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ARCHITECTURE+DESIGN

N I N D I A N

R C H I T E C T U R E

architecture for divinity

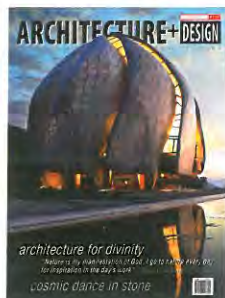
*"Nature is my manifestation of God. I go to nature every day
for inspiration in the day's work" —Frank Lyod Wright*

cosmic dance in stone

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Bahá'í Temple of South America, Santiago, Chile
Architects - Hariri Pontarini Architects, Canada

All drawings and visuals for the projects and articles, unless mentioned otherwise, are courtesy the architects/authors.

“Sustainable takes forever. And that’s the point.”

—William Mc Donough

Humans, right from the initial days of their existence, have always been in awe of the mystic ‘divine’. The fear of the unknown has been the overpowering thrust in evoking the spirit of reverence. In the yester-years, all cultures internationally embraced religion as a practice, in fact often as an unsaid dictate. However, the contemporary phase, having witnessed greater rationalization and fermentation, has encouraged and initiated discourse that has unwound a more liberal implimentation. And these strings of diversity have also found their inroads to design development of present-day architecture for worship. From a regimented and a more conservative approach, architects aided with modern technology and a broader social acceptance are exploring form and material to generate iconic perceptions in this realm such that the contained spaces further accentuate the spiritual and religious experience. Whether it is a temple, church, mosque or a gurudwara, the sacred instincts of the core design principles are applied with strict discipline. This Issue embarks on unearthing a few recent projects within this typology, that encapsulate newer interpretations that tend to create sanctity through flowing volume of spaces and a larger than life imagery.

Noted historian Adam Hardy, who has extensively researched the art of temple design and construction in India, in his article, very articulately explains the complexities and sensitivities involved in the making of a temple with the traditional design criteria laid down. He explains, “Indian ‘Classicism’ has not bequeathed centuries of reinterpretation to the architectural mainstream. It is the architectural tradition as embodied in its built creations that points to a culturally appropriate and practical way to approach.” In contrast, the Bahá'í Temple of Light, Chile, as the architects say, draws its design and spiritual inspirations from a myriad of universal sources, such as “the magic of dappled sunshine beneath a canopy of trees, the rotation of a Sufi whirling dancer, the interwoven strands of Japanese bamboo baskets and the fragmentation of shattered glass.” In continuation to the out-of-the-box-approach, the Aljabri Mosque, Saudi Arabia, is a break-away from the age-old set norm of mosque design. And so is the architecture of the Bosjes Chapel, South Africa, that crosses the boundaries with its playful and sculptural treatment.

The magnificent qualities of stone as a unique, powerful and majestic material have been globally acknowledged and appreciated by designers and society at large. Our Book section brings you closer to the truth of how this visually aesthetic mineral matter was contoured and brought to life by the exquisite skills and wisdom of the craftsmen of ancient India.

Jan P. L.

Image
of the
Month



Play of Cuboids—1. Huge gaint glass cube on the modern city street 2. Pompidou Centre in 2016, Malaga, Spain 3. ‘La Tete Carree’ (Square Head), France

Indian Temple Design

Shree Kalyana Venkateshwara Temple

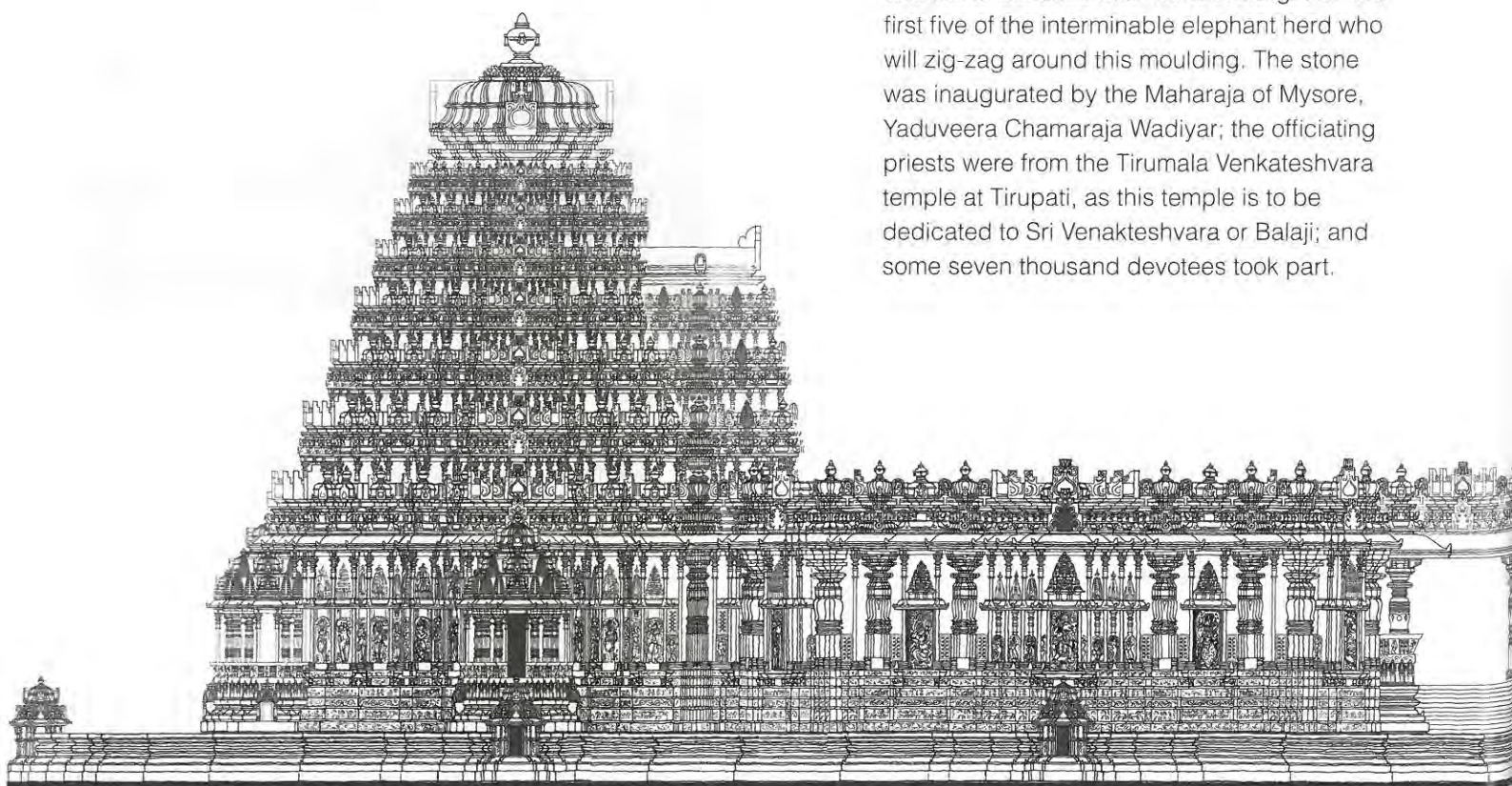
Venkatapura, Karnataka



Adam Hardy

On 14 June 2017, a *shilavapanana* (stone-laying) ceremony was performed at the site of the planned new Hoysala-style temple at Venkatapura, near Nangali in Kolar District, Karnataka. The site is a bare granite outcrop rising above the small village, and lies at what was at one point the eastern limit of the domains controlled by the Hoysala dynasty, which flourished in the 12th and 13th centuries. Over the past five years, massive blocks of locally-quarried granite, each funded by an individual donor, have been laid in bonded courses to form a platform for the ambitious temple structure. Seven years

earlier, at the Spring equinox at sunrise, I had participated in the *bhumipuja* or earth-worship ceremony, and more recently a *shilanyasa* for the foundation stone. Architecturally, the June event was more significant, as the stone to be placed was the first carved one. The soapstone block, roughly 45 x 45 x 18 1/4 inches, is part of the *upapitha* or base stone, forming one point of the star-shaped plan of the *vimana* or shrine. It had been selected, quarried, cut and carved at Karkala, and master-sculptor Gunavantheswara Bhat, pupil of the project's head sculptor Ganesh L Bhat, delivered it at the eleventh hour after an arduous drive. Nine apprentice sculptors emerged with the stone from the truck, and set to continue their work overnight on the first five of the interminable elephant herd who will zig-zag around this moulding. The stone was inaugurated by the Maharaja of Mysore, Yaduveera Chamaraja Wadiyar; the officiating priests were from the Tirumala Venkateshwara temple at Tirupati, as this temple is to be dedicated to Sri Venkateshwara or Balaji; and some seven thousand devotees took part.

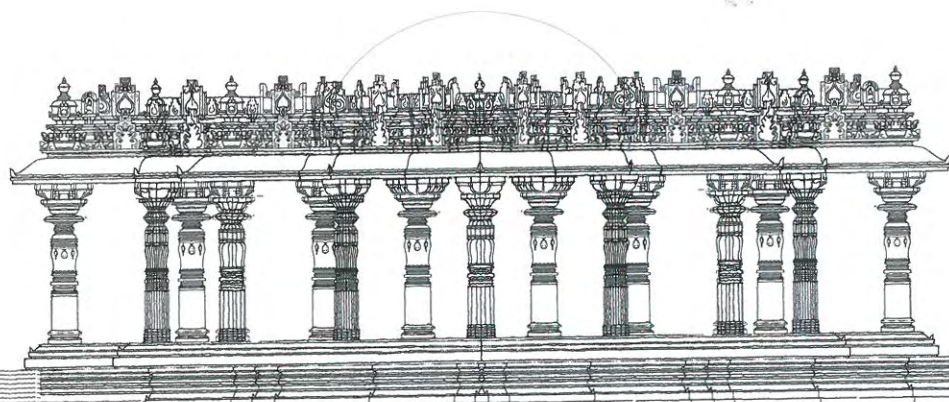




Open hall (sabhamandapa) at Ishvara temple, Arsikere



Ishvara temple, Arsikere, c. 1220 AD



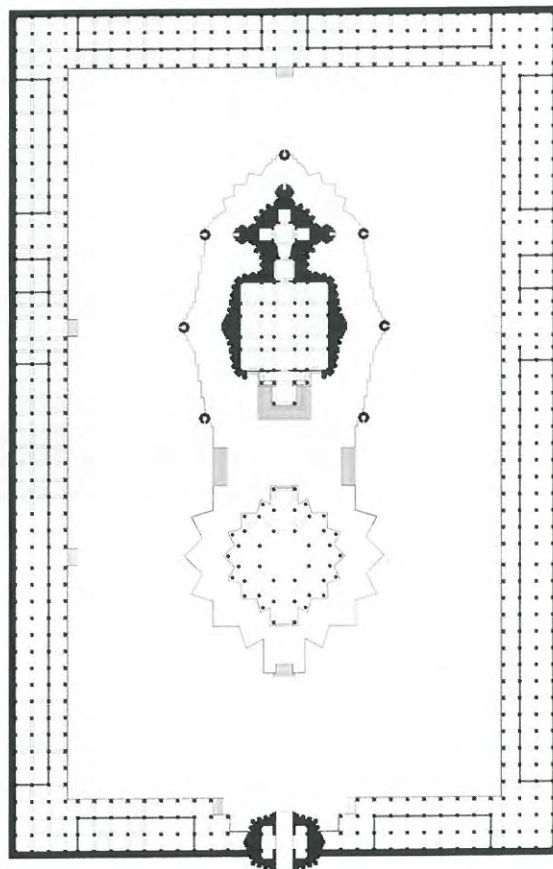
Overall Elevation



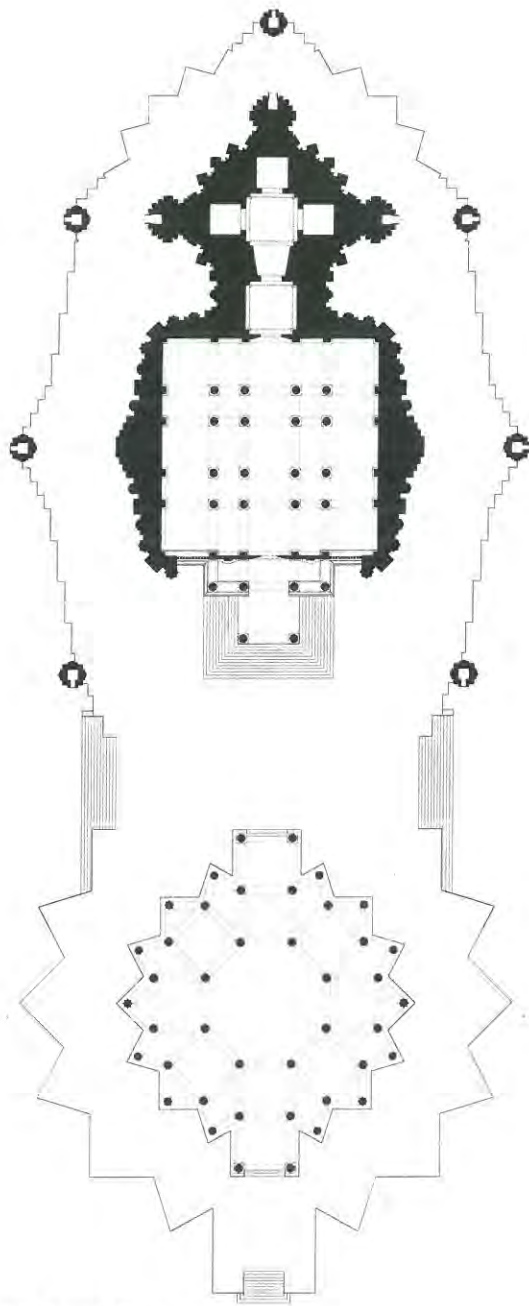
Sculptors at work on the first stone before the ceremony on 14 June 2017

This project has not been a rushed one. It was in 2009 that I was first approached by Aravind Reddy, whose vision and energy are the driving force. A public trust, the Shree Kalyana Venkateshwara Hoysala Art Foundation was being set up to promote a renewal of the arts and culture that flourished in southern Karnataka under the Hoysalas.

They planned to build a large new temple in the intricate Hoysala style, a style not practiced for the last 700 years, built entirely of stone and using the traditional structural techniques. Apart from its religious purpose, the project would stimulate a revival of crafts and provide a setting for cultural activities such as dance performances. Hoysala architecture should be understood as the culmination of the Karnata Dravida tradition that had taken root under the early Chalukyas in the seventh century. The prospect of designing in that tradition was an exciting one for me. While I have worked on temple architecture all over India, it was the temples of Karnataka that I had studied for my doctorate, completed in 1991. I had scrutinised and drawn compositions and minute details through six centuries of architectural transformations, and thus internalised them. The client wanted to build a monument on the scale of the grandest Hoysala works at Belur



Plan of the Complex



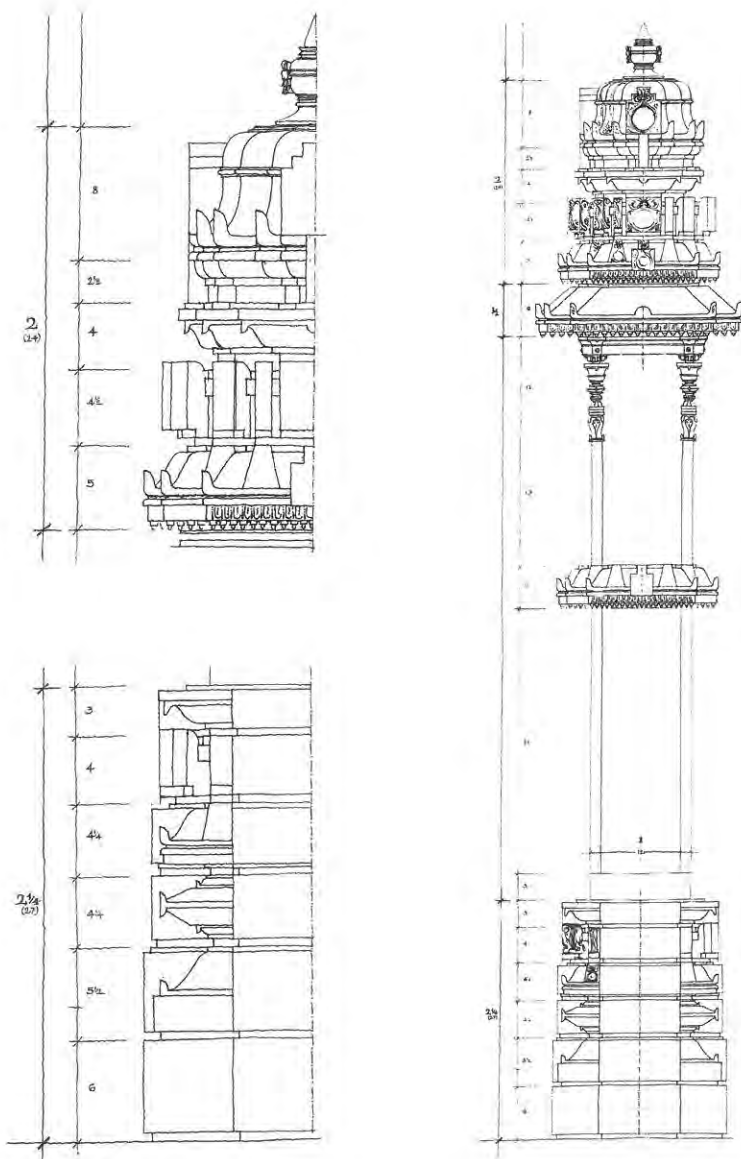
Main Temple Plan

and Halebid, and the challenge of this brief was not to copy any existing temple, but to create a new design embodying the principles of the tradition.

With such a brief, how should an architect conceive of their role? Clearly there is no scope to boast of a contemporary abstraction that 'captures the essence', still less to claim cutting-edge innovation. A new temple in an old style might seem like the work of New Classicists in the west, and present-day Classicists could supply rationales for such a temple, ranging from timeless wisdom

to popular appeal. The contexts are very different, however. Indian 'Classicism' has not bequeathed centuries of reinterpretation to the architectural mainstream. Unless one is a Tamil *sthapati* or a western Indian Sompura, the primary teachers are the temples themselves. This may be surprising to people who think that the process involves following the rules set down in ancient texts. Having studied medieval Vasusahasras over the past few years, it is clear to me that they provide frameworks for temple designs, while demanding interpretation and improvisation. It is impossible to follow them faithfully or slavishly even if you want to. Furthermore, for a Hoysala temple the issue does not arise, as there is no surviving Vastushastra text from medieval Karnataka. It is the architectural tradition as embodied in its built creations that points the way to a culturally appropriate and practical way to approach the design of this project: to let it be *svayambu*, or self-emergent.

The idea of a universe manifested through a sequence of emanations in a progression from one to many is a recurrent one in Indian philosophical, theological and mythological systems. Temple designs often embody the same pattern. Within the diverse traditions of Indian temple architecture, an emanatory scheme is observable both in the formal structure of individual temple designs, which express a dynamic sequence of emergence and growth, and in the way in which temple forms develop throughout the course of such traditions. The temple architects drew out the possibilities inherent in the architectural language. They pulled forth new forms from old ones, leaving the old form within the new one, so that the unfolding stages of the tradition displayed their sequential presence in the emanatory dynamism of a single temple. Thus, while their work was full of invention and ingenuity, there was a sense of organic inevitability. Vastushastra texts share this emanatory way of thinking, presenting varied temple typologies in which designs develop from simple to complex, emerging sequentially one from another. The framework they provide leads to results that are only partly determined by the individual architect. This contributes to this sense that a new temple design is *svayambhu*, self-manifesting, appearing through a cosmic process from a supra-human



Details - Key proportions

source. The Karnata Dravida tradition between the 7th and 13th centuries is a classic example of this emanatory kind of evolution.

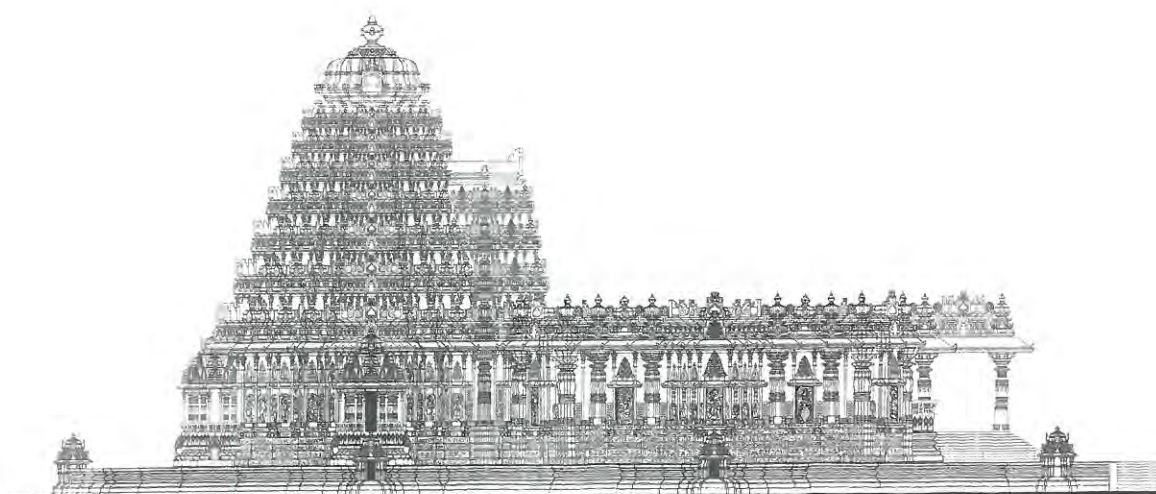
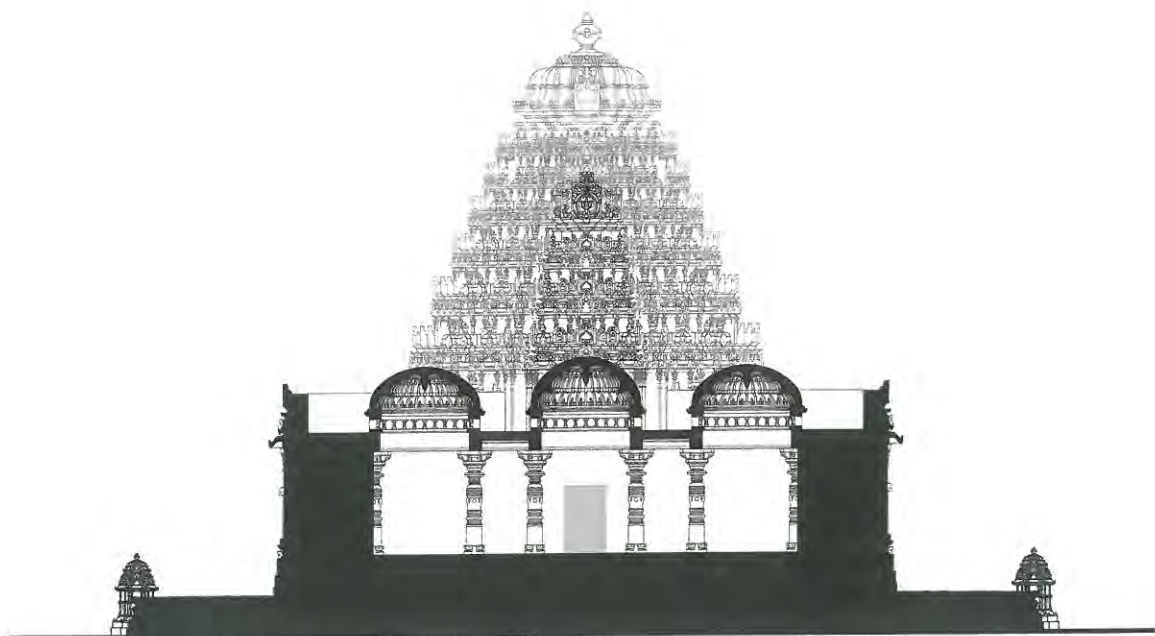
The American anthropologist Samuel Parker uses the term *svayambhu* to characterise the design practices of traditional *sthapatis* in South India. This is not so much in relation to architectural form, but a 'ritual mode of production' whereby, in the shared understanding and actions of *sthapatis*, priests and patrons, design is an act of channeling forces so that a temple or a temple icon can emerge. Practice is inherently fluid, adaptable to different contexts and unforeseen circumstances.

A *svayambhu* approach to the present project can therefore work in two parallel ways. The first is through awareness of the formal games

that were played out in the tradition, of the emanatory logic of its development, and of its inherent possibilities. In this respect, the design can reflect what the Hoysalas might have done next if they had built another great royal temple after Belur and Halebid. The second is simply to accommodate all the requirements and exigencies beyond one's control; the decision that it should be in Hoysala style, ritual and iconographic needs, auspicious dimensions.

At the start of the project the client explained that the famous Chennakesava temple at Belur (dedicated 1117 AD) is to be the benchmark for the scale of the temple, including the plan size of the *vimana* and the *garbhagriha* within. Certain hallmark features of the grandest Hoysala temples were expected: a great *jagati* platform supporting the entire structure, a wall in two tiers with sculptures in the lower register and miniature temples rising above, and half-emerged shrines bursting forth along the cardinal axes. A nine-bay *mandapa* or hall was preferred. Sixteen freestanding pillars will support nine principal ceiling bays, with minor ceiling divisions set at a lower height to allow light to enter and glow across the main domes. The client pointed to the beautiful little Ishvara temple at Arsikere as a precedent for the plan, particularly the stellate open hall (*sabhamandapa*) in front, for dance performances. Given the much greater scale, with a limit to the possible beam length, this could not be simply a blown-up version or Arsikere. The solution that offered itself is a large domed octagon surrounded by eight smaller domes, while retaining the star shape. Surrounding the entire complex is to be a 450 ft x 650 ft (137 x 198 m) *prakara*, lined internally by ancillary rooms and a colonnade. Entry to the enclosure will be from the east through a *rajagopura*.

If these seem like normal programmatic needs, the iconographic requirements generated the specific temple form in a strikingly self-manifesting way. The *mandapa* walls are to display the *dashavatars*, the ten avatars of Vishnu, necessitating ten principal projections, of which the main panels must be of equal size. In the *vimana* walls it is the *viahnuchaturvimsati* — the twenty-four names of Vishnu — that are to be represented. This necessitating twenty-four visible facets. Leaving room for the *bhadrās* (cardinal projections), this calls for a stellate



Main Temple - Side Elevation

plan of twenty-four points, formed by a square rotated six times. In the angles between the main elements emerge re-entrant projections based on an equilateral triangle rotated eight times. Norms of proportion dictate that this plan should generate a *vimana* of seven *talas* (storeys). As if by magic, the composition resulting from the iconographic needs takes the unfolding, proliferating development of the Karnata Dravida tradition a step further than the Hoysalas did.

Design of the details is now in progress. I am drawing the mouldings full size, trying to marry Hoysala lushness (to come with the carving) with the best of Chalukya elegance. Cad drawings are being done in parallel by Yashaswini Sharma (Esthetique Architects).

Relative proportions of Karnata Dravida mouldings vary considerably, and there is no text for reference; but the proportions are guided by a ubiquitous principle in Vastushastra texts, whereby plans and elevations are divided into parts (*bhagas*, *padas*, *amshas*) and elements measured in terms of whole numbers or simple fractions of such parts. This accords with the working methods of Shankar Sthapati, the prominent member of a lineage of Tamil *sthapatis* who is in charge of constructing the temple. Twelve of the basic *bhagas* or parts make up one grid square of the temple plan. The grid is based on the garbhagriha being 4x4 squares, and with twelve the basic square of the *vimana* walls (the one that rotates to make the star). The actual size of the grid is derived from



The first stone - almost complete

the Aya or Ayadi calculation made by Agama experts from Tirupati. This calculation takes into account the horoscope of the deity, that of the karta (literally 'actor'), Aravind Reddy's father Sri Ramalinga Reddy, and the location. It results in a *garbhagriha* width of 14 ft 1 in, and thus a grid square size of 3 ft 6¼ in. The resulting *vimana* height is about 109 feet (33 m).

The recent *shilanyasa* ceremony was planned at rather short notice, to take place at a rare *muhurta* (auspicious time) that happened to coincide with the 900th anniversary of the consecration of the Belur Chennakeshava temple. The unexpected rush to finalise the design of the lowermost moulding demonstrated how *svayambhu* the detail design would be. The typical Karnata Dravida moulding sequence for an *adisthana* (moulded base) was replaced in the most prestigious Hoysala works by a series of sculpted friezes. It is not usually recognised that these were originally superimposed onto the traditional mouldings. At Halebid, on close inspection, the moulding shapes lurk behind the bands of lions, *makaras* and so on. My idea for the new temple had been that the pristine mouldings and lush bands would be subtly interwoven.

A drawing was suddenly needed for the 'first stone'. This might sound easy, but every stone is intimately related to every other one. Detailed decisions had to be made for what would come above, to ensure that the first stone was correct. Having already drawn at full size the *kuta* pavilion way above, I worked downwards to an elephant-lined *jagati* moulding around 22 inches high. However, it transpired that courses of this height would be difficult to source. An excellent first stone had been identified in the quarry at Karkala, which would give us about 18 inches. The sculptors felt this would allow more suitable elephants, but I knew it would wreck the proportions. What was therefore required, without compromising the overall height of the moulded base, would be the addition of a sub-base or *upapitha* below the *adisthana* proper, consisting of elephants and two further mouldings. In *svayambhu* fashion the solution emerged. Let the whole temple similarly create itself in the coming months and years. ✚

Adam Hardy is an architect and architectural historian, and is currently the Director of PRASADA, a centre devoted to the architecture, visual arts and material culture of South Asia.