De- and Re-constructing the Indian Temple

By Michael W. Meister

In a contemporary world where "deconstruction" is an appropriate position for literary criticism and "de-constructivism" an appropriate architectural response to the human environment, I am reminded of one Indian philosopher's argument to prove the theorem that any number times zero equals zero: "If the sequence $1 \times 1 = 1, 1 \times \frac{1}{2} = \frac{1}{2}, 1 \times \frac{1}{4} = \frac{1}{4} \ldots$, etc., holds, its logical termination must be $1 \times 0 = 0$." If a building has no meaning, is it worth taking apart?

Of Louis Kahn's assembly hall in Dhaka, Bangladesh, we might argue that formalism *is* its meaning or of Frank Gehry's houses that their very destructuring of order gives them form; ornament, scorned by modernism at times as "mere" decoration, has returned to architecture in a "postmodern" world primarily as an expression of luxury and whimsy, if sometimes also in the name of "symbolism." How far we have moved from an understanding of how form and meaning can provide an identity, however, can be tested by looking at one of architectural history's most extreme examples, the stone temple in north India as it evolved from ca. A.D. 400 to 1500 (fig. 1).

This essay draws on a series of studies I have made over the past fifteen years decoding aspects of the north Indian temple and puts in "play" some of the theoretical constructs that have been useful to me.

Historiography: Seriation of Indian monuments into schools and styles and chronologically into centuries (now only sometimes into decades) began as a scholarly activity in the nineteenth century and continues today.[1] Going beyond chronology, however, Stella Kramrisch's study *The Hindu Temple* (1946) placed the monument back into a rich ritual and symbolic context, drawing on a body of surviving architectural manuals meant in part to record mnemonically some aspects of actual practice.[2] Such "scientific" texts (*śāstras*), however, were written as much to provide a ritual validation for the construction of temples—as part of a received body of sacred knowledge—as to give guidance to masons or carpenters.[3]

Only a few recent studies have placed temples into place-and-time-specific contexts, exploring the sociology of their use.[4] That such use changes over time, and that the use and redefinition of monuments (as of all symbolic forms) does require "deconstruction," is a challenge for the present generation of scholars. The temple's functions as a soteriological tool still demand a variety of ethnographic as well as art-historical explications.[5]

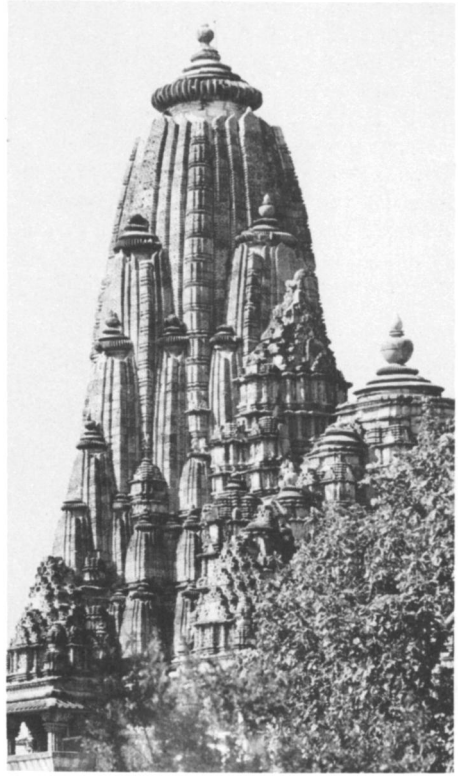


Figure 1 Kandariyā Mahādeva temple, Khajuraho, Central India, ca. A.D. 1025–50

Recent art-historical studies, however, have begun to explain the evolution of the architectural morphology of the temple in terms of its symbolic use.[6] In its planning, elevation, and "decorative" veneer, the temple can be shown in specific ways to construct the reality it was meant to represent. This iconic "sign" value for the monument was essential to make its use by worshipers effective. In terms of Charles Sanders Peirce's semiotic categories, the temple could both be, and stand for, its meaning.[7]

Measurement: As one example, a square diagram (*maṇḍala*) used ritually to found brick altars in ancient India also acted as underpinning for the plan of the stone temple.[8] This was true not simply for the sake of ritual foundation, but as an architectural mechanism used to plan and proportion the new monument (fig. 2). A study I made some years ago of temples in north India, using actual measurements, demonstrated that the proportions of this diagram were used to guard the sanctum for many centuries, although applied by architects in a variety of creative ways (fig. 3).[9]

This diagram's grid, when used to build a sheltering structure, dictated the thick walls surrounding the interior chamber. It could also be used to project the dimension of the sanctum through the temple's walls by measuring the first layer of projecting masonry used as an offset on each side. The central four squares of this grid within the sanctum marked the "place for 'supreme reality' (*brahman*)," according to texts. This "sacred ground" (*brahmasthāna*) then provided a measure for central buttresses on the exterior walls; these sculpturally were defined as "doors" or doorlike niches and used to shelter devotional images of deities that functioned as aspects of the inner divinity (see fig. 2).

Thus, through the analysis of actual plans, I demonstrated that the sacred character of the temple's inner space—both the sanctum itself and its potent center—was given a physical embodiment on the temple's outer walls (fig. 2 and 5). I also illustrated how architects in different regions, and over several centuries, adjusted their application of this system to provide more subtle proportions as well as greater architectural (and aesthetic) complexity to the temple's plan and elevation (fig. 3).[10]

Other studies I have made suggest that, in elevation, the curvilinear tower of the northern temple was meant to span the distance from the temple's exterior to the walls of its interior sanctum. Its curvature approximates a segment of a circle, using multiples of the temple's width as radius (fig. 5).[11] At its top, a square stone slab (*vedi*; "altar") capping the temple's tower acted as a vertical extension of the cubical interior chamber (*garbhagṛha*; "womb chamber"). In a few temples, this slab took the actual form of a raised altar.[12]

Morphology: The neck of a great pillar emerged as an architectural presence above

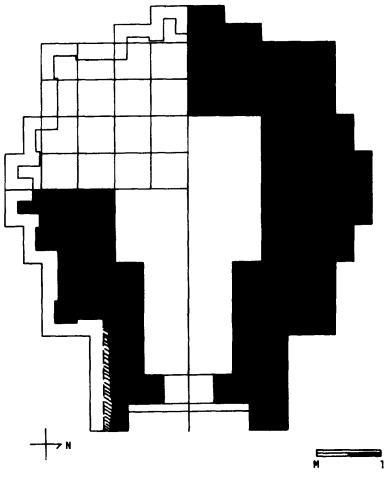
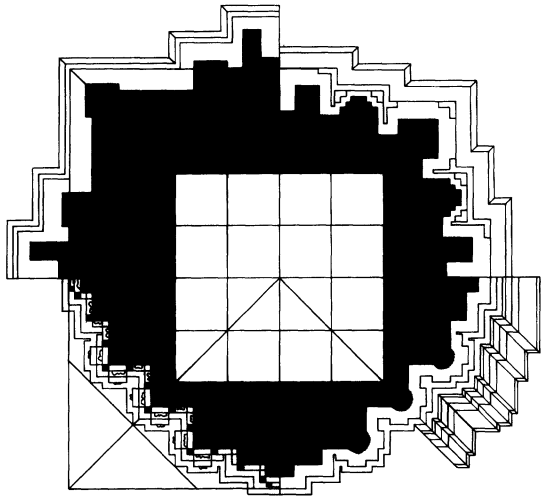


Figure 2 Śiva temple, Mahua, Central India, ca. A.D. 775. Ground plan with constructing grid.



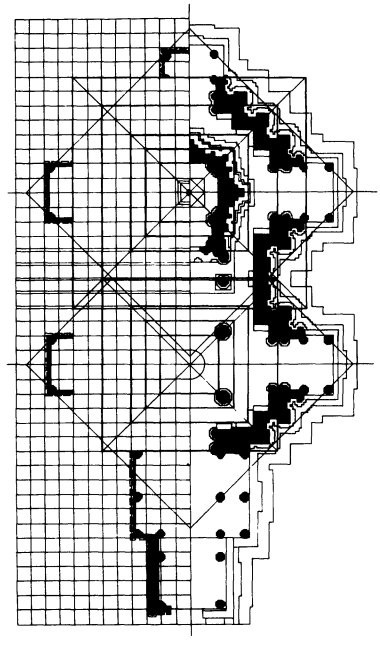


Figure 3 Transformation of temple plans: Śiva temple, Mahua, ca. A.D. 775 (upper left quadrant); Nakti-mātā temple, Bhavanipur, ca. A.D. 875 (upper right quadrant); Viṣṇu temple, Kiradu, ca. A.D. 975 (bottom half).

Figure 4 Kandariyā Mahādeva temple, Khajuraho, Central India, ca. A.D. 1025–50. Plan with grid.

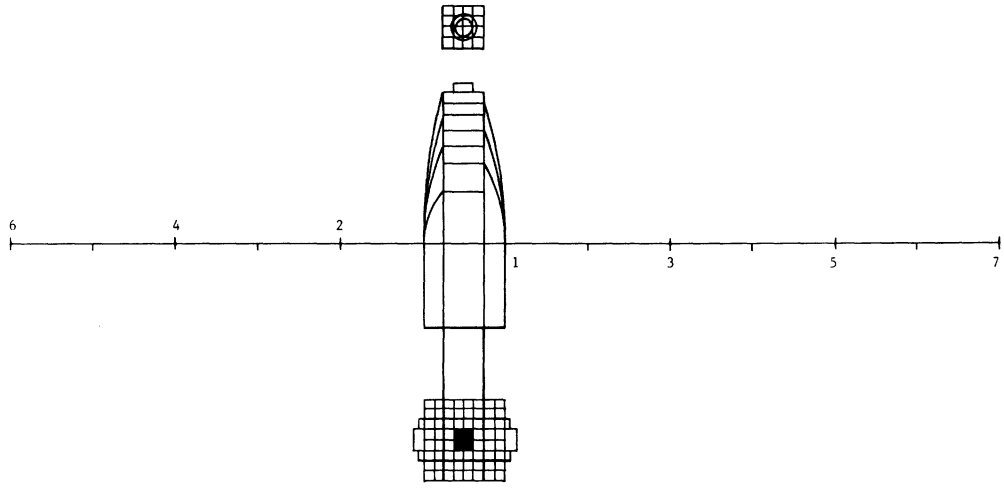


Figure 5 Temple: relation of plan to elevation and radii to determine curvature.

this upper slab of the superstructure (figs. 5 and 6). This was crowned by a stone fruit in the form of an auspicious seed (*āmalaka*) and ultimately by a consecrating lustral pot that elevated the actual earthen pot, buried with germinating seeds, placed by priests at the center of the temple's foundation.[13] Extending vertically through the central "sacred ground" (*brahmasthāna*) of the sanctum, with its image of divinity, this "invisible" pillar marked the center of the sanctum as a point of cosmic origination (fig. 7).

As both an altar and an axis—validating and empowering each location picked for worship—the type of stone temple created for use in north India from the fifth century A.D. employed specific and bold architectural forms to represent its mythic and ritual meanings. These signal *omphalos* and *axis mundi*—as the monument also acts as both "cosmic" and "cosmogonic" diagram—in symbolic, indexical, as well as iconic ways. That is, these forms both are what they are (platform, pillar) indexically and stand for something they are not (cosmos, cosmogonic moment) symbolically; yet, as part of the temple, they share an identity iconically (using Peirce's triadic classification) with what they signify, thus assuring the temple's potency as a tool.[14]

Symbology: How many ways can architecture function as a sign? Roland Barthes has observed that "it is far from certain that in the social life of today there are to be found any extensive systems of signs outside of human language. . . . We are, much more than in former times," he adds as qualification, "a civilization of the written word."[15] In Indian inscriptions, literature, and folklore, the temple, for example, stands as a "mountain"—that on which Śiva built his palace, that at the center of

the cosmos, that which "scrapes the sky" and on which the rain-cloud elephants leave their seed in Sanskrit poetry. As a metaphor for the temple, "mountain," however, is only of "indexical" value in Peirce's sense: a system of meaning in its own right, shared by the temple but not defined by it.

Homology: That the measurements of the *maṇḍala's* diagram mark the temple as an altar related to the place of original sacrifice in Hindu myth of origin, makes the earth, the altar, and the temple homologs and not analogs—that is, different "visions" ("signs") of the same underlying reality. This is also true of the *axis mundi*, phallic pillar placed in the sanctum and sometimes above the crowning vessel of a Śiva temple, and those anthropomorphic images of Śiva, Viṣṇu, Brahmā, or the Buddha that branch into many figures as a way of suggesting cosmic growth and parturition.[16]

The proliferation of parts on the temple's walls itself expresses, not merely represents, cosmic parturition (fig. 3). Images of deities who guard the directions of space (*dikpālas*) were placed on the corners of many square temples from the late seventh century, and some temples (remarkable in a stone tradition) developed plans that turn the square, creating a series of regular angles that made the monument into a kind of cosmic chronogram.[17] As India's architects played with the programmatic requirements of the temple over centuries—both ritual and symbolic—they found increasingly subtle architectural means to express both.

Iconicity: Some might argue that the use of the upper part of a giant pillar, half-hidden altars, and emblems of fruitfulness is not architecture at all (fig. 6), although in an age of Disneyworld hotels with dolphins this may be an argument hard to sustain. Architectural "iconicity" *is* an issue today, however, in an age when the power of any manmade monument to evoke a mental image of a universal reality (fig. 7) has only fitfully been available to modern architects (and then usually attempted only in terms of simple geometric forms). Yet can such a solution—the "iconicity" of a building, in Peirce's category rather than that of Robert Venturi's building that is a "duck"—still be one available to architects?[18]

In developing a symbolic surface for the temple's tower, Indian architects perhaps came closest to the "historical referencing" of a Western postmodernism, but with none of po-mo's ironies or private conceits (fig. 10). We, as scholars, have known for some time that, in addition to its other meanings, the temple was also a "palace," appropriate as a shelter for the anthropomorphised divinity within. This fact has been expressed both by names given to the temple in texts (such as *prāsāda*; palace) and by its architectural veneer. Scholars have long counted the corner ribbed stones of the north Indian tower as a means to number its "stories" (figs. 6 and 10); my recently published decoding of the temple's richly ornamented façade, however, has suggested that a much more complex system than that was at work.[19]

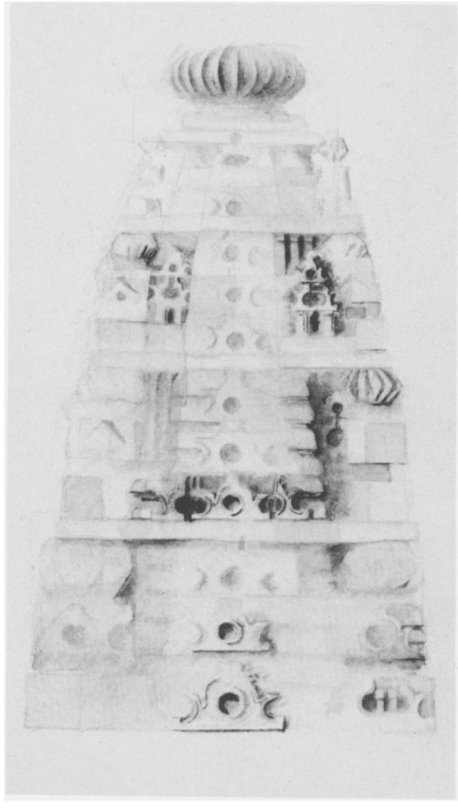


Figure 6 Robert deJager, *Temple Elevation*, 1989, watercolor, 7 × 10 inches. Private collection.

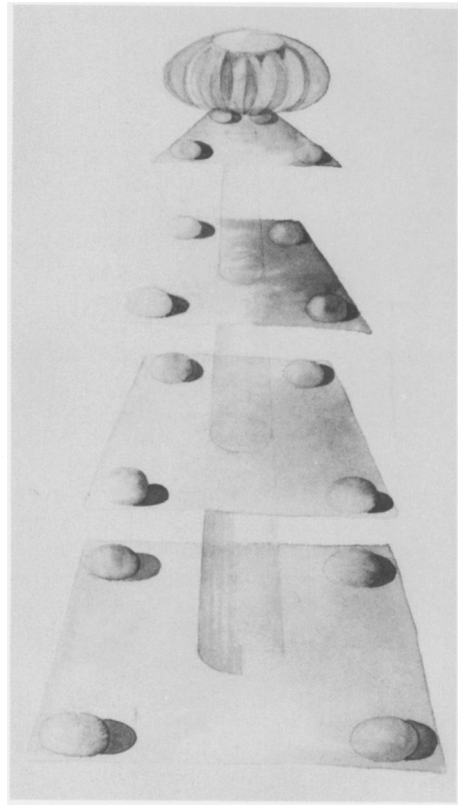


Figure 7 Robert deJager, *The Temple Stripped Bare*, 1989, watercolor, 7 × 10 inches. Private collection.

Surface: For many hundreds of years before temples began to be built in north India in the fifth century A.D., stone carvers had experimented with a process abstracting architectural forms from the urban wood architecture of ancient India as a means to create carved façades for Buddhist and Jaina caves. Already in these excavated temples, such referencing had a sign value rather than a structural one, and the language created was at least as abstract and flexible as that which governs the decorative veneer of a skyscraper today.[20]

The architects who built the few brick temples in central India that have survived from as early as the seventh century A.D. (fig. 8) condensed and reordered, but essentially still replicated, architectural elements of an Indian palace in their towers (figs. 8 and 9). In this example, small pillared pavilions with domes stand as aediculae on the corners of each story; central projecting pent-roofed balconies are faced by typical Indian barrel dormers; and the small segments of a cloister that connect these structures suggest an open terrace behind (fig. 9).

The density of symbolism built into the Indian temple by architectural means is greater than these brick structures show, however. In the accompanying drawings, I have attempted to demonstrate ways by which the surface veneer that architects developed for stone temples in north India in the sixth and seventh centuries A.D. (fig. 10) went intentionally beyond such a structurally feasible palatial formula (fig. 9), transforming the temple's surface semantically by use of multivalent architectural referencing.

The ornament of the stone tower in the seventh century (fig. 10) visibly still represented cloisters to enclose each terrace; central spines of interlocking barrel windows acted in place of dormers; and aediculae supporting ribbed stones (*āmalakas*) marked each terrace corner (figs. 10 and 11). Such a morphology "signs" the palatial nature of the tower; each part, however, here has been transformed into a "homolog." The out-turned central dormers on each story (fig. 8) have become a single, infinitely extendable, web of windows to clasp the tower like a sheath

(fig. 10). The corner pavilions have become altarlike platforms instead of open pillared structures, made up of a series of laminated cornices and each crowned by a ribbed-stone *āmalaka* (a seedlike form used also as a pillar-capital), as is the tower itself (fig. 11). Each of these aediculae has become, in part, the temple's "replica"—like the fragment of a hologram—marking, as do all temples, once more the place and nature of original creation. As sign, these aediculae measure stories indexically, signal "palace" symbolically, and stand as an "altar/temple" iconically.

Elsewhere I have called this process of architectural replacement "symbolic substitution," and the history of its architectural development in India can be sporadically traced throughout the fifth and sixth centuries A.D. from a variety of fragmentary remains.[21] It makes of the temple a proliferation of homologous "points," expressing, in architectural terms, an Indian understanding of the created universe as an infinitely extendable "atomic" reality. In this sense, I have stated that the Indian temple begins with a "singularity," with much the same meaning as that given today by quantum physics: "a point in space-time at which the space-time curvature becomes infinite."[22]

Historicity: The temple, however, once built, exists in space-time. The potency of the form that architects were able to create was put to programmatic use. The "history" of the temple is one of changing patronage, ritual use through time, and the incorporation of images that represent an evolving iconography. (Dennis Hudson's current study of the images on one particular south Indian temple demonstrates the density by which a temple and its iconography could effectively be molded to fit a particular local use.)[23] In north India, the period when temple building spread widely across the hinterland corresponded, in part, to a shift from "lineage"- to "state"-based societies. Ties connecting state-patronage, local clans, and communities of priests in the diffusion of temple building have only begun to be explored.[24]

For the period from the fifth to the fifteenth century—separate from the development of the morphology that gave the temple its potent "sign" value—a more traditional architectural history of this building type could also be written, dealing with the evolution of form, definition of enclosed space, dissemination, and regional differentiation. The initial requirement for every temple has been to provide shelter for an image in the sanctum and for the individual worshiper, usually in the form of a portico. As changing religious requirements encouraged the worship of multiple deities representing the single

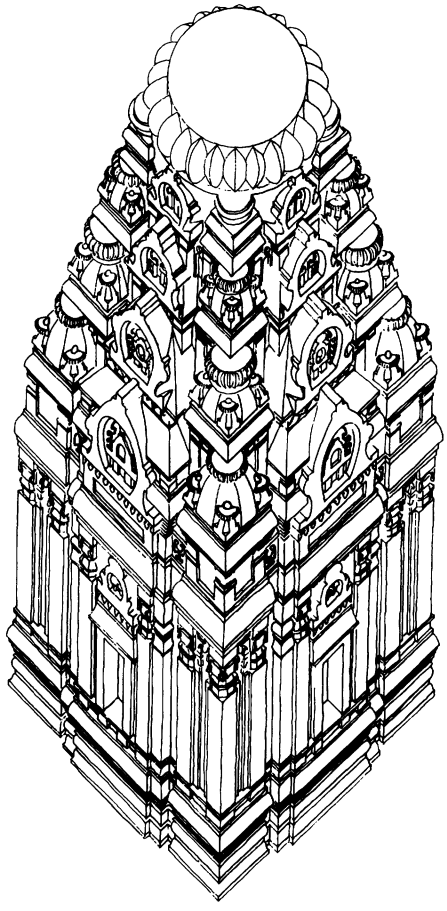


Figure 8 Axonometric drawing (crowning ribbed stone restored), Rājīvalochana temple, Rajim, Central India, ca. A.D. 600.

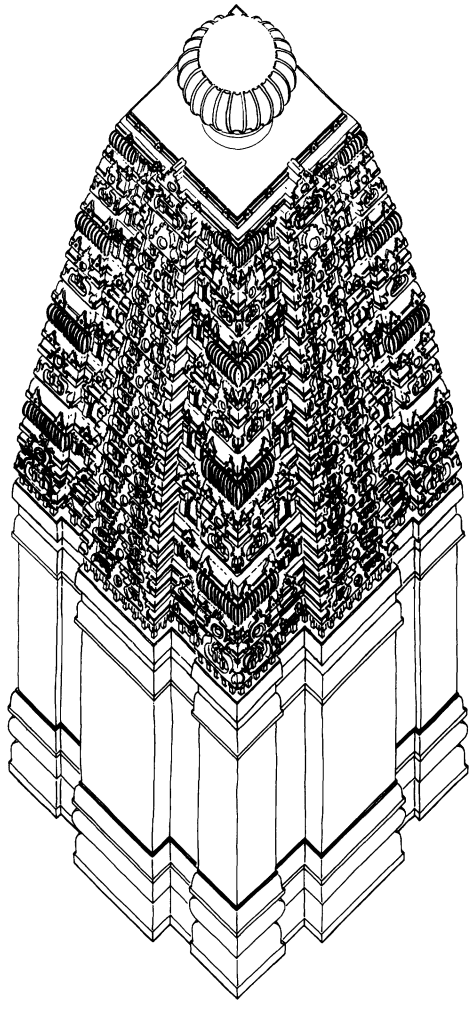


Figure 10 Axonometric drawing, Garuḍa Brahmā temple, Alampur, Andhra Pradesh, ca. late 7th century A.D.

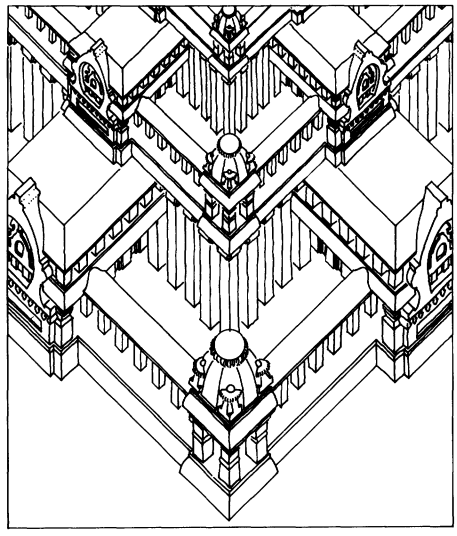


Figure 9 Drawing: detail suggesting the architectural implications of the Rājīvalochana temple's façade.

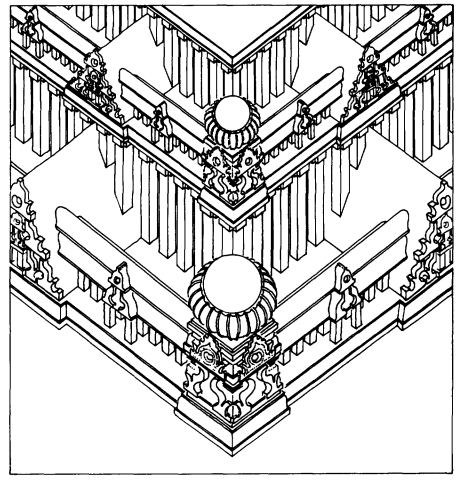


Figure 11 Drawing: detail to suggest the palatial implications of the Garuḍa Brahmā's veneer.

central divinity, temples began to be built on platforms, with surrounding subsidiary shrines (each still founded on its own sacred diagram). Temples were given enclosed ambulatory paths; enclosed halls; expanded open front halls with balconies; spaces for dance and music, or even the preparation of food. Different regions developed separate solutions for such changing public and ritual requirements. Technology also evolved, allowing architects to build larger and more complex structures (figs. 1 and 4); the development of techniques for constructing elaborate large corbelled ceilings, for example, made possible a whole history of expanded interior spaces. Such diachronic differentiation is, of course, a proper subject for art-historical research and has been the focus for a certain amount of recent work.[25]

Synchronicity: Synchronically, however, the center of the monument—what Kramrisch called "the four-cornered citadel of the gods"—remained the square of the sanctum, with its walls proliferating in the cardinal directions.[26] Its vertical axis was met by another, longitudinal axis—that of the worshiper's approach—which became the axis along which the temple as a monument for human use tended to be elaborated through time. By the medieval period, architects had created a ritually coequal space for the worshiper along this "axis of access" as a separate hall, measured by its own grid and sheltered by a corbelled ceiling that homologously resembled the umbrella sheltering the sacrificer at a Vedic ritual (fig. 4).[27]

Barthes ends his essay on the "elements of semiology" with a statement challenging the determination of a time span for a synchronic sample: "in principle, the corpus must eliminate diachronic elements to the utmost; it must coincide with a state of the system, a cross-section of history. . . . [But] it is impossible to guess the speed at which systems will alter, since the essential aim of semiological research may be precisely to discover the system's own particular time, the history of forms."[28]

In this respect, synchrony is less a matter of "occurring at the same time" as it is of "having identical period and phase." A "synchronous orbit," for example, is one that has "a period the same as the period of axial rotation of the earth and so oriented that any body in it maintains a position over one point on the earth's surface."[29]

The temples I have been analyzing demonstrate, I think, the degree to which synchrony and diachrony can coexist in one saturated sample. Collectively, they provide a physical "text" with "separate segments (stories) which differ in detail but which are also in some respects similar," thus fitting Edmund Leach's "prerequisites" for a structural analysis:

> Taken together, these similar stories form a set. The items in the set can be compared and contrasted. . . . The establishment of the patterns and the contrasts between them call for close attention to very fine details in the texts under consideration. Ideally, the analysis should take account of every detail; it is a presupposition of the distinctive-feature thesis that, while the text may contain redundancies, it cannot contain accidents. Every detail adds something to the cogency of the message.[30]

The Indian temple can be an exemplar of the possibilities for a structural analysis of visual material. It is conceivably unique, however, in the "syncronicity" of its cosmological image. Though both Peirce and Barthes dealt with visual signs as well as language, a bias toward "*langue*" and "*parole*" (in their linguistic sense) can be found throughout the theoretical literature. R. M. Martin sums this up in his recent statement that "the study of nonlinguistic signs harks back to the medieval period. . . . [I]t has not yet achieved the exactitude of logical semiotics and, pending such a development, remains somewhat controversial."[31] Perhaps, however, it is always only a matter of defining the proper set.

Particularity: In the Indian context, in fact, it is possible to begin to define the limits to the "system's own particular time"[32] in the case of the north Indian temple. By the sixteenth and seventeenth centuries, although temples that followed the signature form of curvilinear tower still were built in north India, the "system" of form had begun to lose its "period and phase." An architect such as Mandana, for example, who wrote and built in western India in the fifteenth century under the renascent Hindu patronage of Rana Kumbha at Chittor, was already self-consciously attempting to reestablish the traditional system he found in texts.[33] By the eighteenth century, Mughal modes of building were increasingly adopted even by Hindu rulers, and a new hall type of temple ("*haveli* type") became common.

A symptom of systemic "wobble" can be seen during this period in the widespread introduction along the corners of curvilinear towers of an aberrant decorative element used to replace the altar segments marked by ribbed *āmalaka* stones (figs. 10 and 11) found throughout the previous history of the type. Instead, a chain of vases, with foliage flowing over their lips (the so-called vase-of-plenty or *pūrṇaghaṭa* motif, another of India's ancient forms), was used to ornament the corner bands of the tower.

While the use of such an image further denoted parturition—one previously connotative meaning of the temple—it could do so only at the expense of the palatial morphology built into the temple's veneer by previous architects. The sign system as a whole had become weakened by either loss of memory or misuse.

Figure 12 Oakland cinema, Oakland, California.

Temple architecture in India, while giving body to a deeply rooted structure of cosmological belief, deals with "universals" within that system, not inherently. It represents a semantic system rooted within a context, however extended. Taken out of that context, as in its use to ornament an Oakland, California, movie theater (fig. 12), even the temple's potent tower can be decoded only as part of a wildly different system of "signs." Indexically "a tower," symbolically "exotic," this "pre-mo" (rather than "po-mo") structure iconically can be only what its signboard represents, this designated place for showing the evanescence of cinema.

Michael W. Meister *is professor of the history of art at the University of Pennsylvania and general editor of the American Institute of Indian Studies'* Encyclopaedia of Indian Temple Architecture *(1983, 1986, 1988). He has compiled two other edited volumes,* Discourses on Śiva *(1984) and* Making Things in South Asia *(1988).*

Notes

1 See James Fergusson, *History of Indian and Eastern Architecture* (London: John Murray, 1876); Percy Brown, *Indian Architecture: Buddhist and Hindu*, 3d rev. ed. (Bombay: Taraporevala's Treasure House of Books, 1959); and *Encyclopaedia of*

Indian Temple Architecture, vol. 1 (South India), pts. 1 and 2, ed. Michael W. Meister and M. A. Dhaky (Philadelphia: University of Pennsylvania Press, 1983, 1986); vol. 2 (North India), pt. 1, ed. Michael W. Meister, M. A. Dhaky, and Krishna Deva (Princeton: Princeton University Press, 1988).

2 Stella Kramrisch, *The Hindu Temple*, 2 vols. (Calcutta: University of Calcutta, 1946; repr., Delhi: Motilal Banarsidass, 1976). Reprint reviewed by Michael W. Meister in the *Art Bulletin* 62, no. 1 (March 1980): 180–82.

3 See Michael W. Meister, "Temple Building in South Asia: Science as Technology's Constraint," *Science and Technology in South Asia* (Proceedings of the South Asia Seminar 2), ed. Peter Gaeffke and David A. Utz (Philadelphia: Department of South Asia Regional Studies, University of Pennsylvania, 1985), 31–38; and Murray Libersat, "Architects and Architecture of Kerala," *Making Things in South Asia: The Role of Artist and Craftsman* (Proceedings of the South Asia Seminar 4), ed. Michael W. Meister (Philadelphia: Department of South Asia Regional Studies, University of Pennsylvania, 1988), 96–102.

4 See Burton Stein, ed., *South Indian Temples: An Analytical Reconsideration* (Delhi: Vikas Publishing House, 1978); and Ann Grodzins Gold, *Fruitful Journeys: The Ways of Rajasthani Pilgrims* (Berkeley: University of California Press, 1988).

5 See Thomas S. Maxwell, "The Five Aspects of Śiva (In Theory, Iconography and Architecture)," *Arts International* 25, nos. 3–4 (March–April 1982): 41–57.

6 Michael W. Meister, "On the Development of a Morphology for a Symbolic Architecture: India," *Res, Anthropology and Aesthetics* 12 (Autumn 1986): 33–50; idem, "Prāsāda as Palace: Kūṭina Origins of the Nāgara Temple," *Artibus Asiae* 45 (1989): 254–80.

7 Charles Sanders Peirce, "Logic as Semiotic: The Theory of Signs," *Philosophical Writings of Peirce*, ed. Justus Buchler (New York: Dover Publications, 1955), 98–119.

8 Varahamihira, *Bṛhat Saṁhitā*, trans. H. Kern, *Journal of the Royal Asiatic Society*, n.s., 4–6 (1869–74), chap. 53 ("On Architecture"); Kramrisch, *Hindu Temple*, 19–63; and Michael W. Meister, "Measurement and Proportion in Hindu Temple Architecture," *Interdisciplinary Science Reviews* 10, no. 3 (1985): 248–58.

9 Michael W. Meister, "Maṇḍala and Practice in Nāgara Architecture in North India," *Journal of the American Oriental Society* 99, no. 2 (1979): 204–19; idem, "Analysis of Temple Plans: Indor," *Artibus Asiae* 43 (1982): 302–20; and idem, "Geometry and Measure in Indian Temple Plans: Rectangular Temples," *Artibus Asiae* 44 (1983): 266–96.

10 Meister, "Measurement and Proportion."

11 Meister, "On the Development of a Morphology." Patrick George, a Ph.D. candidate in architecture at the University of Pennsylvania, has recently demonstrated that such curvatures can also be approximated by craftsmen by the use of an arithmetic series in reducing the dimensions of each story.

12 See Michael W. Meister, "A Note on the Superstructure of the Maṛhiā Temple," *Artibus Asiae* 36 (1974): 81–88 (esp. fig. 4); and idem, "Construction and Conception: Maṇḍapikā Shrines of Central India," *East and West*, n.s., 26 (1976): 409–18.

13 Kramrisch, *Hindu Temple*, 14–17, 126–28. 359–60.

14 Peirce, "Logic as Semiotic." The "universality" of archetypes for such forms is argued by Mircea Eliade, "Sacred Space and Making the World Sacred," *The Sacred and the Profane* (New York: Harcourt, Brace and World, 1959), 20–65.

15 Roland Barthes, *Elements of Semiology*, trans. by Annette Lavers and Colin Smith (New York: Hill and Wang, 1968), 10.

16 See Maxwell, "The Five Aspects of Śiva"; and idem, *Viśvarūpa* (Delhi: Oxford University Press, 1988).

17 Meister, "Analysis of Temple Plans"; idem, "Muṇḍeśvarī: Ambiguity and Certainty in the Analysis of a Temple Plan," *Kalādarśana: American Studies in the Art of India*, ed. Joanna G. Williams (New Delhi: Oxford and IBH Publishing Co., 1981), 77–90; Donald M. Stadtner, "Ancient Kosala and the Stellate Plan," *Kalādarśana*, 137–45: Michael W. Meister, "The Udayeśvara Temple Plan," *Śrīnidhiḥ: Perspectives in Indian Archaeology, Art and Culture* (Madras: New Era Publications, 1983), 85–93; idem, "Śiva's Forts in Central India: Temples in Dakṣiṇa Kosala and Their 'Daemonic' Plans," *Discourses on Śiva, Proceedings of a Symposium on the Nature of Religious Imagery*, ed. Michael W. Meister (Philadelphia: University of Pennsylvania Press, 1984), 119–42.

18 Peirce, "Logic as Semiotic"; Denise Scott Brown and Robert Venturi, "On Ducks and Decoration," *Architecture Canada* 45, no. 7 (October 1968): 48; and Robert Venturi, Denise Scott Brown, and Steven Izenour, *Learning from Las Vegas: The Forgotten Symbolism of Architectural Form* (Cambridge: MIT Press, 1977, 87–91) (a revised version of *Learning from Las Vegas* [Cambridge: MIT Press, 1972]). See also Charles Jencks, *Towards a Symbolic Architecture: The Semantic House* (New York: Rizzoli, 1985).

19 Meister, "On the Development of a Morphology"; and idem, "Prāsāda as Palace."

20 See Ananda K. Coomaraswamy, "Early Indian Architecture," pts. 1 and 2, *Eastern Art* 2 (1930): 208–35; pt. 3, *Eastern Art* 3 (1931): 181–217; pt. 4, ed. Michael W. Meister, *Res, Anthropology and Aesthetics* 15 (Spring 1988): 5–26.

21 Meister, "On the Development of a Morphology"; idem, "Prāsāda as Palace"; and idem, "Darrā and the Early Gupta Tradition," *Chhavi II* (Varanasi: Bharat Kala Bhavan, Banaras Hindu University, 1981), 192–205.

22 Stephen W. Hawking, *A Brief History of Time: From the Big Bang to Black Holes* (New York: Bantam Books, 1988), 198.

23 Dennis Hudson, "The Vaikuntha Perumal Temple in Kanchipuram: An Analysis," paper presented at the 1990 annual meeting of the Association of Asian Studies, Chicago.

24 Romila Thapar, *From Lineage to State* (Bombay: Oxford University Press, 1984); idem, public lectures on "The Itihāsa-Purāṇa Tradition"; Michael W. Meister, "Temples, Tirthas, and Pilgrimage: The Case of Osiāñ," paper presented at the International Conference on Rajasthan, Jaipur, 1987, in *Ratna-Chandrikā: Panorama of Oriental Studies*, ed. Devendra Handa and Ashvini Agrawal (New Delhi: Harman Publishing House, 1989), 275–81; and Mary Linda, "Cooper Plate Grants: New Applications of Old Information," manuscript, 1989.

25 *Encyclopaedia of India Temple Architecture*, vol. 1, pts. 1 and 2; vol. 2, pt. 1; George Michell, *Early Western Calukyan Temples* (London: Art and Archaeology Research Papers, 1975); Odette Viennot, *Temples de l'Inde centrale et occidentale: Étude stylistique de chronologie relative du VI^e^ au milieu du X^e^ siècle* (Publications de l'École Française d'Extrême-Orient, Mémoires archéologiques XI) (Paris: Ecole Française d'Extrême-Orient, 1976); and Thomas E. Donaldson, *Hindu Temple Art in Orissa*, 3 vols. (Leiden: E. J. Brill, 1985, 1986, 1987).

26 Stella Kramrisch, "The Four-Cornered Citadel of the Gods," *Journal of the American Oriental Society* 75 (July–September 1955): 184–87.

27 Michael W. Meister, "Temple: Hindu Temples," in *The Encyclopaedia of Religion*, ed. Mircea Eliade (New York: Macmillan, 1987), 14: 368–73.

28 Barthes, *Elements of Semiology*, 98.

29 *The American Heritage Dictionary of the English Language*, New College Edition (Boston: Houghton Mifflin Company, 1979), s.v. "synchronous," "synchronous orbit."

30 Edmund Leach, "Structuralism," *Encyclopaedia of Religion*, 14: 61.

31 R. M. Martin, "Semantics," *Encyclopaedia of Religion*, 13: 171; Barthes, *Elements of Semiology*, 14–15.

32 Barthes, *Elements of Semiology*, 98.

33 See R. C. Agrawala, "Some Famous Sculptors and Architects of Mewar," *Indian Historical Quarterly* 33 (1957): 321–34; and M. A. Dhaky, "Renaissance and the Late Māru-Gurjara Temple Architecture," *Western Indian Art*, ed. U. P. Shah and Kalyan K. Ganguli (special number of the *Journal of the Indian Society of Oriental Art*, Calcutta, 1966), 4–22.