Maya Architecture

Experiencing Maya architecture can be disconcerting for people who grew up with the European tradition all around them. European architecture focuses for the most part on interior space. In Maya public architecture, the operational spaces are the plazas and courtyards that are surrounded by buildings. The small, dark interiors, especially of the temples, were places where the gods, ancestors, and a few authorized lords visited. Even in the palaces, the public stayed in the courtyards, where they were the audience for the dances and processions that were at the heart of Maya rituals and festivals. Maya architects designed their buildings to encompass motion and performance so that they operated like stage sets in which drama and ritual unfolded.

Maya kingdoms consisted of forests, farmlands, hamlets, and towns, all ruled from capital cities. Using settlement surveys, archaeologists have shown that the Maya lived in and around their cities and towns in dense and permanent settlements. Adding the population living in the hinterlands and smaller towns to that of the capitals gives population numbers ranging from twenty thousand up to a hundred thousand, and perhaps more for the largest kingdoms.

Decipherments of the Maya hieroglyphic texts and archaeological investigations at places like Tikal, Copan, Caracol, and Dos Pilas have given us a much better understanding of how Maya political geography worked. In the inscriptions (Fig. 1.5), “emblem” glyphs named the kingdoms that dotted the political landscape, and within these kingdoms there were locations identified by place names.

Kings were also subdivided into “provinces,” or tzuk. For example, Tikal had thirteen tzuk, while Naranjo had seven. The geographic size of a kingdom did not necessarily correspond to its importance. Younger kingdoms on the periphery, like Palenque and Copan, were geographically larger than the older central kingdoms, but they certainly were not more powerful.

The towns and hamlets surrounding the capital cities could have different names and were often ruled by secondary nobles obligated to the high kings. For example, the texts call the kingdom of Palenque Bâk, or “Bone,” while the capital city was known as Lakam Ha, “Big Water.” Tortuguero, a large town to the west of Lakam Ha, also used the Bâk kingdom name, although it had its own rulers who conducted their own wars, probably under the authority of the Palenque king.

All Maya cities, including the towns, had sacred precincts near the center. Sometimes walls surrounded these areas to separate them from adjacent residential zones. Often a causeway, called a sak beh, or “white road,” led from outlying areas into these centers. At Copan, the Maya erected a special stela to mark the entrance into their sacred precinct. This monument presents a text arranged in the pattern of a mat (pop in Maya) to people arriving on the sak beh. Popol, or “mat,” was one of the words used for “a place of assembly,” “community,” and
“It happened at the Bearded Jaguar God sky seat”
This is a Tikal toponym.

Fig. 1.5.
“Emblem” glyphs and toponyms from various sites.

K’ul Xukpi Abaw
“Holy Copan Lord”
Xukpi Kan Kan
“Copan Sky Seat”
“Holy Sibul Lord”

acknowledge the capi. We have to distinguish between the different lineages for royal and commoner rank, ha.
The last third of the text is missing.

Xanil houses...
acknowledged their subordination to their ruling lords and the preeminence of the capital, but we cannot always distinguish lords from kings by imagery alone. We have to have written titles and statements of affiliation to be able to distinguish between the various ranks. However, location is often a clue, because these secondary lords mounted their inscriptions in spaces that were accessible only to lineage members. The audience for their art was not the public at large, as it was for royal messages. Archaeologists at Copan have detected at least four different categories of size and complexity among these lineage compounds, while work at Caracol and Tikal has shown that the secondary nobles, even those of very low rank, had access to wealth and exotic goods in times of prosperity.

The buildings that housed the common people are much harder to detect and count for population estimates because archaeologists often cannot find them without excavation. They often have only low surface mounds to mark their position and a good proportion of them are “invisible” until excavated. Nevertheless, such humble dwellings, the nonroyal compounds, and hamlets and small towns have received concentrated attention from archaeologists over the last thirty years. Their work shows us that in many ways this kind of housing has not changed during the last four thousand years.

Xanil nah, “thatched house,” is the name that modern Yukatek Maya call the houses used by ordinary villagers and farmers (Fig. 1.6). The Maya built these

![Fig. 1.6. A xanil nah, or “thatched house.”](image)
houses on platforms raised only slightly above ground level. Four posts carried
the roof beams, while stick walls enclosed a single room. Sometimes the Maya
used mud and plaster to finish the walls, but they could also leave the walls open
for ventilation. The high-pitched roof consisted of palm thatch tied to a frame-
work lashed to the main beams.

The xanil nab very probably provided the template from which specialized
architecture for political and religious ritual developed, as the Maya evolved
more complex social and political organization. The Maya made their royal
houses out of stone, but they replicated this basic pattern. Corbeled vaults and
interior beams reproduced the triangular interior space of the house frame and
thatched roof. People slept and worked on benches built into the sides or backs
of rooms, and the interiors remained small and dark. With both royal and
commoner houses, the working space with the best light was in the courtyards.

In modern Maya communities, all parts of the house have special terms associ-
ated with them, usually likening them to parts of the human body. Houses
were and are living beings to the Maya. We do not have the ancient names for
house parts, but in their dedication rituals, the Maya of olden times placed offer-
ings under the floors of the houses and temples. These offerings contained mat-
erials identified with k'ulel, the living soul-force that imbues the universe. Thus,
in dedicating a building, the Maya gave it a soul.

Baskets and net bags suspended from the roof beams kept food safe from
pests and left most of the interior space free for daily use. While the modern
Maya of Yucatán sleep in hammocks, their ancestors appear to have used mats
on benches of various sorts. Women prepared maize and other foods for the
family at the three-stone hearth and they dug into its center to bury the umbilic-
cuses of their children. Even today, many Maya ask where you are from with the
question, “Where is your umbilicus buried?”

The Maya added other thatched structures, xanil nab, to form compounds
around courtyards in order to accommodate growing families. Throughout post-
conquest times, family compounds usually had an ancestral shrine or an altar of
some kind, although the way these things were arranged varied from town to
town. There is good reason to suppose that these shrines and family altars have
always been a part of Maya residential architecture from earliest times.

Early villagers used xanil nab for public buildings also, but they often made
them larger and raised them on higher platforms. In time, this raised building
became the terraced, pyramidal platform with a temple on top. The terraces
served as a place for dancing and ritual performances of all sorts for audiences
located in the courtyards below. Both temple-pyramids and temple groups on
top of individual pyramids could be clustered to form groups. The most sacred
and ancient of these arrangements was the triangular form that echoed the three
stones of the Cosmic Hearth constructed by the gods to center the world. Four-
sided arrangements generated the square, the other form that the Maya tied to

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carried over to Maya royal lineages and formed the foundation for the royal legitimacy and authority of the rulers. The square, in fact, resulted when the creator gods arranged the *kan tusuk*, *kan xuk*, "the four sides, the four corners," to give shape and order to the cosmos. The gods then raised the great center tree called the *Wabah-Kan*, the "Raised-up Sky." Maya repeated these world-making activities by placing an altar or a tree in the center of the four-cornered, four-sided plaza. The resulting form with its four corners and a center is called a "quincunx" by modern researchers. This quincunx symbol of the cosmos also appeared in inscriptions as the sign for *beh*, "road."

Several of these courts could be joined together on top of platforms to create residential palaces, administrative compounds, and acropolises of various sorts. The North Acropolis at Tikal consisted of religious buildings and royal shrines, while the Central Acropolis was residential and administrative. Usually religious buildings had between one and three rooms and emphasized the vertical axis with towering roofcombs. Residential and administrative buildings often had multiple courts, many rooms opening onto the courts, and a horizontal axis.

The more important architecture was larger than domestic buildings, built from stone, finished with plaster, and decorated with passages of sculpture and paintings that signaled their function to the people using them or coming into the spaces they addressed. Buildings and spaces also reproduced sacred places that played a role in Creation, so that rituals conducted in them remade the space and time of Creation in elaborate public dramas. The Maya signaled these identities of sacred place and function through sculptural compositions. They controlled access, funneled movement, used architecture as backdrops, and placed close attention to vistas in order to integrate architectural space and to enhance the effect of drama.

**SITE AND BUILDING PLANNING**

If the Maya had "professional" architects, we have not been able to identify their names or titles in the inscriptions. Maya structures were more likely to have been made by master builders, rather than by architects who separated the task of designing a structure from actually building it. Vernacular buildings and perhaps the stone houses of the lower ranks could be designed and supervised by older men who had experience in building, but the construction of more elaborate buildings in the sacred centers and in elite compounds was overseen by specialists in the arts of building construction and decoration. Since building orientation, shape, and proportion reflected the geometry and time of the sacred world, religious and craft specialists were also involved, not only in designing and laying out the building, but also in dedicating it. Some of these specialists were called *ah wuxul*, "sculptor," *ah ts'ib*, "scribe," and *ah yul*, "polisher" (Fig. 1.7). The most accomplished of them carried the title *itz'at*, "learned one" or "sage."
As in other Maya arts, builders valued subtle and refined execution of these sacred activities more than they did individual creativity and novel results. Traditional and conventional definitions of space and form were powerful elements in Maya aesthetics. They provided a language of meaning that oriented the Maya to everything in their world.

No tax or labor records have survived to identify the workmen who labored on the great public buildings. However, we have other hints about how construction projects worked. Archaeologists consistently find thin walls creating “construction pens” inside pyramids, and often neighboring pens have different fill materials. These pens have been found under courts and plazas, so that they may have served as much to organize labor as to provide containing walls inside a construction. A likely system would have been to assign a certain number of pens to different lineages, who would then be responsible for finding the fill and bringing it to the pens. Each lineage would have fed its own people and perhaps contributed additional food and materials to the main construction project. People in these lineages owed labor to their own lords, just as their lords owed labor to their overlords. Presumably every lineage in a kingdom contributed to great public projects in this way.

These public building projects also required specialized labor. Laying out a new building required knowledge of construction techniques and materials, but also of sacred lore needed to orient the building correctly and tie it to its predecessors. Much of the physical labor of construction, like quarrying and shaping the stone, mixing mortar, leveling courses and floors, setting lintels, etc., did not require special training. Knowledgeable supervision would have been enough. But specialists were needed to incorporate decorations and sculptures into buildings. By looking at ancient Maya buildings, we can surmise other kinds of specializations, such as artists to plan the composition and apply the guide draw-
nings; stone carvers to prepare armatures and relief sculptures; wall plasterers and sculptors specialized in plaster modeling; wood sculptors for carved lintels; and finally, painters for the complex polychrome painting of reliefs and for murals of various kinds.

These specialists, including the master builders, must have had other people working for them to help in preparing materials and in executing less critical parts of a work. However, we do not know if these skilled laborers operated within a lineage system or were organized in groups like guilds. We do know that the best of the craftsmen and artists traveled around their kingdoms to work on different projects, because we have their names on artworks from the towns as well as in the capitals. In addition, the Maya gave artworks by master artists as gifts and received them in tribute.

Access to finished buildings was controlled according to the function and meaning of the architecture. People of all ranks and affiliations visited the public plazas to participate in the great festivals, dances, dramas, and public rituals. If those rituals were anything like Maya festivals today, they would have gone on for days, with people coming in, leaving, and rejoining the ritual as their status and roles demanded. Markets would have been associated with these festivals, as well as pilgrimages and visits between both friendly and enemy states.

The courtyards within religious and administrative compounds would have been more restricted, but not by signs saying “no entry.” Instead, the Maya controlled access and channeled movement by the use of stairways, constricted or blind entrances, causeways, and other devices that were part of the spatial design of their buildings. People learned from their earliest days where they were allowed to go and where they were not.

A full range of activities took place in residential compounds, including lineage festivals, administrative overseeing, manufacture, gathering of tribute, adjudications, child rearing, food preparation, and a hundred other enterprises. Residential compounds would have been noisy places. At Copan these stone constructions lie side by side, sometimes with only narrow alleyways between. With children, turkeys, many adults, and activities of all kinds, the noise levels must have rivaled those at the modern town of Copan, with its buses and boom boxes. Rooms were small and dark with stone benches for sleeping and working. Weaving and other kinds of activities took place outside in the courtyards, perhaps using awnings to keep off the sun.

The temples would have been the most restricted space of all. The gods and ancestors resided there in special locations called pib nab, “underground house,” kunul, “conjuring place,” kun, “seat,” and waybil, “resting place.” Only kings, lords, and specialists responsible for the care and feeding of the gods would have mounted the pyramid-mountains to enter these inner sanctums. These places of the gods and ancestors were too dangerous to be entered casually by people who were unprepared.
ARCHITECTURE AND ITS ELEMENTS

As the Maya developed hierarchical social structures, they, like other societies around the world, developed myths and metaphors to explain how the world came to be what it is, and why stratification was the natural order of things. In the process, they began constructing large public buildings that transmitted these myths and legends through sculptural programs and the rituals associated with them. Their symbolism publicly confirmed the divine sanction of their social order and declared the origins of their institutions. This transformation began around 600 B.C., and by 400 B.C. the Maya regularly decorated their great public buildings with programs of sculptural and painted imagery. Very early platforms at sites like Copan and Kukulcan were built of clay or adobe painted red and with thatched-roofed structures on top. At most sites, buildings with earth and rubble cores replaced these clay platforms by the Early Classic period, but Copan continued to use them in sacred and residential architecture until at least A.D. 550.12

Rubble-core buildings became the rule in lowland architecture because clay platforms were difficult to maintain in areas with heavy tropical rainfall. The ratio between earth and stone in the rubble cores varied from site to site and from building to building. However, the stability of these cores depended less on the amount of stone than on the way they were laid. Wet fill made for a compressed and very stable matrix, while dry fill tended to be unstable even in pre columbian times. Today, dry fill poses severe excavation problems for archaeologists.

Masonry walls differed from site to site depending on the local material available to the builders. For example, Palenque's masons used a limestone that came out of the quarries in large natural slabs that required little shaping. They laid these rough stones in courses using a lime mortar, and then smoothed the final wall surfaces by applying thick plaster. Maya buildings also had sculpture modeled in plaster over stone armatures. Builders used this technique throughout most of Chiapas, Peten, and Belize, and in southern Quintana Roo and Kam peche, although the quality of the limestone differed from region to region.

In the early history of Copan, builders also employed these plaster techniques, but they used volcanic tuff and river cobbles instead of limestone inside their rubble cores. Some of the best preserved plaster sculptures from Classic-period architecture lie under the acropolis of Copan. However, sometime during the seventh century, builders in Copan changed to a new technique using well dressed blocks to lay a smooth wall that required only a thin finishing layer of plaster. They also converted from modeled-plaster sculpture on terraces and entablatures to stone-mosaic sculpture of great refinement. Their problem may have lain in the use of mud without lime for mortar in buildings throughout the valley. This technique and the use of beam and mortar roofs required very thick layers of plaster (up to seven inches) to seal horizontal surfaces against the rain. Copan's buildings required continuous maintenance of these seals, because as water pene...
water penetrated bearing walls, it dissolved the mud mortar, and the buildings collapsed. Since plaster was the most expensive material used in Maya architecture, Copan’s builders apparently developed techniques to conserve as much of it as possible for the sealing layers.

The cost of plaster may or may not have influenced architectural technique in the northern lowlands, including much of the modern states of Kampeche, Quintana Roo, and Yucatan. The limestone there is inferior to the stone found farther south. As in the south, builders used modeled plaster in Preclassic and Early Classic buildings, but changed to rubble core–veneer techniques during the Late Classic period. However, these northern builders surfaced their cores with thin, finely cut veneer stones. In the Ch’enes area in Kampeche, builders developed mosaic-stone sculptures much in the tradition of the Copan style to create gigantic images of mountain and sky monsters that wrapped around the doors of buildings. In the Puuk region and at Chich’en Itza, the Maya brought this mosaic technique to its most refined expression.

Maya builders used several types of plans, including a single room or gallery, double galleries entered either from a single side or from both sides of the center wall, and multiple galleries. Long galleries could be subdivided into rooms by nonbearing curtain walls, although at Palenque they sometimes left these long galleries open. In palace or administrative structures, the Maya created complex patterns of space not by constructing buildings with a great many rooms, but by assembling discrete buildings around open spaces. At Palenque, artists decorated each facade to carry messages to the court space in front of it. The internal coherence of a building was less important than the effectiveness of each facade as a dispenser of political and religious information. Over time, various sites and regions developed their own strategies for presenting this kind of information, as well as conventions of style and preferences for materials for individual and group buildings, so that architectural style became a recognizable ethnic and community marker.

The Maya spanned interior rooms of their buildings in four ways (Fig. 1.8):

1. The corbeled vault was the most elaborate and prestigious way to create interior space. To make it, the masons built vertical bearing walls to a height where they intended to construct the vault. Then they brought successive courses closer together until the gap at the top could be closed with a capstone. It is a simple technique that did not result in a self-supporting structural system. This construction method first appeared in tombs and then expanded to public architecture.

Corbeled vaults can achieve great height, but each wall is independently balanced. If the angle of the corbel becomes too oblique, the vault will fall. As a result, Maya buildings have high but very narrow rooms characterized by the triangular space of the corbeled vault span. Normally each side of the corbeled vault balanced independently, but Palenque’s masons learned to angle the outer walls of a double gallery so that they leaned against the central wall. The result-
Fig. 1.8. Construction techniques used in ancient Maya buildings.

The corbeled vaults and columns in Maya architecture often have a cylindrical shape, with the upper part of the wall tapering inward to form a pointed arch. This design is evident in the vaults from Waxaktun, Uxmal, and Copan, as well as the corbeled vaults from Piedras Negras. The thatch roof with stone columns and walls is another common feature in Maya architecture, with structures like Tikal and Peten showcasing this design.

The builders of Palenque used their leaning corbels and cross-vaulting to achieve one of the highest span-to-wall ratios in Maya architecture. By reducing the outer bearing walls to piers standing between large doors, they let in more light and created airier buildings than any other Maya site. Uxmal's buildings are also famous for their wide spans and thin walls, but they used only one door per room, thus creating dark chambers like the ones in Peten architecture.
2. Beam-and-mortar roofs were made by using wooden beams to span the bearing walls. Thin poles were laid across them, and the entire construction was then filled with a thick layer of plaster. At Copan, we have seen remnants of this kind of beam-and-mortar roof over a foot thick. They were heavy, and if water got inside they could be very dangerous. This kind of roof was used primarily in the Copan Valley and in northern Yucatan.

3. Columns and beams were used as part of roofing and wall systems in the northern lowlands, although one example is known from Tikal. In the past, this system has been taken as a Toltec (central Mexican) trait, but builders in southern Quintana Roo and Kampeche had started using columns to support doorways during the Early Classic period. The builders of Chich'en Itza took the technology far beyond its limited use of earlier times to create huge colonnaded halls covered by thatched roofs or corbeled vaults.

4. Thatched roofs were the preferred form for commoner houses, although thatch was also used to roof many public buildings throughout the Classic period. At first glance, thatch would seem to be the cheapest of all roofing systems, but this may not always have been true. Today dense populations and deforestation make palm thatching an extremely expensive commodity. The same was probably true in the Late Classic period. Burning the towns of enemies may have had far more devastating consequences than we might first imagine.

Builders extended the heights of public buildings, especially temples, by adding parapets and extensions called roofcombs (Fig. 1.9). These differed in structure and style from region to region. At Tikal and other central Peten sites, the roofcombs were massive and often larger than the buildings that supported them. They were vaulted to reduce their enormous weight, and they were built over the thick rear and center bearing walls of the temple. Their backs were usually plain, but the fronts carried deep relief images signaling the meaning of the building. The roofcomb of Tikal Temple 1 displayed a huge image of a seated lord, probably the king Hasaw-Kan-K'awil, who built it. Temple 6 had a long...

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Fig. 1.9. Roofcombs of various styles.
inscription discussing Tikal’s history and its patron gods all the way back to Olmec times.

The builders of most of the kingdoms along the Usumacinta River and in Chiapas preferred a style using lighter roofcomb. At Palenque, they almost became lattice frameworks of stone that supported larger-than-life-size figures modeled fully in the round using plaster over stone armatures. Yaxchilan and Piedras Negras used more solid forms, and they also centered the roofcomb.

Copan’s builders chose yet another alternative. They used silhouetted forms cut from stone and mounted along the edge of the building like a parapet. In addition to edging stones, Temple 22A also had a large stone sculpture representing the king seated on a jaguar throne mounted on top of the roof. Once again, Copan seems to prefigure Puuk-style architecture of northern Yucatan. In that style, builders mounted parapets above the outer edges of the roof to extend the space of the frieze. Roofcombs could also sit along the central axis of the building in some of the Yukatek traditions.

These regional and local styles of architecture developed in part because of the kinds of materials available to builders. But perhaps they were more the result of a Maya worldview that included powerful veneration of ancestors so that builders strove to reproduce the character of ancestral buildings as they physically incorporated them inside their own constructions. Particularly effective, and usually long-lived, rulers often left legacies of art and architecture that were emulated by subsequent generations. Thus, individual rulers could have powerful effects on style through their patronage of the arts. Moreover, Maya builders evoked prestigious styles of neighbors or distant places as statements of origin or affiliation. In Maya art, style could be political.

Maintenance was a problem in all these roofing styles. Thatched roofs lasted for only ten to fifteen years and they host a lot of pests. All of the stone roofs had to be kept waterproof with plaster seals. The large public buildings, especially those with plaster sculpture, presented constant maintenance problems, as modern archaeologists have found. The plaster surfaces had to be patched, renewed, and repainted regularly. The building called Rosalila at Copan has taught us that maintaining plaster sculptures reached a point of diminishing returns that eventually made it easier or even necessary to start all over again. Apparently in the case of that building, the Maya thought it a better solution to encase the old building and rebuild on top of it.

ARCHITECTURAL SYMMETRY

In our own careers, we learned about the subtleties of Maya architecture by focusing on Palenque. In measuring the buildings we realized that the parts were proportional to one another, but we could not find a consistent pattern to the proportional observed at studer their archi.

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proportional system or a fundamental measure. Other people after us have observed symmetries in Maya art and tried to explain them, but it took a graduate student named Christopher Powell to figure out how the Maya designed their architecture and controlled its proportions.19

The Maya artists' measuring device was a simple cord cut to a multiple of some body measure—such as the distance from the fingertips to the shoulder or from hand to hand across outstretched arms. Today the Maya count multiples—say, twenty or forty—of this fundamental measure to get the overall length of their measuring cords. Using the cord, they first lay out a square of predetermined size, such as 3 x 3 or 5 x 5, depending on the size of what they want to build. Then they use the cord to square up the angles by making sure that both diagonals are equal. This measuring of the square with a cord was the first action of the gods when they created the cosmos. The square gave four sides, four corners, and the center. As Powell says, it is the fundamental shape of Maya geometry—the module from which all Creation was generated.

Once they form a square, the builders halve the cord to find the center of a side, then stretch the cord up to a corner, swinging down to create the baseline of a rectangle (Fig. 1.10). This rectangle has the famous proportion known as the "golden mean," which is found in art around the world and throughout history. It permeates nature in the growth patterns of creatures like the nautilus shell. Powell told us that his Yukatek teachers told him that using the cord makes their houses like flowers because of the inherent relationship of their proportions.

Architecture from thatched-roof houses of farmers to the most exalted temples and palaces used the cord to generate a harmonious whole. Sculptors and weavers used the device to proportion their compositions, and corn farmers used it to lay out their fields. The gods used it to lay out the cosmos:

- Its four sides (or sections)
- Its four cornerings
- Its measurings
- Its four stakings
- Its doubling-over cord measurement
- Its stretching cord measurement
- Its womb sky
- Its womb earth
- Four sides
- Four corners as it is said

As Powell says, the center four lines in this passage describe the way the Maya created a "golden-mean" rectangle. To us the most revealing thing about Powell's discoveries is that this way of measuring things and the proportionality it natu-
rally generates does not require special knowledge, like abstract geometry, to use it. The cord gave a harmonious proportionality to everything the Maya did in their art and architecture, and it joined their human-made art to the symmetries that permeate the natural world. To create the harmonies of the cosmos, the gods used the same method of measure as a weaver, house builder, and cornfield maker. But cord measuring also revealed the innate symmetries of nature, so that in reality, Maya art and daily life harmonized with cosmic symmetry without the necessity of conscious design.

**Myths of Creation and Origin**

The Maya and other Mesoamericans often designed their sacred centers to reproduce the structures from the myths that were central to their ideology. For the Maya, two of these myths were of particular importance: the story of Creation, which explained how the world came to have its present form, and the story of the origin of civilized life and the birth of their patron gods. Since these myths are so central to the physical forms that Maya cities took, we will give a brief synopsis of them here.

Our knowledge of the Maya story of Creation comes from two sources: the Popol Vuh, a seventeenth-century book recording the history of the K'iche' Maya, and inscriptions and imagery from the Classic period. The story involves the activities of the Twin Maize Gods and their family in the Third Creation. When playing ball one day, the Maize Gods disturbed the lords of Xibalba, the Maya underworld. The Xibalbans summoned the Maize Gods to the underworld to answer for their misbehavior, subjected them to a series of trials, and killed them when they failed. The Xibalbans buried the Maize Gods in the Ballcourt of Xibalba, after taking the head of the older twin and hanging it in a gourd tree next to the ballcourt, as a lesson to anyone who might tempt the wrath of the Lords of Xibalba. Ignoring the warning, the daughter of a Xibalban lord went to visit the skull, which spoke to her. The skull spat in her hand and made her pregnant. After escaping from Xibalba, she gave birth to a second set of boys, called the Hero Twins, who were themselves summoned to Xibalba after they found their fathers’ ballplaying equipment. They also had made too much noise with their exuberant play, but unlike their forebears, they were not fooled by the Xibalbans’ tricks.

After a long series of confrontations through ballgames, the Hero Twins, called Hun-Ahaw and Yax-Balam in the Classic period, defeated the Lords of Death and resurrected their fathers from the ballcourt. Reborn as infants, the Maize Gods grew quickly into adulthood to be dressed in their full glory by goddesses. With dwarf helpers, they woke up three old gods. We call two of them the Paddler Gods, because they paddled the Maize Gods to the place of Cre-
canoes surround a huge crater lake called Catemaco. In a crevice leading into the crater of the tallest volcano, San Martín Pajapan, explorers found an Olmec statue of a deity raising a tree, and on Tenaspi Island in Lake Catemaco, there was a sculpture of an egg with a human face emerging from its side.34 The statues depict the Olmec equivalents of raising the World Tree and the birth of humanity. The Olmec clearly thought of this mountain and the lake at its base as places of Creation.

The Olmec invented many of the symbols and institutions that remained at the heart of political and religious authority for the rest of Mesoamerican history. Most specifically, the symbolism of the ruler for both the Teotihuacanos and the Maya derived directly from royal imagery of the Olmec. If civilized life really was invented in the Gulf Coast swamps, then that topography was the model for the Place of Reeds, and the Tuxtlas were the first Snake Mountains. Thus, *Puh/Tol-\text{lan} as a city in a reed-laden swamp and the *Ab Puh/Toltec as the people who invented the arts and institutions of the state were very ancient concepts indeed.

These two myths provided archetypal symbolism that the Maya and other Mesoamerican peoples used to create the sacred centers of their cities and to charge their buildings with the energy and symmetry generated during these mythic times. For Mesoamericans, history, ritual, and governance unfolded within these charged environments.

**SYMBOLISM OF ARCHITECTURE AND ITS SCULPTURE**

Unlike the European tradition of architecture, the Maya did not build their structures with the primary aim of creating interior space. Instead public architecture functioned like a gigantic stage set to serve as the backdrop for huge processional rituals, dances, and public dramas. The small interior spaces held gods and ancestral images housed in special places called *pib nah,* "underground structure," *kus,* "seat," or *weybil,* "resting place" (Fig. 1.11). At Palenque, the *pib nah* are small buildings inside larger temples. They are also marked as *Izam Nah,* "sorcery house," by stucco *Izam-Ye* birds modeled across their entablatures.

Maya builders placed modeled-plaster or carved-stone sculpture on pyramid terraces, stairways, stair balustrades, building platforms, vertical bearing walls, doorjams, door lintels, various moldings, the entablatures, and finally the roofcomb (Fig. 1.12). Different kingdoms favored different areas for displaying sculpture, so that distinct stylistic traditions developed in local and regional ways. Moreover, the design of the building also determined where and how the Maya presented their imagery. When they built frontal buildings, they usually concentrated on the surfaces facing inward to the audience. In these buildings the designs on the entablature often addressed all four sides, while all other imagery, such as on the roofcomb or terraces, faced the court.

Radial buildings, on the other hand, had stairways ascending all four sides of
g into the Olmec, there was no indication. The Creation had no history. And the really was the Toltec, who is indeed, a people who charged...

Fig. 1.11. Conjuring houses and inner sanctums.

Fig. 1.12. A hypothetical temple-pyramid with the potential areas for sculptural decoration marked. No single temple used all of them, but all these areas carried sculpture in one example or another. Temples at Palenque could also contain a smaller interior temple that also carried sculpture.
the pyramid. Many of these radial pyramids, especially the early ones, like Structure E-VII, sub of Waka'nakam and the Lost World Pyramid of Tikal, have sculpted images facing outward in all four directions. In "E-groups", the radial pyramids sit in the middle of a plaza, with one building lined up on a platform on the east, and far more rarely to the west. In "acrobatic pyramids" we find a pyramid in the north and south. Known examples of twin-pyramid complexes do not have temples on top of the pyramids nor any kind of architectural sculpture. Archetectural sculpture in many cases lack the sacrificial space in order to create a performance-oriented environment. (1) narratives displaying historical information in both imagery and texts; (2) narratives showing stories and myths in progress; (3) imagery that froze ritual performance in progress; (4) combinations of one or more of these types. By and large, such compositions fall into these same categories, with special emphasis on historical narrative and sacred context. The Maya used architecture and sculpture to create sacred environments for the unfolding of ritual performances and to freeze the ephemeral actions of rituals into narrative sequences that lack historicity and are available to create this charged environment. The entire society shared this language of symbols, which endured for thousands of years. Some of the key metaphors are as follows:

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Fig. 1.13: Mountain Images from Copan, Bonampak, and Tikal. (a) Copan, Temple 22; (b) Bonampak, Stela 1; (c) Copan, Meso-Wiz from Copan; and (d) Snake Mountain from Waka'nakam.
1. The pyramid was a mountain, or witz in the Maya languages (Fig. 1.13). Since the Maya conceived of mountains as living beings, they represented them as zoomorphic creatures, complete with eyes, muzzle, mouth, and ear ornaments. Mountain monsters, identified by a combination of tun (“stone”) markings and a cleft in their forehead, occur on the corners of buildings, on terraces, and around the doorways. There were two principal mountains of particular importance in Maya cosmology and political symbolism: Sustenance Mountain, also called Yax-Hal-Witz, “First True Mountain,” which was shown as a split mountain with the Maize God emerging from the cleft, and Snake Mountain, called Kan-Witz, which they showed as a mountain monster with snakes emerging from its mouth, or penetrating it from side to side, or with snakes around the base of a pyramid.

2. The cave inside the pyramid-mountain provided a path to the Otherworld (Fig. 1.14). Buildings were sometimes constructed over caves, as at Dos Pilas and the High Priest’s Grave at Chichén Itzá, or next to them, as at Mayapan. The Maya also symbolized the cave by wrapping a witz monster around the door of the temple so that the door, or “mouth of the house,” became the “mouth of the mountain.”

3. Public buildings could also represent themselves as stone effigies of xanil nab, “thatched house.” Sometimes sculptors incorporated the imagery of a thatched-roof house into the entablatures, as in the Nunnery Quadrangle at Uxmal, or they could model the plaster on the medial molding to look like thatch, as in House E at Palenque. Maya languages have two words for “house.” Otot and its cognates refer to a house with the sense that it is inalienably possessed, much like the English word “home.” Otot always occurs with a possessive pronoun, as in yoten, “his house.” Nab is “house,” simply as an unpossessed building. Often the proper names included the nab word, but the structure was the yoten of the king or a lord (Fig. 1.15).
4. There were special kinds of council houses called popol nah, “mat house” (Fig. 1.16), nikt’il nah, “flower house,” or sak nah, “white house.” These were community houses in which councils of lords met, where dancing and feasting took place, and where the regalia of ritual and dance were kept. The community houses could function at the level of the state, but lineage groups and small towns also had their community houses.

5. The Cosmic Hearth consisted of three “throne stones”—a jaguar, a snake, and a shark or crocodile—set in a triangle (Fig. 1.17). In the sky, this hearth is found in the constellation of Orion, but in architecture, the Maya reproduced it by arranging their buildings in the same triangular form. The imagery of buildings could also refer to the hearth.

6. Na-Ho-Kan, “First-Five-Sky,” was the location of the first stone of the
Cosmic Hearth, the Jaguar Throne Stone. A snake umbilicus also emerged from this place in the form of entwined snakes (Fig. 1.18).

7. There were several kinds of portals called by different names. With a pedigree beginning in Olmec times, the quatrefoil shape represents the most ancient portal. The Maya called it ol, meaning “the heart of,” or hol, “door” or “portal.” Another image presents the jaws of the Sak-Bak-Na-Kan, the “White-Bone-Snake.” The image of this skeletal portal could appear in a recognizable snake form, but there was also a more abstract form that depicted cenotes, caves, and other openings into the earth. This portal was the Ek Waynal, the “Black Transformation Place,” or the “Black Dreaming Place” (Fig. 1.19).

8. The glyph for “plaza” combines the ol quatrefoil with stone signs and waterlilies (Fig. 1.20). The Maya saw plazas as portals opening onto the Primor-
dial Sea. This association may have come from Maya experience in tropical rain-storms that filled up the plaster-lined plazas with water. At Copan and other sites, they built special drainage systems to carry off the rainwater. At many sites, the Maya captured this runoff water in cisterns or reservoirs.

9. Maya scholars have identified the ubiquitous **long-nosed god** of Yukatekan architecture as Chak since the late nineteenth century. In fact, the long-nosed gods of architectural sculpture can represent several different gods, including the *witz* monster, a crocodile sky monster, umbilicus serpents, and most commonly, the sacred bird named *Itzam-Ye* and *Mut Itzamna*. This last identification is a new one based on the presence of a headband with a flower, the signal that marks both the old god Itzamna and his avatar, the great supernatural bird that sat on top of the World Tree. This bird held an ancient place in Maya imagery, with period (400 B.C.—either as an image long-beaked mask structure was an *I* that diagram the *e* became the Puuk-

10. **Feathered** Maya imagery of one state and an many different for represented the ur. From the Late Pro frames around arel were often fused w were conduits for l. Artists also depi states, or undulat had brought from
serpents, but to some degree, feathers were an attribute that could be added to any Vision Serpent. For example, the War Serpent called Wacaklahun-Ubab-Kan wore feather fans attached to its head and body. Copan particularly favored feathered serpents, and as far as we know, Copan artists were the first to put legs on their feathered serpents. The earliest legged serpent known in Mesoamerica appears on Rosalila, a buried temple built at Copan in the late sixth century. This legged serpent with feathers became central to the art of Chich’en Itza and other Terminal Classic and Early Postclassic traditions in Mesoamerica. We have included illustrations that detail the development of the feathered serpent in Olmec and Maya art (Fig. 1.23).

**The Dedication of Maya Buildings and Their Proper Names**

Maya lords conducted special rituals of dedication to bring life into their buildings and to make them ready for the use of the human and spiritual beings who resided in them. Today, Maya still dedicate their houses in complex rituals that vary from community to community with a core of meaning common to all. For example, many Maya present a live offering, such as a chicken or a sheep, to serve as a replacement gift to the earth spirits who have allowed the land and its materials to be used in the construction of the house. Incense and other precious materials such as sugar, alcohol, and candles, are burned in a plate or on an altar decorated with flowers. The flowers have the colors of the four world directions, and often the ritual incorporates movement through the four directions and into the four corners and the center. And very often a house altar carries a cross that has its roots as much in the precolumbian world as it does in Jerusalem. During the ceremonies, the priest, called an Ab Q’ib or H’Men, depending on the region, recites a long litany of prayers invoking protection for the building from the saints and the spirits of the earth. The santo of modern Maya ritual came from Europe, but almost everything else has its roots in the precolumbian world. The ancient Maya deposited special offerings in holes cut through the floors in various places in their buildings, especially on the central axis, inside the doors, under the center point, and at the four sides and corners. To contain the offerings, they used clay or stone buckets and large plates called sak-lak, “manufactured plate,” with a second plate inverted over the top as a lid. These offerings consisted of severed heads, flints, obsidians, thorns, shells, jade, mirrors, red pigment, and other such precious material. Almost all of these materials corresponded to representations of k’ulel, the living force that imbues all things. One purpose of the dedication rituals was to put the k’ulel, or “soul-force,” into buildings (Fig. 1.24).

This soul-force became ever more powerful with usage. The offering plates