

The Dance Performed by the Temple: the Dynamics of Hindu Temple Architecture

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We architects cherish the illusion that temples are buildings, that archaeology can be useful for digging up ruined temples, and that temples themselves can tell us more about temples than any text can. In a conference on 'Archaeology and Text' this view is likely to be a minority one, and I feel slightly wicked slipping in my architectural contribution under the heading 'Performance and Text'. The connection is not entirely spurious, however. An analogy between temple architecture and dance, at least to the extent that they both embody patterns of movement, becomes evident if the conception of the Hindu temple as a divine body is understood in relation to the dynamic compositional structure which many temple exhibit. This same structure bears striking parallels with perennial ideas expressed in Indian texts – not so much the Vastu texts, but more broadly in religious, mythological and philosophical ones.

The aim of this paper is not to repeat this argument at length, since I have been over the ground often enough (e.g. Hardy 1987, 1995, 2007). Instead, I shall try to clarify it, showing what I mean by pointing out what I do not mean, through a brief survey of ideas about the expression of movement in architecture, followed by a discussion of how concepts of movement have been ascribed to Hindu temple architecture and the Indian arts more generally. I shall then return to my interpretation and discuss how it can be substantiated.

First of all, however, it is necessary to summarise the argument and illustrate it with an example. Four general points can be made about monumental Nagara and Dravida (northern and southern) temple architecture, especially in its heyday between the 7th and 13th centuries: 1. temple designs are often composed of aedicules, i.e. of images of small temples, 2. such designs often express a pattern of centrifugal movement, 3. the ways in which temple designs evolve often trace out the same kind of pattern through the course of a tradition, 4. analogous patterns are often found in Indian ideas about divine and cosmic manifestation. It is important to qualify all this with 'often', because these are conspicuous and recurrent characteristics rather than invariable rules, and they are more prevalent in some regional traditions and in some types or modes of temple than in others.

1. *Aedicularity*. A temple design, in particular the exterior of the shrine proper (*vimana* or *mulaprasada*), is composed of aedicules – images of shrines, arranged hierarchically at various scales, and conceived in three dimensions and as if embedded or interpenetrating. The primary ones are projected out of the bed of mouldings, as if bodied forth from the horizontal strata. This principle is a basic one, and those that follow on can only be understood in relation to it. When a temple is seen in this way its whole compositional structure can be grasped at once.

2. *Centrifugal movement*. A shrine is invested with a sense of movement that appears to originate at the tip of the finial, or a point just above it, progressing downwards from this point and outwards from the vertical axis, radiating all around, predominantly in the four

cardinal directions (Fig. 1). Compositional elements (principally aedicules) are made to appear to multiply, to emerge and expand out from the body of the shrine, and out from one another, as interpenetrating elements differentiate themselves and come apart. As well as a spatial structure, a temple has a temporal one, of which a given spatial arrangement is a momentary glimpse, or rather, a succession of such glimpses. A series of elements, or of configurations of elements, can be sensed not so much as a chain of separate entities, but as the same thing seen several times, at different stages, evolving and proliferating.

This dynamism is explicitly portrayed through several mutually-reinforcing architectural means (Fig. 2), not unambiguously expressive of movement when employed singly, but mutually reinforcing in this expression when working together. Some of these involve direct manipulation of the embedded elements: projection (pushing forward of embedded forms), staggering (multiple projection through offsets), splitting (forms cut in half), bursting of boundaries. Other means work on the eye and mind by repetition: expanding repetition (similar forms increasing in size), progressive multiplication (similar forms increasing in number). All these architectural means may be reinforced by sculptural depiction of movement ('pictorial representation').

3. *Unfolding traditions.* The same pattern of emergence, expansion, and proliferation expressed in a single temple is reflected in the development of architectural forms during the course of various traditions. This unfolding takes place both in the details and at the level of the whole composition. The effect observed in a single, developed temple, of one form putting forth another, which in turn emits another and so on, is brought about by a cumulative extrapolation and successive incorporation of temple designs as the tradition advances: a new design springing from an old one, while preserving the old one within the new. (This kind of evolution was not the result of some kind of predestination, but of the temple architects deducing increasingly complex designs from the earlier ones, playing out the potential of the architectural language they had created.)

4. *Analogies with concepts of manifestation.* Analogies, or structural homologies, are striking when dynamic temple compositions are compared with certain religious and philosophical concepts recurrent in Indian traditions. Patterns of emergence and growth, as if from an all-containing point, underlie a vision of creation which is found repeatedly in many different guises. The manifestation or coming into being of the divine or of the universe is repeatedly understood as taking place through the sequential emanation, or successive bursting forth, of one form or principle from another (see Hardy 2007, Chapter 4, 'The Emanating Universe').

The Shekhari mode of Nagara temple, the most dynamic of the north Indian varieties, will be illustrated briefly here as an example. This composite mode, predominant in central and western India from the 10th century, stems from the earlier Latina form with its single curved spire (*shikhara*). Figure 3a shows a basic version of the Shekhari, of which the central element is in the form of a Latina shrine, with smaller versions of the same form projected along its cardinal axes. *Kuta-stambhas*, miniature *shikharas* on top of pillars, mark the corners. Not to identify the primary aedicular components – in this case, not to realise that the miniature *shikharas* are crowning pillar forms – is to cut the head off the temple and be blind to its compositional structure, while dynamism becomes

at best an agitation of parts rather than an explosion of the whole. Figure 3b is an attempt to show how the parts are conceived as three-dimensional, and as embedded within the body of the whole, while Figure 3c shows the concept dynamically, with the full implication of projection (throwing forth).

Certain Shekhari designs that can be defined as types, in that they come to be repeated many times (Hardy 2002). These long-surviving types emerged during the 10th and 11th centuries, a very creative period when all kinds of combinations and permutations of the Sekhari idea were tried out. In terms of the underlying, three-dimensional arrangement of the parts there are five of these types (Fig. 4): within these overall forms, the actual types of aedicular components can be varied. In what could be called one of the grand evolutionary cycles of Indian temple architecture, these types emerged from the unitary Latina form through the 'unfolding tradition' in the sequence 1 to 5, each configuration giving birth to a more developed one. This pattern is slightly complicated by the fact that Type 3, with four principal levels, was followed by Type 5, denser but with only three principal levels: so the 'organic' pattern has to be read either as 1-2-3-5 (Fig. 6) or 1-2-4-5.

Beyond Type 1, a sequence of diminishing forms is emitted along the cardinal axes, clearly expressing growth and proliferation in a downward direction at the same time as outwards. The well-known Kandariya Mahadeva temple (c. 1050) at Khajuraho (Fig.), in terms of the number of elements parts and their disposition, is the earliest surviving example of Type 5 (although it does not have the geometry, shown in Figure 5, of the standard Type 5 which appeared later). Simultaneous with the expression of downward expansion, because the repeated forms get larger as the eye moves up, the entire monument appears to swell heavenwards (Fig. 10). Now that, at the sides of the 'half-*shikharas*' (half-embedded *shikharas*), have appeared 'quarter-*shikharas*' (three-quarters-embedded *shikharas*), the overall, cruciform pattern of four-emerging-from-one is reflected in embedded clusters: the basic configurations found in Type 1 crowns the composition, and also, on each face, emerges twice more from the seething matrix. In other words, the movement pattern of the whole, not purely the shape of the whole, is reflected in the parts.

Concepts of movement in architecture

As Adrian Forty (2000: 57) has pointed out, with a hint of scepticism, 'The notion that architecture represents implied movement within forms that are not themselves in motion has been a conventional part of modernist thinking, and still seems to be widely taken for granted.' Yet, in mainstream writing on architecture, this notion is generally expressed only in throwaway comments, is rarely subject to critical analysis. What kind of movement is meant, or *how* it might be represented, are hardly ever defined.

Nevertheless, since the 18th century, in relation to European architecture, a range of different concepts of movement has been subject to more considered treatment, beyond the obvious one of people literally progressing through it. In 1778, the architect Robert Adam (1778, Vol. 1:) wrote that '*Movement* is meant to express, the rise and fall, the advance and recess, with other diversity of form, in different parts of the building, so as to add greatly to the picturesque of the composition'. 'Movement' is understood here as a

source of picturesque variety and contrast, already established principles in English landscape design and now being advocated for architecture. The sense of movement, Adam implies, arises through the wanderings of eye and mind from surface to surface, from mass to mass, and around outlines, but he does not attempt to explain the workings of such an effect, or to analyse whether it is purely visual and mental or whether the body plays a part. In 1793, Goethe, evoking the analogy with dance and the rhythmic experience of moving through a building, pointed to the 'sense of movement in the human body' as a neglected aspect of architecture (Forty 2000: 262, quoting J Gage, *Goethe on Art*, Scolar Press, London, 1980, 196-7).

The idea that a projection of bodily sensation into a work of art or architecture is the basis of a sense of movement was developed by 19th-century German writers on aesthetics, and specifically by the theory of empathy, spurred by a search for the mechanism of 'meaning' – for a means by which the Hegelian 'idea' could be embodied in 'form'. Emphasising at first – on the analogy of muscular effort and perhaps also of mechanics – notions of forces, weights, stresses and tensions in solid objects (sculpture and architectural masses), the concept of bodily projection came increasingly to be seen in terms of the perception of architectural space, as 'space', was coming to be understood, as the fundamental ingredient of architectural creation, in the way that modernism would come to view it (Forty 2000: 57). It was Heinrich Wölfflin who pioneered the application of empathy theory, with its contention that, in his words, 'we judge every object by analogy with our own bodies' (1888: 77) to architectural history. Wölfflin characterised the Baroque (by which he meant what has since been termed Mannerism) as a dynamic style which 'never offers us perfection and fulfilment, or the static calm of "being", only the unrest of change and the tension of transience. This again produces a sense of movement.' (1888: 62) Thus clustered pilasters, for example, are 'unfulfilled to the point of discomfort' (Ibid.).

The first and most eloquent application of empathy theory to architecture in the English language appeared in Geoffrey Scott's *The Architecture of Humanism* (1914). His assertions about movement in architecture stem from his dictum that 'Architecture, simply and immediately perceived, is a combination, revealed through light and shade, of spaces, of masses and of lines' (1914: 210). Scott's notions of architectural movement are worth summarising here because they run through a range of ways of conceiving of it. (a) Movement is sensed when the eye follows lines (1914: 223). (b) Movement arises through a sense of equilibrium or lack thereof in the relationships between objects on a surface, as when we look for the right place for a picture on a wall (1914: 223). (c) It is sensed in repetitive rhythm through repetitive rhythm, discussed by Scott (1914: 224) in relation to surface or 'two dimensional space', as in the example of a series of regularly spaced windows. (d) Space, 'the very centre of architectural art', is interpreted in terms of suggested human movement: 'We adapt ourselves instinctively to the spaces in which we stand, project ourselves into them, fill them ideally with our movements'. In symmetrical spaces Scott sees movement out from the centre and back again, like breathing (1914: 227). When Scott comes to the 'humanistic' properties of masses, or solids, the discussion is of the sense of weight and stability or of their absence, in other words of forces, though not explicitly of movement.

Geoffrey Scott's understanding of the architectural means by which movement can be expressed emerges clearly. Such lucidity is absent from the writings of most subsequent

architectural historians who evoke the idea of dynamic architecture. When, for example, Pevsner writes that the three-dimensional ('nodding') ogee arch of English Decorated Gothic 'sets space into a motion quicker, more complicated, and less single-minded than any to be experienced in Early English churches' (1963: 141), it is not clear whether he means that it is the eye that moves out and up along the curvaceous lines, or that the arch seems to have bulged forward and upward by virtue of our familiarity with the norm of a pointed arch, or whether it is indeed the space that moves or the objects in it (Fig. 9).

Despite the legacy which it had left to architectural writings, by the 1920s empathy theory had gone out of fashion, and it has never been seriously revived. Meanwhile Gestalt psychology was developing a theory of perceptual wholes, grasped by the brain and more primary and powerful than their constituent elements. The application of the insights of Gestalt psychology to theories of art and architecture owes most to Rudolph Arnheim. The experiences of hanging a picture on a wall or of finding the right place for a table in a room would be understood, in this view, as dealing with objective properties inherent in any perceived object or space. Perceptual forces are attributes of objects in the same way as colours are: 'All percepts are dynamic, that is, possessed by directed tensions. These tensions are inherent components of the perceptual stimulus, just like the hue of a color or the size of a shape' (1977: 220). While this theory focuses on the brain rather than the body, it postulates a physical process nonetheless, a physiological activity in the perceiving brain which causes an equivalent psychological effect (1967: 7). The formal structure of a work of art is the result of the artist's organisation of perceptual forces, and expression or meaning thus inhere in the aesthetic qualities of a work.

Indian temples, like any perceived object, could be analysed in terms of Arnheim's 'dynamics of architectural form', but it needs to be made clear that any such fields of perceptual tensions that temple designs might represent is quite distinct from the kind of embodiment which, as I maintain, their architecture portrays. The two kinds of analysis might coincide in some respects, but in others would be likely to conflict. Only confusion can arise from failing to distinguish between these two concepts of movement. Empathy theory seems to offer a closer parallel, but not as close as I have previously attributed to it. It is true that much Baroque architecture, empathy theory's favourite exemplar, is replete with burst boundaries, splitting, and multiple projection of interpenetrating elements. But even if the kind of emergence and growth embodied through such principles is occasionally implied by Wölfflin and his followers, they are more concerned with the sense of muscular forces and of balance or its absence, or with the mind following the body's imagined meanderings through interior space. These are ideas which throw little light on Indian temple architecture.

Concepts of movement in the Indian arts and Hindu temples

A lengthier study of the ways in which scholarship has attributed movement to the traditional arts of India would include an analysis of connections with the currents of thought that I have already touched on. A preponderance of yet more Germanic names might lead to a suspicion that all might not be as essentially Indian as meets the eye. Many historians of western art have been branded as 'Hegelian' for essentialisations far more tentative and circumscribed than the unity and continuity that has been freely ascribed to the spirit of India.

In this respect, the name of A K Coomaraswamy (1877-1947) looms large, with his Platonic/Vedantic vision of Indian art as a particular embodiment of the universal Perennial Philosophy. In this view, the purpose of 'Traditional' art is to be a 'support to contemplation', pointing to the changeless Absolute beyond the shifting kaleidoscope of appearances. A Traditional work of art reflects a transcendent archetype, and becomes an 'adequate' and intrinsic symbol, giving form to 'things that cannot be seen except by the intellect' (1956: 11). Coomaraswamy insisted that 'ascertained means of operation' for Traditional works of art were passed down by craft lineages, but he was not explicit about whether this meant that any formal mechanisms were necessary to enable 'adequate' symbols to carry their intrinsic meanings.

Movement plays a central role in the Indologist Heinrich Zimmer's interpretations of Indian art by. From his descriptions of Indian sculpture it can be inferred that the expression of movement is seen as a means through which meaning is embodied. We sense a subtle shift from Coomaraswamy's doctrine of the work of art *as* a manifestation of something divine, to an implication that works of art may convey the very process of divine manifestation. The idea that this mysterious process *is* their meaning is certainly backed up by the myths which the sculptures in question depict. Zimmer (1946: 130) perceives a 'phenomenon of the expanding form' in Indian art. Of the south Indian *lingodbhava* (origin of the *linga*) image, now in the Musée Guimet, Paris, stressing the aspect of dissolution as well as that of growth, he writes that 'The solid mass of stone, by a subtle artifice of the craftsman, has been converted into a dynamorphic event. In this respect, this piece of sculpture is more like a motion picture than a painting. The notion that there is nothing static, nothing abiding, but only the flow of a relentless process, with everything originating, growing, decaying, vanishing – this wholly dynamic view of life, of the individual and of the universe, is one of the fundamental conceptions... of later Hinduism'. Another of Zimmer's examples is the stele of proliferating Shiva images at Parel (Fig. 10), which 'is conceived, and should be read by the eye, as a never-ending process. The giant slab seems to be expanding, both vertically and sidewise, with the life-force of the athletic organisms which throb and heave across its surface' (1946: 134). While throwing light on the symbolic implications of expansion, Zimmer does not, in these evocative passages, discuss the question of how this effect of expansion might, in formal terms, be conveyed in the works of art. (Clearly, in the Parel stele, growth is upwards and takes place through two pulses of trifurcating projection, certainly reinforced by identification with human body. Here the 'One' is the lowest and, unusually, the 'Many' grow out backwards as they rise.)

In 1946, the same year as Zimmer's *Myths and Symbols* appeared, Stella Kramrisch published *The Hindu Temple*. Kramrisch interpreted the temple as a symbol of manifestation: 'The temple is the concrete shape (*mūrti*) of the Essence; as such it is the residence and vesture of God. The masonry is its sheath (*kośa*) and body. The temple is the monument of manifestation. The devotee who comes to the temple, to look at it, does so as a seer, not as a spectator' (1946: 165). She identified the point above the finial as 'the Bindu, its Highest Point, the limit between the unmanifest and the manifest' (1946: 176). On the whole, Kramrisch does not tie these insights to an analysis of specific architectural forms, but she makes the important observation that, by means of projection, the central images embedded in the walls of a shrine seem to grow or expand from the sanctum (*garbha- griha*, 'womb chamber'). Clarity vanishes, however, when she extends

the concept of movement to three dimensions: 'On this vertical axis are threaded the levels of the building, its floors (bhūmi) and profiles, their projections and recesses. Expansion proceeds from the central point of the Garbhagrha, in the horizontal, and all the directions of space; this spread with its proliferation and particularisation is gathered up towards the apex; the broad mass with its many forms is reduced to a point, beyond its total form' (1946: 167). This is to confuse two notions of movement. Outward movement, as Kramrisch herself has stated, is expressed by the emergence of embedded forms, while the upward movement could only follow the trajectory of the eye or mind, or perhaps a visual force. At the end of this paper I shall return to this question, and argue that conceptually embedded forms in a temple design can only be imagined as emanating downwards and outwards, even if the whole is seen as expanding upwards. At this point it can just be noted that regardless of formal possibilities, within the logic of Kramrisch's metaphysical view, while aspiration towards union with the divine must be inwards and upwards to the unity beyond form, manifestation must be downwards and outwards from the one to the many: God is up there, transcendent, and comes down to earth.

While Kramrisch began to explore the mechanisms of movement in temple architecture, Alice Boner, a practising artist who also embraced the Coomaraswamian vision of works of art as 'transmitters of supersensual realities' (Boner 1962/1990: 37), elaborated a consistent set of formal principles for the Indian sculptural composition, a kind of Gestalt theory of the spirit. Her focus was the great sculptural panels in 6th- to 7th-century cave temples. For Boner, forms have intrinsic meaning because they arise from movement of the cosmic Life-force, creating currents of energy: 'lines, forms and colours are not accidental, but are direct manifestations of these inner forces, and therefore present a perfect analogy to spiritual reality, their ultimate Cause' (1990: 12). According to Boner, the composition is regulated by circle, usually centred on the navel of the main deity, and divided up by six, eight or twelve diameters. The points where the diameters meet the circumference are joined to create a matrix of lines. Some of these lines form a vertical grid, referred to as 'space-division or measure', while others create a web of selected diameters and oblique chords parallel to these, referred to as 'time division or movement': 'One is static and the other kinetic, and interlaced they constitute the integrated whole of the composition' (1990: 44). Animated by these lines of energy, the sculpted panel becomes, like a yantra, a 'functional organism' for contemplation. Multiplicity is not explicitly shown pouring forth out of unity, as it is in a temple; rather, the mystery of manifestation is contemplated in the coherence of the whole, maintained by the still centre, the 'hidden, invisible revealer, the controller of all active powers at work' (1990: 26). In the 'polar complementarism of centre and circumference' we find 'a true and adequate material figuration of the complementarism between principle and manifestation' (1990: 24). Boner thus proposes a formal means for the workings of an 'adequate' symbol.

For Boner, word and form are different languages, acting on 'different faculties in man', but come from the same source: 'They are both emanations of the supreme Life-force and both stand as symbols for transcendent Reality' (1983: 13). The theme of the unity of the Indian arts has been developed by Kapila Vatsyayan, emphasising not so much a transcendent source of the arts as their source in a continuous and unified Indian culture, with roots in vedic sacrificial ritual and the Upanishads. The idea of a transcendent source of all creation is seen as a perennial theme of this culture: "[The]

basic postulates of early speculative thought (1983: 41), of the ‘particular’ being an aspect of the universal, the ‘formless’ expressing itself in a multiplicity of forms ... permeate considerations in aesthetics in all the arts, and provide an underlying unity of spirit, content, form and technique. Indeed it is these principles which then make the arts independent and interconnected on all levels of operation”.

A dancer by training, and thus inevitably concerned with movement, Vatsyayan has played a prominent role in the reinterpretation or re-embodiment of the principles of dance codified in the *Natyashastra*. In *The Square and Circle of the Indian Arts* she discusses dance, architecture, sculpture and music. It is in relation to dance and sculpture that concepts of movement are clearest. Boner-like diagrams for sculpture are paralleled by the principle of the vertical mandala as the underlying structure for Indian dance, against which movements are defined. Centred on the navel, it is shown as a circle with eight diameters and a corresponding orthogonal grid. As for Boner, Vatsyayan’s understanding of the symbolism of manifestation, of the embodiment in art of the relationship between the one and the many, is of an organic and dynamic whole, integrated around the centre. This is not unlike Geoffrey Scott’s breath-like flow from and return to the centre in a symmetrical space, via a more convoluted peregrination. The concept becomes clear in Vatsyayan’s explanation of the dance posture called *sama* (1983: 52): ‘It is the physical and psychical centre which is the beginning and the end. All dynamic actions return to this stillness.’

In her introduction to a volume on concepts of time, Kapila Vatsyayan refers to a paper of mine which is included:

While art historians will no doubt debate the structural analysis of Dr. Adam Hardy ... there will be little disagreement with his cautiously stated conclusion that ‘the dynamic formal structure of Indian temples shows irresistible analogies with certain metaphysical ideas recurrent in Indian thought: of the manifestation in transient, finite multiplicity of a timeless, limitless, undifferentiated yet all pervading unity; of the identity of this oceanic infinitude with the all-containing infinitesimal point; of finite things as fleeting transmutations of the infinite, momentarily differentiated, then sinking back into unity, in unending cycles of growth and decay.’ This is true not only of Indian architecture, but of all forms of Indian art. (Vatsyayan ed. 1996: xxix).

I have cited this passage before, not to show off at having been quoted but because of its bold assertion, as far as which I would not dare to go, of the unity and essence of the Indian arts. The passage now seems relevant to illuminate a mutual misinterpretation arising from two different concepts of movement. Kapilaji, I suspect, did not realise that I meant that temples architecture arrives at a very concrete representation of interpenetrating forms bubbling out from a centre and from one another, coming apart and exploding into the void. I did not appreciate that her analysis of movement patterns is conceived primarily in terms of a centred field of bodily movements (for dance) and of represented bodily movements complemented by dynamic perceptual forces (for sculpture). A temple design will, in three dimensions, constitute such a field of forces, and it would be interesting to see whether a Gestalt psychologist and a revivifier of shastric principles would propose a similar pattern. But such a pattern would be separate from the directly presented one of burgeoning shrine-images.

Seeing is believing

So, a strand of thinking on Indian art and architecture has seen movement as one of its characteristics, conceiving of movement in different ways, and analysing its formal means to a greater or lesser extent. Movement has been understood as a bearer of meaning and, more specifically, linked it to the concept of manifestation. This interpretation has tended to be couched in rather neo-Vedantic terms; but, in India, a perception of emerging and expanding creation seems to have been an intuition of the way things are that ran deeper than philosophical divisions. Recent studies have revealed the medieval theistic systems, such as the Pancharatra and the Shaiva Siddhanta, characterised by Devangana Desai (1996: 11) as ‘composite Tantric-Puranic religion’, as apotheoses of the vision of cosmic evolution taking place through sequential emanation. For evidence that such a scheme could influence the placement of images in a temple, one needs to look no further than Desai’s paper for this colloquium.

Such emanatory concepts find a parallel in the stage-by-stage downward emergence and growth of the kind that, I believe, is the inherent dynamic structure increasingly apparent in monumental Hindu temples from the 7th century onwards. If the viewpoint of the ‘Perennial Philosophy’ is preferred, these temple dynamics provide a perfect illustration of the workings of an adequate symbol of manifestation. Such close analogies between formal patterns and ideas back up, to some extent, my interpretations of the form. As Desai’s paper makes clear, analyses of the placement of images, of systems of ritual, and of architectural composition, reinforce one another through their mutual consistency, supporting a concept of the temple as an unfolding universe. But one does not have to show parallels, let alone meanings, nor indeed to explain the patterns, in order to show that the patterns exist in the architectural forms. To show that they are there it is not necessary to know whether or not they were deliberately devised to embody ideas, come straight from on high, spring from the essence of Indian culture, reflect a way of thinking or structures in the brain, or configure multi-centric social systems and emanated power structures purposely negotiated by human agency. Least of all should we hope for justification in the *Vastuśāstras*. When Pinner Indorf writes ‘Nothing in the *vastuśāstras* relating to proportion and rhythmic order seems to specify a downward movement in the architectural form’ (2004, 179-80), this seems to me to miss the point, since neither do they specify upward movement, and whatever they might specify could not deny the patterns inherent in actual temples. Before anything else, the formal structure of a work of architecture has to be clearly seen. Only then can meanings, homologies or explanations begin to be approached.

For a visual interpretation to attain the status of critical knowledge, it must be possible to visualise it, to see it in the mind’s eye: an interpretation of a dynamic pattern must, by definition, be visualised in motion. Then, the visualisation must be communicable and replicable in other minds. For an interpretation based on implied movement, it is essential to be clear about what kind of movement is concerned, and not to confuse different kinds. When George Michell (1988: 67) suggests that ‘A further expression of the energy of the sanctuary radiating outwards is the movement upwards; though the worshipper cannot physically participate in this ascent, the symbolism attached to the parts of the temple permits him ritually to undertake such movement’, he is confusing the implied movement of forms with the ascent of the mind (in symbolic terms, confusing divine manifestation with aspiration towards the divine). Even in purely

formal terms, as I have tried to show in this paper, movement can be conceived in different ways, and these should not be confused. Everyone knows that spires soar, and Hindu temple towers may soar in that sense, but the way in which they represent emanation and proliferation can only be visualised as outwards and downwards.

If all this can be seen, can it be shown? If it can be visualised, can it also be communicated unambiguously? It seems to me that the sequential birth and billowing out of form from form is the most tangible and unequivocal kind of architectural movement, far less open to misconception than movement understood in terms of visual forces. Yet, as I know well enough having tried to explain these things for some time, even this kind of movement is easily misconstrued. Even drawings, an obvious, though very under-used means to communicate such matters, can be misinterpreted. Computer animation, however, now provides a tool for representing such movement unambiguously

Static drawings will have to do here. Figure 11 is the best that I can manage for my example, the Kandariya Mahadeva temple. It is *not* an upward explosion: the whole swells upwards (through expanding repetition), but its parts emerge and proliferate downwards and outwards (through projection/staggering and progressive multiplication). This is not like the upward progress of a pine tree, where new growth keeps appearing at the apex as the whole expands. Here the higher stages are the earlier stages ones, and the process of evolution presented by the form of the shrine mirrors an unfolding that has taken place through the course of the tradition: Figure 11, in a different way, shows the same development as Figure 6.

Any interpretation of movement can, of course, be seen in reverse. Run backward, the process that I have shown is no longer a blossoming out but a sucking in, a hoovering up into a black hole in the sky. Here, perhaps, is the path of cosmic involution, of reabsorption. Equally, in the outward flow, beyond the momentary glimpse that we are offered by the temple walls, things fall apart, swept out into dissolution. The unity of the all-containing point in the heavens is the same unity as the oceanic plenitude to which everything returns. The architectural composition allows these readings; but it is not by showing that such ideas are homologous with the architecture that one can demonstrate the nature of the formal dynamics. This can only be shown in the forms themselves.

Anyone may, of course, assert an entirely different scheme of Hindu temple dynamics from this one. If so, let them not just talk about it, but show it.

REFERENCES

Adam, Robert 1778. *The Works in Architecture of Robert and James Adam*.

Arnheim, Rudolf 1977. *The Dynamics of Architectural Form*. Berkeley and Los Angeles: University of California Press.

Arnheim, Rudolf 1967 (first published 1956). *Art and Visual Perception*. London: Faber.

Boner, Alice 1990 (first published Leiden, 1962). *Principles of Composition in Hindu Sculpture*. Delhi: IGNCA.

Coomaraswamy, A K 1956. 'Why Exhibit Works of Art?' in *Christian and Oriental Philosophy of Art*. New York: Dover.

Desai, Devangana 1996. *The Religious Imagery of Khajuraho*. Mumbai: Franco-Indian Research.

Forty, Adrian 1997. *Words and Buildings: a Vocabulary of Modern Architecture*. London: Thames and Hudson.

Hardy, Adam 1987. 'Patterns of Thought and Form in Hindu Temple Architecture', *Architecture + Design* (New Delhi), Sept.-Oct., 28-39, Nov.-Dec., 38-55.

-- 1995. *Indian Temple Architecture: Form and Transformation*. New Delhi: IGNCA.

-- 2002. 'Śekhārī Temples', *Artibus Asiae* 62, Pt. 1, 81-137.

-- 2007. *The Temple Architecture of India*. Chichester: Wiley.

Indorf, Pinner 2004. 'Interpreting the Hindu Temple Form: A Model Based on its Conceptualization as a Formal Expression of Measured Movement', *Artibus Asiae* 64, Pt. 2, 177-210.

Michell, George, 1988 (first published New York, 1977). *The Hindu Temple: an Introduction to its Meaning and Forms*. Chicago: University of Chicago Press.

Pevsner, Nikolaus 1963. *An Outline of European Architecture*, 7th edn. Harmondsworth: Penguin Books.

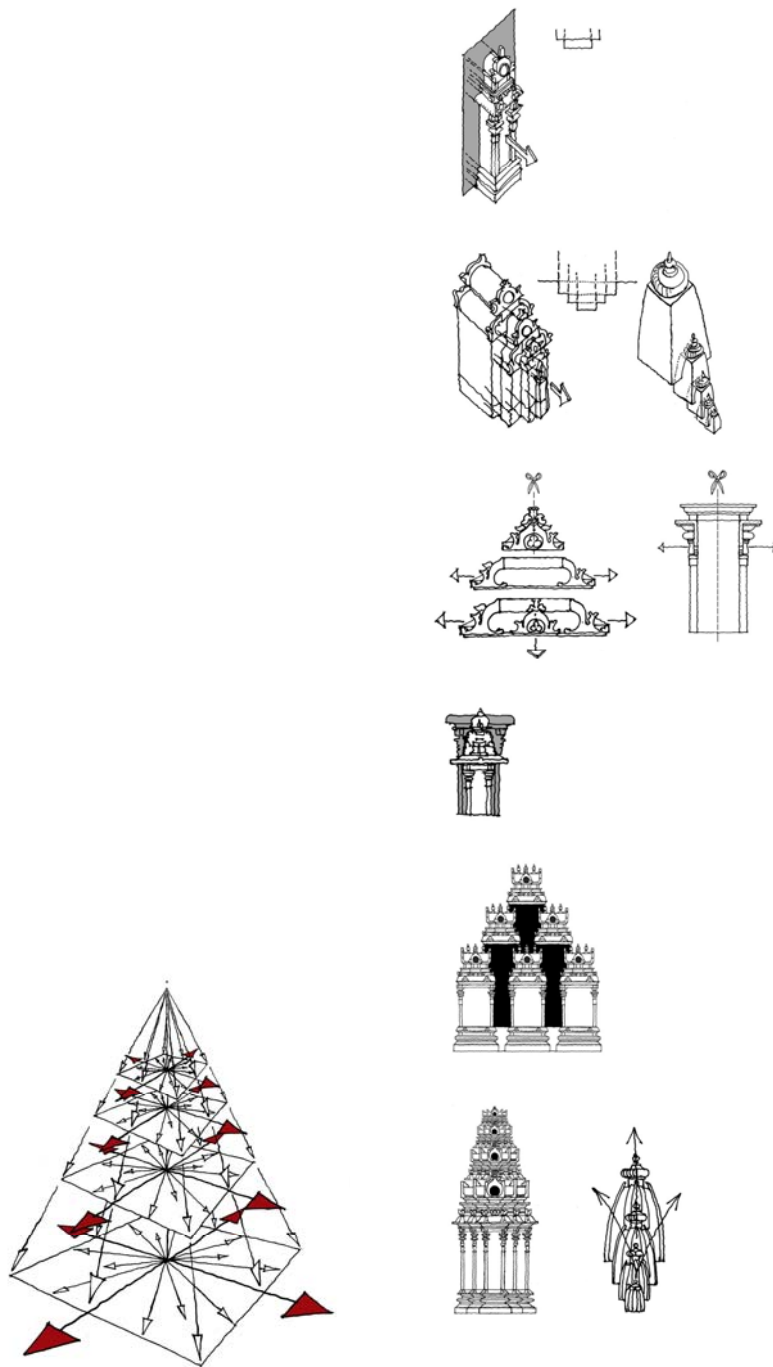
Scott, Geoffrey 1914. *The Architecture of Humanism*. London: Constable.

Vatsyayan, Kapila 1983. *The Square and the Circle of the Indian Arts*. Delhi: Roli Books.

Wölfflin, Heinrich 1888. *Renaissance and Baroque*, Tr. Kathrin Simon. London: Collins.

Vatsyayan, Kapila (ed.) 1996. *Concepts of Time, Ancient and Modern*. New Delhi: IGNCA.

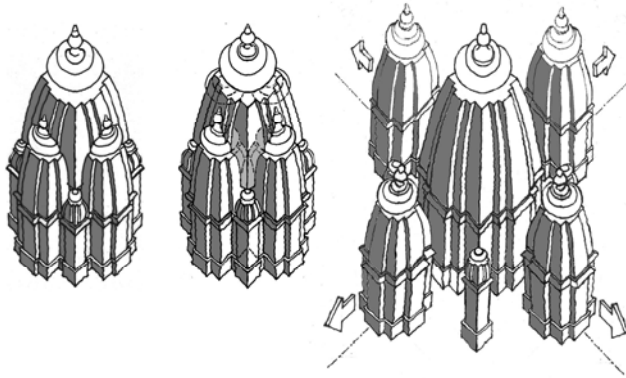
Zimmer, Heinrich 1946. *Myths and Symbols in Indian Art and Civilization*, ed. Joseph Campbell. New York: Bollingen Series.



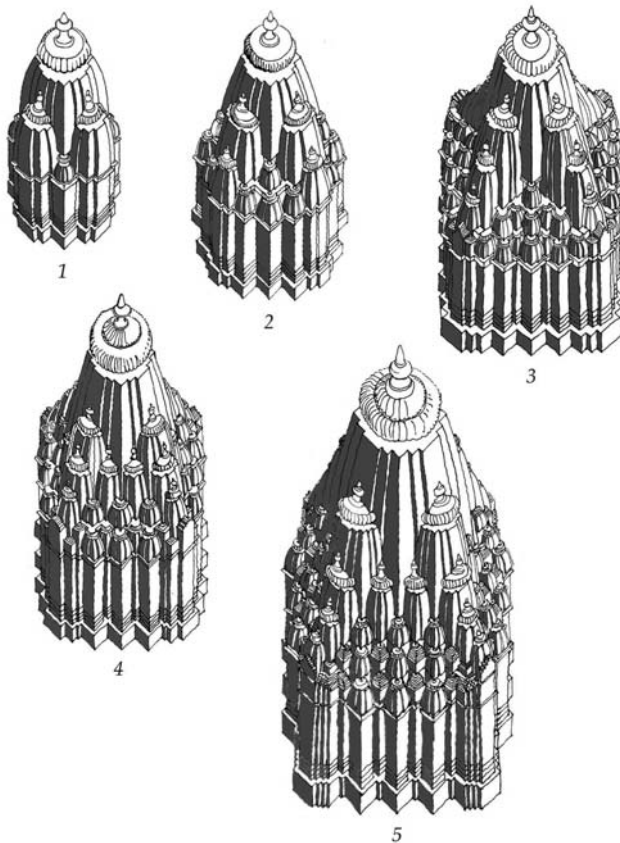
1. Principal directions of movement

2. Architectural means of expressing movement in Indian temples.

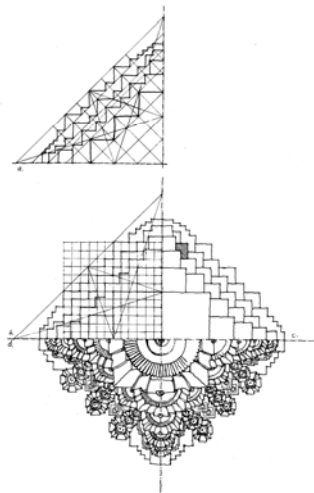
a. Projection, b. Staggering or multiple projection, c. Splitting, d. Bursting of boundaries, e. Progressive multiplication, f. Expanding repetition.



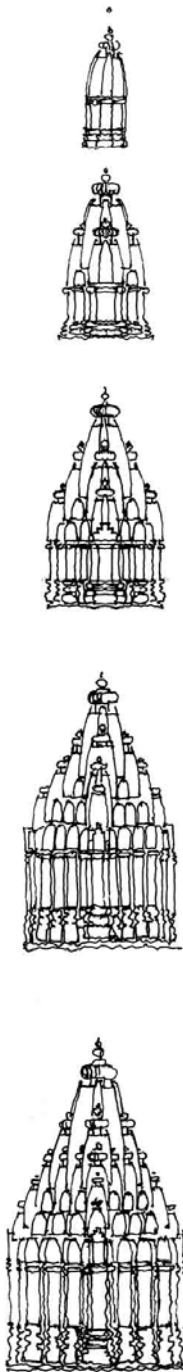
3. Simple form of Shekhari shrine (Type 1)



4. Five types of Shekhari shrine



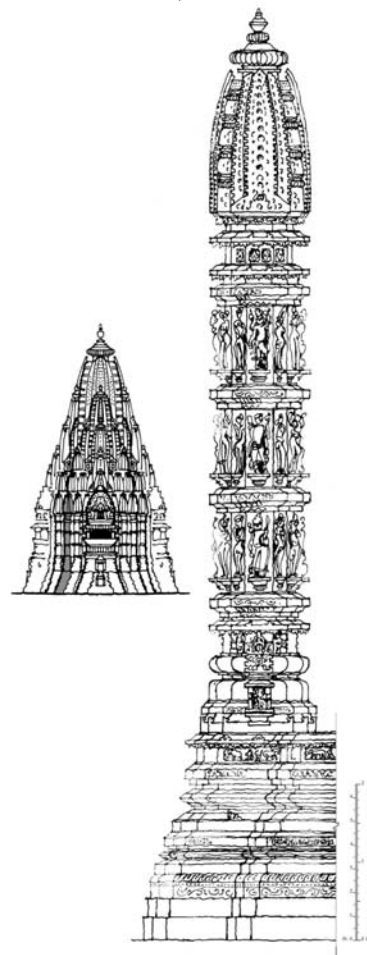
5. Roof plan of Type 5



6. Evolution of Shekahri temple forms



7. The Kandariya Mahadeva, Khajuraho (Photo: Gerard Foekema)



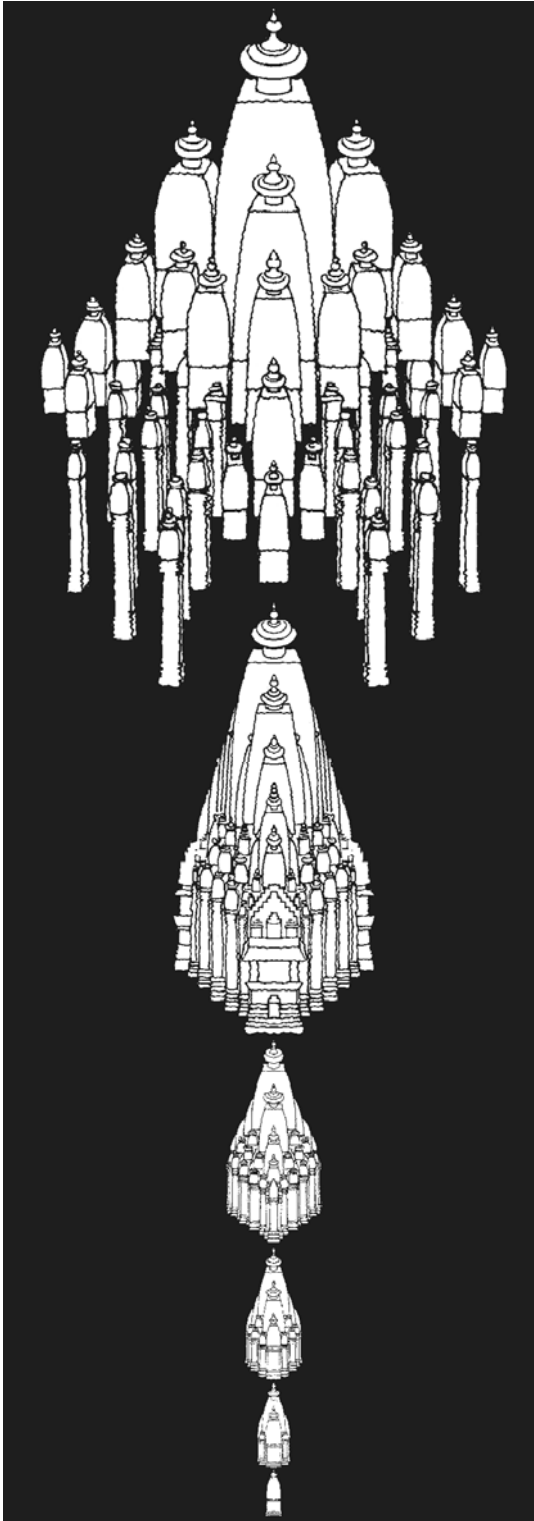
8. *Kuta-stabmha* from the Kandariya Mahadeva



9. 'Nodding ogee', the Percy tomb, Beverley Minster, Yorkshire, 14th century.



10. Stele at Parel, near Mumbai, c 6th century, showing emerging and proliferating manifestations of Shiva. The idea is immediately communicated because human bodies are familiar forms; to see such dynamism in temple architecture you first have to recognise the aedicules of which it is composed. [Photo: Gerard Foekema]



11. Dynamics of the Kandariya Mahadeva