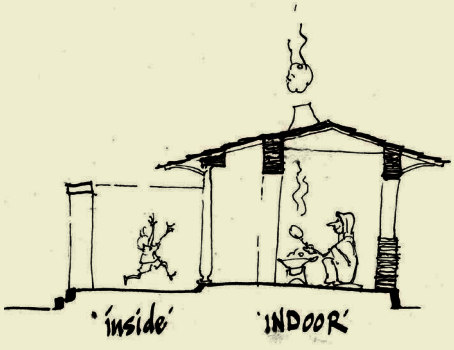
The gravity of a situation, with the apple & Sir Newton

'Shelter' has several connotations, yet one remains intact: it protects from harm or danger, typically from harsh weather or physical assault. When we visualise 'shelter', two obvious components come to mind: walls and roof. While walls fend off physical threats from hostile animals and humans, the roof stands as a shield against harsh weather, rain, frost, and sun. Interestingly, a stand-alone roof, with no walls to complement it, is still perceived as 'shelter', while the opposite remains simply an 'enclosure'. The roof, therefore, is the unchallenged primary component of shelter. No roof equals no shelter.

No roof means no shelter; no shelter means no safety.

Enclosures and shelters segregate inside spaces from outside ones and separate indoor spaces from outdoor ones. The determinants of outside–inside and outdoor–indoor remain tricky and dependent on human perception. Indoor and inside spaces share similarities yet have distinct features. While 'inside' refers to being within any space, even if open to the sky, 'indoor' refers specifically to a space with overhead cover. A central courtyard is an inside space, but not an indoor space. Broadly, all indoor spaces are inside spaces, but not all inside spaces are indoor spaces.

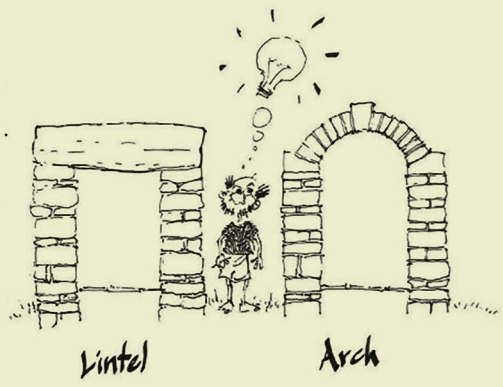
Though the supposition of 'side' in inside spells a spatial separation between two 'sides' of an enclosing wall, the supposition of 'door' in indoor is somewhat stretched. Every indoor space does not necessarily have a 'door' or even lockability of any sort. Having a roof as the barrier between the undercover space and the open sky is sufficient to define an indoor space. No roof equals no indoors.



No roof, no indoors, is just the endless outside.

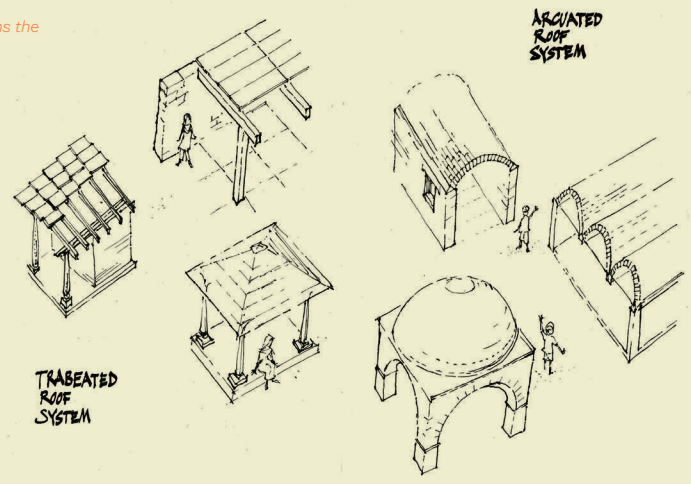
Interior architects and designers deal with indoor spaces, making the roof an important physical and spatial construct. The space trapped between the floor and ceiling is the spatial domain of the interior architect. The underside of the roof, the ceiling, is no less significant than the floor for conceiving an interior layout. Though the floor remains a stable entity connected to the earth, the ceiling is the mutable entity that hangs between the earth and the sky. The roof and the ceiling are akin to 'two sides of a coin', appearing different yet connected and inseparable.

Spanning a roof over a set of walls, columns, or pillars is the core premise of structural engineering. Centuries of experimental rigour have evolved distinct systems of spanning roofs over our heads. These systems, dependent on and inspired by locally available building materials across different regions, have remarkably resulted in only two possible engineering techniques.



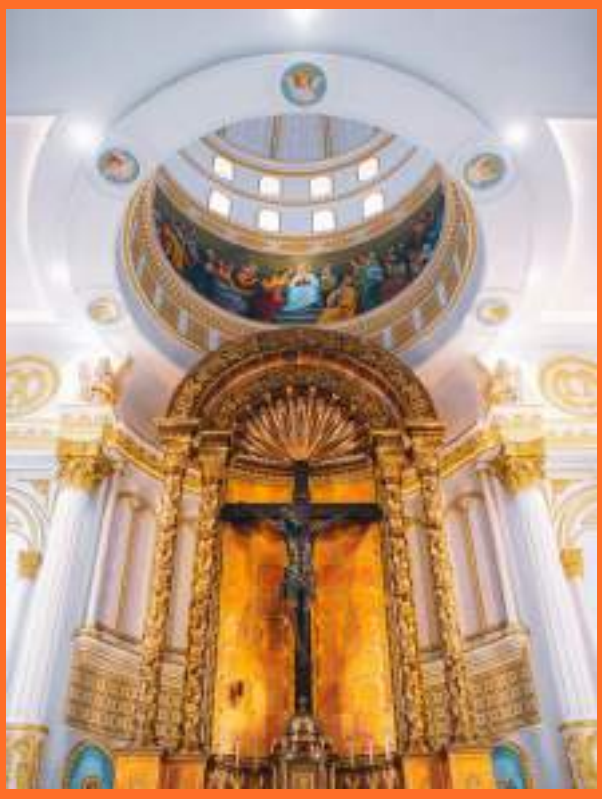
Whether with a beam or a curve, the challenge of crossing a void remains the same.

The two primary systems of roof construction are recognised as Trabeated Structures (column and beam, rafter and purlin, corbel and bracket) and Arcuated Structures (arches, domes, and vaults). These structural systems, along with their nuanced temporal and geographical variations, not only shaped the external form of architecture but also gave rise to corresponding and complementary interior spaces. Across history, these two structural approaches have profoundly defined spatial typologies, influencing both form and experience with remarkable impact.



Trabeated and Arcuated systems, geometry in structure: square, triangle, circle.

Decorated ceiling of a domed roof with radiating ribs, Red Fort in Delhi. Photo by Nard Get



Decorated ceiling of a domed roof, animated by a play of light at the Altar in Annai Velankanni Shrine in India. Photo by General Kenobi

The hemispherical ceiling formed by a domical roof in an arcuated structure evokes the sky within an enclosed space. This spatial metaphor has long captivated artistic imagination, inspiring extraordinary expressions across Europe and the Middle East. In India, Indo-Islamic and Indo-Saracenic architecture reveal similar splendours, not only through the visual richness of painted and ornamented ceilings, but also through the dramatic acoustical and optical effects produced by the three-dimensional curvilinear geometry. These domed interiors transcend structure, becoming immersive, sensory experiences.

Placing a circular domical roof over a square room has profoundly influenced the evolution of Interior Architecture. The idiom “a round peg in a square hole,” often used to imply misfit or incompatibility, never deterred architectural ingenuity. For centuries, the challenge of bridging this geometric contrast has sparked creative structural solutions. The introduction of pendentives and squinches, devices that soften or transform the square's right-angled corners to accommodate a circular base, gave rise to two distinct architectural expressions within the arcuated system. These structural interventions are prominently visible in the interiors of churches and mosques, where their spatial and symbolic presence is unmistakable. Uniquely, India is home to exemplary manifestations of both approaches, offering a rare architectural continuum within a single cultural landscape.

Trabeated structures likely predate arcuated ones and are found across civilisations and continents. Most ancient cultures, including those of the River Valleys (Egypt, Harappa, China), the Meso-American civilisations (Olmec, Aztec, Maya), and the Aegean region (Mycenae, Crete, Greece), relied on the trabeated system. A common thread among them was the use of timber as a primary roofing material, which influenced three dominant roof forms: pyramidal, sloping, and flat.

Among these, the flat roof, perhaps the least romantic spatially, has become most prevalent in urban settings, especially in warm and arid climates. Structurally more demanding and technically intensive to build, flat roofs are rare in vernacular traditions. However, in densely built urban environments where open ground space is scarce, the flat roof emerges as a multifunctional terrace, a pragmatic extension of indoor life. Whether as spaces for sleeping under the stars, drying clothes, flying kites, or, more recently, for terrace gardens and rooftop gatherings, these flat expanses continue to adapt to cultural and lifestyle shifts.

Interior-wise, the flat ceiling below such roofs often renders spaces box-like and uniform. This monotony becomes a creative canvas for interior architects, who reinterpret the ceiling through form, material, and lighting to create visual and spatial relief. While flat roofs demand constant maintenance, particularly with water drainage and cleaning, they offer structural and spatial advantages. Notably, they serve as intermediate slabs, where the roof of one storey becomes the floor of the next, enabling vertical expansion in space-constrained environments.

Columns, beams, and purlins frame the ceiling of an intermediate floor in Eşrefoğlu Mosque, Turkey. Photo by Mahmut

An intermediate floor, irrespective of the structural system, is invariably a flat roof to the storey below. This structural inevitability has led to fascinating ceiling innovations, particularly within the arcuated system, where the underside of floors transformed into shallow domes, jack-arches, and other forms that merge function with spatial drama. These often represent hybrid constructions, combining trabeated horizontality with arcuated curvature, a technique most evident in the evolution of jack-arches.

In contrast, sloping roofs are archetypal of trabeated systems, establishing a stark visual and geometric contrast to the arcuated mode. Where the arcuated system often generates a language of squares and circles, the trabeated-slope pairing gives rise to squares and triangles, introducing an entirely different architectural vocabulary. This triad of vertical, horizontal, and inclined elements, especially with the latter two defining the roof, offers immense geometrical flexibility. When paired with local materials and climatic logic, this leads to an astonishing range of roof forms that express distinct regional and cultural identities across the Old and New Worlds.

Intricate Wooden Ceiling With Geometric Pattern in a Spanish Palace - An ornate wooden ceiling features a complex geometric pattern of squares and diamonds, with dark blue inlays. Photo by Eric Prouzet

Unlike flat roofs, which impose a consistent ceiling height below, sloping roofs create variable interior volumes, with changing heights and gradients across the span. The spatial outcomes are as diverse as their structural typologies, mono-pitched, double-pitched, hipped, or pyramidal, each giving rise to angular and dynamic three-dimensional interiors. These sloped geometries are not merely aesthetic; they offer functional advantages, from attics for storage to natural ventilation strategies that funnel out smoke or heat.

Perhaps more than any other roof form, the sloping roof offers volumetric richness. Unlike the two-dimensional ceiling planes of inverted domes, sloping interiors enable spatial narratives through structure itself. The exposed undersides of traditional pitched roofs, rafters, purlins, battens, and trusses form a visually engaging matrix. These structural elements, rather than being concealed, often become aesthetic features in their own right. Across vernacular traditions, from the Himalayan valleys to the Deccan plateau, one finds exquisite examples where such layers are further enhanced through artistic craftsmanship, offering a blend of tectonics and ornament that is both regionally expressive and culturally embedded.

Ceiling of a sloping roof with timber trusses at Art Gallery of Ontario, Canada.
Photo by Anil Baki Durmus

Modern architectural building practices tend to favour flat roofs for various reasons and considerations, unless an aspirational 'organic' or 'parametric' form is the predetermined premise for an iconic monument. Perhaps the repetitive nature of multistorey buildings or the need for terraces to house service equipment prompts this intuitive decision, resulting in an insipid skyline. The visual verticality of the modern built environment has surely overtaken the horizontality of traditional and vernacular built forms. The role of the 'skyline' is minimised.

The functional and aesthetic design of interior spaces follows a similar pattern of practice. The immediate underside of the structural ceiling is now the necessary home for wires, pipes, and ducts, often creating a visually chaotic jumble of conduits that must be concealed by a second layer of non-structural ceiling. The use of false ceilings becomes the norm rather than the exception and quietly separates the 'two sides of the coin'. The RCP (Reflected Ceiling Plan) of interior design is now a far more important and significant drawing than the Roof Plan of architectural design.

So, is it true that we no longer raise the roof in the roofs we raise now?

Perhaps it is time to,

Arise and raise a roof above
On walls for it to remain,
To shelter your loving folks
From heat, cold and rain.

As they lounge, looking up
Seeking things to stare,
Work a ceiling nice & good
And let it not stay bare.

But don't lose the coin within
Along with its faces two,
Heads or Tails aside a toss
May hold good values too.

From Shelter to Statement: The Meaning Behind the Roofs We Raise

HELD BETWE EARTH & SKY

Roofscapes of Play and Pause

APARNA DHARESHWAR

What if a roof could do more than shelter? What if it could spark wonder, hold memory, and extend the ground into the sky? In places where spaces must do more with less, the roof can become the most eloquent part of a building, not just a cover, but a surface of invitation, imagination, and interaction.

In designing a small library in rural Maharashtra, we began not with walls or windows, but with the idea of a roof that children could run across, sit beneath, and grow up remembering. We asked how architecture might rise from the earth and stretch toward the celestial, not to enclose, but to unfold.

This project is not merely about structure or form. It's about belief: in light, in learning, in landscape, and the quiet power of space to shape possibility. The Maya Somaiya Library is an offering to that belief, a terrain of brick and breath where the roof becomes a bridge between the grounded and the infinite.

Aparna graduated from Mumbai in 1994 and has spent three decades working across commercial and residential architecture projects. As a Partner at Sameep Padora and Associates, she oversees the studio's operations, developing the production standards that ensure every project meets their exacting quality benchmarks.

Her expertise lies in the often underappreciated but critical areas of project management and client relations. Aparna has overseen the execution of several of sP+a's most celebrated works, including the award-winning Jetavan and Maya Somaiya Library projects in rural Maharashtra, as well as the Temple of Steps in Nandyal.
She's also taught as an Adjunct Professor in Architectural Design at the University of Wisconsin's School of Architecture and Urban Planning, bringing practical experience into the academic realm. Currently, Aparna runs sP+a's Chicago studio, expanding the practice's reach while maintaining the design rigor the firm is known for.

EN

The site chosen for this small addition of a children's library within a school in rural Maharashtra was a sliver between existing buildings and the school boundary. This site almost implied a linear building footprint to adjust the program for the chosen location.

Sweeping terracotta vault connects the Earth and the Sky.

The roof's public accessibility creates opportunities for intergenerational exchange and informal learning

Alluding to the impetus that children have towards landscape over a building, we imagined the library building to be a formal extension of the ground plane – a place inside to study and a place above to play. With the limited teaching resources available in the broader vicinity, we needed the inspiring spatial experience to be a magnet to attract students and hopefully other residents from the nearby settlements after school hours.

On our first visit to the site, it was interesting to see Geodesic structures built by an engineer for a few school buildings. We were somewhat encouraged by this to pursue a project that followed from construction intelligence. We hence parsed through several possible material configurations ranging from concrete shells to brick vaults for building this 'architectural landscape.' At this point, we were captivated by the material efficiencies of the Catalan tile vault from the 16th century. Gustavino used it in the early 19th century, and finally, the incredible details from Eladio Dieste from the mid-twentieth century. While working with the specific site condition, we used Rhino Vault, developed by the Block Research Group at the ETH, to articulate a pure compression form.

The library lies at the intersection of a student's daily routine. It became a pavilion accessed from multiple sides, with students potentially engaging with books while traversing through the library or over it. The library interior has varied spatial & seating systems, a floor stool system towards the edges for a more intimate study area, and towards the centre, tables, and stools for collaborative study. The self-structured window bays are striated profiles for increased stability with economic window section sizes.

The construction technology for the project also makes a case to re-examine the old binaries of the global and local as being in opposition. The regional or the local

within the South Asian paradigm typically manifests within strict formal constraints of the style in memory. This is often at the expense of material efficiencies. Our Maya Somaiya Library stands as a testament to the roof's evolving role. The traditional notion of the roof as a mere protective covering dissolves into something more ambitious: an inhabitable landscape that challenges our understanding of interior and exterior space.

A Breathing Architecture

This vision finds its expression in a flowing brick vault. We intended to create something that would grow naturally from the earth itself, rising and then settling back into the terrain. The masonry vault lifts skyward, flows outward, and then gently nestles into the surrounding ground. Despite its solid brick construction, the form carries an almost textile quality, soft and welcoming rather than imposing or fortress-like.

With a width of 25 ft and span of 150 ft, it is probably the widest and longest example of the Catalan vault built to date and is also the first permanent structure of its kind. It has no intermediate supports, so the resultant form generates a free-flowing, unobstructed space.

It also optimises the use of materials. Three layers of 20mm brick tiles were laid perpendicular to each other and held together by mortar, so the structure carries only 140 tonnes of self-weight. The steel cage employed as formwork to construct the first tile layer was later reused in other buildings.
What emerged from this landscape-thinking is a sanctuary suspended between earth and sky, where young minds can find refuge in the liminal space between the grounded and the celestial.

Spaces That Breathe and Shelter

The vault's undulating surface creates varied ceiling heights that establish intimate reading alcoves alongside expansive gathering spaces. Moving through the interior is like traversing interconnected chambers, each with its own atmospheric quality. Where the vault dips low, cosy reading nooks emerge naturally, their compressed height creating protection and focus. Where the roof soars higher, communal areas open up, fostering group activities and collaborative learning.

The quality of illumination changes with time and position; the curved surfaces create private acoustic pockets

Strategic apertures within the roof structure allow natural light to filter through in shifting patterns. Children reading beneath this canopy experience light as a living thing, sometimes gentle and diffused, sometimes dramatic and directional. The quality of illumination changes with time and position, and choosing where to sit is part of the spatial experience.

Sound behaves differently here, too, the curved surfaces creating acoustic pockets where whispered conversations remain private, while also allowing the gentle hum of collective activity to permeate the space without overwhelming individual concentration.

A Playground in the Sky

Our library's most radical proposition lies in its treatment of the roof as public space. While traditional libraries confine activity to interior volumes, our Maya Somaiya Library extends its program across its entire surface. The roof becomes a playground, meeting ground, and vantage point, transforming the building from a static container into an active participant in community life. This approach to circulation encourages exploration across its entire surface, creating a three-dimensional system that moves the building part of the educational experience itself. The vault's form provides excellent thermal performance, reducing energy requirements while creating comfortable interior conditions. The earth-sheltered portions leverage natural cooling strategies, while elevated sections promote air circulation.

Cultural Impact and Community Building

The building's scale and design signal investment in community development. The roof becomes a symbol of aspiration, one manifestation of the community's commitment to learning and growth. The roof's public accessibility creates opportunities for intergenerational exchange and informal learning that extend the library's educational mission beyond its walls.

Reflections on Practice

Working on the Maya Somaiya Library revealed how fundamental building elements can be reconceptualised to serve expanded functions, the roof here operates simultaneously as shelter, circulation space, recreational facility, and community symbol. The project emerged from careful attention to local conditions and resources. Rather than imposing external solutions, the design responds to specific climatic, cultural, and economic contexts while achieving particular spatial and environmental performance.

Working on the Maya Somaiya Library raised questions about architecture's social and environmental responsibilities. Through its treatment of the roof as landscape, the project explores how design can serve multiple constituencies simultaneously. As we face increasingly complex environmental and social challenges, projects like our Maya Somaiya Library suggest that the roofs we raise extend far beyond their protective origins. They become vehicles for cultural expression, community building, and spatial innovation.

The library exists as one attempt at raising not just structures, but collective aspirations for a more sustainable, equitable, and beautiful world. It represents one vision of how traditional building elements can be transformed through innovative thinking to serve expanded cultural and programmatic purposes.

Working on our Maya Somaiya Library revealed that a roof is never just a roof. It becomes a horizon we build, a sky we shape, a promise we make to those who will shelter beneath it. In that promise lies one understanding of architecture's potential, not just to protect, but to inspire, to connect, and to elevate the human spirit.

The earth-sheltered portions leverage natural cooling strategies, while elevated sections promote air circulation

(Below) Aparna Dhareshwar

PROJECT TITLE:
Maya Somaiya Library, Sharda School.

LOCATION: Kopergaon, Maharashtra

ARCHITECTS: Sameep Padora & Associates
DESIGN TEAM: Vami Seth Koticha, Archita Banerjee, Manasi Punde, Aparna Dhareshwar
STRUCTURAL ENGINEERING
FOUNDATION DESIGN: Sameer Sawant
Superstructure: Rhino Vault, Vivek Garg

CONTRACTOR
UNIQUE CONCRETE: Rajesh Murkar, Milind Naik
SITE SUPERVISION: Zubair Kachawa
CLIENT: Somaiya Vidyavihar
SITE AREA: 3 acres
TOTAL FLOOR AREA: 5750 square feet
DESIGN PHASE: May 2014 - November 2015
CONSTRUCTION PHASE: August 2017- May 2018

MATERIALS
SUPER STRUCTURE: 20mm thick Brick Tile
FLOORING: Kota Stone
WINDOWS: Aluminium, Wood, Glass
FURNITURE: Pre-laminated Wood PlyDesign

The wide and long Catalan vault has no intermediate supports, which ensures free-flowing form

The Roof is not the Limit!

SENTHIL KUMAR DOSS

Senthil Kumar Doss, is an International award-winning architect and founder of Play Architecture in Bangalore, India. A graduate of NIT Trichy, he began his career under architect B.V. Doshi and later worked with Architect Dominic Dube on Auroville's master planning and sustainable housing. Known for his research on Timbrel vaulting, he collaborated with South African architect Peter Rich, who named the technique the 'Skud Vault for its unique geometry.' Senthil's work has won multiple international awards, including at the World Architecture Festival 2022 and 2024, exhibited works at Salone De Mobile, Italy, guest lectured at UNESCO Forum, Valencia, Spain. He is also an academician, researcher, and passionate martial artist.

The primordial quest of humankind, or, for that matter, many life forms, since time immemorial, has been to have a roof over one's head, a phrase that transcends its literal meaning to symbolise the basic human need for shelter, safety, privacy, and belonging. From the nests of birds to the mud dwellings of early humans, the instinct to cover and protect oneself from the elements reflects our earliest architectural impulse.

Yet, as we transcended survival and began to address deeper emotional, societal, and spiritual needs, this simple idea evolved into something far more expressive and layered. The idiom transformed: from needing "a roof over your head" to "raising the roof", a phrase that speaks of celebration, scale, and the human ability to shape space into something that stirs the soul.

A roof is much more than a physical cover; it is an emblem. It speaks of power, hierarchy, spiritual resonance, and our understanding of space and form. Historically, the roof has been a marker of meaning. Whether it's the soaring spires of a cathedral, the gilded dome of a temple, or the humble thatch of a village hut, it defines the silhouette of civilisation itself. The scale, proportion, and elevation of the roof are not merely aesthetic choices; they define how we read architecture and what it stands for.

Aerial view of the vaulted dining space at Devadhare.
© Bharath Ramamrutham, GRAF Media.

In the simplest terms, the fundamental architectural notions of enclosed, semi-enclosed, and open are intrinsically tied to the nature and behaviour of the roof. Functionally, the roof plays a critical role in controlling climate, especially in the tropical context, where shade, ventilation, and materiality define comfort. It's often the primary mediator between the external environment and internal experience. When we speak of spatial experiences like those described in In Praise of Shadows by Jun'ichirō Tanizaki or Atmospheres by Peter Zumthor, the roof silently smiles; it knows it is the quiet protagonist of these stories.

Architects through time have elevated the roof into an expressive medium. Take Antonio Gaudí, whose fascination with natural forms found sublime expression in the sinuous rooflines of La Sagrada Familia. In this work, the roof does not sit on the building; it grows from it, blurring the boundary between structure and sky. It connects the earthly to the celestial, establishing a transcendental conversation between the human and the divine.

On the other side of the world, the Brihadeeswarar Temple in Thanjavur, India, offers a different kind of symbolism. Its towering vimana (roof structure) is a vertical assertion of power and cosmic order. Designed in concentric geometries that reflect the ancient understanding of the universe, it serves as a diagram of political might and religious devotion.

Despite their differences in time, place, and purpose, both Gaudí's cathedral and the Thanjavur temple transcend mere shelter; they become urban markers, spiritual instruments, and structural marvels.

In the contemporary world, Le Corbusier's Parliament building in Chandigarh stands as another critical reflection. When questioned about the peculiar form of its cooling-tower-like roof, Corbusier famously joked that "Indian politics is so hot, it needs a cooling tower." Beneath the humour lies an architectural truth: the roof can be an instrument of both performance and provocation. It protects, it expresses, and it responds.

Beyond its physical attributes, the roof is also a metaphor. It represents emotional safety, psychological comfort, and a sense of belonging. Shade, created by a roof or canopy, often symbolises peace or refuge, offering a momentary pause from chaos. Literature and poetry often find meaning in these elements: the sound of rain on a tin roof conjures nostalgia, a rooftop terrace can be a sanctuary, and the shadow of a large banyan tree over a thatched roof may be remembered as home.
In our current times, design is facing an urgent imperative: sustainability. The roof, as the most exposed and expensive part of any structure, becomes central to this shift. Its form, material, insulation, and ability to harvest energy or water are all vital in shaping responsible architecture. If misunderstood, roofs can carry high embodied energy and contribute to ecological degradation. If done thoughtfully, they can instead become icons of sustainability and resilience.

This ethos has guided much of Play Architecture's work. Inspired by the legendary Peter Rich's Mapungubwe Interpretation Centre in South Africa, I found myself returning to the ancient wisdom of masonry, particularly timbrel vaulting. Having spent years living and working in Auroville, a place deeply rooted in experimental and ecological architecture, masonry vaults and domes became daily companions in practice.

Beyond its physical attributes, the roof is also a metaphor. It represents emotional safety, psychological comfort, and a sense of belonging.

View from the Dining space overlooking the lake at Devadhare.
© Bharath Ramamrutham, GRAF Media

The timbrel vault, or Catalan vault, constructed from layers of thin clay tiles, is not only materially efficient but geometrically expressive. The beauty of this method lies in the way each layer contributes to the transfer of forces, allowing for elegant spans with minimal material. Through hands-on experience and a deep understanding of geometry and force, we have reached a place where we can intuitively design and build these vaults, bypassing over-engineered solutions.

Our Dining Space at Devadhare, Sakleshpur, stands as a testament to this approach, timeless, tactile, and seemingly as light as paper. In recent workshops, we've successfully experimented with vaults thinner than 50mm, an astonishing achievement that feels closer to origami than conventional construction.

A Mexican wave performed by a team of visiting architects stands as a testament to the structural stability at Devadhare.
© Bharath Ramamrutham, GRAF Media.

View from dining space extending to the outdoor courtyard and seating at OH HO Residence. © Dinesh _ Studio f8

The living area connects to the central courtyard and the adjoining dining space at OH HO Residence. © Dinesh _ Studio f8

In contrast, our OHHO Residence, where I currently reside, emerged as a poetic investigation into stone. Starting with a romantic idea and ending with a tectonic expression, this house celebrates Karnataka's indigenous Chapdi stone. Conventional engineering dismisses stone for structural use, particularly for spanning elements like roofs, because of its weakness in tension. Yet, through rigorous testing and deep engagement with traditional precedents, we developed a purely stone-built structure, where the roof became the most intricate and rewarding exploration. This project, more than anything, taught me that working with a material is not the same as understanding its materiality.

We are now working on two projects in Sakleshpur, where the roof again becomes the protagonist. At Devadhare, a conference and multipurpose hall experiments with reciprocal roofing, an ancient principle reimagined at previously unexplored spans. Using scrap engineered bamboo poles originally sourced from Terminal 2 of Bengaluru Airport, this structure weaves sustainability with ingenuity. The result is a dramatic yet grounded space built with thatch and bamboo, ephemeral in presence but rooted in place.

View from the conference hall's roof structure at Devadhare. ©Pathrick Gowda AK.

Aerial view of the conference hall's reciprocal roof structure at Devadhare. ©Pathrick Gowda AK.

Interior view of the conference hall, highlighting the reciprocal roof at Devadhare.
©Pathrick Gowda AK.

View from the grid shell roof of the Experience Centre at Sakleshpur. ©Play Architecture

The second project, fittingly titled One With the Nature, is an experimental canvas of biomimicry and digital-to-analogue construction logic. The ferroconcrete roof, conceived as a monolithic grid shell, is formed from a complex network of curving beams and slabs that behave as a single flowing organism. It reflects a new material intelligence, one where structural behaviour is not imposed but discovered, and where form becomes an outcome of both design intent and environmental empathy.

Architectural competitions become a testing ground as we explore the idea of monumentality and religion in a proposal for an Iconic Mosque in Dubai. This project tests the idea of a roof form as a celestial connector, both symbolically and spiritually, through an amalgamation of parametric processes and rituals that shape the structure.

Aerial view of the Iconic Mosque in Dubai. ©Play architecture

In retrospect, the roof is not simply an architectural element; it is an architectural statement. It cradles our most basic needs and lifts our highest ambitions. From ancient shrines to future-facing pavilions, from whispering vaults to shouting domes, the roof is a mirror of who we are and what we aspire to be. It encodes our cultural memory, our political aspirations, our spiritual longings, and our environmental consciousness.

As designers and stewards of the built world, we must listen closely to the land, to the past, and to the future. The roof, in all its humble majesty, reminds us of our duty to balance tradition with innovation, performance with poetry, and form with feeling. In the end, a roof is not merely something built over us; it is something we build under, and in many ways, within. If crafted with care, understanding, and intention, it may be the closest we come to touching the sky while staying deeply rooted to the earth.

View from the prayer hall reveals the intricate roof structure of Dubai's iconic mosque. © Play Architecture.

Redefining Shelter: Design and Architecture as Agency

SANDEEP VIRMANI

What is a home, if not the first expression of freedom?
To build a roof is never just to seek shelter. It is to claim dignity, rewrite history, and imagine a future. Across caste-divided landscapes and disaster-hit regions, the roof becomes more than cover; it becomes a quiet act of resistance. Whether shaped from bamboo, mud, or brick, it speaks of belonging, memory, and hope. In the hands of the excluded and the determined, roofing a home becomes an assertion- against injustice, against erasure. Design, then, is not merely a product, but a process of healing, an intervention. A revolution woven from community, tradition, and care.

Sandeep is an architect who has spent over 35 years building institutions that centre local knowledge, sustainability, and community resilience. Based in Bhuj, a desert town in western India, he has played a key role in shaping four pioneering organisations. Hunnarshala Foundation has enabled the construction of thousands of homes by reviving and adapting traditional building techniques. Through Sahjeevan, he has helped pastoral communities gain recognition for their indigenous animal husbandry systems and supported forest-dwelling communities in conserving their habitats and biodiversity. Arid Communities and Technologies has assisted desert villages in securing drinking water using decentralised, locally rooted methods. Satvik's work in verifying and multiplying rain-fed crops has shown their role in addressing climate vulnerability. Sandeep's work bridges science, tradition, and grassroots participation. Beyond his professional life, he practises yoga, paints, and writes stories, living with the same quiet reflection and purpose that guide his institutional work.

Early in my journey, two projects taught me that architecture can restore not only structures, but self-worth. That shelter, when built with intention, can be a political act; and dignity can also be design. In south Gujarat's Golana village, a Dalit community was brutally attacked by Rajputs for daring to envision their settlement under India's social housing scheme. Four community leaders were murdered, others hospitalised, casualties not just of violence, but of a centuries-deep caste system. Yet the Dalits refused to bow. Building the village became an act of resistance, a path to emancipation. Though struggling for survival, five hundred people rose each morning at four, constructing homes before setting off to earn their day's wages. Each brick laid defied history. The atmosphere throbbed with courage, where liberation took visible form. In the central courtyard, I raised a marble torch, its flare a solemn promise that oppression would never again define this community.

The second formative project came through a women's organisation in Kutch, where women from various castes wanted to create a shared space in their village. In these patriarchal societies, women not only lacked public spaces of their own but were traditionally excluded from domains of design and construction. Together, we defied these norms, building 19 community centres, each beautifully crafted by the women themselves.

These experiences taught me that to raise a roof is also to raise a voice, a voice that challenges silence, exclusion, and hierarchy. I learned that when communities come together to shape their own spaces, the act of roofing becomes transformative: not just physically protective, but socially and culturally liberating. A roof, when built collectively and with care, can become the clearest expression of equality, resilience, and hope.

Owner-driven building empowers communities to rebuild with dignity, choice, and control, turning construction into an act of self-determination.

After the 2001 Gujarat earthquake, we proposed an alternative to contractor-led rebuilding. We advocated for owner-driven reconstruction, where villagers would receive funds in instalments to rebuild their homes with support, not control. This approach allowed communities to shape their environments in their image, reinforcing cultural identities and self-worth.

This 'owner-driven' policy was hugely successful, and is now offered by the World Bank and the UN to all governments all over the world. We also helped the governments develop technical guidelines to support the cultural expressions of the communities. In Kutch, the Meghwals (also Dalits) had invented the circular Bhungas to avoid having susceptible corners of rectangular buildings, to be able to resist the earthquakes' lateral thrusts. We went on to help many governments with their post-disaster policies; in Bihar, the Dabia community (maha Dalits) built bamboo homes that

have the ductility to resist earthquakes; the government agreed that each Dabia would supervise the construction of 200 homes each, changing their status in society. In Kashmir, they built isolated foundations where the building superstructure is separated from the foundation so the earthquake energy does not enter the building and in Nepal, we used the Uttarakhand traditional technique of confined masonry, where the stone and mud mortar wall is held in place with wood or wires so the wall does not collapse as the building shakes. All these technologies became part of the government technical guidelines, providing not just low-carbon, eco-friendly buildings but reinforcing the community's identity, that their knowledge systems matter.

Communities don't seek charity, they seek recognition. Centuries of colonialism and capitalist models have eroded their self-worth, portraying indigenous knowledge systems as regressive. Unfortunately, independent India continued this narrative.

Built by the hands and hopes of locals, Shaam-e-Sarhad stands as a powerful symbol of community-led design, dignity, and self-reliance.

In 2013, following horrific communal riots in Muzaffarnagar and Shamli (Uttar Pradesh), we worked with displaced Muslim families in relief camps. Visiting their abandoned villages with Nawab Mistry, a traditional mason, we discovered a remarkable shallow brick dome roofing technology, strong, low-cost, and ideal for future vertical expansion. Unlike RCC, which deteriorates under tropical conditions, these domes could last centuries. We organised a seminar in Delhi to bring artisans, architects and developers together. From a handful of masons, this network has grown, and with it, a community's pride and healing.

Al Ain became a rare cross-border collaboration where Indian artisans revived ancient Gulf earthen architecture, bridging desert knowledge systems across regions.

India's massive social housing schemes often impose standard RCC roofs and brick walls nationwide, regardless of context. Yet many recipients didn't even live in these "pucca" homes, using them instead as storage or for animals, due to poor design and cultural mismatch. Further, the life of these rooms was often less than 20 years.

In Gujarat, we studied how people lived across 250 different spatial arrangements using just two rooms, a veranda, and a kitchen. As a result, the definition of 'pucca' was changed, now based on durability (30+ years) rather than materials. A technical committee approved traditional materials like mud, bamboo, wood, and stone for official housing. Later, the Ministry of Rural Development and UNDP replicated this across 17 states under the PAHAL program.

India's modern building industry has sidelined traditional artisans in favour of cement, concrete, and polymers, with a massive environmental toll. While several architects and clients wanted to build eco-friendly buildings, there were very few artisans in the market. Recognising this gap, we collaborated with master craftsmen to bridge tradition and modern practice.

In 2009, we were invited by Abu Dhabi's Department of Culture and Tourism to help restore 17th-century mud structures in Al Ain. Over 100 Indian artisans contributed, and Al Ain was later declared a UNESCO World Heritage city.

(Left) Men perform arzan at the mosque nearby, while women carry the same devotion quietly in their homes, each space holding its own sanctity in Muzaffarnagar.

Karigarshala is India's first residential school where young artisans learn by building, gaining skills, confidence, and dignity through hands-on, climate-sensitive construction.

Earnings from this project helped us establish Karigarshala, India's first residential school for artisans. Over 800 students have trained here in construction skills, environmental ethics, technical literacy, and entrepreneurship. At a time when architecture schools serve the market.

India's modern building industry has sidelined traditional artisans in favour of cement, concrete, and polymers, with a massive environmental toll. While several architects and clients wanted to build eco-friendly buildings, there were very few artisans in the market, especially those skilled in traditional roofing systems like domes, tiles, and bamboo trusses. Recognising this gap, we collaborated with master craftsmen to bridge tradition and modern practice.

We established a technical laboratory to generate data that could reassure structural engineers about the safety and efficacy of natural materials, earth, bamboo, wood, stone, lime, and the roofing techniques that accompany them. This opened new possibilities for architects and clients to build climate-resilient, culturally rooted, low-carbon structures, where even the roof carries the weight of identity and intention.

Today, shelter is our quiet rebellion. Through Hunnarshala, we have helped revive living heritage; from shallow domes in north India to sloped tile roofs in tribal Madhya Pradesh. Our artisan school, Karigarshala, now trains the next generation in the ethics and engineering of traditional shelters. These are not just skills; they are philosophies. At a time when design education chases market trends, we offer a roof to those who want to build differently. Because to raise a roof is still, in many places, to raise hope. And to design a roof with care is to insist that shelter can be just, joyful, and deeply human.

Hunnarshala is a people-led organisation that reimagines habitat through traditional knowledge, artisan skills, and community empowerment.

25 MOMENTS THAT DEFINED ROOFS

Roofs have long crowned not just our shelters, but our imaginations, quiet sentinels above, holding sky, story, and science in graceful tension.

From the first stretched thatch over timber bones to soaring vaults of steel and glass, roofs shape how we gather, protect, and dream. They do not merely cover; they respond. They channel wind, beckon light, soften rain, and frame the heavens.

In temples and palaces, they ascend as metaphors of faith, sovereignty, and the sacred. In modest homes, they breathe with the land, crafted from the wisdom of climate and culture. In arcades of glass and metal, they become promises of openness, transparency, and new possibility.

Where a wall divides, a roof unites. It holds space without sealing it, offers shelter without severing the sky. It is both completion and commencement, the final gesture that closes a room, and the first that reaches upward.
From Neolithic longhouses to kinetic canopies and living roofs, these 25 moments honour the roof as a living threshold, not just a structural element, but a quiet architecture of hope, spanning past and future, earth and ether.

01 6000 BCE

Neolithic Longhouses
Europe

The Framed Shelter of Early Settlements

Before cities rose or temples reached skyward, Neolithic communities in Europe lifted forests into form. Using simple post-and-beam structures, they joined timber trunks and rafters into long, pitched roofs that sheltered entire families, and sometimes entire villages, beneath one continuous spine. Thatched with reeds, straw, or turf, these roofs transformed open land into collective hearths, holding warmth through winters and breathing with the summer air. In these primal gestures, the first architecture emerged, not to conquer nature, but to shape it gently into shelter.

Archéodrome de Beaune, Bourgogne, France. *Christophe.Finot*

(Image on top) Neolithic Longhouse at Lismore Fields *Douglal*

02 4000 BCE

Megalithic Chambered Tomb Roofs
Europe

Stone Vaults Against Time

Long before timber spanned space, early builders turned to stone to roof the realms of the dead. In Neolithic Europe, massive megalithic tombs were crowned with corbelled vaults, dry-laid stones stacked with patient precision, each layer leaning inward to form a self-supporting dome without mortar or beam. At Newgrange in Ireland, the roof still holds fast after five thousand years, watertight and aligned to the winter solstice, when sunlight pierces its passage to touch the inner chamber. These roofs did more than enclose; they channelled light, ritual, and cosmic time. In weight, they found transcendence. In permanence, they offered passage, bridging earth and sky, life and afterlife.

Entrance to Dowth Megalithic Tomb *Jai*

Megalithic passage tomb *HEireann*

03 100 CE

Domed Roofs of Antiquity
Global

The Sky Captured in Stone

By the first century CE, the dome rose as one of architecture's most transcendent acts, enclosing vast space beneath a single curve, lifting the heavens into stone. In Rome, concrete and brick domes crowned temples, bathhouses, and halls, reaching their zenith in the Pantheon, where an oculus opens the roof to light, weather, and cosmos. Across Persia and Central Asia, corbelled and mudbrick domes cooled caravanserais and mosques, their silent interiors shaped to catch breath in the heat. Byzantium raised domes like halos atop Hagia Sophia, while India's sultans and Mughals sculpted marble domes that shimmered above tombs and sanctuaries, not as coverings, but as celestial echoes of paradise. Wherever they appeared, domes turned weight into grace and geometry into awe, capturing sky, silence, and eternity within a perfect curve.

Interior view of the Shah Jahan Mosque in Thatta — *A.Savin*

Dome of Rock and Chain of Temple Mount, Jerusalem — *Godot13*

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04 700 CE

Thatched Temple Roofs of Kyoto and Nara
Japan

Nature's Canopy for the Sacred

In the sacred groves of Kyoto and Nara, roofs were not imposed upon nature; they were drawn from it. Buddhist temples and Shinto shrines rose beneath sweeping thatched canopies, layered thick with reed or kaya grass, sometimes half a metre deep. These roofs cradle timber frames in silence, insulating them from sun, rain, and snow, while their wide eaves extend like gestures of welcome, sheltering moss-softened verandas and shadowed corridors where earth and spirit meet. Re-tied, re-thatched, and ritually renewed by hand, they speak of a time-honoured pact between humans and forests. In their quiet decay and cyclical rebirth, these roofs remind us that the sacred is not in permanence, but in care, a shelter that breathes, returns, and becomes forest once again.

Higashi-Honganji Temple, Kyoto — *Basile Morin*

(Image on top) Crest of thatched roof — *Edward S. Morse*

05 1100 CE

San Clemente Basilica
Italy

Timber detailed roof of San Clemente Basilica *Courtesy of Romeing*

The Painted Sky of Faith

Inside San Clemente Basilica, timber beams span the nave like quiet guardians, painted with saints, vines, and sacred emblems. These ceilings transformed humble wood into a narrative canopy, drawing worshippers into a world of colour and meaning just overhead. Unlike stone vaults, the painted timber breathes warmth into the sacred, layering structure with story and devotion. Long before murals adorned grand domes, these roofs whispered that shelter could also be scripture, a sky of faith written above.

Centuries later, Michelangelo's ceiling in the Sistine Chapel would echo this idea on a monumental scale. Between 1508 and 1512, he transformed the barrel vault into a cosmic stage of prophets and divine drama. The roof became not just cover, but canvas, fusing architecture and vision into a frescoed heaven. Above both altars and aisles, these ceilings reveal that the roof can be more than structure: it can be revelation.

Michelangelo's ceiling in the Sistine Chapel *Patrick Landy*

06 1250 CE

Konark Sun Temple
India

Stone Beams that Catch the Dawn

At Konark, the Sun Temple once rose like a chariot of stone, crowned by a towering shikhara carved with wheels, dancers, and solar deities. Though its great spire has long since fallen, the surviving mandapa roofs still reveal corbelled beams and stepped tiers designed to catch the first light of day. In dialogue with Khajuraho's spires and the layered grammar of Odisha's Kalinga style, these roofs turned stone into a sundial; tracing the passage of light across carved bodies and sacred scenes. Here, the roof was no mere cover, but a cosmic instrument, bridging sculpture, sunlight, and devotion in a temple shaped to honour the rhythms of the sun.

Tiered stone roof of Konark temple — *Pico Traveller*

Gopuram of Shore Temple in Mamallapuram (800 AD) — *Vyacheslav Argenberg*

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07 1260 CE

Westminster Hall
England

Timber Spans of Majesty

When medieval England sought to roof great halls without forest-like columns, master carpenters answered with the hammer-beam. At Westminster Hall, this timber canopy, completed in the 14th century, spans 20 metres with carved braces and beams that arc like the upturned hull of a ship. No iron lies hidden within, only oak, geometry, and joinery holding centuries of royal pageantry and parliamentary speech. Here, timber achieves its most daring reach, a wooden crown as commanding and enduring as the stone it rests upon.

Sketch of Westminster Hall — *George Hawkins*

Hammer-beam roof of Westminster Hall — *Mutovkin*

08 1300 CE

Sloped Roofs of the Monsoon World

India

Rain's Gentle Guardians

From Kerala's misted hills to Japan's wooded paddies and Java's fertile plains, steeply sloped roofs rise in quiet dialogue with the monsoon. In South India's Malabar region, the tiled Nalukettu homes cradle shaded courtyards beneath wide eaves, guiding heavy rains onto stone drains while cooling walls of timber and earth.

Sloped roof of a Kerala Mosque *T M Cyriac*

Vernacular terracotta roof of Padmanabhapuram Palace *Hellowikidoc*

In Japan, minka farmhouses have thatched or shingled roofs over nail-less frames, carpentry that breathes with the quake and the season. And in Indonesia, the Joglo roof takes shelter skyward: a central timber pavilion of rising tiers that draws heat away and casts long shadows over open verandas.

Though oceans apart, these traditions share a gentle contract with nature, pitched slopes tuned to storms, deep overhangs guarding mud walls, and joinery shaped by hand and forest. Each roof becomes more than cover: a porous skin, a crafted filter between sky and home. In these vernacular forms, the angled roof is a quiet philosophy, to yield without fear, to shade without walls, and to meet the wildness of rain with grace and calm.

Japanese Minka *Syced*

Indonesian Joglo roof *Gunawan Kartapranata*

09 1584 CE

Vaulted Roofs
Spain

The Roofs of Power and Penance
At El Escorial, Spain's immense Renaissance monastery and royal palace, stone barrel vaults stretch in austere procession. Half domes and low arcs span chapels, tombs, and cloisters, their solemn rhythm echoing with restraint. No painted glory here, only the muted dignity of grey stone curving endlessly above, binding monastic penance to imperial might. These vaults do not dazzle; they impose. Through repetition and scale, they speak of order, silence, and sovereign control, a roof not of flourish, but of fate.

Centuries later, in 1851, Henri Labrouste's library in Paris reimagined the vault for a different kind of temple, one of thought. Here, slender cast-iron arches lift patterned plaster and glass into daylight.

View of the Gallery, El Escorial, Spain *Bernard Gagnon*

Where El Escorial weighs heavy, this roof floats: iron ribs like lace, letting knowledge bloom beneath industrial grace. Stone yields to steel, shadow to light. And in this quiet revolution, the roof becomes something new, not just an enclosure, but an invitation. A vaulted sky for a modern world, where the machine's bones bear not burden, but wonder.

View of the Main Hall, El Escorial, Spain *FrDr*

Henri Labrouste's Paris library *JC Ballot*

10 1851 CE

Crystal Palace
United Kingdom

The Glass Crown of the Machine Age

When the Crystal Palace rose for London's Great Exhibition, the roof itself became a revelation. Designed by Joseph Paxton, it spanned nearly a million square feet, an iron skeleton glazed with modular panes, erected in mere months. Sunlight poured through the vaulted glass, trees grew undisturbed beneath its canopy, and architecture was redefined as lightness, speed, and transparency. No longer carved from stone, the roof became a sky framed by industry, prefabricated, repeatable, and luminous. Its triumph ignited a new era of glass arcades across Europe, from Parisian passages to Milan's Galleria Vittorio, where iron and daylight transformed streets into soaring, sunlit interiors.

Crystal Palace, Hyde Park, Transept | Benjamin Brecknell Turner

Galleria Vittorio Emanuele II, Milan *Steffen Schmitz*

11 1930 CE

Waffle-Slab Concrete Roofs
Global

The Poetry of Patterned Concrete

Modernists like Pier Luigi Nervi and Le Corbusier lifted concrete into elegance with the waffle slab, a coffered grid strong enough to span wide rooms with minimal mass. Beneath its surface, ducts and lighting vanish; above, its ribbed rhythm transforms ceilings from blank planes into sculpted geometries. These modular vaults turned schools, auditoriums, and airports into spaces of lightness and order, a roof that is both muscle and memory, structure and ornament. In its repetition lies a quiet poetry: utility made graceful, engineering made art.

Waffle slab of George L. Mosse Humanities Building *W_lemay*

Waffle slab of Kala Academy, Goa by Charles Correa *Ruhma Ukaye*

12

1951 CE

Palácio da Alvorada

Brazil

A Roof of Rhythmic Grace

Oscar Niemeyer's Palácio da Alvorada, the first modernist building in Brasília, transforms the roof into a sculptural rhythm. Its sweeping white colonnades rise like harp strings, holding a flat plane that appears to hover effortlessly above glass walls.

The roof becomes a gesture of grace, a minimalist crown that frames openness and light. Niemeyer's flowing lines dissolve structural rigidity into poetry, turning the roof into a symbol of elegance and mid-century optimism.

The roof of Palácio da Alvorada *Robotmensch*

13

1957 CE

Sydney Opera House

Australia

The Sails Frozen in Flight

When Jørn Utzon imagined the Sydney Opera House, he redefined the roof as soaring sculpture. Vast concrete shells, shaped like billowed sails or rising petals, arc above the harbour, pure geometry stretched into form by daring engineering. Constructed through the 1960s and opened in 1973, these vaulted roofs catch sea breeze and sunlight, turning performance into architecture and site into symbol. Here, the roof is not a cover but a calling, the spirit of the building, cast upward in motion and light, made forever still against the sky.

View of one concrete shell *Dietmar Rabich*

Section of the concert hall *Courtesy of Archdaily*

Exterior View *Dietmar Rabich*

14 1960s CE

False Ceilings
Global

A Ceiling That Hides and Tames

In an era of fluorescent light, ducts, and conditioned air, the false ceiling quietly transformed interior space. Suspended grids of tiles formed a secondary, floating surface, concealing wires, vents, and services in a tidy layer just above sight. Though visually modest, these acoustic ceilings redefined modern environments, softening sound, managing airflow, and standardising infrastructure in offices, airports, and malls. The humble dropped ceiling became the silent partner of modernity, a roof within a roof, taming the chaos above to deliver the comfort below.

False Ceiling of a living room with cove lighting *Courtesy of Gemini Technical Industries*

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15 1995 CE

Denver International Airport
USA

Tensile Peaks Above the Plains

At Denver's gateway to the skies, the roof rises in a rhythm of white peaks, a canopy of Teflon-coated fabric stretched across steel masts. Light as a cloud and strong as a sail, this tensile structure evokes both the distant rockies and the canvas shelters of the region's earliest inhabitants. Sunlight filters softly through its luminous skin, casting a glow over the vast concourses below. Here, the roof is not mass but tension, fabric caught mid-flight, architecture as atmosphere, turning shelter into symbol at a continental scale.

Security screening area of Denver International Airport *Dbenbenn*

Tensile canopies *Tucker Gladden*

16 1995 CE

ACROS Fukuoka
Japan

The Terraced Hill that Reclaims the City
In the heart of Fukuoka, where glass and concrete once erased the earth, the ACROS building by Emilio Ambasz grows a hill from the city's edge. It's stepped green roof rises in fourteen terraced layers, each planted with native trees, grasses, and blossoms. A vertical park where birds nest, insects thrive, and people climb. Beneath this living slope, civic life unfolds: offices, galleries, and meeting spaces quietly cooled by 35,000 plants above. Winding paths lead upward to panoramic views, restoring lost green to the city's centre. More than a roof, ACROS is a gentle revolution, a built landscape where nature reclaims its place, and the city learns to breathe again.

Front elevation that resembles a green pyramid *Hirho*

Terraced roof of ACROS Building *Kenta Mabuchi*

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17 2000 CE

Green Roof Policies Mandated
Germany

When Roofs turned Green
In 2000, Germany decided rooftops shouldn't just stare at the sky, they should bloom under it. New eco-roof mandates turned concrete slabs into meadows, buzzing with bees and whispering in the wind. These green crowns drank rain, cooled cities, and stitched patches of nature across urban grids. What was once dead weight became living, breathing architecture; a quiet revolution sprouting petal by petal above the streets.

Düsseldorf Kö-Bogen II *Kürschner*

18 2001 CE

Gando School
Burkina Faso

The Canopy That Held a Village Together
In the parched village of Gando, a roof sparked a quiet revolution. Architect Francis Kéré, born here and trained abroad, returned with a radical idea: architecture as empowerment. His school's raised corrugated roof floats above hand-moulded brick walls, supported by eucalyptus wood and steel. It draws in light, lets heat escape, and invites learning to breathe. But more than shelter, it became a gathering of hands, villagers building with pride, shaping knowledge with earth and sweat. From one canopy grew many: classrooms, libraries, homes. In Gando, a roof is no longer just a cover, it is community, dignity, and hope made visible.

Primary school extension in Gando, Burkina Faso. *GandoIT*

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19 2009 CE

Yas Viceroy Hotel
UAE

A Roof that Changes Colour with Speed
Spanning twin towers and a Formula 1 racetrack, the Yas Viceroy's curving grid-shell roof dazzles with over 5,000 LED nodes. This luminous canopy pulses with shifting colours and animations, echoing the speed and rhythm of the races below. At night, it becomes a glowing veil, a digital skin that turns architecture into motion. Controlled by custom software, the roof adapts to events and mood, transforming the hotel into a dynamic beacon. Here, the roof is no longer static: it performs, responds, and races with the world around it.

Aerial view of the Yas Viceroy Hotel *Courtesy of Red Engineering Design*

Change of colour on the roof as per the speed *le1parrain*

20 2010 CE

Masjid an-Nabawi Umbrellas
Saudi Arabia

Kinetic Roof That Blooms with Prayer
At one of Islam's holiest sites, a forest of giant umbrellas shelter pilgrims beneath the desert sun. Inspired by palm groves, these fabric canopies unfurl at dawn and fold like petals at dusk, echoing the rhythm of prayer. Installed in recent decades, they blend ancient courtyard ideals with modern mechanics, a kinetic roof that offers shade, airflow, and reverence, all while preserving the sanctity of open sky above the Prophet's Mosque.

Open umbrellas of Masjid an-Nabawi *GLady*

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21 2010 CE

Green School
Indonesia

A Canopy that Grows with the Jungle
Along Bali's Ayung River, the Green School rises under sweeping bamboo roofs. Shaped from locally grown giant bamboo, these vaulted canopies breathe with the rainforest, open to monsoon winds, shaded by layered poles and leaf thatch. Light filters through woven panels, dappling the spaces below. Here, the roof is not a sealed cover but a living form: grown, bent, tied, and renewed by hand. The Green School shows that a roof can be a structure, symbol, and nature woven into one.

Bamboo roofs of Green school, Bali *Courtesy of Green School*

22 2011 CE

Metropol Parasol
Spain

The Wooden Cathedral of Light

Jürgen Mayer's Metropol Parasol redefines Seville's Plaza de la Encarnación with an extraordinary expanse of timber, acclaimed as the world's largest wooden roof. Its vast, honeycomb-like canopy unfolds in sweeping curves, rising as six interconnected parasols that shade markets, walkways, and elevated terraces. The intricate lattice filters light and air, creating a play of dappled shadows that shifts through the day. More than a shelter, it is a civic stage ; a bold fusion of engineering and artistry that floats above the historic city, transforming an ordinary square into an architectural spectacle.

The urban plaza sculpted by the parasol hovering above *Joan Costa*

The walkway atop the parasol *Nikita Anders*

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23 2012 CE

Rain Room by Random International
Global

A Roof that Rains on Cue

In the Rain Room, the roof becomes the storm. Created by Random International, this installation suspends a grid of sensors, nozzles, and pipes that choreograph falling water while tracking every step. Rain pours all around but never touches you, parting as you move. The ceiling reads bodies like weather reads wind, turning an industrial shed into a personal downpour. This is no static shelter; it's a living sky, where roof, machine, and nature converge to create climate, drama, and wonder.

Rain room without making the visitors wet *Courtesy of Random International*

24 2012 CE

Gardens by the Bay
Singapore

A Roof that Cultivates Climate
The Supertrees may dazzle, but the glass roofs are the true climate makers. The Flower Dome and Cloud Forest arch over rare plants with vast steel-and-glass spans. These bio-climatic canopies craft cool-dry and cool-moist zones in tropical Singapore, regulating sunlight, temperature, and humidity. Glazing layers, shading panels, and mist systems merge nature with precision. Beneath these breathing roofs, visitors stroll through clouds and blooms. More than shelter, these roofs cultivate entire ecosystems, proving architecture can grow new climates within a city.

Cloud Forest, Gardens by the Bay

Basile Morin

Supertree Grove, Gardens by the Bay

Mustang Joe

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25 2024 CE

Serpentine Pavilion by Marina Tabassum
London

A Roof that Breathes with Light
For the 2024 Serpentine Pavilion, Marina Tabassum shaped a roof that gathers daylight like woven cloth. Echoing Bengali bungalows and village canopies, the structure hovers with perforated panels that scatter sunlight into shifting patterns. Roof openings welcome breeze and rain, dissolving boundaries between shelter and sky. The canopy becomes a soft sky lantern for pause, dialogue, and dappled shade. Here, the roof acts not as cover but as a breathing veil, grounded in craft, alive to weather, and open to the world above.

Exterior view & Interior views

Iwan Baan, Courtesy of Serpentine

inscape

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