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Thirteen; Stones Around the Fire; The Threshold

Myth and Discourse on the Genesis of Architecture

James Samuel Jones

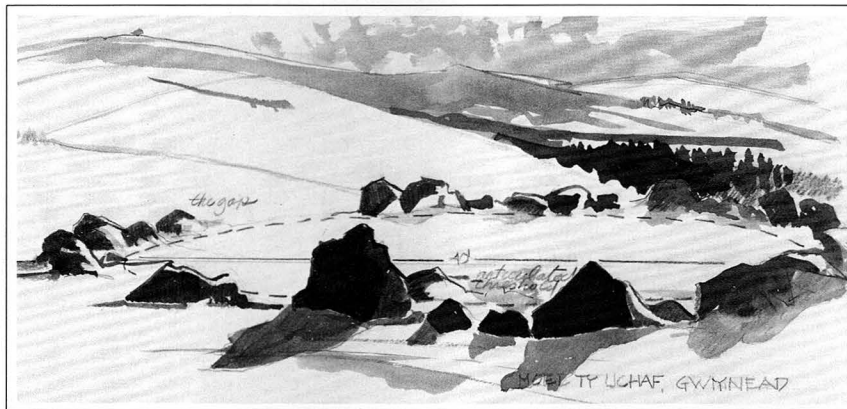
The number 13 reminds us of the “other,” that which is mysterious, beyond reason, unknown, and only suggested through myth. The number 13 is mystical because it marks such a significant point in the counting of things; therefore it is with 13 that the realm of the unknown starts - the realm where things must be counted to be valued. Below 13 one still finds numbers that can be grasped as uncounted entities or wholes - a dozen (12), a handful (5), a double handful (10), an octet (8), octagon, octant, octahedron, septet, sextet, quintet, quartet, trio, duet (pair, couple, or twosome), and the individual (1). Athletic teams are known as fives, nines, and elevens. The numbers twelve and less are easily conceived not only as meaningful aggregates, but also as spatial figures.

Figurate numbers as the Greeks conceived them were “collections of things, usually represented by pebbles arranged into patterns. Numbers could be categorized as to whether they were square numbers or rectangular numbers or triangular.”¹

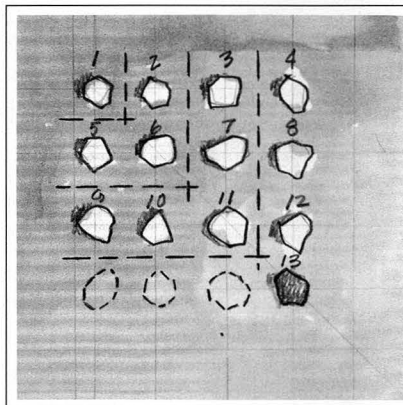
The figurate numbers include such square numbers as four, nine and sixteen, and triangular numbers such as three, six and ten. The number 13 lies outside either system.

While the 360 degrees of the circle can be divided usefully into, four, six or twelve segments, no such relationship exists for 13.

The year is divided into twelve months, daylight into twelve hours. Minutes and

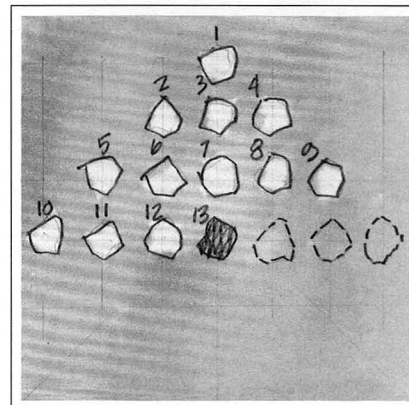


Ancient Rings of Stones, Some 40'-0" Across, Evoke the Sense of Human and Spiritual Place.



Figurate Numbers Do Not Include Geometries For 13.

seconds must be counted and timed. Twelve is the functional limit for the ideal studio and seminar or other human activities. Beyond this size, groups tend to become faceless aggregates. Given that 13 lies at the border between the perceivable, conceivable, and interactive limits of aggregation and the vaster world beyond, it is little wonder that 13 has mystical properties. Thirteen is the threshold of change



between many realms. Thirteen is the demarcation between the knowable and the unknowable, between the finite and the infinite, between what has pattern and form and what is formless. Thirteen is a reminder.

Just as the mythic power of the number 13 arises from its position as a threshold among numbers, the mythic power of

architecture arises from its beginning as articulation of a threshold - a created space in recognition of the need for crossing a ring of stones around a primitive fire. Making a space among the stones was the first act of architecture; this space was the first purely architectural form derived from necessity rather than utility. The idea of the threshold contains within it the essence of architectural myth in ways unaccounted for in other speculations on the origins of architecture.

My discourse has four parts. The first summarizes the search for the mythic origins of architecture and their place in the evolution of architectural theory. The second discusses the problems of classical and modern suppositions concerning architecture's prehistoric beginnings. The third postulates the threshold as the plausible beginning point for architecture. The final part sets forth the importance of the plausible myth in the education of architects. Paralleling the discourse is an invented myth: a new genesis architecture.

The Search for the Origins of Architecture
How does one invent or re-invent the architectural myth? In western traditions of thought it begins with speculations on the co-evolution of the process of civilization and building. Implicitly or explicitly the myth defines the first act of architecture as the place from which all subsequent architecture conceptually derives. This is not a new or settled endeavor. As Joseph Rykwert points out in *On Adam's House in Paradise*, this ongoing discussion dates

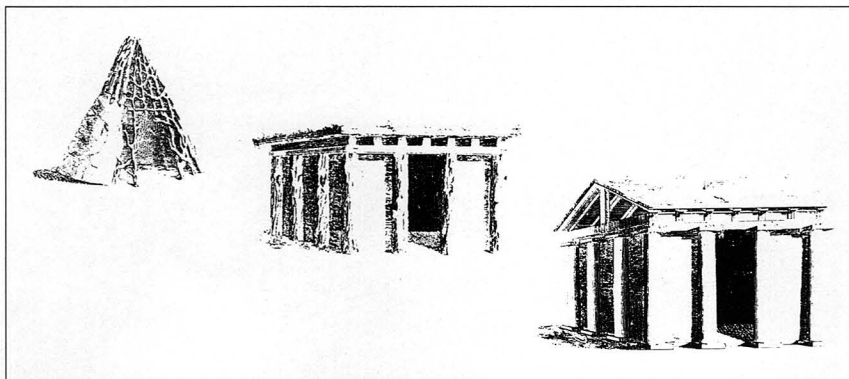
at least as far back as Vitruvius who is “the one writer on the theory of architecture whom later theorists cannot bypass. To Vitruvius, as to all of his literate contemporaries, the notion of origins had cardinal speculative importance. His whole theory of architecture flowed from it.”²

Vitruvius:

The men of ancient times bred like wild beasts in woods and caves and groves, and eked out their lives with wild food ...until] the invention of fire brought about the congress of men, and their counsel together and cohabitation...Some of that company began to make roofs of leaves, others to dig hollows under hills, yet others made places for shelter in imitation of the nests and buildings of swallows out of mud and wattle. Then, observing the construction of others, and by their own reasoning adding new things, as time went on they built better dwellings. Since men were of an imitative and docile nature, glorying in their daily inventions, they would show each other the results of their building; and so, employing their abilities in competition, they gradually improved their judgment.³

And so on, through an evolution of form to complex contemporary architecture.

Subsequent treatises on architecture begin similarly with speculation on the pre-history of architecture. Most present architecture as evolving from simple buildings that meet a universal, basic human motivation or need - shelter, protection, or orientation. The purpose of this speculation seems threefold. First, it is an attempt to root architecture in the earliest processes of human civilization, to inextricably link it to the evolution of culture at either a physical level - the hut - or at a metaphysical level - the definition of space. The second purpose is to present a premise from which the ideas of the theorist logically and inexorably flow and that carries the seeds of the writer's theoretical ideas of historical or contemporary architecture. Finally, and certainly not the least of



Progressions of Form From Hut To Temple is Unconvincing.

purposes, is the creation of a simple yet powerful narrative entry into the ideas of architecture. The stories by the eighteenth and nineteenth century theorists concerning the origins of architecture evoke the quality of myth - a poetic, condensed, symbolic, and imageable beginning paralleling the role of the Book of Genesis in the Bible.

Classical and Modern Suppositions on the Origin of Architecture

The two great streams of thought about architecture, classical and modern, differed in their speculations on the starting points for architecture. For classicists, a primitive shelter - the hut and such variations as the cave and tent - was the mythical source. The moderns, rejecting the ancients as the direct model for contemporary architecture, looked to abstract models of science - analytic geometry, the nature of space, the elements of human perception or behavior - as the prerequisite springboard to architectural theory.

Although it seemed a secure starting point and was often the topic of lectures and treatises from the time of Vitruvius, the derivation of architecture from the primitive hut raised several vexing questions. How did the evolution of architecture progress? How did architecture get from a mud hut to the Parthenon? The illustrations by Chambers, similar to those of Milizia, Blondel, or Perrault were typical of the supposed evolution in form. These all began with a conical hut, progressed to the Greek temple form, and somehow yielded the classical orders of columns.

The leap in form from the hut to the temple is unconvincing, regardless of the intervening millennia. To our eye there is a missing link.

Another question much discussed was the development sequence of the orders themselves. How did beauty, taste, and ornament emerge from the primitive? Some theorists in the mimetic tradition traced the process from the use of trees for primitive support. Differing trunk sizes led to an awareness of differing proportions which led to the characteristics of the different orders.⁴

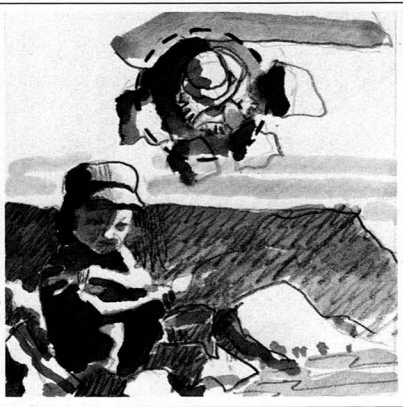
Also discussed was the conceptual problem of moving from a wood technology to that of stone which, as Quatremere, Le Roy, and others felt, “was the principal reason for the pleasure Greek architecture gives us.”⁵ But this transposition was difficult to believe historically, culturally, and conceptually, and was criticized by Piranesi and others.⁶ Materially, wood is capable of creating both mass and void. Wood construction, having the natural structure of trees to imitate, fit easily into the evolutionary theory of architecture. The notion that stone imitated wood construction evoked a strong response to the role of imitation in architecture.⁷

Finally, the question arose: was the utilitarian domestic shelter the beginning of architecture? As powerful and comforting as the notion of shelter may have been, it was not deep enough to be a foundation for the sometimes dysfunctional, irrational, contradictory, and complex qualities

of architecture. Equally unresolved was the transformation of the logical geometry of the rude shelter into the perfected and symbolic geometries of high architecture. The elaboration of function from simple dwelling to monuments, tombs, and cathedrals, even allowing for communal purpose, was also troublesome. Did the habitation of space by the profane precede the habitation of space by the sacred? Could we really imagine that the temple, the house of God, descended from the house of man? According to Critchlow, this defies what we know about early human culture and architectural sensibilities: “It would be a common but serious mistake to overstress the material criteria of archaic economy and life. It seems obvious to us that any really valuable account of an ancient people must take into account the totality - not just the physical and convenient. Archaic man, from all reliable evidence, placed himself in a metaphysical context: the Gods were more *real* than the actual daily events - be they food-gathering or building.”⁸

Speculation on the origins of architecture and the formulation of a first premise on which to construct a theory was not limited to pre-modern architecture. While modern masters such as Wright, Corbusier, and Mies van der Rohe gave homage to the ideas of the primitive hut,⁹ the hallmark of modern architectural theory from the time of the Bauhaus has been to begin theory with an abstract premise which, though rooted in history, is more akin to the axioms of science than of tradition.¹⁰

The modern theories of architecture have emulated at various times different models of science and philosophy including logical positivism, phenomenology, structuralism and poststructuralism. One might ask if these theories have a mythic speculation parallel to the classicists of the 18th and 19th centuries. To a degree they do. Each must begin from some point of departure - a first premise. As an article of faith, axiom, or borrowed truth from science, each must strive for the same quality one finds in narrative myth - a poetic plausibility to explain and establish the



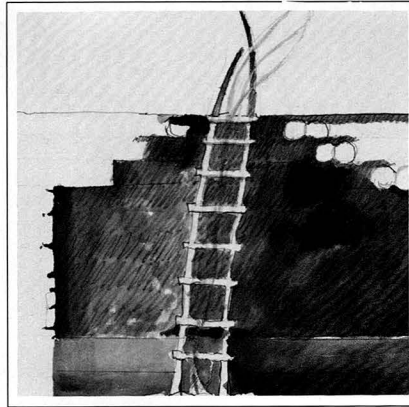
Concepts of Human Centered Space.

origins of architecture. Yet it is in this regard that most of these theories fail.

The most common theme in modern theory has been the conception and delineation of space through history - a proclivity Christian Norberg-Schulz traces to Sigfried Giedion's *Space, Time and Architecture*.¹¹

One such modern direction began with the Cartesian elaborations of Euclidean geometry - the laws and geometry governing space, and the implication of the universal, orthogonal coordinate system. Here the origin of architecture lay in understanding space as the abstract conception of point, line, and plane, x, y, and z axes. Others sought to find a beginning in human perceptual theory and in particular the gestalt and subsequent theories of figure and ground, closure, and schemata relationships that affected not only the perception of architecture but established a basis for its conception.

A contemporary direction looks to the behavioral sciences to find some basic building block that links human activity with architecture. The work of Edward Hall (Proxemics), Robert Sommer (Personal Space), Roger Barker (Behavior/Milieu) suggest models for the atoms of design, while the work of Kevin Lynch, Christopher Alexander, and others tries to provide a bridge between the behavioral sciences and the creation of architecture. Still others, notably Norberg-Schulz, with perhaps oblique reference to the dividing



Smoke is Symbolic of The Spiritual Realm

of the firmament, begin the origin of architecture with the cleaving of ubiquitous space into particular and defined (articulated) space. Norberg-Schulz divides space into three kinds: pragmatic, existential, and architectural.¹² He illustrates this notion in the frontispiece to *Existence, Space & Architecture* with the picture of a child among the rocks on a beach.

Similarly to the classicists, spatialists such as Norberg-Schulz begin by placing man at the center of space, thus raising the same problem as faces the primitive hut - how can one account for sacred space? The modern theorist also fails to account for the evolution of architecture from a first premise. From point, line, and plane, personal or existential space to the Parthenon is as unconvincing a journey as one from the hut. By avoiding the explicit genesis of architecture so prevalent as a starting point for the classicists, modern theorists have a critical lack of myth in their story. Space, geometry, and behavior seem remote to the birth of architecture.

I argue in the next section of the discourse that a more logical, powerful, and satisfying beginning to architecture is a myth evolved from the ring of stones around a fire. Moreover, I argue that the fire ring inevitably led to the creation of the threshold, the first pure architectural space - a concept that contains in it the essence of architecture and the conceptual seeds for all that is to follow in architecture.



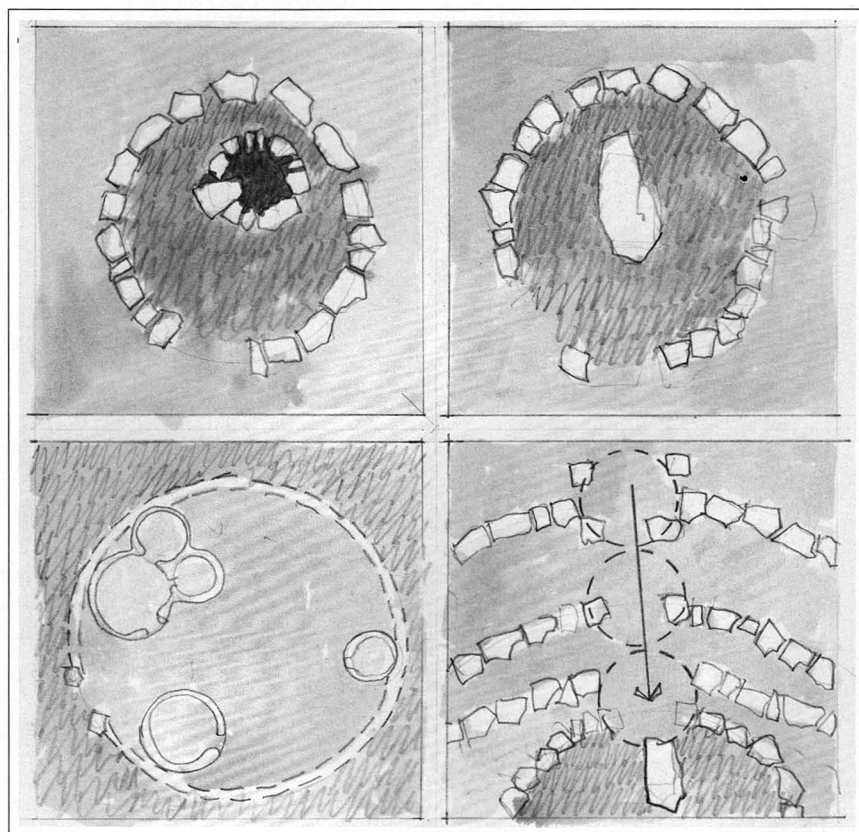
Did the Place By the Fire Lead to Architecture?

From the Fire

In prairies and plains around the world the enduring evidence of human passing has been the fire ring. These simple circles of stone never fail to evoke an image of prehistoric life around the fire. The story begins with fire. Fire is both a maker and marker of place. Like the making of tools, the making of fire is a starting place on the road to civilization. By itself, however, making fire is not making architecture. Fire is too primeval for architecture. Fire has a life of its own in a way that architecture can never have. It is pre-architecture. It is of another realm. One dwells by the fire, not in the fire. The flicker of burning light transports one in reverie - but to what place? Perhaps fire, nemesis of building, is the anti-Christ of architecture; hell itself is the burning place. Although architecture may reveal light, as Louis Kahn believed, architecture is of a different order of making. Could not the starting point of architecture be the creation of the hearth? The deliberate placing of the stone by the fire,

or fire by the stone, certainly foreshadows architecture. The hearth in various forms is a powerful symbol. In the profane world the horizontal stone is the archetypal dwelling place, in the sacred world the hearth is raised to become the altar. But the single stone makes no distinction between the realms. It does not cleave space. It is only object, never void. It lies too close to the ground, too close to mere function to carry conceptually all that architecture embodies. Thus, while neither fire nor its evolved companion place the hearth - place by the fire - is sufficient as the beginning of the architectural genesis, they are instrumental in the narrative that leads to architecture.

From the one stone, the ring of stones follows. The ring is crucial. Embedded in the idea of the ring are two powerful architectural notions. First, the ring calls into being purposeful geometry - the repetitive placing of stones in the deliberate pattern of - circle with all that is implied for economy, fit, and harmony.



Both Evolutions of Architectural Form—The Sacred and the Profane can be Traced to the Notion of the Threshold in the Ring of Stones.

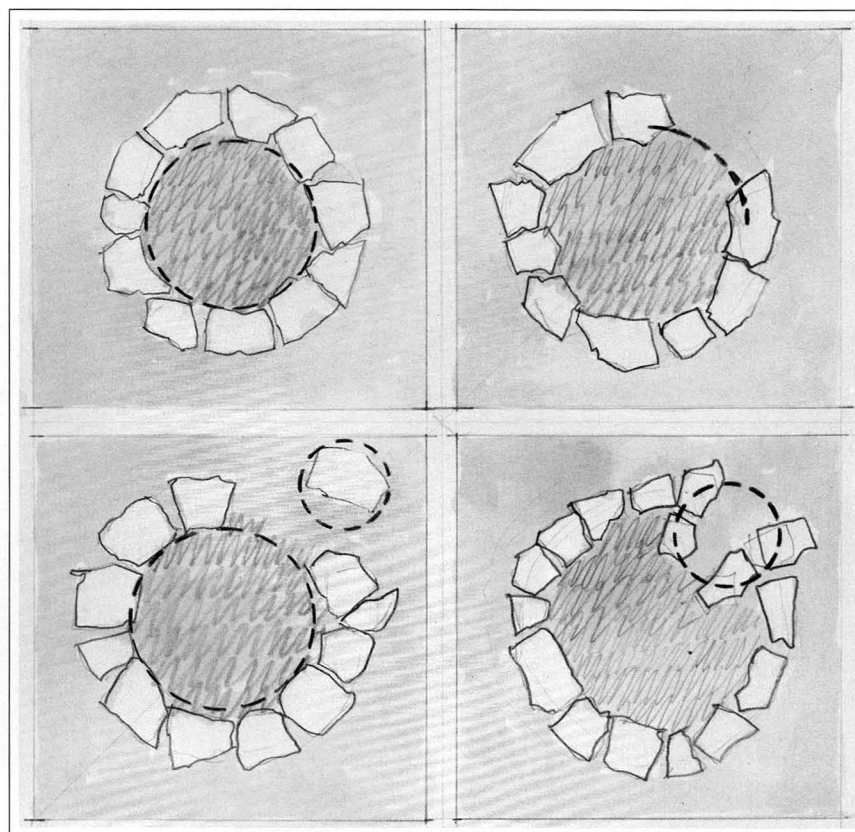
Secondly, the ring around the fire at once calls into being the two realms of architecture - the inner world and the outer world, the sacred and the profane. Through the making of - ring, man simultaneously gives us, as so eloquently put by the mathematician G. Spencer Brown, "the idea of distinction and the idea of indication... we can not make an indication without drawing - distinction."¹³

Moreover, "a distinction is drawn by arranging - boundary with separate sides so that - point on one side cannot reach the other side without crossing the boundary. For example, in - plane space - circle draws - distinction. Once - distinction is drawn, the spaces, states, or contents on each side of the boundary, being distinct, can be indicated. There can be no distinction without motive, and there can be no motive unless contents are seen to differ in value."¹⁴

What does the fire indicate but the sacred spirit? The realm inside the ring is the realm of the spiritual. It is - world apart

from the world inhabited by the human. Can not the evolution to sacred architecture be traced from this point? In geometry and in concept, temples are not huts into which the gods are placed but places bounded by man, from man, to distinguish the sacred realm. These were the realms originally inhabited by the most primal of spiritual symbols - light and fire. But the fire and the spirits must be tended.

Tending the fire means that the boundary of realms must be crossed and it is in the recognition of the crossing of realms that the first act of architecture is born. The importance of entering this inner world cannot be overstated. It is - moment of fear. For the most literal and vivid example one thinks of the Hopi's traditional entrance descending through the smoke into the circular Kiva below. How natural it would have been to set aside one stone in the ring for passage. How natural to recognize the gap in the ring of stone as - thing, the created void as - place and the implied crossing as - form - the threshold.



The Threshold is the Concretization of Place of Crossing

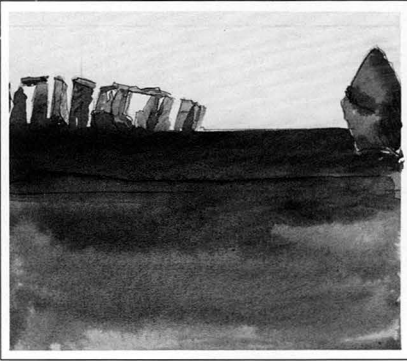
The threshold arises not as - product of mere function but as - product of building that resolves - need beyond building. The threshold, like the number 13 and like architecture itself, lies between realms. Architecture fits in the in-between - the building is between sky and earth, the column between plinth and pediment, the wall between inside and out. The threshold is the archetype of architecture. In the words of Martin Heidegger: "The threshold is the ground-beam that bears the doorway as - whole. It sustains the middle in which the two, the outside and the inside, penetrate each other. The threshold bears the between."¹⁵

Or Mircea Eliade: "The threshold that separates the two spaces [the street and the church] also indicates the distance between two modes of being, the profane and the religious. The threshold is the limit, the boundary, the frontier that distinguishes and opposes two worlds - and at the same time the paradoxical place where these worlds communicate..."¹⁶

The threshold marks the place of comings and goings, of daydreams, of beginnings and ends. - place of gods. In the third century, Porphyry wrote, "A threshold is - sacred thing."¹⁷

The threshold and vertical areas surrounding passageways are arguably the first things ornamented in building. Columns standing free or embedded in the wall are natural extensions of this elaboration. Should not the fascination of the orders include the space between the columns? Does not each such space imply - threshold? Does not defensive architecture begin with the protection that comes from the control of - boundary?

From the stones around the fire the parallel streams of domestic and communal and sacred and profane architecture flow. The dwelling begins with the enclosure of the second, concentric ring around the fire. The circular geometry, often reserved for religious building, is penetrated by - passage. The layers of threshold that



At Stonehenge the rings and thresholds are layered. The vertically placed stones foreshadow columns in ways not dependent on imitating trees.

must be crossed to approach - spiritual place yield the processional.

Finally the ring stones require no leap of materials or - theory of imitation. The collection of stones contains mass and void and boundary and space.

The Need for a Plausible Myth

If the genesis of architecture begins with the threshold, a provocative question remains. So what? Is this more than yet another romantic speculation on how it all began, granting that it is a speculation that has preoccupied many of our greatest thinkers about architecture.

In pedagogical terms, how we begin to understand architecture matters greatly. Ever enduring is the debate about how to teach architecture. Do we begin with skills or principles? Do we begin with theory or with design? Do we begin in two dimensions or in three? I think there is an innate desire and perhaps even a hunger to begin the study of architecture from some simple yet powerful premise: an idea that is immediately sensible and that contains the power to create a vision of architecture in the mind - and heart and hand and eye - that is as full, rich, true, and poetic as is mature architecture. It is crucial to begin from a premise that does not confuse lesser skills and side directions with the central issues and enduring magic of architecture.

riculum that begins with Euclidean geometry, now bereft of original meaning and force according to Alberto Perez-Gomez.¹⁸ Through the work of Ching¹⁹ and others this approach is wide-spread in North American architecture schools. It equates elemental geometry with elemental architecture. But a plane does not equal a wall, a floor, or a ceiling. The essential ideas of these architectural elements are not found in the abstract notion of the plane. The essences of wall, for example, are in its cleaving and bounding of space, the fact and mystery of its other side. It is not generated or usefully conceived as the translation of a line through space without orientation, thickness, or depth. A wall has a foot and a crown and a material thickness. The plane recalls only human cognition, not human experience. The plane has lost touch with powerful symbols of human existence - fire, water, earth, and air.²⁰ The approach based on elemental geometry is empty of myth and is a confusing premise from which to begin architecture.

The threshold myth is an alternative for beginning the discourse on architecture. Like the genesis story in the Bible, it introduces the central themes that follow. The creation of the threshold is the creation of purely architectural space. Although it is functional, its imperative is not function. It is both tangible and symbolic. It is conceptual but it can be experienced. It is as graspable as it is elusive. It is building and more than building. Its associations are primal - the fire and hearth, stone and earth, boundary and passage. It demarks the movement from the inner world to the outer world. It is the first act of architecture.

The first exercise for beginning students should be the study of the threshold as the precursor and archetype of architecture.²¹ The discourse on architecture should begin here. We should begin with the myth.

The Myth²²

We have always wandered, my children.

Each night when the great spirit draws a tattered cloak across the sky and all that remains of day's light and warmth glitters through the holes in the cloak like sparks from a new laid fire.

Each night we celebrate the fire, gift of the great spirit, and we make our own hole in the dark to let back into the night some small glow of light and warmth.

Each night we build the fire. We begin with the gathering of 13 stones.

One stone for each moon, and one for the spirit's passing.

We lay the stones in a small circle.

For the circle distinguishes the spirit world from our world.

We start the circle in the East, and end in the East, to remember and recall the light.

We set the last stone beyond the circle to mark the return of the sun.

We leave the place of the last stone in the circle open so that the spirit of the fire can return to the sun in the morning.

When we leave, we close the circle and hide the place of the spirit's passing.

We leave a stone upon the threshold.

"In the Hopi Kivas, the new fire brings life for a new year, perhaps for a new era, as the prophecies have said! The ritual of life, the rite of hope, this is the same ritual which makes the stars stay where they are, the sun shine and the moon glow."²³

NOTES

1. Garry Stevens, *The Reasoning Architect* (New York: McGraw Hill, 1990), p. 55.
2. Joseph Rykwert, *On Adam's House in Paradise* (Cambridge, Mass.: Second Edition, The MIT Press, 1981), p. 112.
3. Vitruvius quoted in Rykwert p. 105.
4. Rykwert, p. 67, 81, 83 and 89.
5. Rykwert, p. 63.
6. Rykwert, p. 53-55.
7. Rykwert, p. 41-42.
8. Keith Critchlow, *Time Stands Still* (New York: St. Martin's Press, 1982), p. 171.
9. Rykwert, p. 15-19.
10. Stevens p. 51.
11. Christian Norberg-Schulz, *Existence, Space & Architecture* (New York: Praeger Publishers, 1971), p. 12.
12. Norberg-Schulz, pp. 9-12.
13. G. Spencer Brown, *Laws of Form* (London: George Allen and Unwin Ltd., 1969), p. 1.
14. Brown, p. 1.
15. Martin Heidegger quoted in Richard Lang, "The dwelling door: Towards a phenomenology of transition," In *Dwelling, Place and Environment*, Edited by David Seamon and Robert Mugerauer (New York: Columbia University Press, 1985), p. 206.
16. Mircea Eliade, *The Sacred and the Profane* (New York: Harcourt, Brace & World, Inc., 1959), p. 25.
17. Gaston Bachelard, *The Poetics of Space* (Boston: Beacon Press, 1964), 223.
18. Alberto Perez-Gomez, *Architecture and the Crisis of Modern Science* (Cambridge: MIT Press, 1983).
19. Francis D. K. Ching, *Architecture: Form Space And Order* (New York: Van Nostrand Reinhold Company, 1979).
20. Stevens, p. 16.
21. Judith Major, "A Threshold Between Nature and Art," Project 1, Architectural Design I, Fall 1990, School of Architecture and Urban Design, University of Kansas.
22. *This myth is of course conjectural, although in form it resembles myths of many preliterate cultures. It is invented to narrate a genesis of architecture. Its veracity is less important than its poetic plausibility. Myths by nature can not be verified, but their plausibility, even probability in narrative enhances their acceptance. The myth endures through a tradition of belief (education). The truth of the myth lies in its plausible poesis, the image of its lesson.*
23. Robert Boissere, *Meditations with the Hopi* (Santa Fe, N.M.: Bear and Company, 1986), p. 54.