

[tacit dwelling thru space & time]

1

The TacIt Dimension
Michael Polanyi
Gloucester, Massachusetts
Doubleday & Company, 1983

tac·it (in reference to knowledge)

etymology: French or Latin; French *tacite*, from Latin *tacitus* silent, from past participle of *tacEre* to be silent; akin to Old High German *dagEn* to be silent

1 : expressed or carried on without words or speech

2 a : implied or indicated but not actually expressed **b** (1) : arising without express contract or agreement (2) : arising by operation of law

"We can know more than we can tell." (Polanyi, 1985:4) It is essential to begin with this statement in order to understand Michael Polanyi's concepts of knowing called 'tacit knowledge'. Tacit knowledge is composed of a library of images and information, both conceptual and sensory in nature. This compilation library is what allows an individual to make sense of an object, idea, or concept. Numerous pieces of tacit knowledge can be joined together creating new understandings and theories. This specific idea of tacit knowledge lends itself to an interesting viewpoint on the process of discovery.

"We must conclude that the paradigmatic case of scientific knowledge, in which all the faculties that are necessary for finding and holding scientific knowledge are fully developed, is the knowledge of an approaching discovery.

To hold such knowledge is an act deeply committed to the conviction that there is something to be discovered. It is personal, in the sense of involving the personality of him who holds it, and also in the sense of being, as a rule, solitary; but there is no trace in it of self-indulgence. The discoverer is filled with a compelling sense of responsibility for the pursuit of a hidden truth, which demands his services for revealing it. His act of knowing exercises a personal judgment in relating evidence to an external reality, an aspect of which he is seeking to apprehend." (1985:4)

Other notes that prove useful in relation to architecture are his concepts of indwelling & interiorization, as well as his comments on the importance of the physical body. "Our body is the ultimate instrument of all our external knowledge, whether intellectual or practical. In all our

waking moments we are *relying* on our awareness of contacts of our body with things for *attending* to these things. Our own body is the only thing in the world which we normally never experience as an object, but experience always in terms of the world to which we are attending from our body. It is by making this intelligent use of our body that we feel it to be our body, and not a thing outside." (1985:15-16) Polanyi is suggesting that tools, works of art are 'sentient extensions' of our body and the only way to experience "its true knowledge lies in our ability to use it." (1985:17)

Likewise, Polanyi provides an interesting way of examining tacit knowledge by dividing things into the categories of either proximal or distal. "It is the proximal term, then, of which we have a knowledge that we might not be able to tell." (1985:10) In making such a distinction, he is able to proceed and define both functional/phenomenological structures of tacit knowledge and the relationships that exist between. "But there is a significance in the relation of the two terms of tacit knowing which combines its functional and phenomenal aspects...certain symbols...we may say that they signify...This is their meaning to us." (1985:11)

2

Poetry, Language, Thought

Martin Heidegger

Translation: Alfred Hofstadter

New York, New York

Harper & Row, 1971

dwell (beware this Webster misconstrued definition!)

etymology: Middle English, from Old English *dwellan*
to go astray, hinder; akin to Old High German *twellen*
to tarry

1 : to remain for a time

2 a : to live as a resident **b** : EXIST, LIE

3 a : to keep the attention directed -- used
with *on* or *upon* **b** : to speak or write
insistently -- used with *on* or *upon*

Poiesis, the making that is particular to humans alone, becomes the defining factor for Heidegger in laying out the relationship between building and dwelling. Dwelling involves the making/construction/cultivation of a thing into its own presence, while simultaneously allowing the things surrounding it to reach an equivalent and inseparable presence. "Building in the sense of preserving and nurturing is not making anything. Ship-building and temple-building, on the other hand, do in a certain way make their own works. Here, building in contrast with cultivating, is a constructing." (1971:145)

Western thought "has long been accustomed to *understate* the nature of the thing." (1971:145) Heidegger argues that things are often represented as objects with a series or a list of properties which are then attached to said object. This misconception completely isolates the thing itself from having any location, any meaning, any site from which it is able to become present or make anything else present.

It is necessary to have "an architecture to reveal humanity not in time but made of time, not in space but radically embodies and existing in a thick, vivid present, between the earth and the sky, as a unique place in the universe, always subject to forces larger than ourselves that in fact make us human, call us to take measure and yet always lay beyond the reach of calculation. In order to accomplish this aim, architecture must understand itself *differently*."¹

"The fundamental character of dwelling is this sparing and preserving." (1971:147) Sparing in the sense of freeing a thing and returning it to its specific purpose of being. Preserving "really means to set something free into its own presencing." (1971:148) If, as Heidegger continues to explain, the Greek word *techne*, or technique of building/dwelling translates into making something appear, then architecture can be seen as having the immense ability to reveal unseen truths. Essential qualities of things fall into perfect meaning and become apparent by the mere juxtaposition of a thing in its proper place.

3

Problems of Space & Time
Edited by: J.J.C. Smart
New York, New York
MacMillan Company, 1964

time (thru its passage)

etymology: Middle English, from Old English *tima*
relation to *tide* meaning to cut up, divide

- 1 a** : the measured or measurable period during which an action, process, or condition exists or continues : DURATION
- b** : a nonspatial continuum that is measured in terms of events which succeed one another from past through present to future
- 2** : the point or period when something occurs : OCCASION
- 3 a** : an appointed, fixed, or customary moment or hour for something to happen,

¹ Perez-Gomez, Alberto. "Dwelling on Heidegger: Architecture as mimetic techno-poiesis." Subject Vol. 3, No. 2 (1998).

begin, or end **b** : an opportune or suitable moment

4 a : rate of speed : TEMPO **b** : the grouping of the beats of music : RHYTHM

8 a : a moment, hour, day, or year as indicated by a clock or calendar **b** : any of various systems of reckoning time

9 : finite as contrasted with infinite duration

10 : a period during which something is used or available for use

"Time has always seemed particularly enigmatic to philosophers. Even more than space it has emotional significance for human beings: old age and death lie in wait for us, and time seems the great enemy. Sometimes, again, it appears as the healer of old wounds. All this is, of course to speak in metaphor, and these metaphors get their power from an interesting illusion that time flows, or alternatively that we advance through it." (1964:17) This introductory statement written by Smart lends itself nicely to the relationships between space and time as written by numerous philosophers/scientists/theoreticians that are being drawn upon within this particular text. The compilation of works outline the scientific developments of the nineteenth and twentieth centuries which have revolutionized today's concepts of space and time – "making the two inseparable to the philosopher as well as the scientist" (1964:backcover) and thus to the architect. Below are some excerpts and summaries from the selected works as will be pertinent in the following explorations.

Spatial & Temporal Analogies and the Concept of Identity by Richard Taylor Taylor pays close attention to drawing parallels between the concepts of space and time, particularly through how language is used and perceived in relation to the two. Whether he is talking about the 'spatialization of time' or the 'temporalization of space,' they are one in the same and cannot be removed one from the other. Certain terminology and concepts which embrace both the temporal and spatial are defined in order to demonstrate the close relationship that exists between time and space.

"A basic notion to be employed is that of *place*, which can be either spatial or temporal. 'At Boston, Mass.' Designates a spatial place, 'On May 1, 1955' a temporal one. A corollary is the notion of *distance*, which is likewise either spatial or temporal. New York and Boston are spatially distant from each other and from other things, while Plato and Kant are temporally so; but distances of either kind, can be of course great or small." (1964:382)

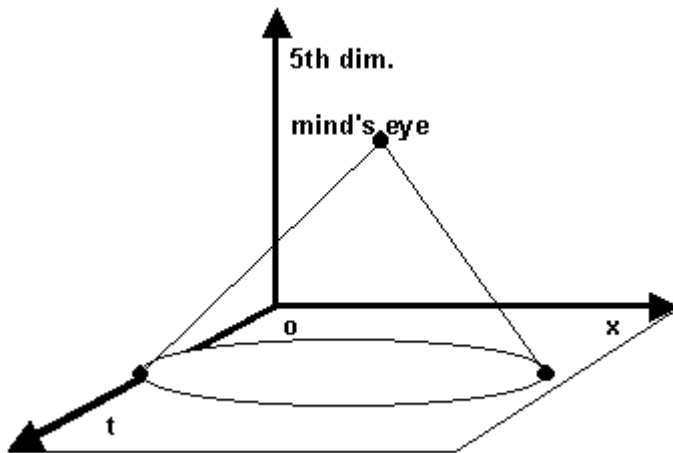
Taylor continues on to provide extensive examples of such space-time analogies through the ideas of place, distance, being present, length/extension, parts, direction, physical object, events, all of which can be designated in both the spatial or temporal senses.

Duration and Intuition by Henri Bergson Even the process of looking into ourselves, to know oneself can be conceived as a passage through time and space simultaneously as written by Bergson. "There is one reality, at least, which we all seize from within, by

intuition and not by simple analysis. It is our own personality in its flowing through time - our self which endures. We may sympathize intellectually with nothing else, but we certainly sympathize with our own selves. When I direct my attention inward to contemplate my own self (supposed for the moment to be inactive), I perceive at first, as a crust solidified on the surface, all the perceptions which come to it from the material world. These perceptions are clear, distinct, juxtaposed or juxtaposable one with another; they tend to group themselves into objects. Next, I notice the memories which more or less adhere to these perceptions and which serve to interpret them. These memories have been detached, as it were, from the depth of my personality, drawn to the surface by the perceptions which resemble them; they rest on the surface of my mind without being absolutely myself. Lastly, I feel the stir of tendencies and motor habits - a crowd of virtual action, more or less firmly bound to these perceptions and memories. All these clearly defined elements appear more distinct from me, the more distinct they are from each other. Radiating, as they do, from within outwards, they form collectively the surface of a sphere which tends to grow larger and lose itself in the exterior world. But if I draw myself in from the periphery towards the center, if I search in the depth of my being that which is most uniformly, most constantly and most enduring myself, I find an altogether different thing." (1964:139)

outline

Tacit Dwelling Thru Space & Time



key concepts:

tacit knowledge (polanyi)
dwelling as making (heidegger)
passage thru time (jjc smart)

actual examples:

ise shrine, japan (temple complex)
roden crater, Arizona (earthwork)
to be determined (city)

thesis: There exists a deeply interwoven relationship between tacit knowledge (Polanyi), dwelling as making (Heidegger), and the passage of time that becomes apparent in profound sacred sites of architecture. This notion is revealed in such works as the Ise Shrine in Japan, as well in Arizona at the Roden Crater by James Turrell.

discovery: Taking the Ise Shrine and Roden Crater as prime examples of conditions where each of these conditions (tacit knowledge, dwelling, time) is working in conjunction with one another, it is necessary to separate them out and discover the facets individually. For instance, using the definition of tacit knowledge, define what architectural aspects of the Ise Shrine support Polanyi's ideas. Next, how does the Ise Shrine comply with Heidegger's ideas of dwelling as the making or freeing of a thing into its presence. The same will apply with the concept of time. Essentially the proposed layout will be something to the effect of the following, also provided are some words describing the stories behind each respective place as well as images.

1 Thesis Statement

Explanation of Tacit Knowledge as defined by Michael Polanyi
Explanation of Dwelling as Making as given by Martin Heidegger
Explanation of Time and its Close Relationship to Space from Problem of Space & Time
The Unique Ability for Profound Sacred Sites to Possess all Three in Equivalent Amounts

2 Ise Shrine of Japan introduced as a Profound Sacred Site (a temple complex)

Tacit Knowledge defined in relation to Ise – examples
Dwelling defined in relation to Ise – examples
Time defined in relation to Ise – examples
Rejoin the 3 Aspects Revealing that 5th Dimension

3 Roden Crater introduced as a Profound Sacred Site (an earthwork)

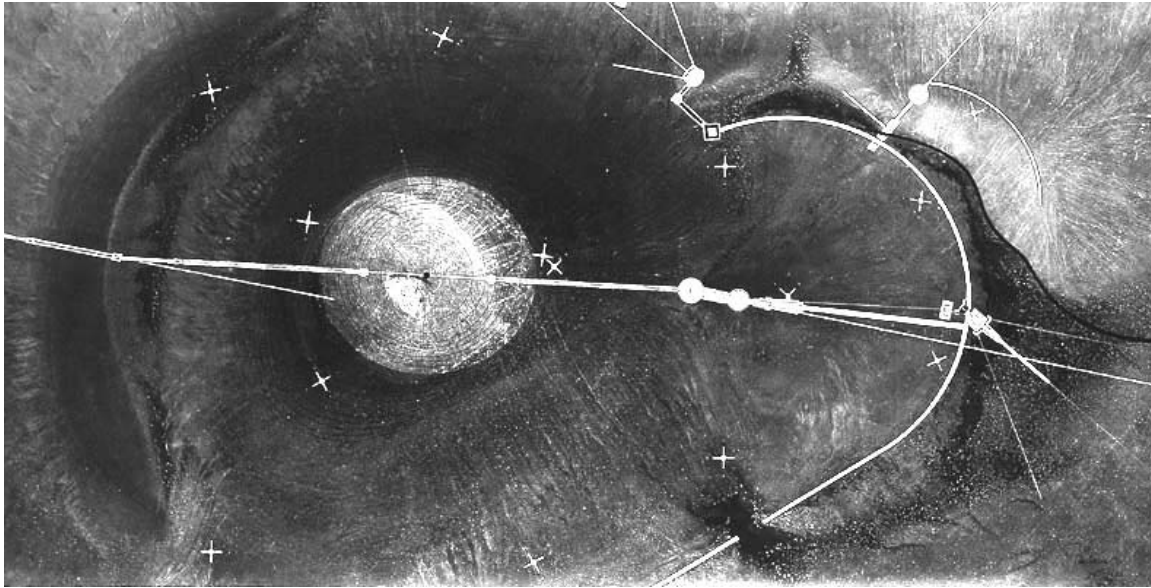
Tacit Knowledge defined in relation to Roden – examples
Dwelling defined in relation to Roden – examples
Time defined in relation to Roden – examples
Rejoin the 3 Aspects Revealing that 5th Dimension

4

The hope was to have the same argument apply to a sacred city. However, unlike the Ise Shrine, which is in constant rebuilding every 20 years, and the Roden Crater, where time moves with the planets, it is difficult to discover a city that has such continual "dwelling" thru making over and thru time. Cities which came to mind originally were Angkor Wat in Cambodia or the Pyramids of Egypt. However, these cities are dead now, artifacts perhaps to what once was a presence and is no longer capable of such aspects of dwelling in the sense Heidegger proposes. So, this idea of city which possesses tacit dwelling thru time is under contemplation/cultivation/construction...

5 Final Musings & Conclusion

Roden Crater @ Flagstaff, Arizona by James Turrell



Extracted from Craig Adcock's essay²

In 1975, Turrell lost his studio. This event was an inconvenience, but it did provide him with an impetus for beginning a work that he had been thinking about since the early 1970s, namely, the construction of a large outdoor sculpture that would shape the visual phenomena of celestial vaulting and the related concave earth illusion. After making an aerial survey of the western United States in 1975, Turrell chose Roden Crater, a cinder cone on the eastern edge of the San Francisco volcanic plateau, as an ideal location for engendering the multiple visual phenomena he was after.

He plans to reshape the top of the crater by transforming it into a hemispherical dish with a rim all at one height. The modified bowl will function as a huge Skyspace and manipulate the phenomenon of celestial vaulting. In addition to reshaping the crater bowl, he will construct a number of underground chambers inside the mountain. As the principal sources for his light--the sun, moon and stars--move through the sky, the sculptural spaces inside the cinder cone will respond. Sometimes they will evolve slowly over long periods of time, sometimes in a matter of moments.

At diametrical positions near the edge of a lava cliff that fans out around the fumarole, or secondary vent, on the northeastern flank of the crater, four underground chambers will be oriented toward the cardinal directions. From a position near the eastern space, a combined ramp and shallow stairway will lead up to the top of the fumarole. At the fumarole, another series of interior spaces will become available. Turrell explains that these linked sculptural rooms "will have spaces that you can enter into as well as look into. When you look back, the space you have just left will be altered and charged by the juxtaposition." A tunnel, 1,035 feet long, will lead up from the fumarole to the inside of the crater bowl. At the top of the tunnel, we will come out into an oval chamber that will function like a Skyspace.

² Adcock, Craig. James Turrell: Roden Crater Project. 09 Feb. 2004. Art Minimal & Conceptual Only. 28 Mar. 2005 <<http://home.sprynet.com/~mindweb/page38.htm>>.

As we step up stairs and come out into the crater bowl, the sky will balloon upward and seem to attach itself to the rim of the crater. It will become a shallow celestial vault with a diameter of some 3,000 feet. As we then walk up from the bottom of the bowl to the upper margin of the crater, the sky will detach itself from the rim and seem to spring outward to the far horizon, creating a much larger vault stretching from horizon to horizon sixty to one-hundred miles away depending on the direction. Similar dramatic disclosures will be effected by comparable tunnel spaces and chambers on the western side of the crater.

At Roden Crater, the art is fundamentally tied to the volcano as a natural entity. The massive cinder cone is itself an impressive object, but Turrell's art will incorporate complex intellectual pattern into its already commanding presence. The natural beauty of light used as sculptural material will be conjoined with the physical power and spatial amplitude of the desert landscape in Turrell's interactive approach to light and his attention to the site-specific relationships of interior and exterior spaces.

The complexities of light and space available at the crater will be further compounded by periodic astronomical image events. In these terms, the project will not only function as an interactive light environment, but also as a naked-eye observatory. When an image is focused by an aperture into a space, it will alter the light atmosphere hanging inside that space; the light coming through the sharp edges of the opening will cause one quality to disappear, while creating another. Not only will we be able to see the interior volumes and their architecturally defined light images evolve under constantly changing conditions, we will also be able to turn our attention outward to the celestial objects that are the sources for these interior visual qualities and events.

Roden Crater will order basic human interactions with light and space and also with time. It will affect not only the intensity, but also the protensity the extension through time of perceptual experience. The modifications to the cinder cone will be informed by the works Turrell has been producing since the beginning of his career: the light inside the spaces will be like the Skyspaces, but they will be hewn from the natural materials of the volcano and surfaced with the sand stone of the surrounding desert.

Turrell's Roden Crater Project is an interactive sculptural environment; its subject matter is light and space. At its most profound levels, the completed project will allow us to stand in the present and look into both the past and the future. Light, in one of its aspects, is time. The crater will focus our attention on infinite reaches that are both geologic and astronomical, both personal and psychological. The entire project with its myriad interior and exterior spaces functions in terms of the light in the sky. In these terms, the crater is designed to work closely with what is already available in the sky, but it goes beyond worldly givens into areas of autonomous, unbounded seeing.

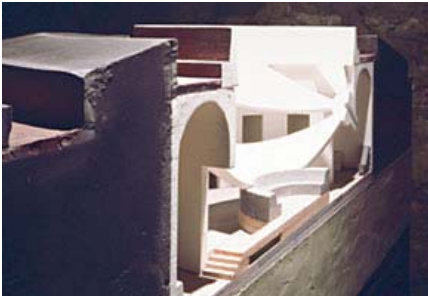
The sunrise and the sunset can range from a bright orange glow at the horizon set against a dark background of sky and earth through all the ambers, salmon pinks, silver yellows, purples and reds familiar to anyone who has ever watched a morning or an evening. These displays are pure acts of nature.

Their isolation and intensification in the spaces Turrell has planned for the Roden Crater Project are pure acts of art, and they fundamentally change our perception of sky color. They collapse the familiar clichés so often used to describe beautiful twilights. As Turrell puts it, the light has its own ineffable quality:

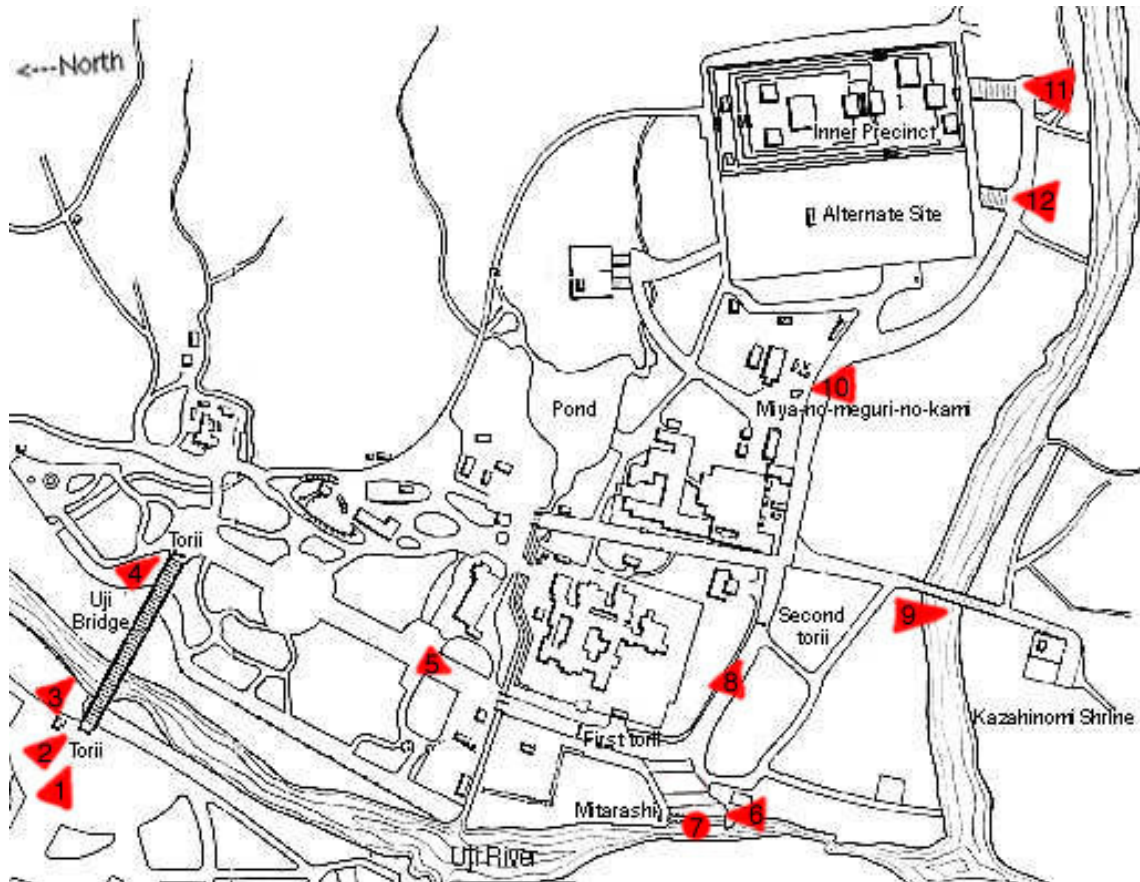
"What takes place while looking at the light in a Skyspace is akin to wordless thought. But this thought is not at all unthinking or without intelligence. It's just that it has a different return than words."

It is a place where artificial spaces merge with nature and art melds with the affective spaces of individual consciousness.

Roden Crater @ Flagstaff, Arizona by James Turrell



Shinto Shrine @ Honshu, Japan by Emperor Temmu



The Shrine at Ise, Japan³

Trees and stones have long been objects of deep devotion in Japan. Originally there were no shrine buildings; instead a tree, forest, or a large boulder or a mountain, festooned with ropes, would be the focus of worship.

In Japan the mysterious forces of nature, called *ke*, were believed to permeate palpable matter and formless space (collectively called *mono* in Japanese) to create *mononoke*. *Mononoke* was seen to coalesce in trees and stones. Certain trees, especially the cryptomeria and the evergreen *sakaki*, were considered sacred for this reason. When one of these trees was felled and the wood used in the construction of a shrine, this sacred quality was believed to follow it into the building. The sacred tree itself was literally and symbolically present in the form of a pillar or post around which the shrine was constructed.

The great Shinto shrine at Ise is built amid a dense forest of giant cryptomeria trees next to the Isuzu River at the foot of Mount Kamiji and Mount Shimaji in the Mie Prefecture in southern Honshu, Japan. Crossing

³ Witcombe, Christopher. *Sacred Places: Shrine at Ise, Japan*. 23 July 2003. Dept. of Art History, Sweet Briar College. 20 Mar. 2005 <<http://witcombe.sbc.edu/sacredplaces/ise.html>>.

the Uji Bridge and passing through the large *torii* gate marking the entrance to the shrine, a long path leads to Ise Jingu (Ise Grand Shrine).

The shrine consists of two groups of buildings: the Imperial Shrine (Kotai Jingu), also known as the Naiku (inner shrine), and the Toyouke Shrine (Toyouke Daijingu) which constitutes the Geku or outer shrine. The Naiku is dedicated to the Sun Goddess Amaterasu Omikami (Heaven-Illuminating Great Deity), and the Geku to the Goddess of Cereals Toyouke Omikami (Abundant Food Great Deity). Each shrine is composed of a number of buildings, including ancillary shrines, workshops, storehouses, etc. Each shrine has an inner precinct with a main sanctuary and two attendant shrines, as well as treasuries, fences, and gates.

Both shrines are constructed of wood, and every twenty years both are totally rebuilt on an adjoining site. The empty site of the previous shrine (called the *kodenchi*) is strewn with large white pebbles. The only building on the empty site, which retains its sacredness for the intervening twenty years, is a small wooden shed or hut (*oi-ya*) inside of which is a post about seven feet high known as *shin-no-mihashira* (literally the august column of the heart, or more freely translated as sacred central post). The new shrine will be erected over and around this post which are the holiest and most mysterious objects in the Ise Shrine. They remain hidden at all times.

Kenzo Tange and Noboru Kawazoe suggest that:

the erection of a single post in the center of a sacred area strewn with stones represents the form taken by Japanese places of worship in very ancient times; the *shin-no-mihashira* would thus be the survival of a symbolism from a very primitive symbolism to the present day.

The present buildings reproduce the temple first ceremoniously rebuilt in 692 CE by Empress Jito. The first temple had been built by her husband Emperor Temmu (678-686), the first Mikado to rule over a united Japan.

Emperor Temmu had established Ise as the principal cult shrine of Imperial Japan, but the site itself, and the cryptomeria trees that grew on it, were already sacred before then. The cryptomeria is a tree associated with Shinto shrines. The principal sacred plant of Shinto, however, is the *sakaki* (a shrub related to the tea bush). The *shin-no-mihashira* is taken to represent a branch of the *sakaki* stuck upright in the ground.

The chambers of the shrines are raised on timber piles which themselves are analogous to the central sacred post. The roof is not supported by the walls (although the rafters do rest on purlins), but the ridge beam is carried instead by two large columns at either end which embedded directly into the ground without any foundation.

Besides trees, at the Ise Shrine are many subsidiary shrines of rocks from the sea which are regarded as the abodes (*iwakura* or rock abodes) of deities.

Shinto Shrine @ Honshu, Japan by Emperor Temmu

