

TIME
ENERGY
& FORM

by

Martha Jane McInnis

B.S.A.D. Massachusetts Institute of Technology, 1980

submitted in partial fulfillment of the requirements for
the degree of

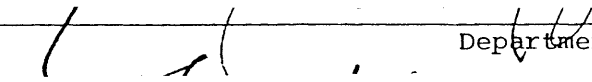
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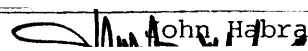
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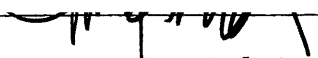
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Submitted to the
Department of Architecture
on 7 May, 1982 in
partial fulfillment of
the degree requirements
for the Degree of
Master of Architecture.

ABSTRACT:

Physical manifestations of time occur
in natural forms of all sizes.

Architectural form serves as shelter
while providing a built envelope of
human life, simultaneously influencing
and influenced by energetic activities
which occur within the containment.

Change is either progressive or cyclic,
apparently linear or circular.

Similarly built form is either
discontinuous or continuous, angular
or curved.

All physical presences, energetic
configurations, are fleeting.

Physical forms are shaped by time and
so reflect the movement of the energy
flows through time and space.

Specific parts of time-space signify
future forms while others reveal in
the past.

Thesis Supervisor: John Habraken

Title: Professor of Architecture
Head of Department

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PROGRESSIVE CHANGE

Additive Built Form
Subtractive Built Form
Transformation

Transition; *Edges, contours, Terraces, Stairs, Bridges, Transparencies*

Logarithmic Spiral

CYCLIC CHANGE

Formal Symbols of Cyclic Change
Time Systems
Myth
Rhythm
Reciprocity
Yin-Yang

Microcosm

CH'I ENERGY

Sha

Evaporation

Condensation

Potential Energy

Kinetic Energy

Geomancy; *Cosmology, Feng-Shui, Five Elements*

Cosmos

ORDER

Natural Framework; *Anthropomorphism, Zoomorphism, Geomorphism, Dragon*

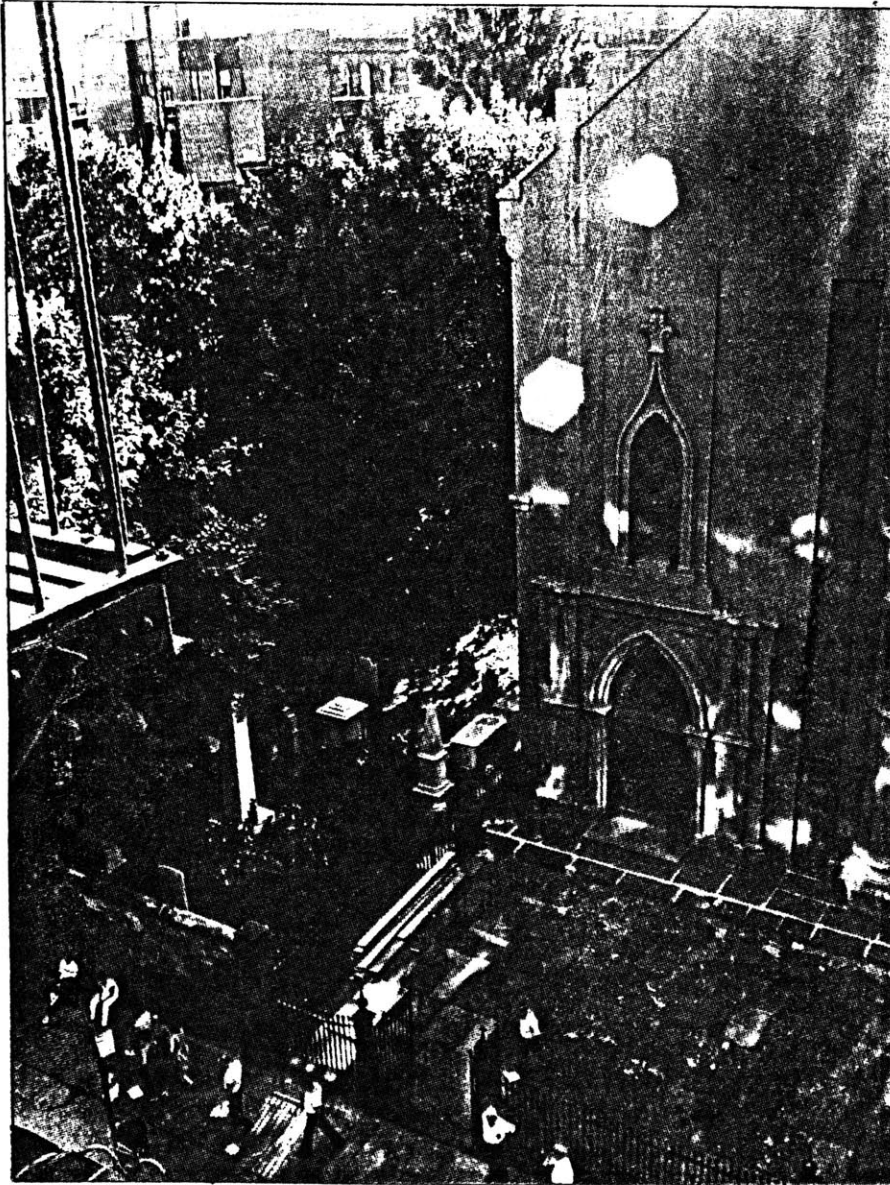
Manmade Framework; *City Structure, Building Structure*

Monument

Landmark

Constants; *Burial in East, Burial in West, Collective Form, Square*

Permanency; *Monastery in East, Monastery in West*



Impermanence is the law of all existence.

Flux is universal.

Change is usually gradual.

Natural forms exist in a range of permanencies, decaying at different rates.

Buildings are temporary guests in the landscape.

Objects, people, and spirits will usually move along the path of least resistance.

No arrangement/relationship is permanent.

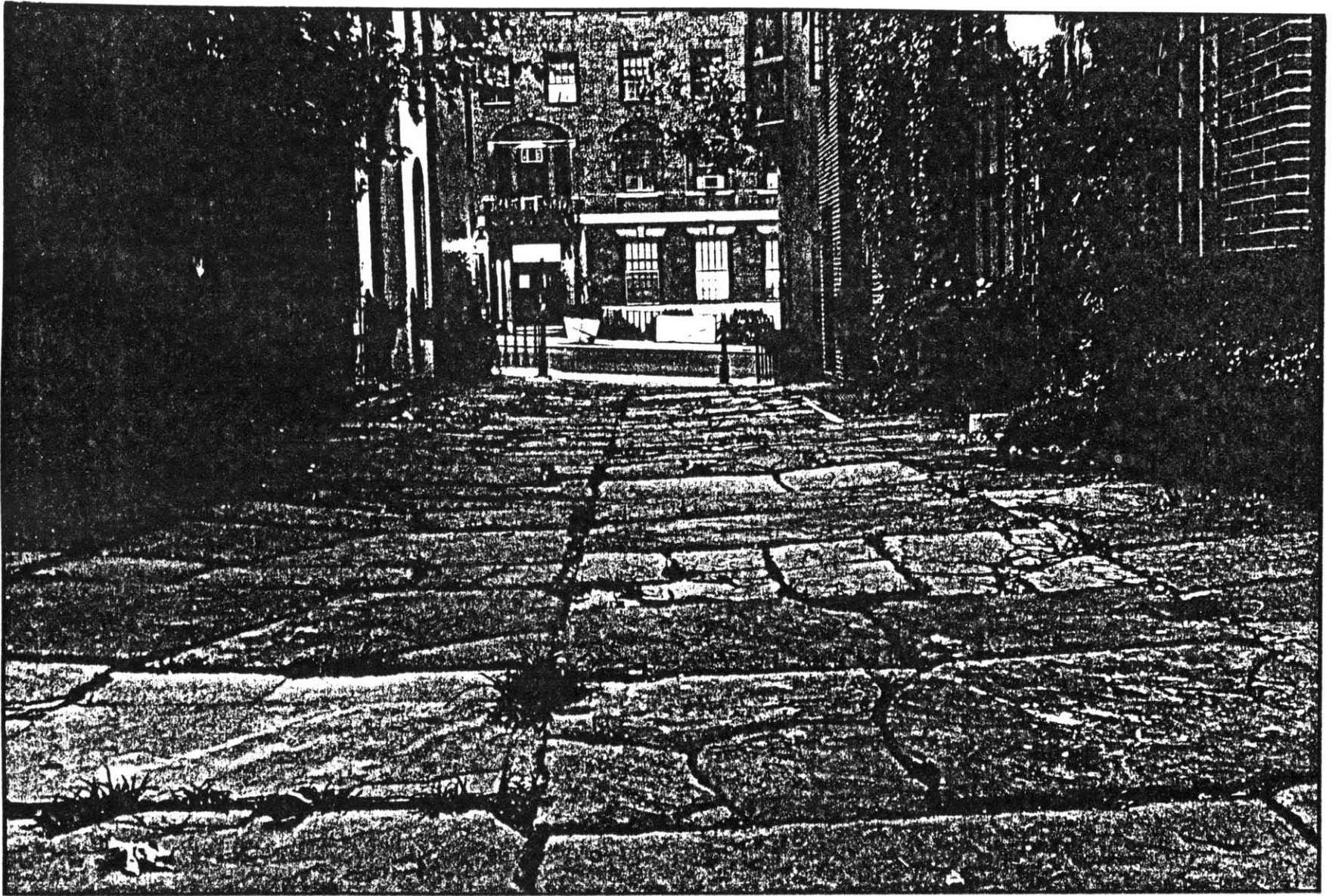
There is no past energy or future energy, only present energy which transforms into other energy forms.

Transitory energy levels make fleeting imprints on the environment.

"Landscapes gradually disappear." *

Camus

The effects of time can be removed, recreated, or remain.



SNIFFEN COURT, MURRAY HILL, MANHATTAN, CIVIL WAR ERA

PROGRESSIVE CHANGE.

Additive Form

Subtractive Form

Transformation

Transition

Logarithmic Spiral

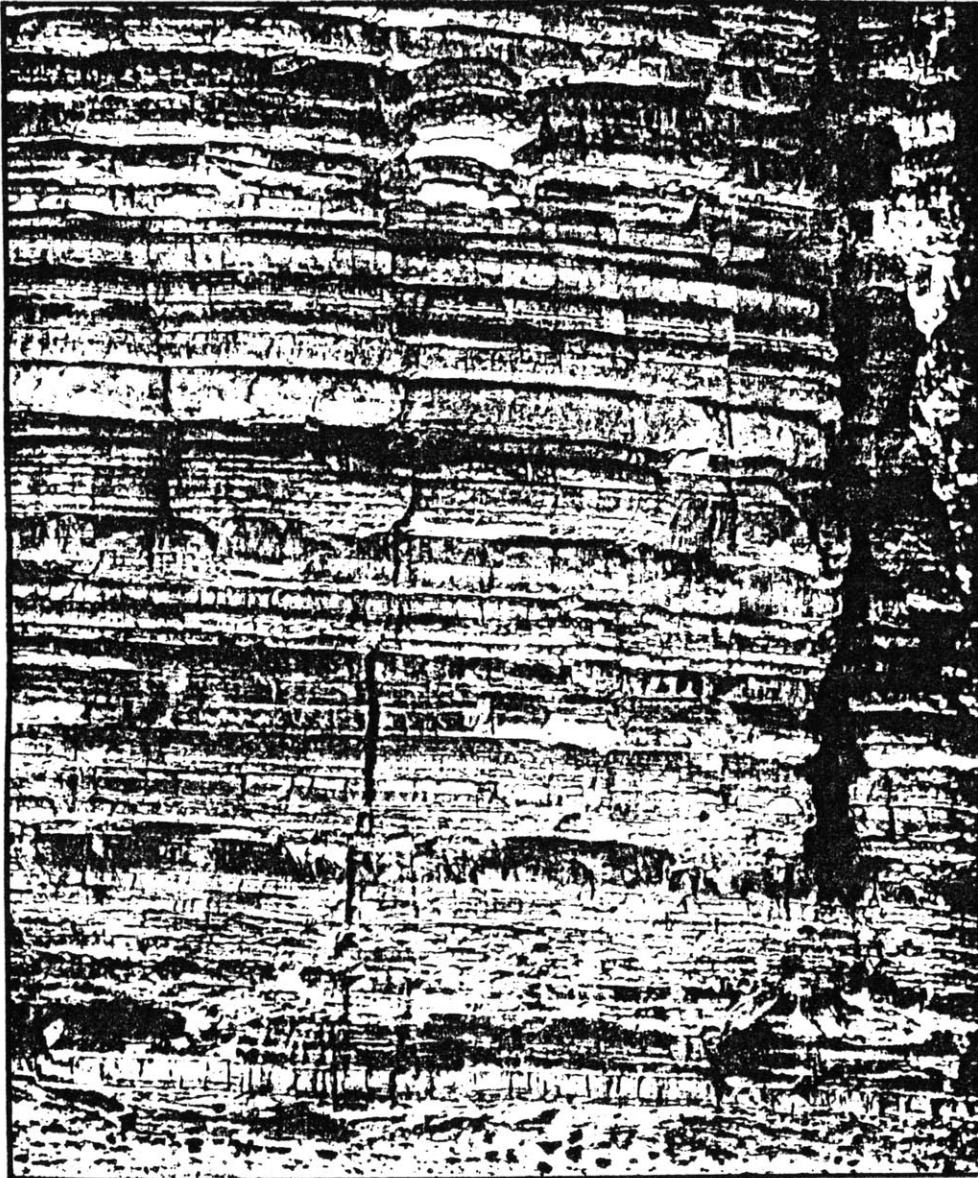
A naturally formed record of the passage of time occurs in the layered process of accretion

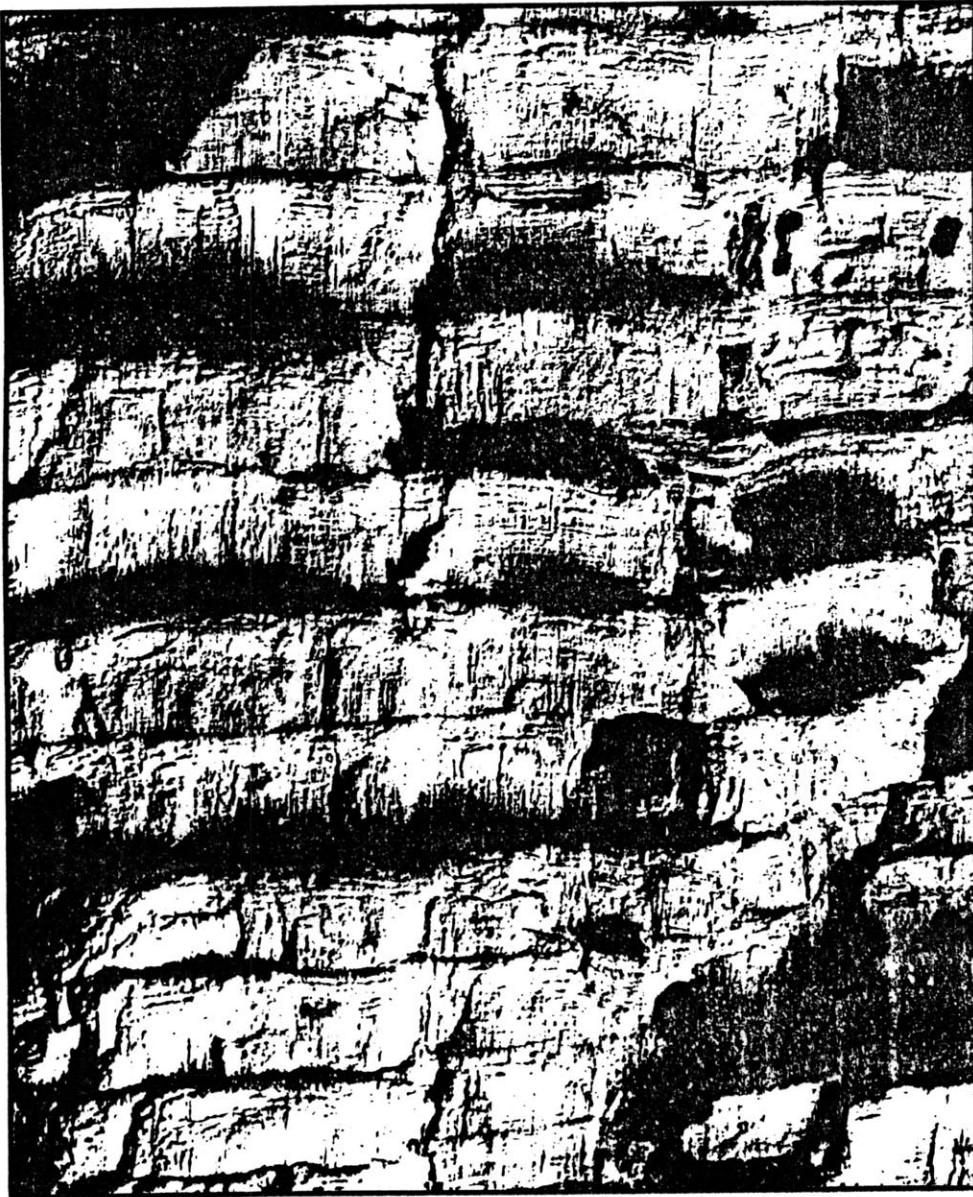
9

in sedimentary rock...

Additive Form

Layers of formation occur additively
in the patterns of nature.





... and in the rings of growth of a tree.

Apparent time is both progressive and cyclical.

Time is obviously irreversible while simultaneously cyclical.

Irreversible change is a basis for continuity, permanency is not.

Formation determines physical form; existing forms are elaborated and embellished over time.

Procession, sequence, and chronology are linear time conceptions.

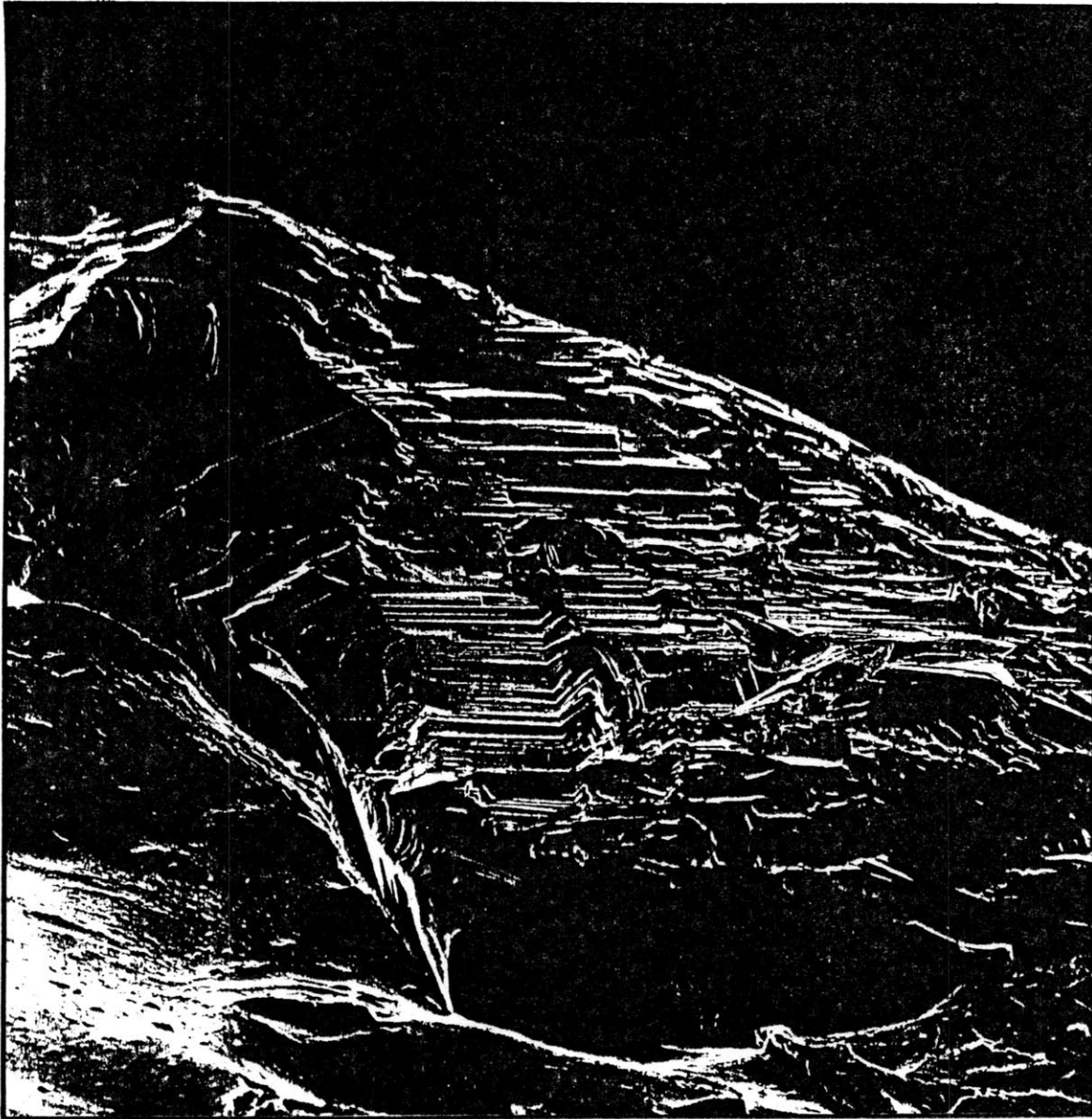
There is a process of becoming which inevitably occurs over time and which allows the transformation of actual physical configurations.

The continuity of time can be built.

"The natural construction of an oyster shell is a layered process.



Layers



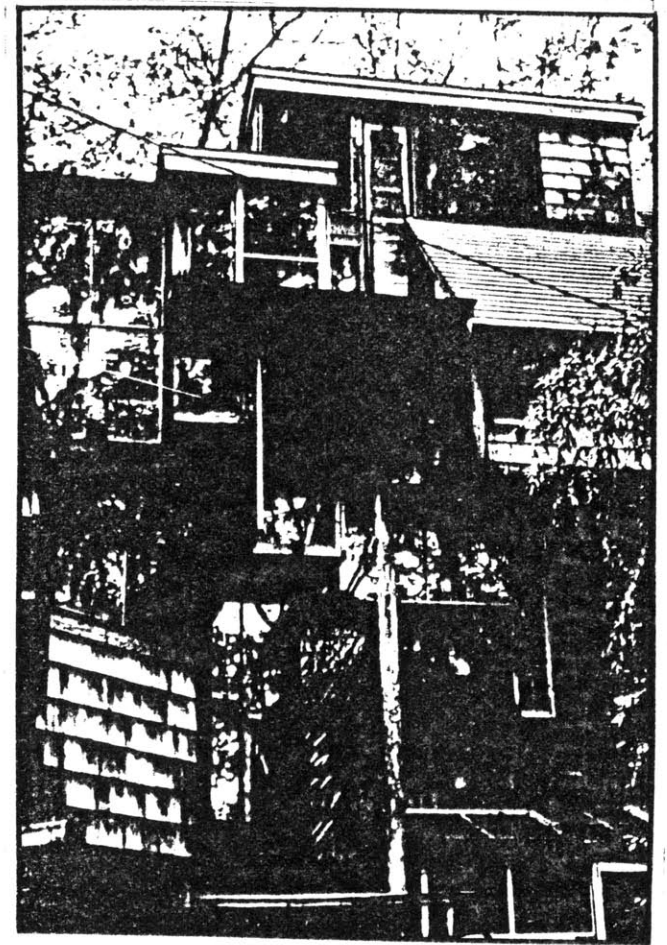
Accretion is apparent in the layered silicon carbide formation.

JAPANESE RESIDENCE



M. SMITH HOUSE

Clusters 13

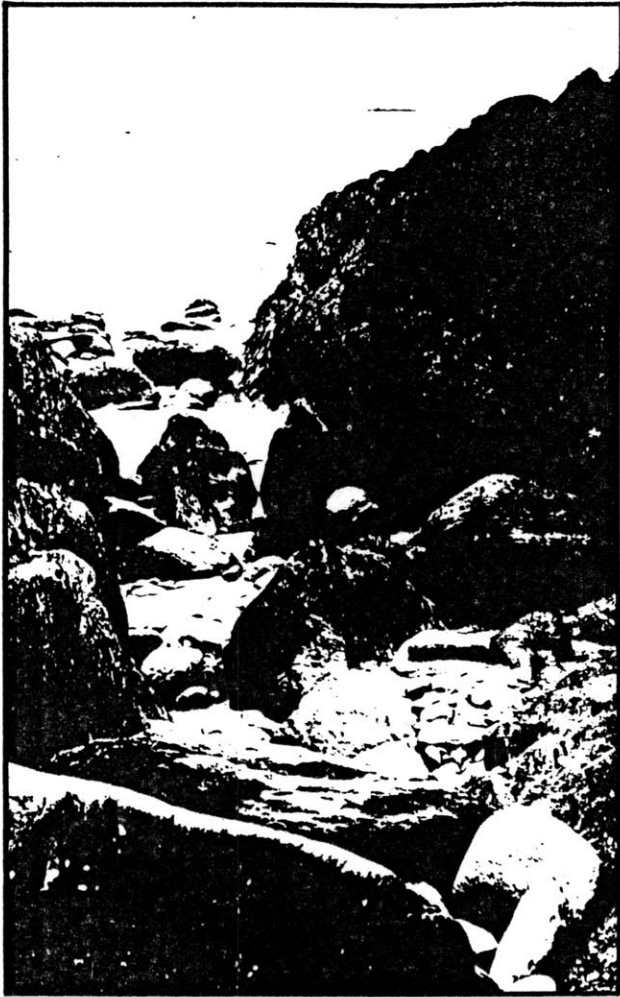


Overlapping roof articulations
appear formally as layers added
over time.

In the landscape, first come the large stones, then the small.

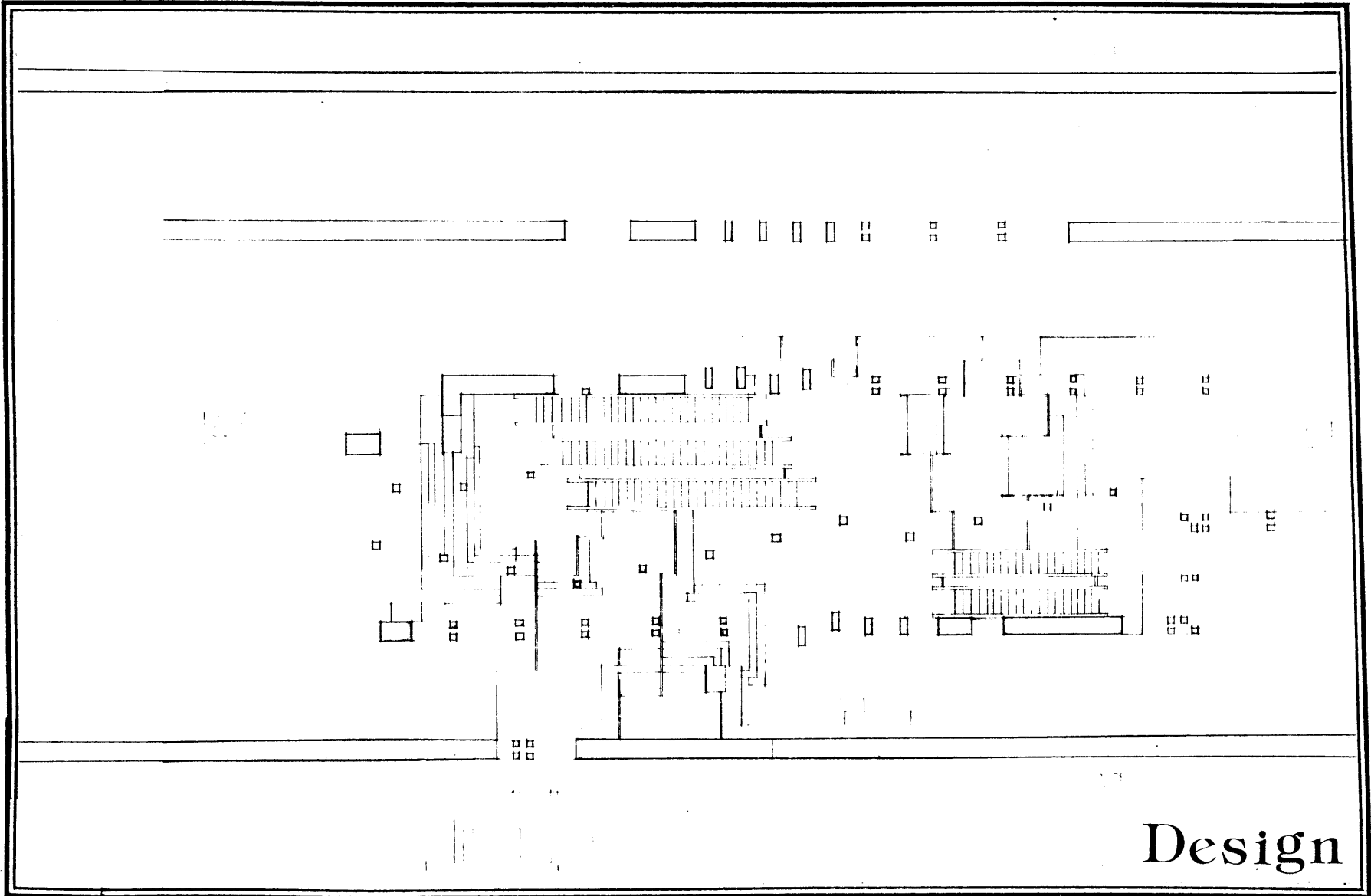
Smaller pieces fill the space inbetween the larger and partially occupy the territory between the continuous field and the intrusion.

Invasions gradually increase in density with the passage of time.

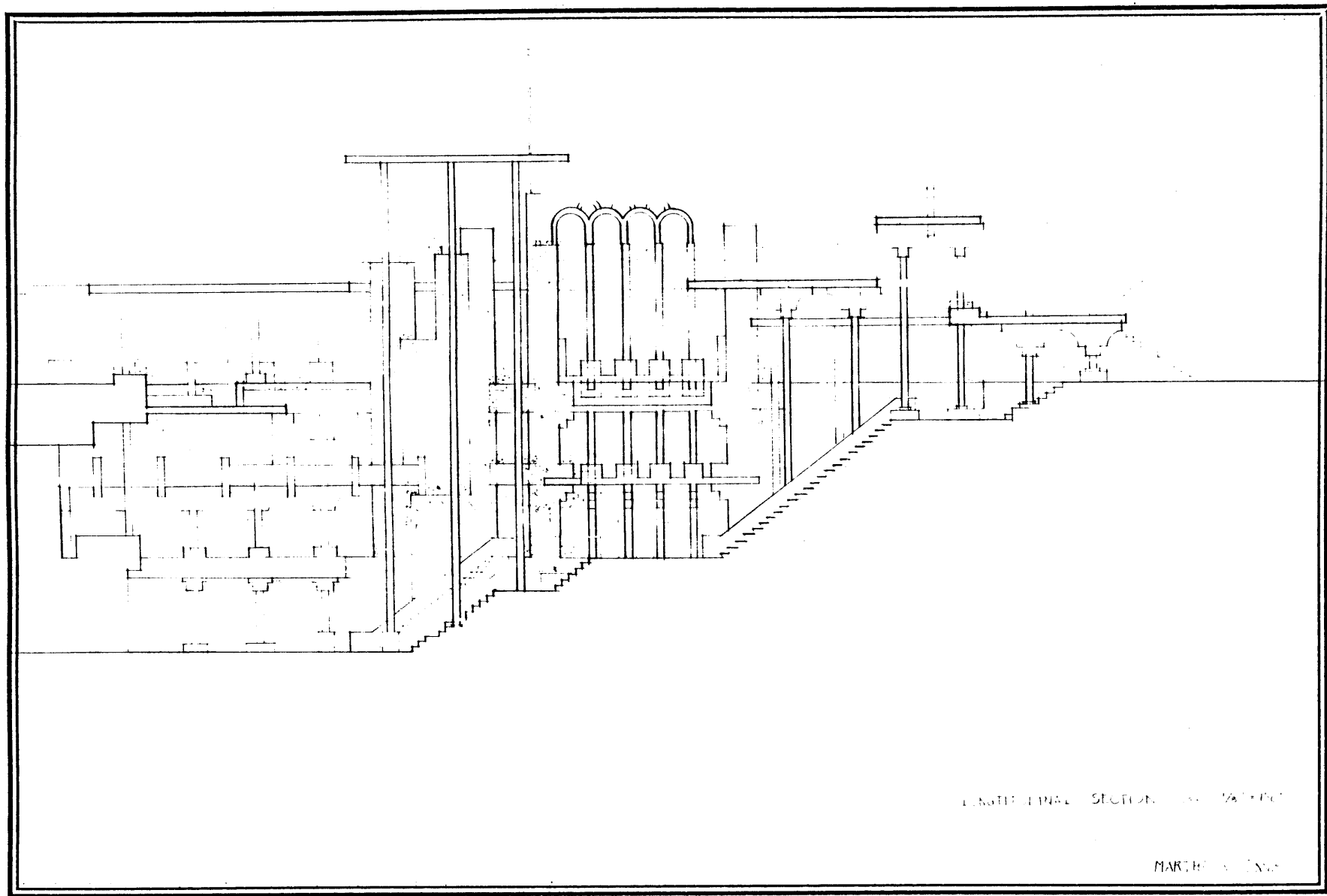


Smaller rocks fill the spaces between larger rocks.





Design

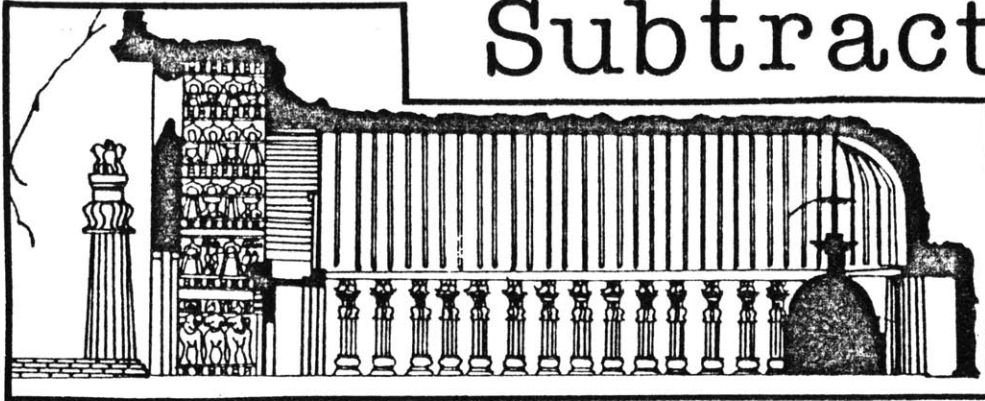


LONGITUDINAL SECTION - 1/4" = 1'-0"

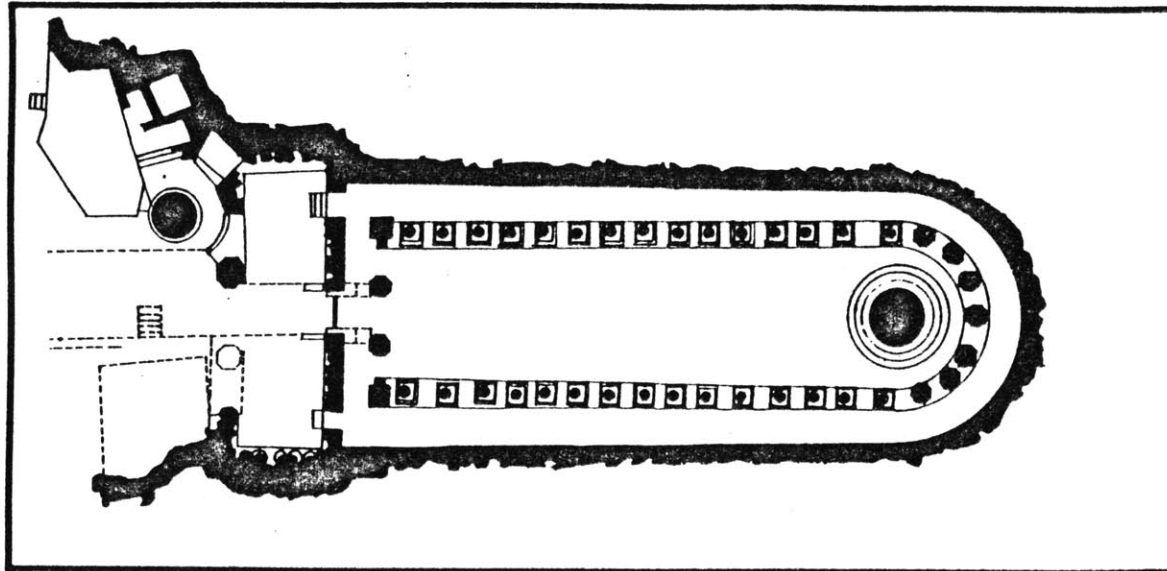
MARCH 1910

Subtractive Form

Cave



Karla was built over a very long period of time which is apparent as a layered processional entrance.



Much human energy went into the carving of the chaityah houses.

A chaityah site was cleared of vegetation and made roughly vertical at the front where the facade was then drawn. *

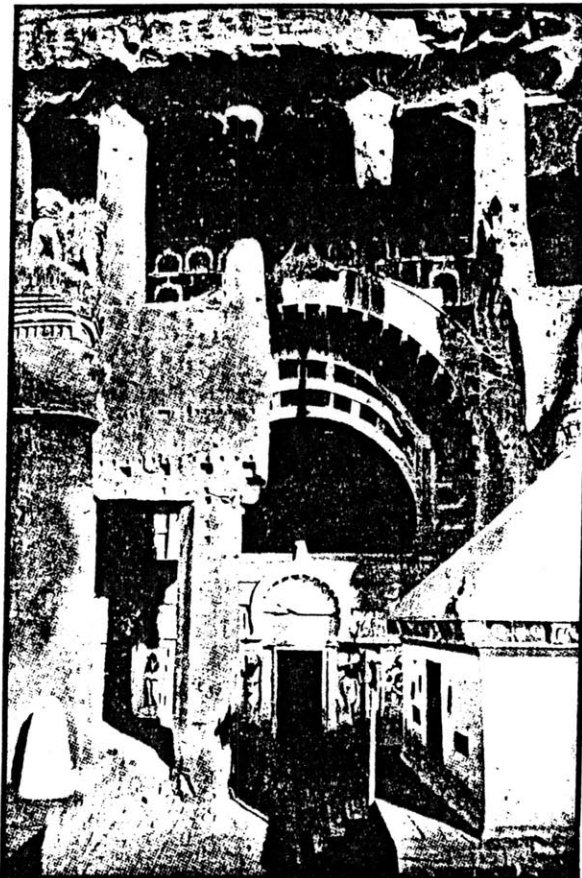
Two parallel tunnels were then run to the back of the hall.

Using only chisels and hammers the excavation was made.

Exposed rock was polished with a chisel before carving down further so that no scaffolds were needed.

A screened trellis always was installed at the end of the construction process.

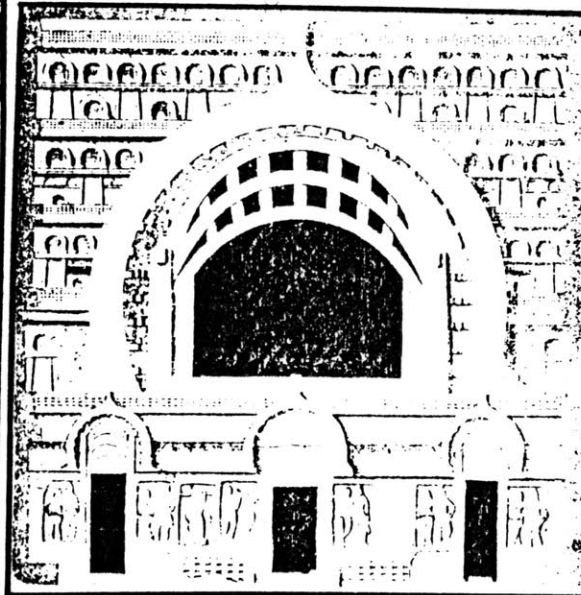
Construction of the cave Karla was begun as early as Asoka's time while some of the figures which belong to the Mahayana school were added several centuries later.*



There is no difficult, steep, stairway in the approach to Karla.

One enters through a double height gallery passing between two immense, free standing pillars supporting the mountain above.

There are three entrances, the central for members of the order and the left and right for the entrance and departure of laymen respectively.



The facade, formerly partially screened by the porch and gallery is now completely visible contains a sun window set in an archway.

The lotus leaf sun window above the entrance is arranged to impressively focus light upon the chaityah, a sacred object of devoted labor by craftsmen.

This window was then partially filled with a wooden framework while also achieving excellent ventilation for the entire meeting hall.

The interior walls are richly sculpted with bare areas which were once covered with paintings depicting the legendary events of Buddha's life.

The sacred Buddha stupa is located, obviously, at the end of the deep hall.

Quarry

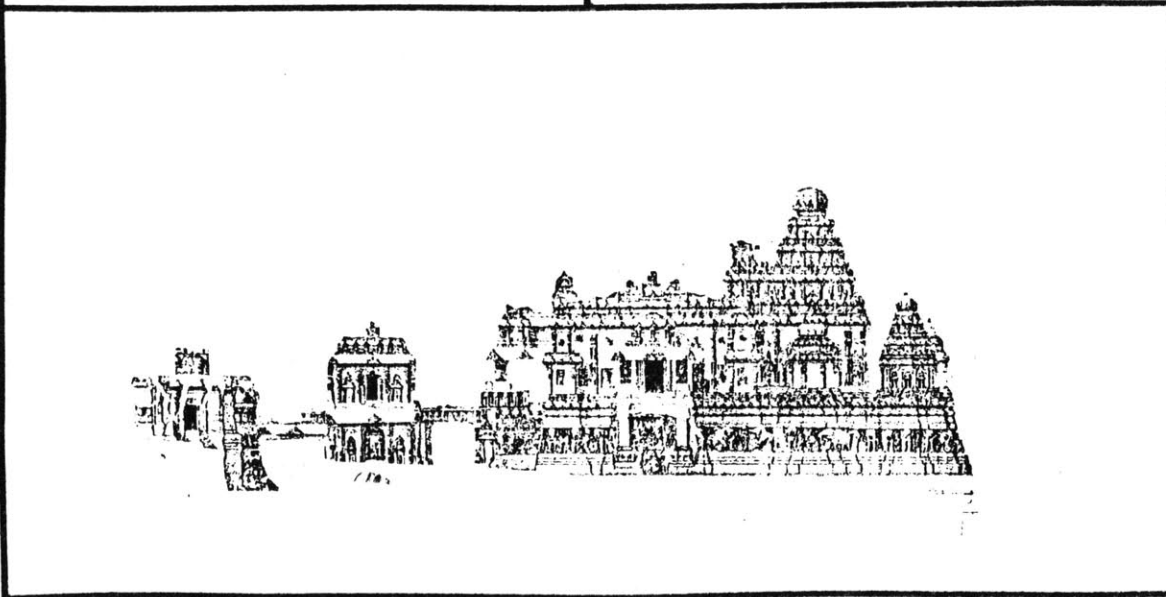
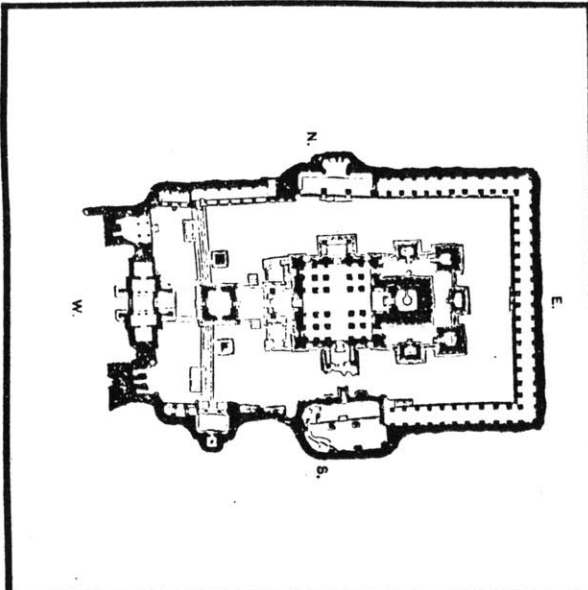
Krishna I of the Rashtrakuta clan built the Kailasa temple to celebrate triumph in conquests. *

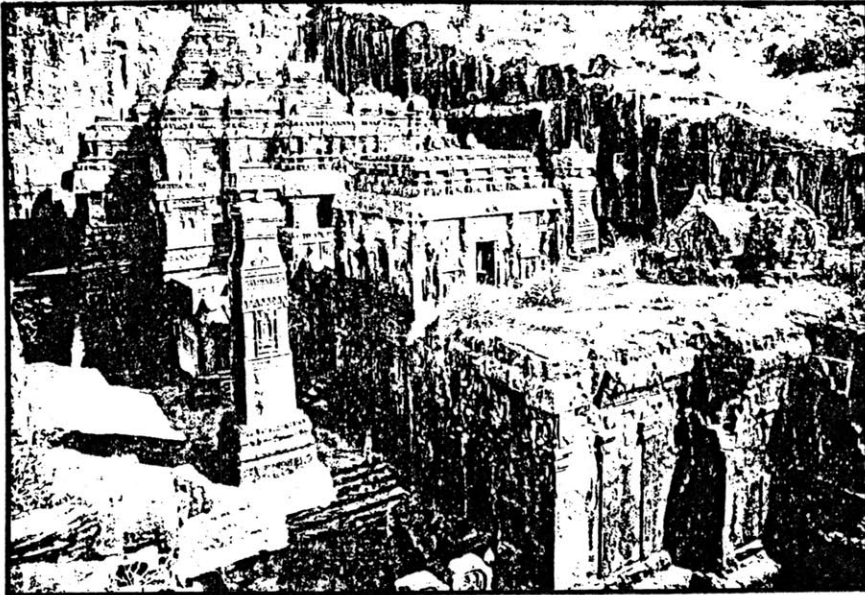
The Kailasa temple, dedicated to the Himalayan paradise of Siva, is built from a rock cut quarry.

It was cut down in existing rock forming an island 250 feet long, 160 feet wide with vast terraces from 50 to 100 feet above the bottom.

A huge two storey temple was then constructed from the quarried rock in the center.

Starting at the top each rock was completely finished and polished before moving down to their level. Kailasa was originally stuccoed with white Gesso to increase its visibility in the landscape from which it was carved.





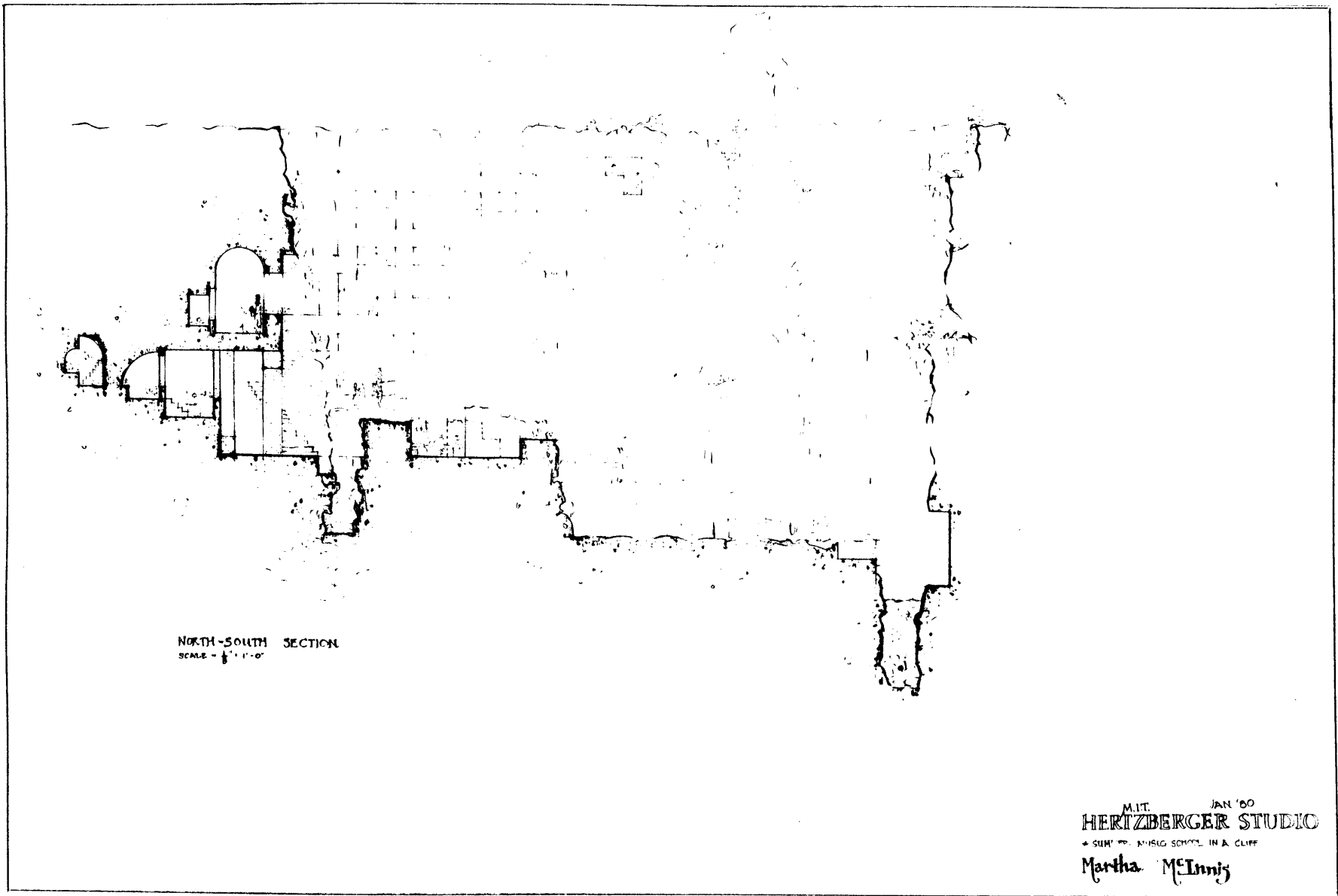
With the entrance facing sunset, the remaining three sides house a series of monastic halls and chapels forming a circumambulatory gallery. A temple, in many cultures, represents a world image in conjunction with temporal symbols.

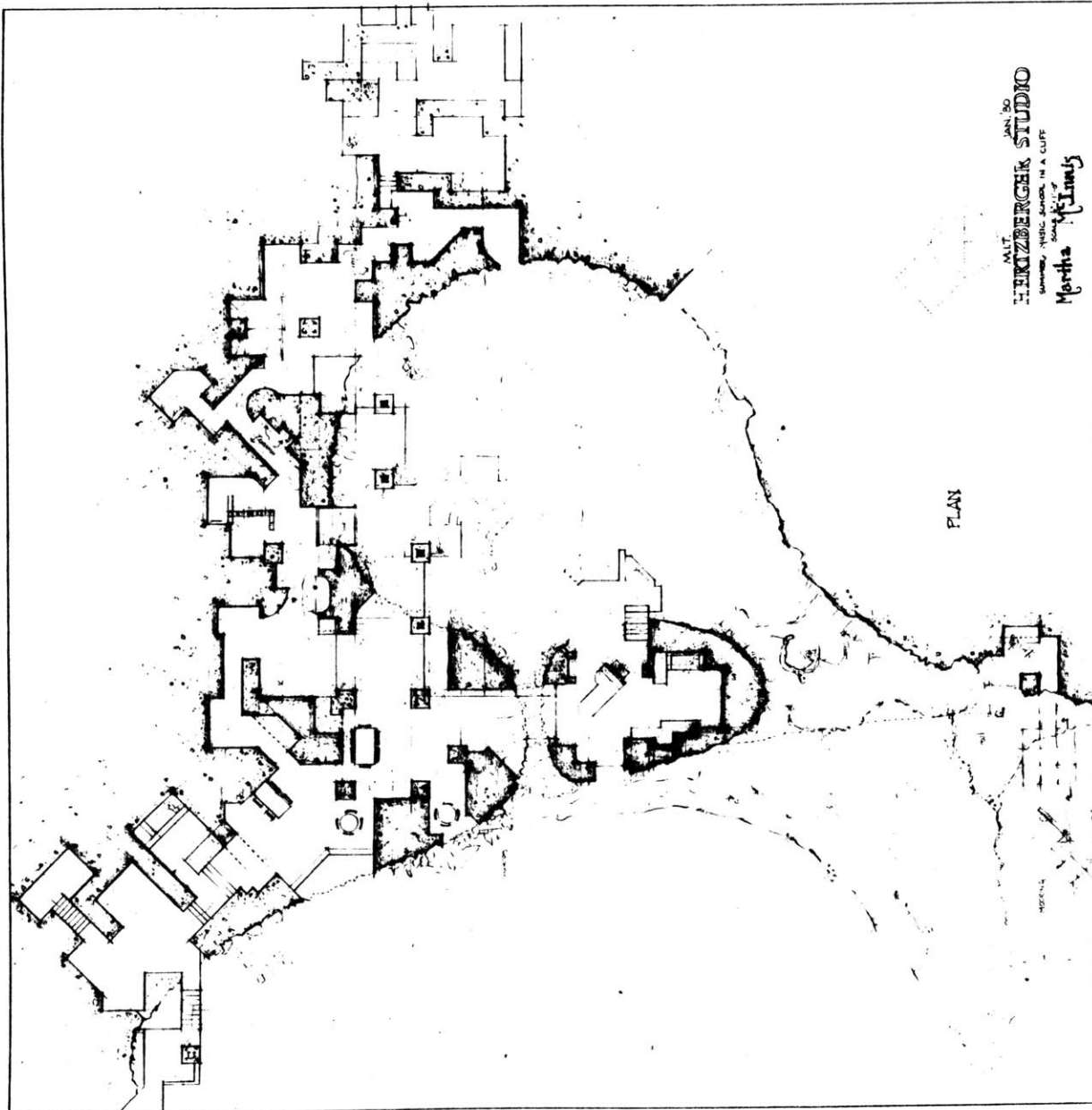
The Indian temple is both a holy place and cosmic image.

The traditional Indian altar is a built year. 360 enclosure bricks represent the nights of one year while 360 yajusmatic bricks represent days. *

The Kailasa required a huge human effort since it was carved into flat ground rather than the side of a mountain.

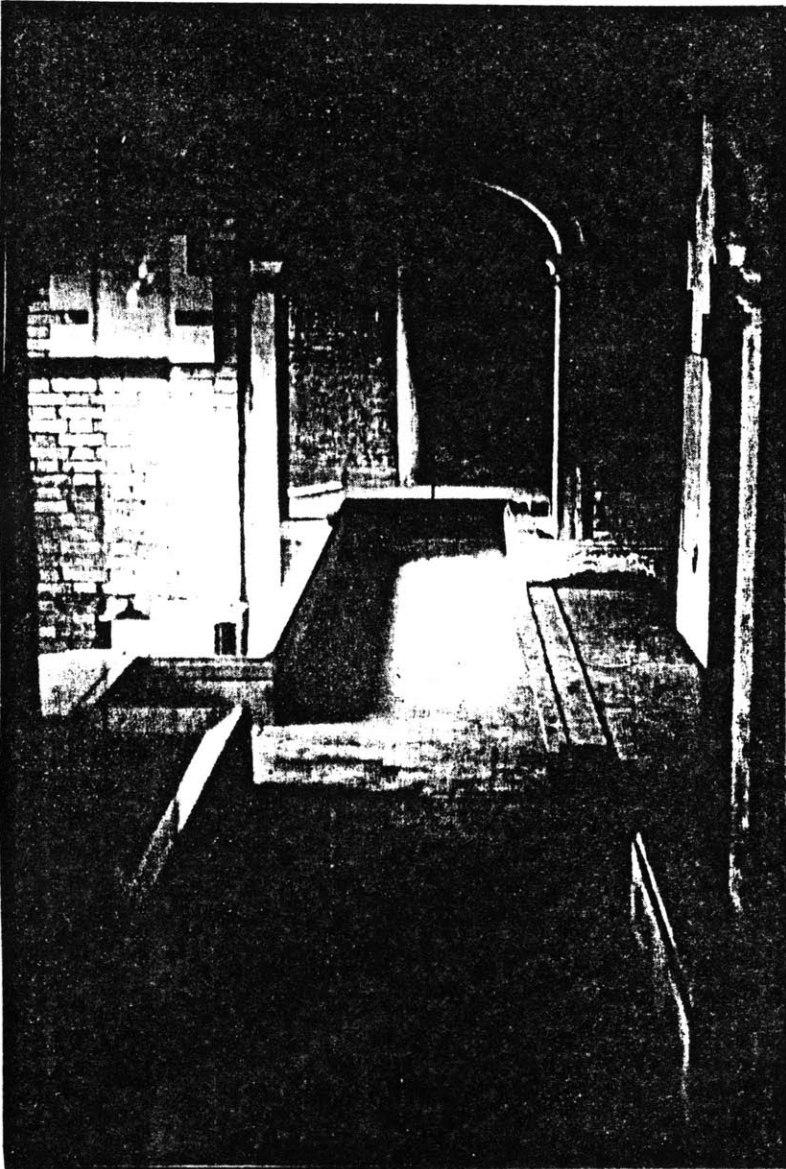
"It is reasonable to assume that several generations of craftsmen were employed in completing the whole scheme of the Kailasa temple." * *





Design

Scarpa's Castelvecchio in Venice acknowledges the differences between past and present in physical form. 23



Transformation

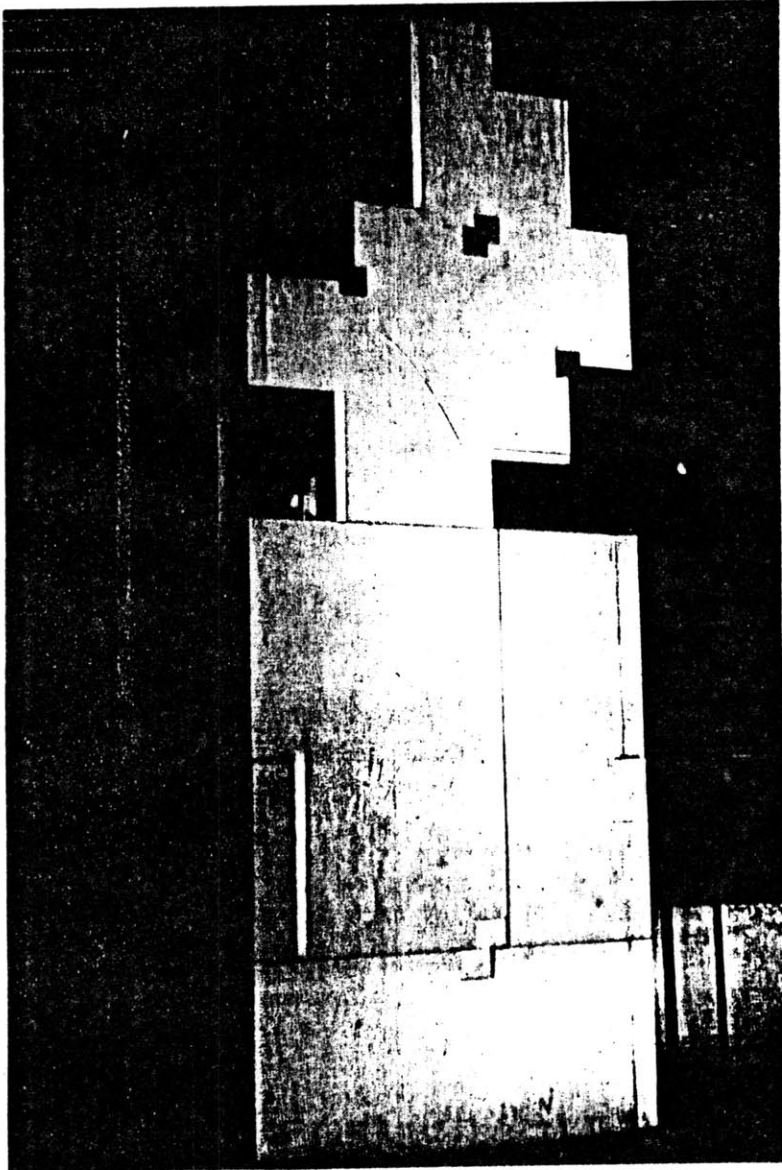
As a physical environment moves through time, a transformation is always observable.

Processes of becoming create transformations of spatial configurations.

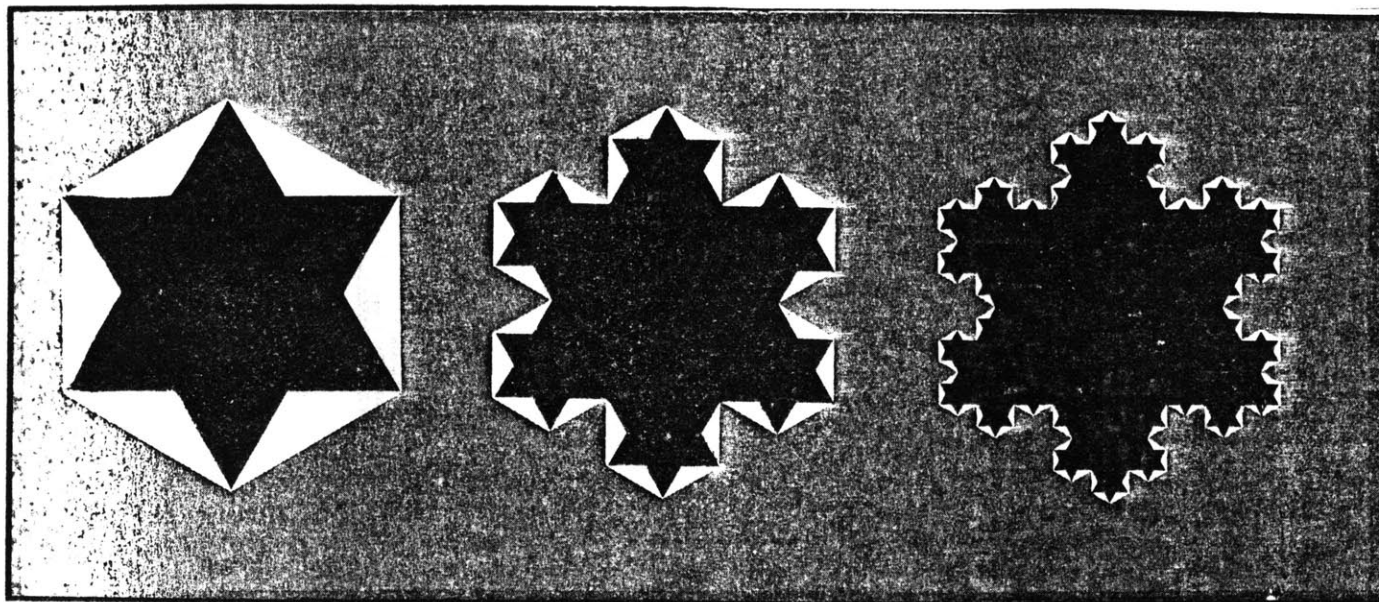
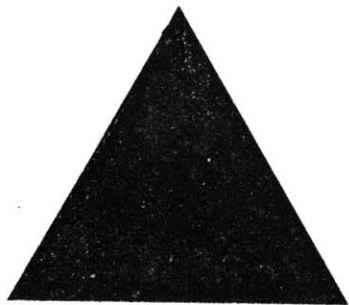
Forces of reason, adaptation and mutation direct evolution.

There is an observable evolution and devolution of building processes, form determining materials, and corresponding technology.

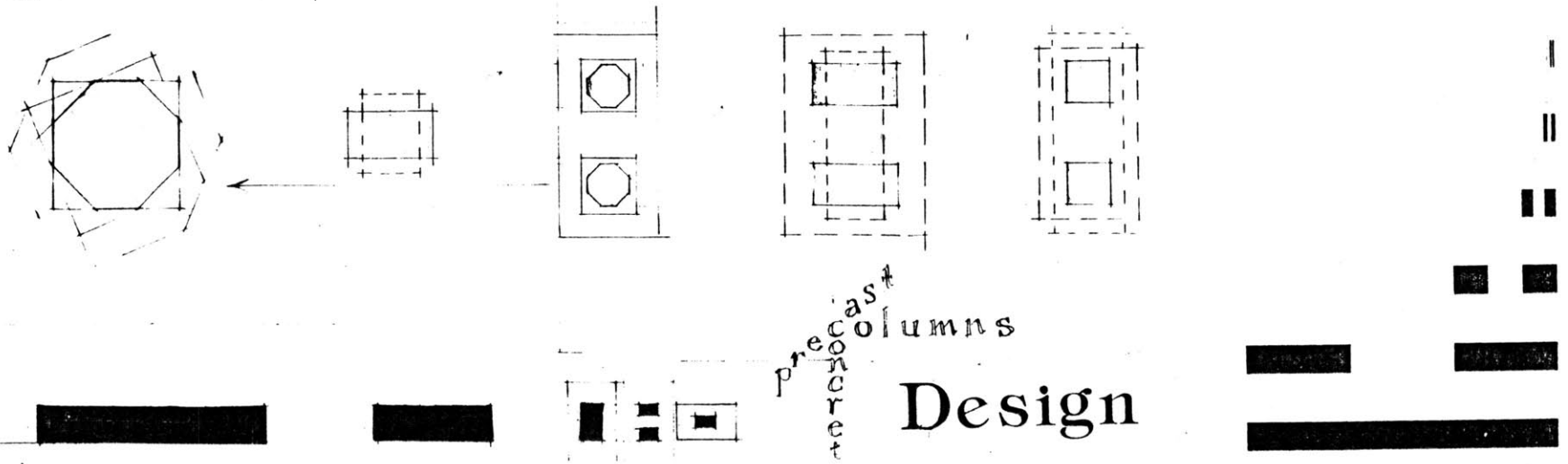
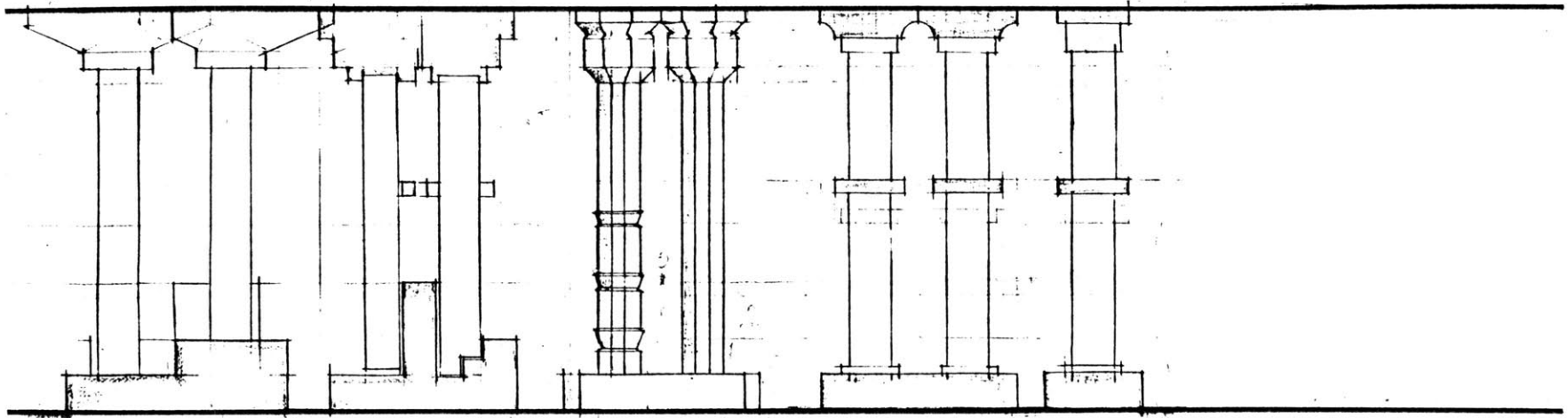
Short and long term environmental change is initiated, regulated and endured.



Built form makes the manmade
processes of growth apparent.



The middle third of a bar is
hammered out, a third of that third
hammered out and so on.



ROSE BUSH AGAINST WALL



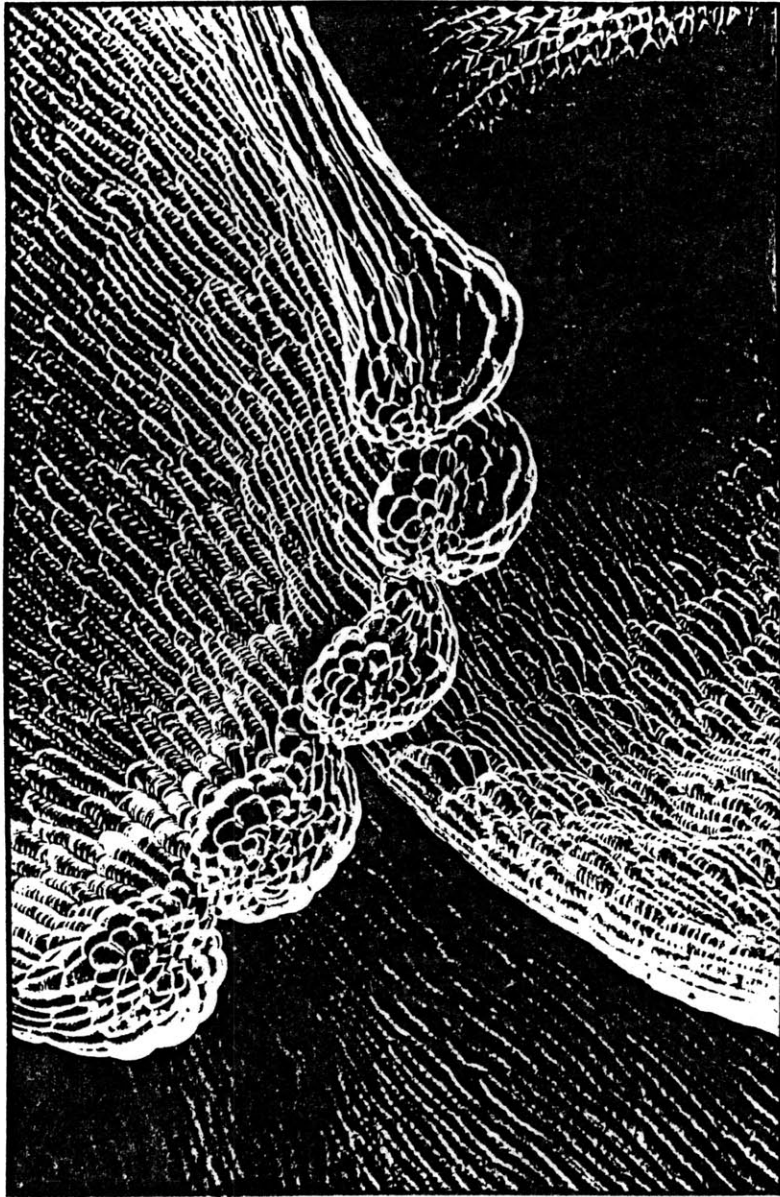
Growth

Patterns of growth become visible over time, each time creating a unique configuration.

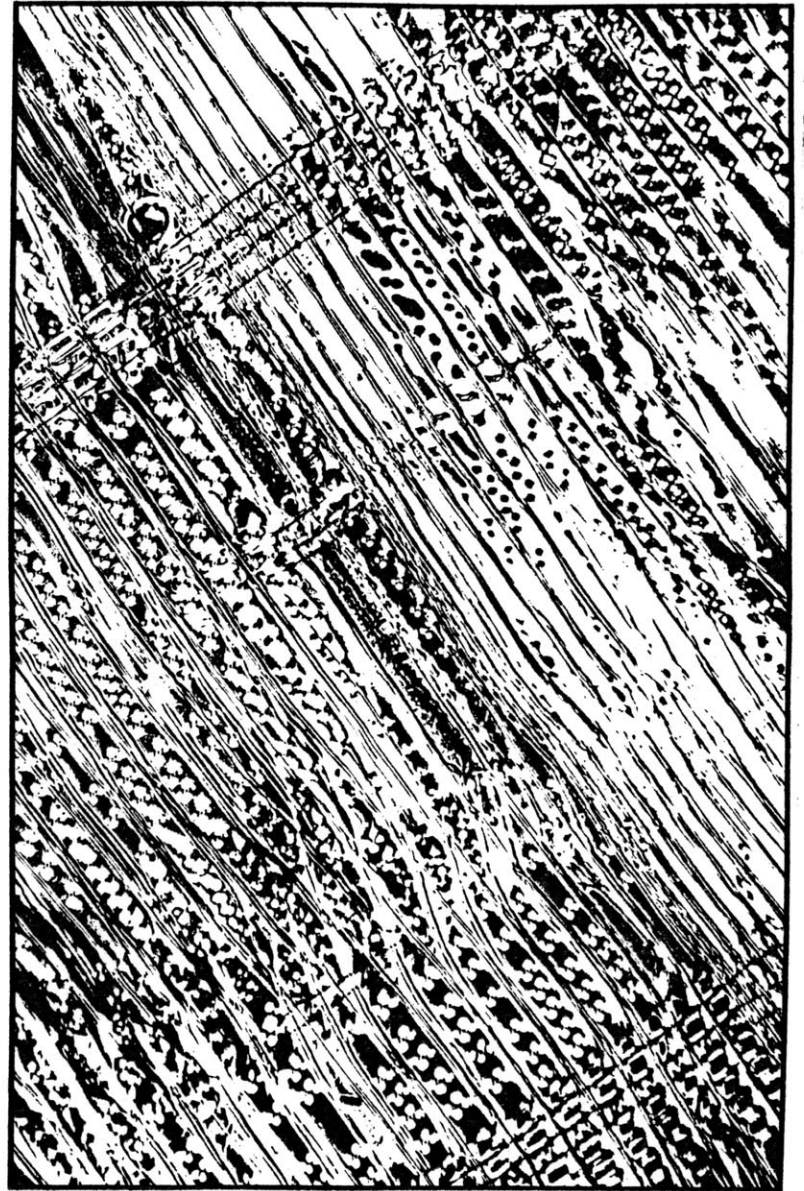
Time is a process of intensification of the same thing; seen from within as growth.

Progressive, irreversable change is apparent in growth and decay.

Biological evolution creates increasingly complex forms at an uneven rate in an irreversable manner. *



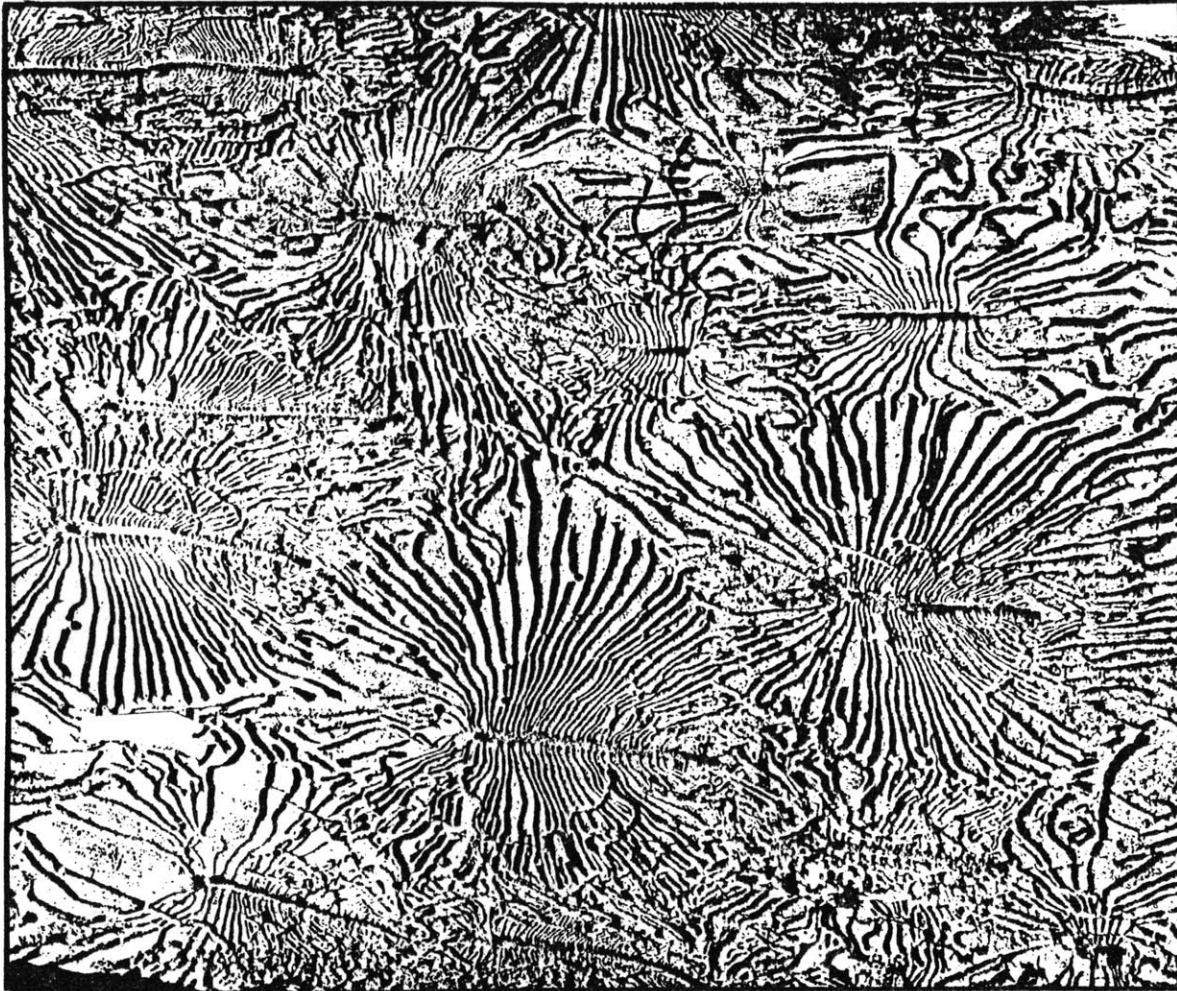
DANDELION



PINUS STROBUS 420 X

Bark beetles carve the wood just beneath the bark in tunnels that rarely intersect.

29



Decay

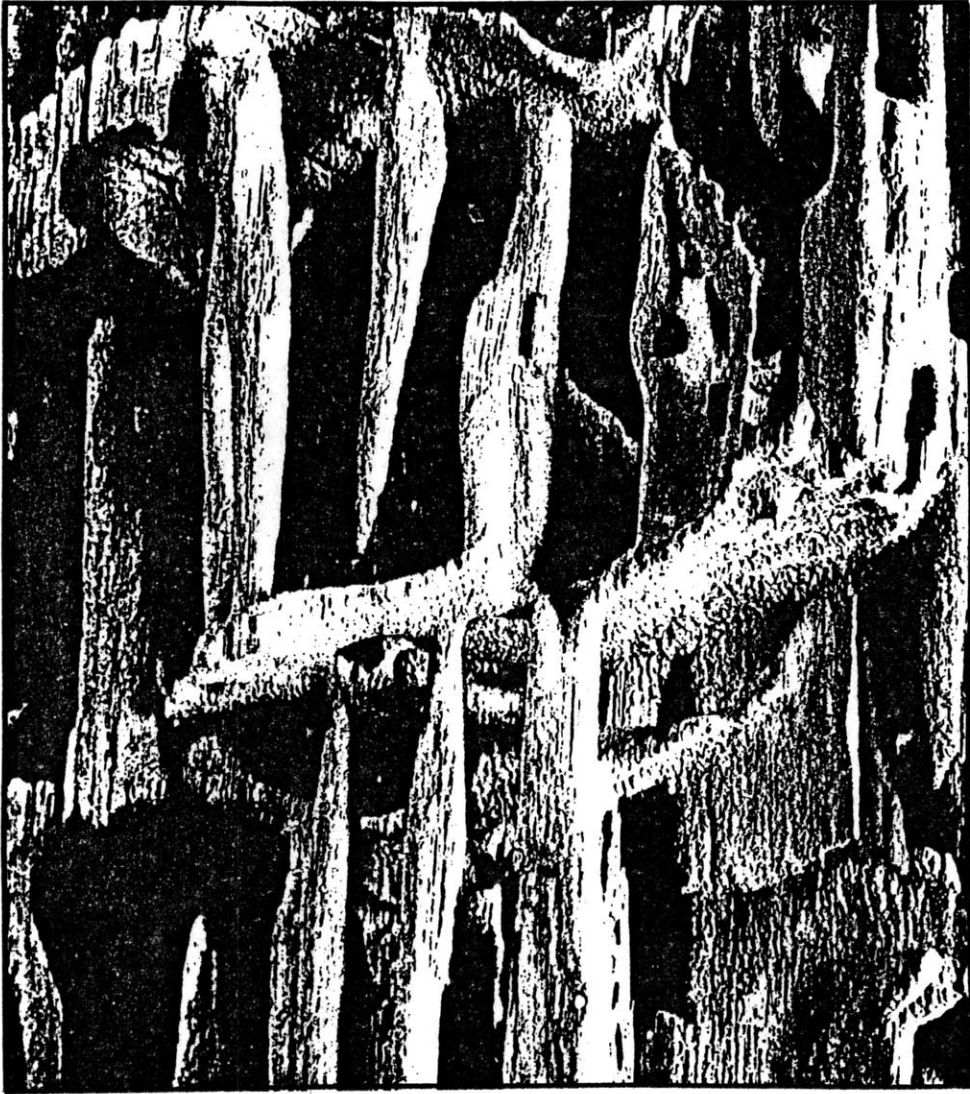
All phenomena exist in fleeting stages of decay, gradually approaching extinction.

Apparent form fades into the past.

"The City of the future is the ruin of our city of the present." *

Arata Isozaki

Decomposition is an inherent feature of all forms of life.



Carpenter ants carve galleries in the heart of an oak in shapes which will weaken the wood the least.



Death

Rites of passage occur at birth, marriage and death.

Just as a baptism marks entry into society, death rites confirm departure from this world.

For some people a person is not considered dead, not able to depart the physically living world until death is just a state of existence.

Death is a departure from the profane allowing rebirth in the sacred world of the gods.

Obverse/inverse mutual reinforcement results from partial physical definitions.

Death is completion; spaces which are completely defined are inherently isolated from each other.

Partial containment gives shelter while allowing for growth by suggesting future additions.

There is a corresponding territorial definition.

Non-fit implies easy change of original built form which is loose and unrestrained.

The path in the Zen Gardens was laid with slack that allowed for the addition of pavement in 1868, several centuries after the original path was laid.

Dynamic form occurs where created definition is potentially apparent by virtue of partial completion of built form.



TOFUKU-JI

nonfit

ARCHES NATIONAL PARK, UTAH: ROCK FORMATION.



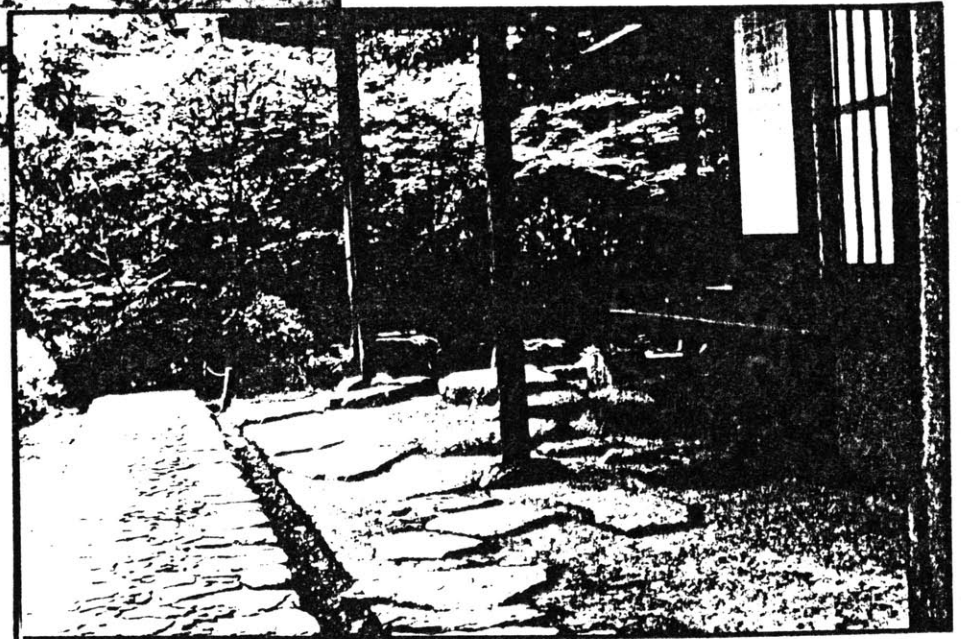
Openings in form allow penetration,
communication.

Ceiling openings in cosmic built
forms allow virtual passage from
earth to heaven above.*

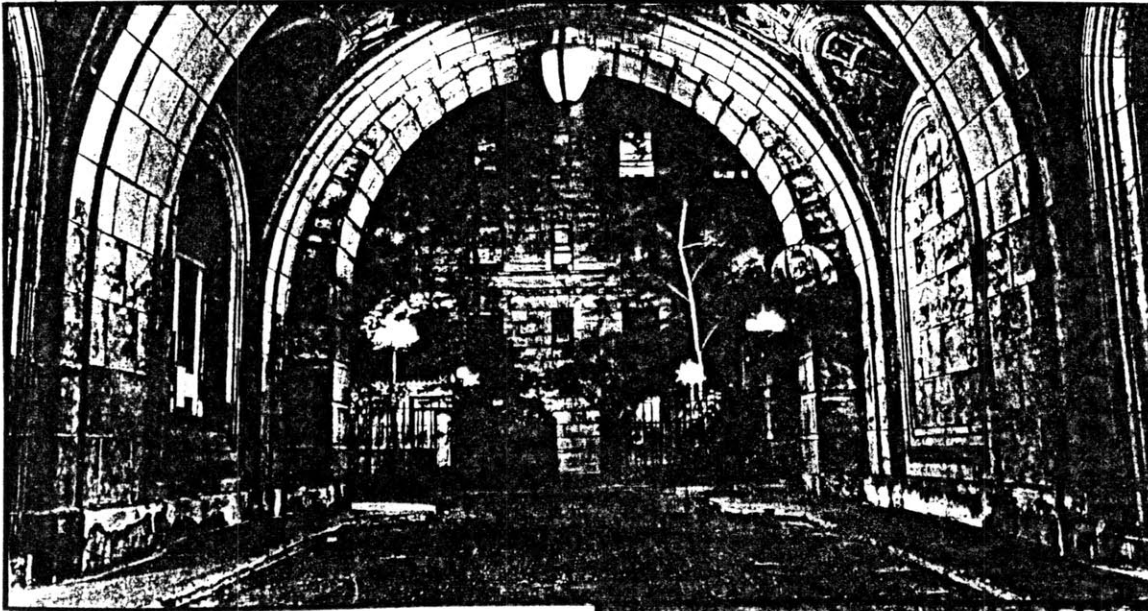
Transition

Transition allows the landscape to
come indoors, and is apparent in
the expansion of the built edge
allowing inhabitation on both sides
of the enclosure.

Strong edges need not be
impenetrable and can allow
adjacent zones to be united.



PORCH, JAPAN



A porch serves as transition between inside/outside zones and private/public territories.

The threshold makes spatial continuities visible and allows passage between inside and outside.

Many times a built guardian keeps watch at the threshold.*

Spatial transitions interconnect adjacent spaces as one physically moves through space.

Transition coordinates movement between spaces.

These transitions are clarified over time.



BELNORD APARTMENT COURTYARD, 225 W. 86th STREET, MANHATTAN.

Spinout: ceramic substrate consisting of vacuum deposited nickle-iron alloy and copper layers with a photo-resist chemical centrifugally spun out at the edge.

35

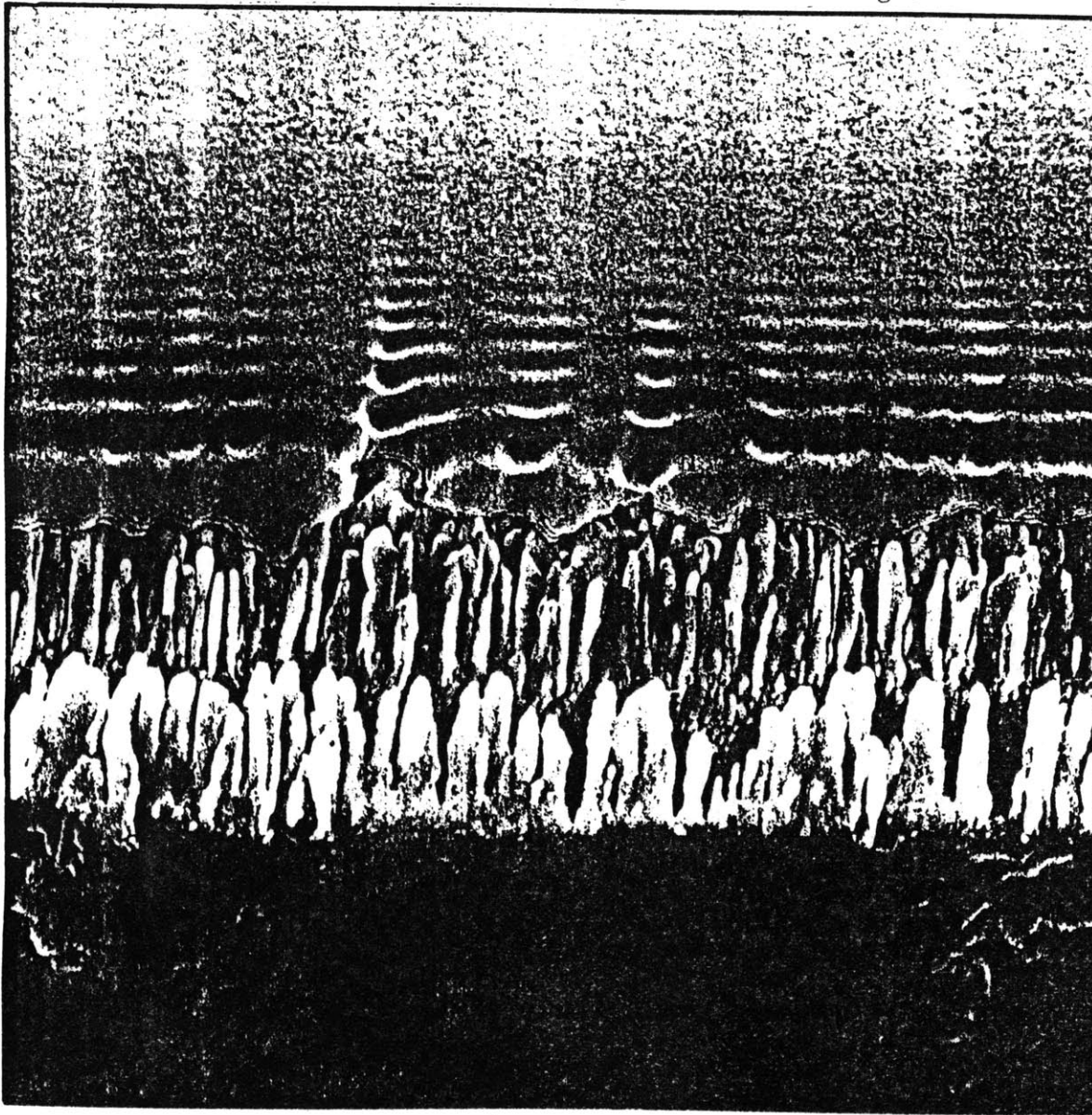
Edges

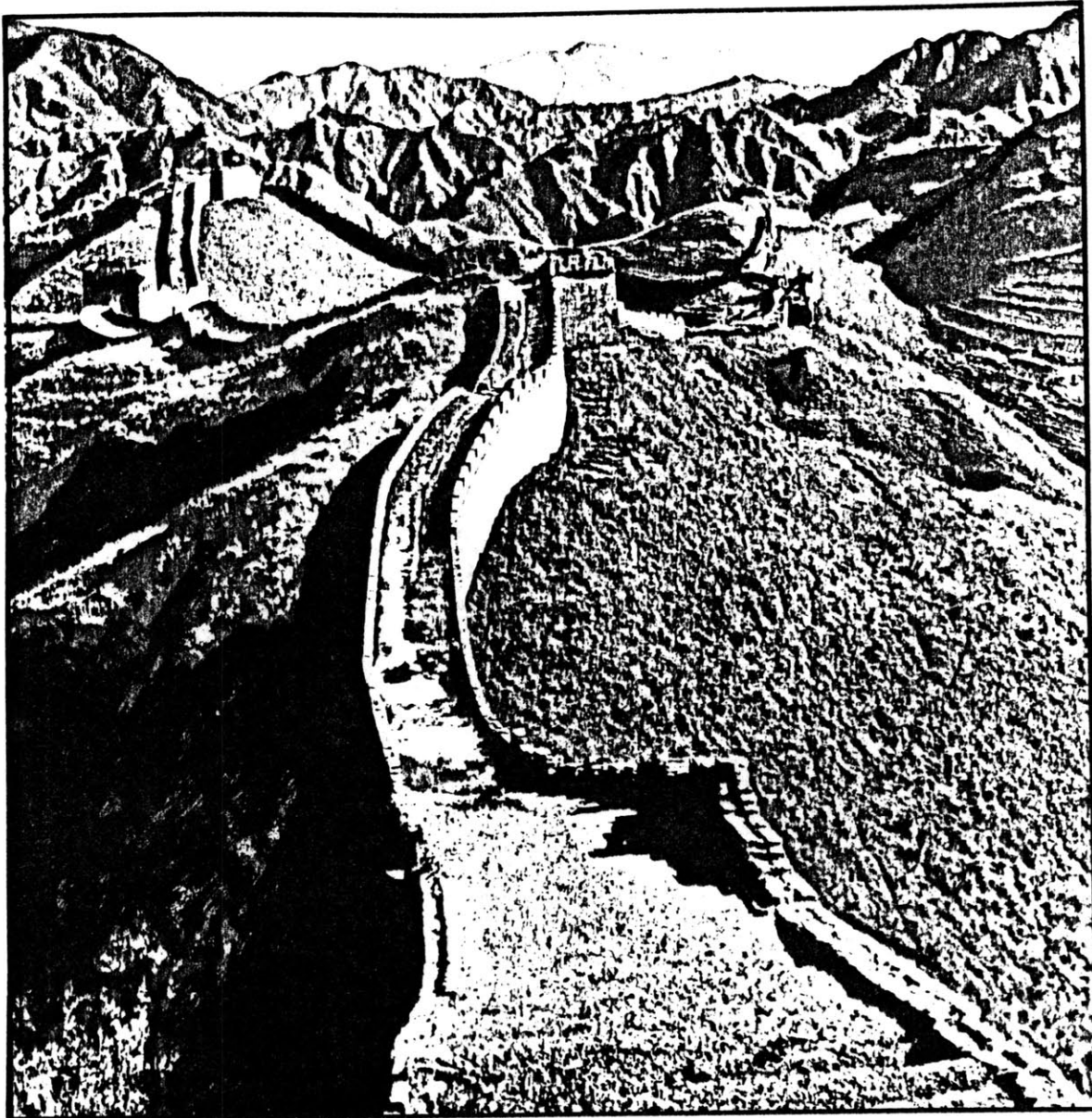
An edge represents a limit of one world assuming the existence of one beyond.

Edges are frequently coincident with paths and are always directional.

An edge is a dominant barrier with a variable degree of physical and/or visual penetration.

Existing edges are intensified and so form an edge zone which is structured to various depths on either side of the edge.





GREAT WALL, CHINA



Contours

Visually, contour lines integrate different spatial fields.

The contours of active plane formation intensify movement and graduated accentuation of the edge line.*

Time is a process of apparent intensification of original form, graduated accentuation of edges.

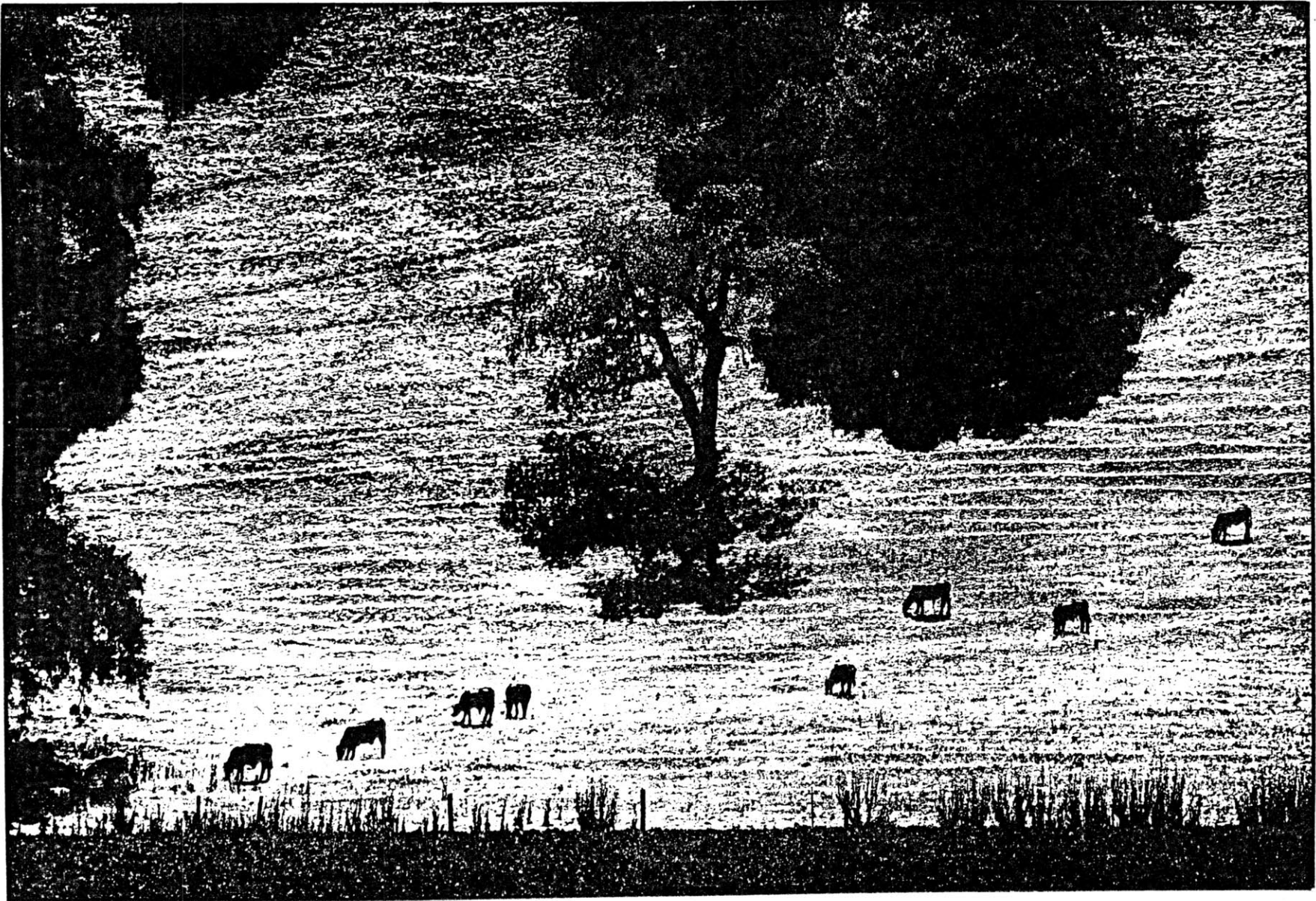
Contours are loosely parallel to each other, forming adjacent planes.

A field intercepting another field attracts or repels it.

Reinforcement or interference occurs.

Interruption in the field causes stresses and strains.

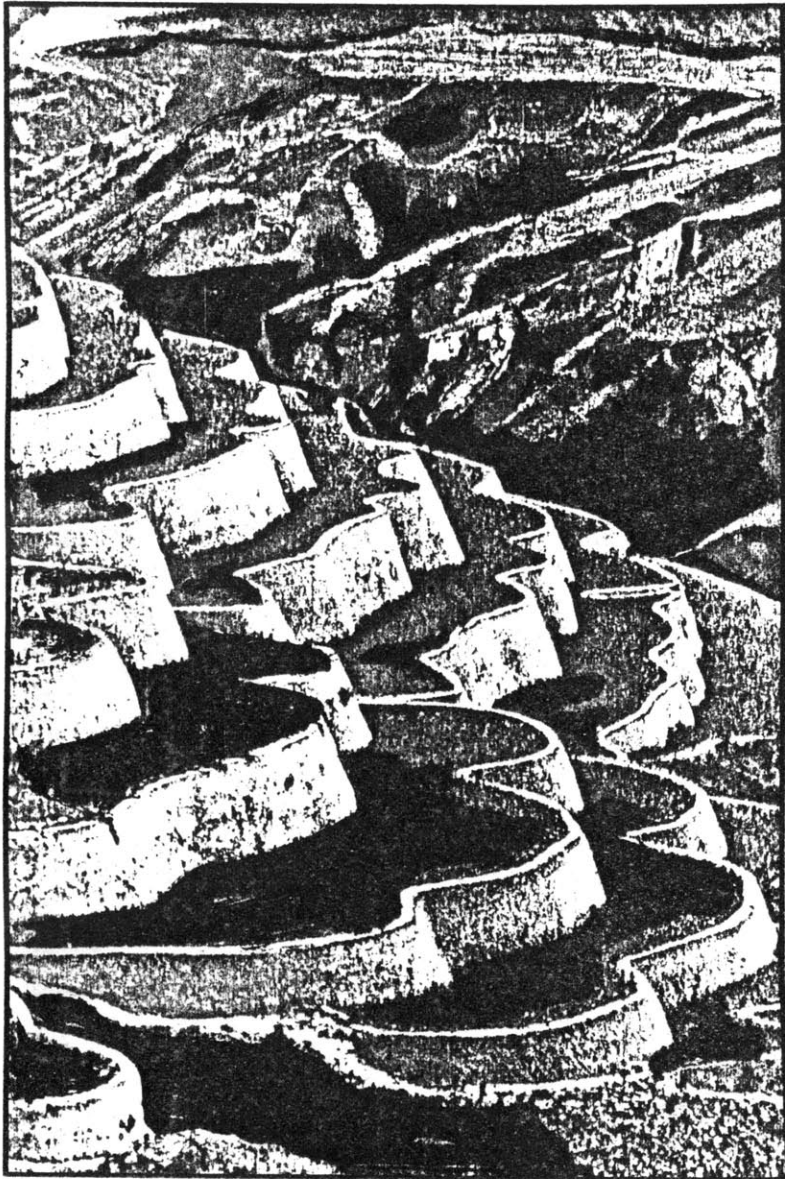
A field is formed directionally by forces of nature.



The cattle are one with the directional field they graze on.

Extensive terracing of the mountain tops in northern China allow the land to be cultivated.

39



Terraces

Terraces are formed by paralleled retaining walls built in a sloping hillside.

The retaining walls provide shelter while the terrace serve as use surfaces.

Terracing makes apparent direction fields.

The slump of the land determines the proportion of wall height and terrace width.

Terraces often serve to differentiate territories and often serve as an access network as well.

CANTOR'S DEVIL'S STAIRCASE

The terraced section is formed such that the cumulative sum of height and width always equals one.

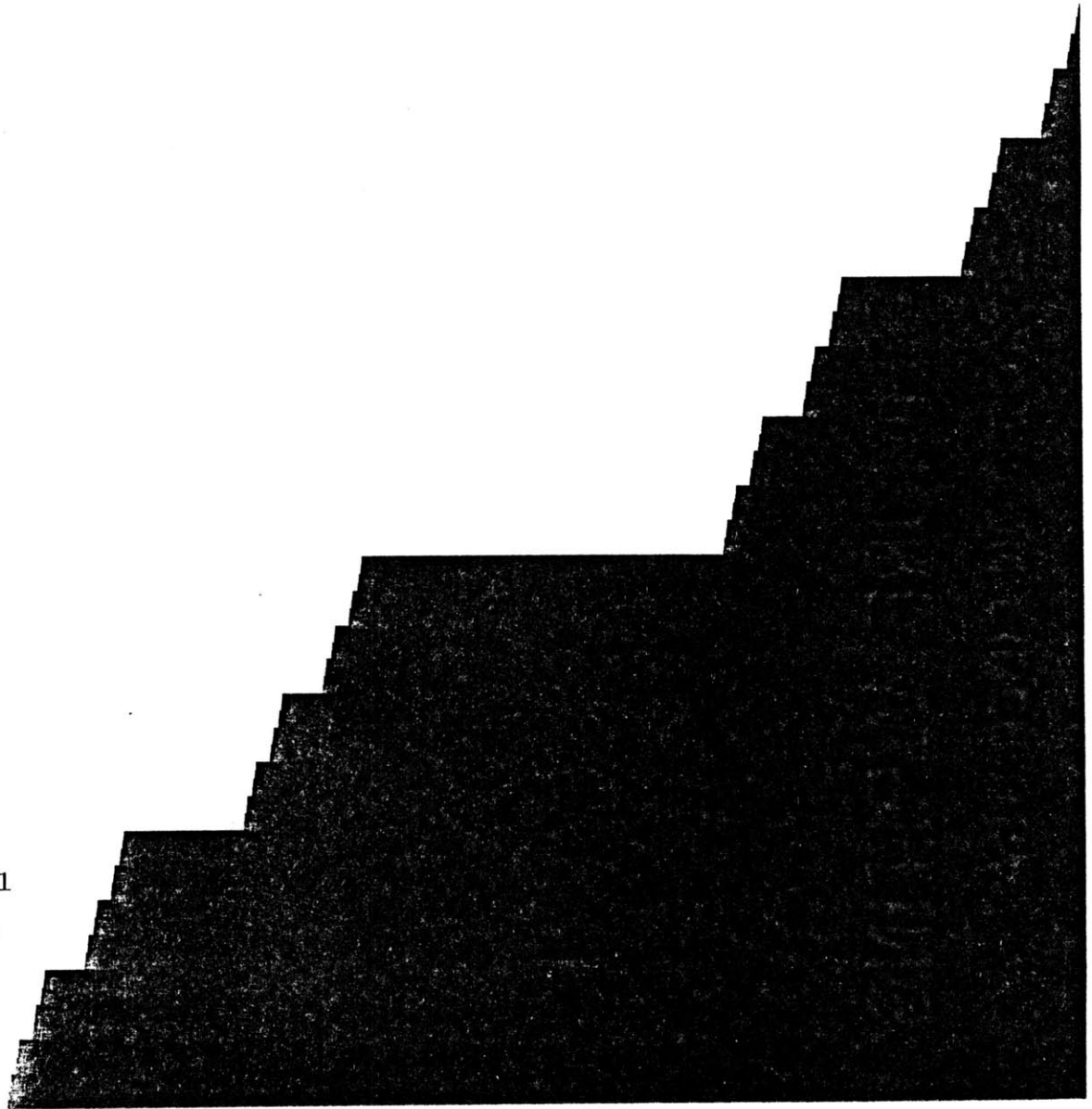
Stairs occur in clusters, "hierarchical bursts", upon clusters, upon clusters... *

The staircase pattern can be conceptualized as a series of cutouts.

First take a single unit, cut out the middle third.

Then cut out the middle third of each third, ninth, twenty-seventh, etc.

Fractals are fragmented like natural patterns and approximate continuous lines differentially.





Stairs

Stairs frequently link public and private territories.

Stairs and ramps always allow vertical movement and sometimes simultaneously allow lateral movement.

A roof connects various levels in a formally similar fashion.

Stairs, ramps and roofs are sloped at different rates according to circumstance.

A ramp is physically more tiring than a stair and increases the lateral distance required to move between two points in time-space.

The Chinese traditionally build an uneven number of steps in a flight of stairs.



The Catholic liturgy requires an uneven number of stairs, the minimum being three, leading up to the altar.

This means ones feet start and end a flight of stairs in the same position.

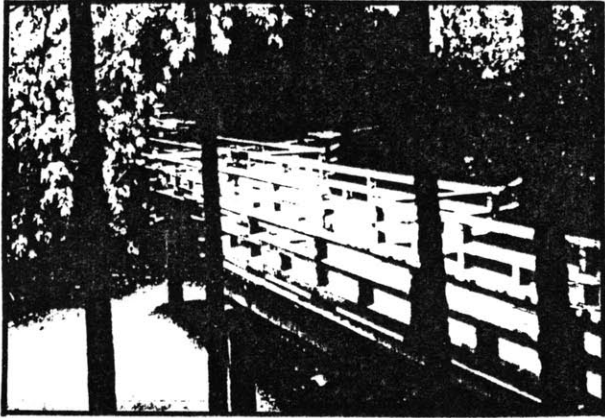
A stair becomes a terrace when it is no longer easily scaled.

A ladder is the extreme case of a steep stair, requiring one to climb it with hands and feet.

Stairs are terraces at the personal scale allowing access.

Steps serve as physical vertical connections just as light virtually links up and down.

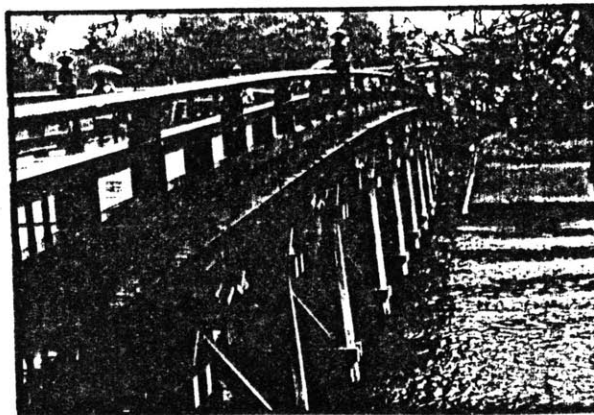
Stairs can simultaneously move laterally like a bridge.

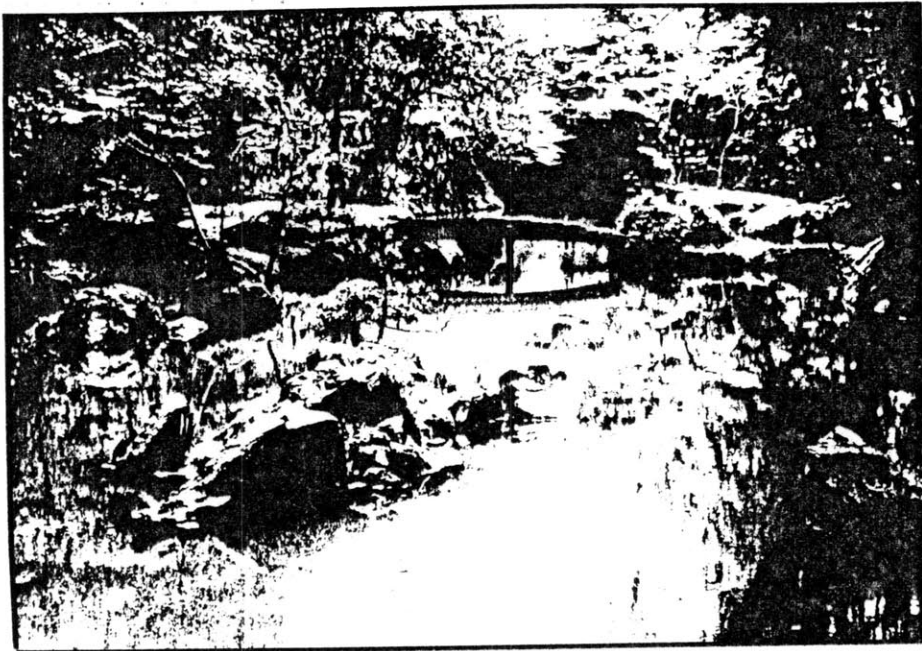


Bridges

Bridges connect horizontally adjacent territories allowing mutual interpenetration.

Such crossing places are tension points in traffic networks.





A narrow bridge or gate symbolize
perilous passage; images which
recur in many myths and dreams. *



CHINESE ARCHWAY



Transparencies

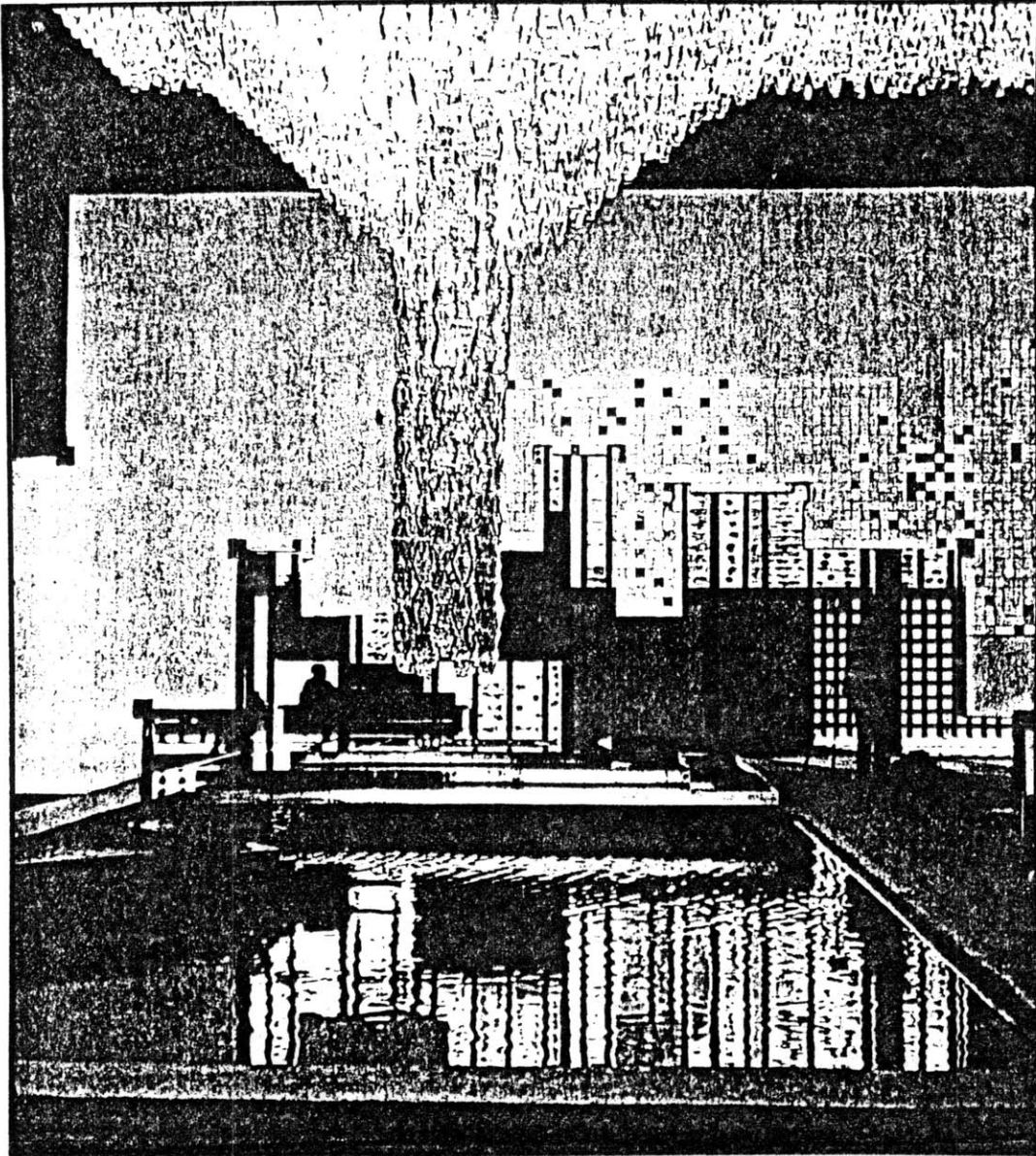
The cosmos is transparent,
revealing many aspects at once.

Building materials are found in
a range of transparency,
translucence and reflection
allowing interpenetration between
inside and outside territories.

Transparencies can intersect without
optical destruction of each other.

Simultaneous perception of different
spatial locations is possible through
visual integration of overlapping
transparencies.*

Transparency and screening create
real spatial order.



Olivetti building in Venice, designed by Scarpa demonstrates overlapping transparencies.

Logarithmic Spiral

A logarithmic spiral is a pattern of continuous motion in a helical path.

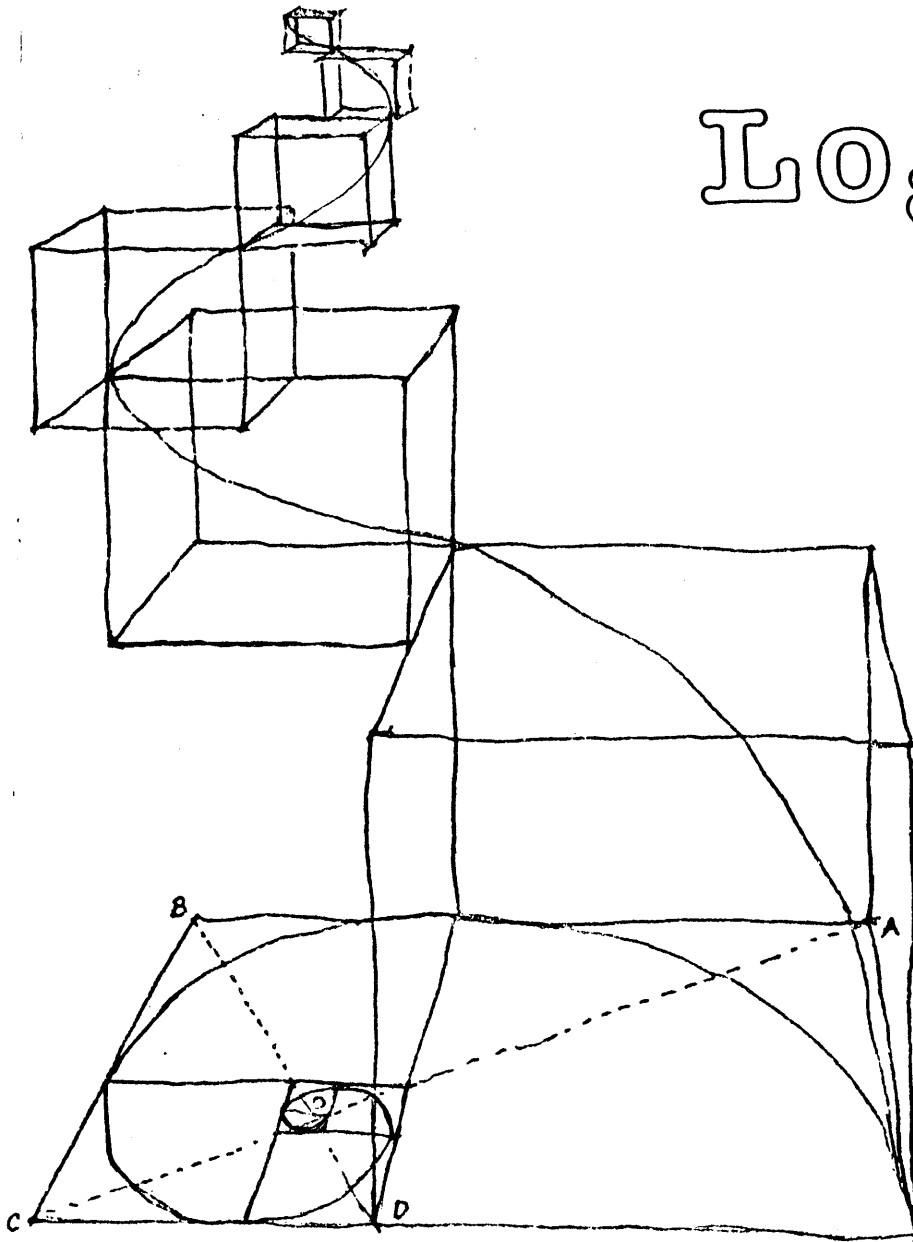
The spiral implies cyclical ascension or descension through time-space.

In nature, the left-handed spiral is the general rule.

The motion of plants and celestial bodies is usually levorotatory.*

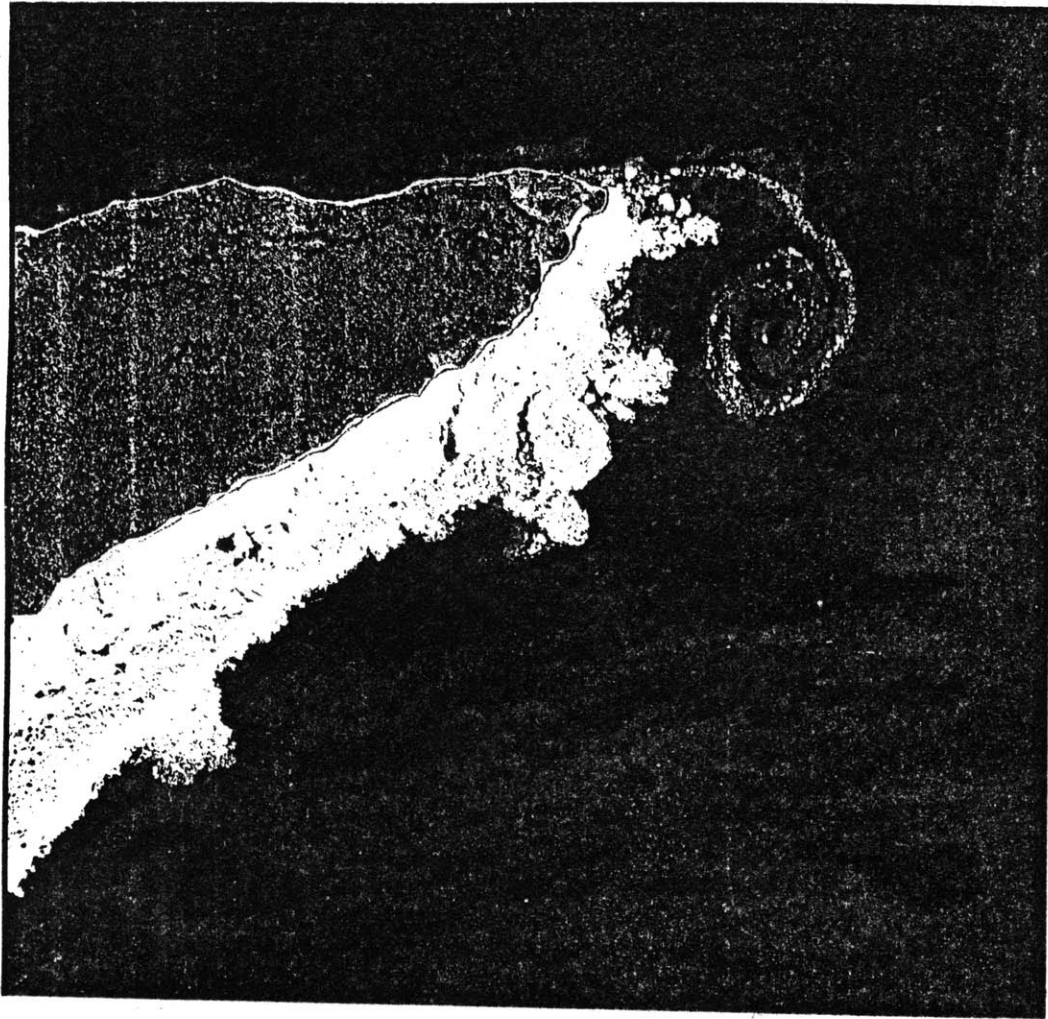
The same phenomena is observed in the left-hand screw rule of electromagnetism.

A spiral is a symbol of possible future development/evolution.

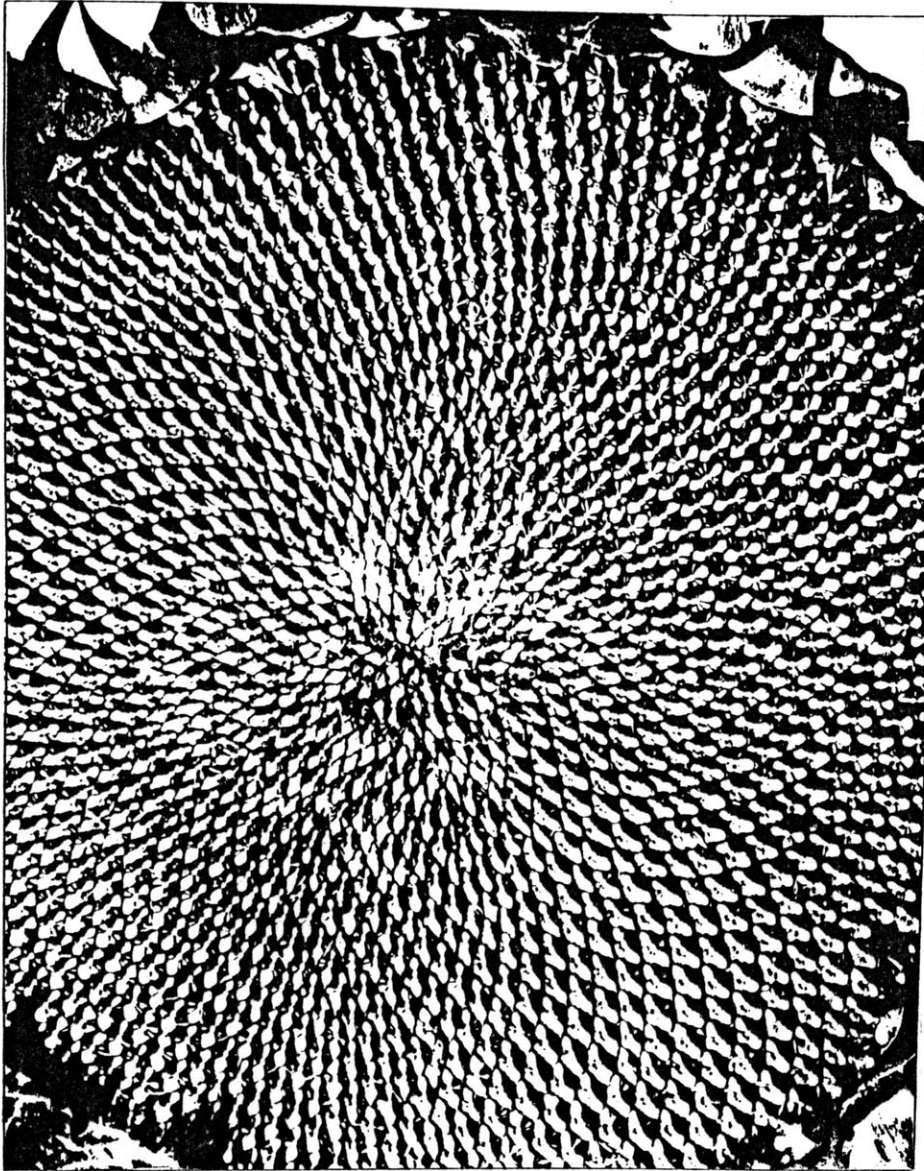




Seashells grow sectionally into helical shapes.



A series of earthquakes in the 1978 East African Valley activated a volcano nearby, dormant for 3000 years, as well as hundreds of dormant soda geysers, many in spiral logarithmic formations hundreds of yards in diameter.*



The sunflower contains 55 counterclockwise and 89 clockwise spirals.

These numbers occur sequentially in the Fibonacci series:

(1,1,2,3,5,8,13,21,34,55,89...)

Any given number is added to the previous number in the series to arrive at the next number in the sequence.*

CYCLIC CHANGE

Formal Symbols of Cyclic Change

Time Systems

Myth

Rhythm

Reciprocity

Yin~Yang

Microcosm

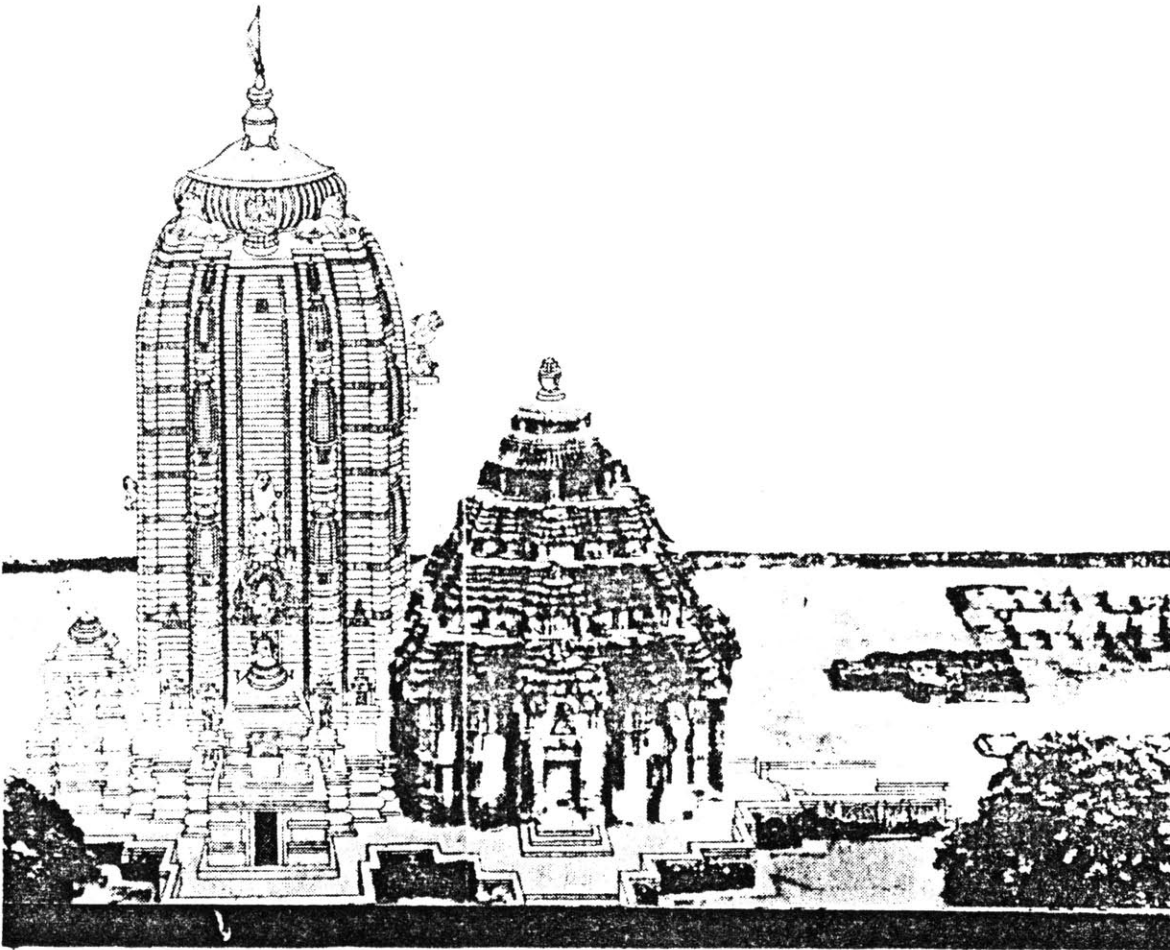
Formal Symbols

The Indian sun temple at Konarak was built nearly one thousand years ago by the craftsmen of the Orissa sea coast.

Konarak literally built the sun god, Surtya,

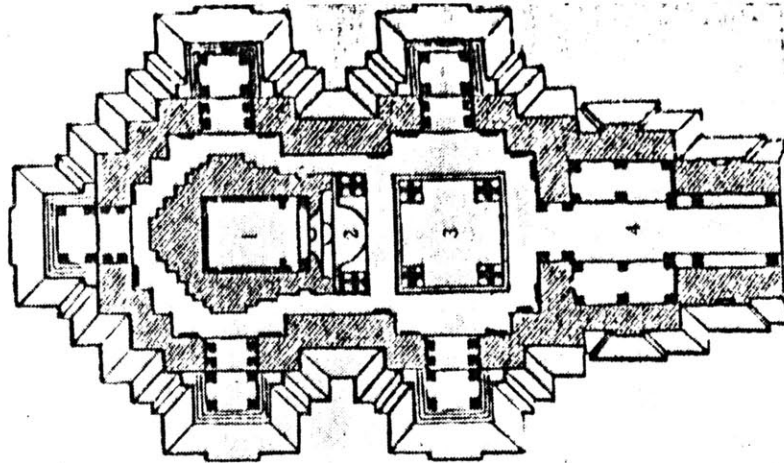
"blazing his way through the heaven on the chariot of time pulled by seven leaping and prancing magnificent horses.... richly caprisoned steeds, rearing and straining in their harness, as they strive to drag the great bulk (of the temple) along." *

The horses are parapets.



of
Cyclic
Change

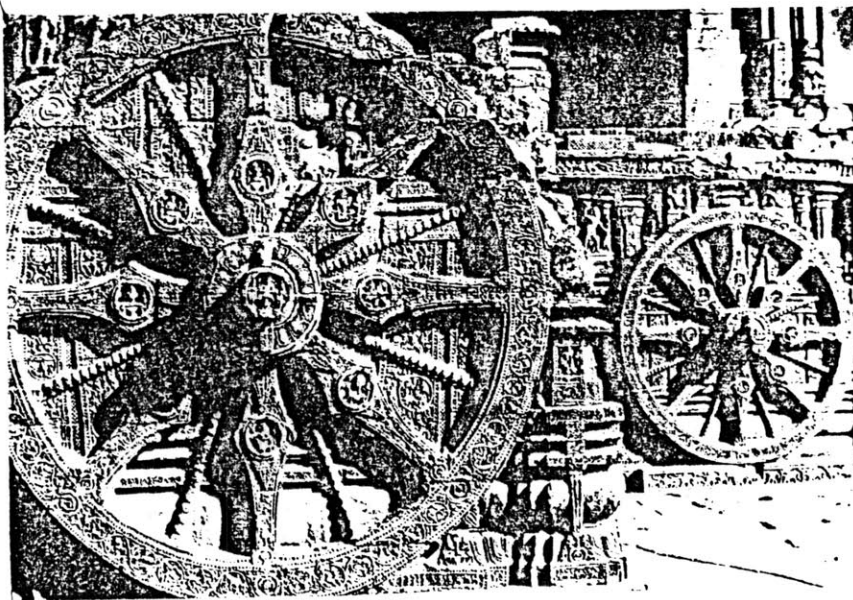
The long sides of the large terrace are covered with reliefs of twelve intricately carved wheels over ten feet in diameter.

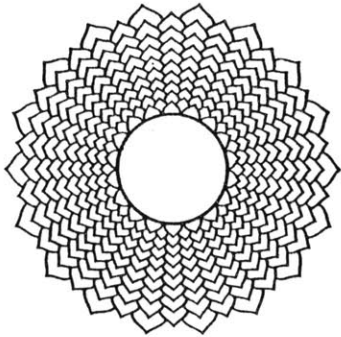


Each wheel was complete with a hub, wooden pins and spokes, symbolizes cyclic recurrence.

The symbolic meaning of the wheel also implies the marriage of time and space in a dual relationship.

Sunwheels date back to a time before the wheel was invented.





The Crown Petal Chakra has 972 golden petals.

"The goal of mastery in time space is the flowering crown, which occurs when the energy of man's being, once he is perfected, rise for the expansion and unfolding of the petals hold wisdom."

The Third Eye Charka has 96 emerald petals.

The third eye knows good and evil and is able to perceive patterns of cosmic order.

The throat chakra is a human energy center symbolized by 16 petals of light.

Spiritual energy condenses into physical form.



The chakra is a wheel-like Indian symbol of real collective cycles.

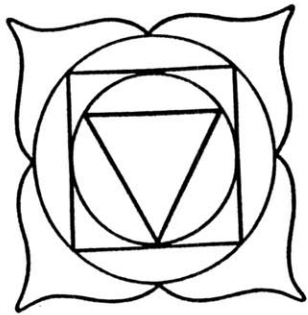
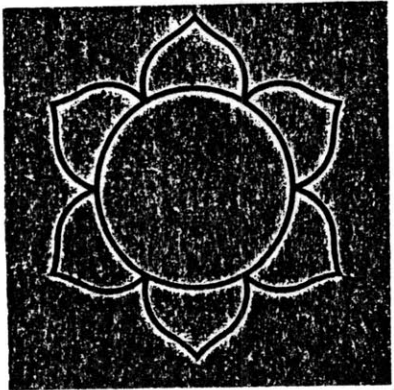
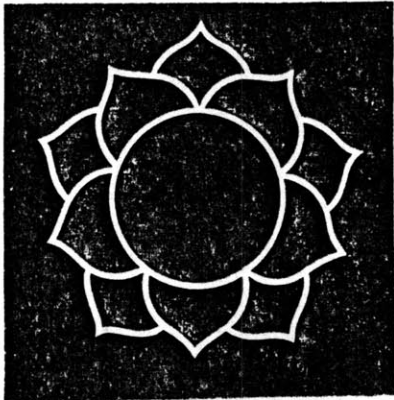
The chakra was originally a sunsign and later became associated with the god Vishnu.

In yoga, chakra denotes a center of psychic or physical energy.

The chakra symbolizes a return to the eternal existence, an escape from the spinning wheel of ceaseless desire and thirst for satisfaction.

The Hindus' cyclical time swings without end like the seasons, in immense cycles infinitely recurring, waxing and waning in periodicity.

Buddhists believe that Buddha actually overcame this pattern of infinite recurrence and so reached a higher plane of consciousness.



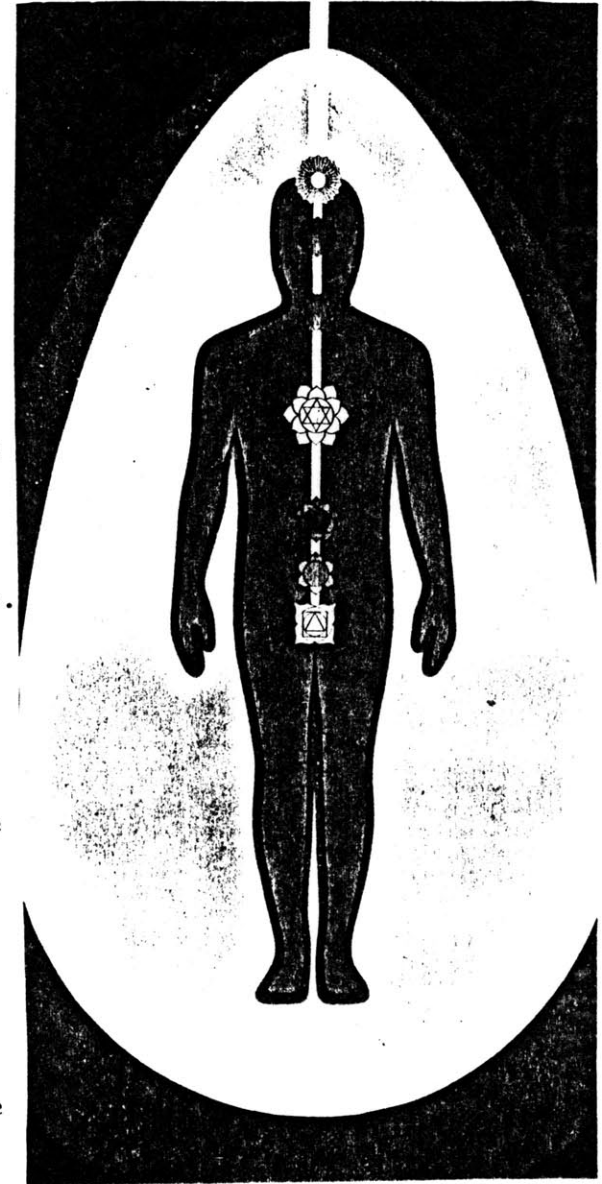
The Heart Chakra is formed by a triangle symbolizing gods consciousness descending into the human heart.

The Solar Plexis Chakra, "the place of the sun" is the place of divine energetic emotion represented by ten violet rays on a field of light.

The Seat of the Soul Chakra is a six petaled victory star which connects the soul to the body while simultaneously liberating the spirit. This energetic focal point controls the flow of light energy and forms genetic patterns.

The Base of the Spine Chakra is made of four petals which represent the "flowering of the mother love" in the four lower human bodies.

Through the energies of the fourth petal, one can be present everywhere on the earth simultaneously.



OUROBOARDS, GREEK MANUSCRIPT, THIRD CENTURY B.C.



Pure forms reappear in all cultures, the circle for example symbolizes eternal and everlasting.

The circle is a symbol of the self as one with the cosmos.

"It expresses the totality of the psyche in all aspects, including the relationship between man and the whole of nature."

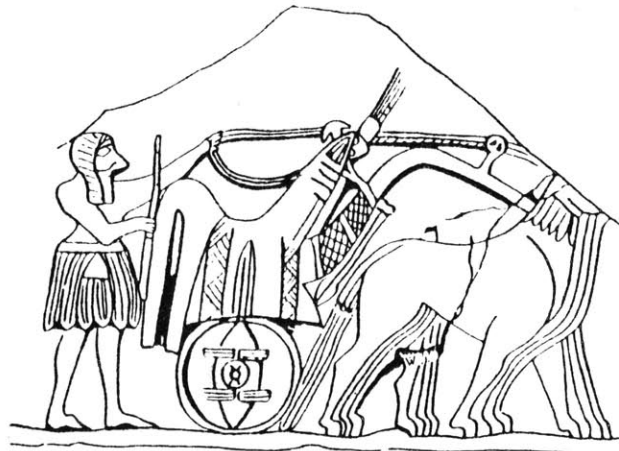
M.L. von Franz

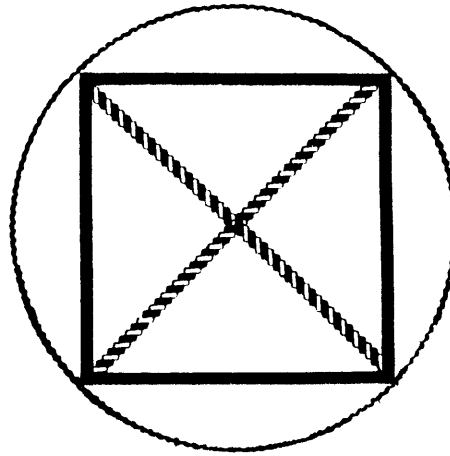
"In the Zen sect, the circle represents enlightenment. It symbolizes human perfection."

Sangi
Zen priest

The circle is a heavenly symbol while the square represents earthly matter the world over.

This clay tablet engraving is the oldest known representation of a wheeled vehicle drawn by harnessed animals (2800 B.C.)





In China, the diagonal directions become important as the points where the circle and square meet.

A yantra is a type of mandala usually associated with meditation.

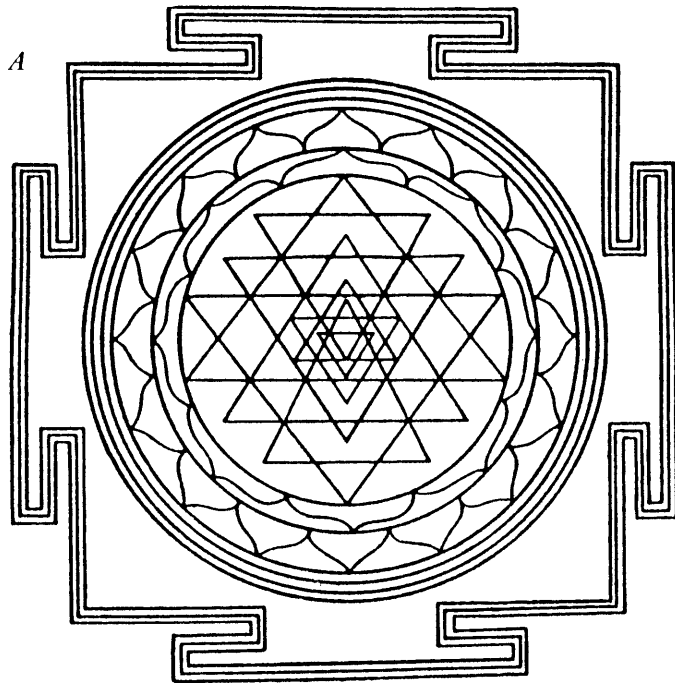
It is constructed of interpenetrating triangles which form a six pointed star.

The oppositely oriented triangles symbolize male and female union more specifically shiva and Shakti, male and female Hindu deities.

The mandala form is found in the plans of buildings, especially sacred places, of all civilizations.

Many city plans are similarly organized.

The built mandala is a symbol of psychic wholeness which affects those within it at an unconscious level.



SHRI-YANTRA; A BUDDHIST MEDITATION PATTERN

TWELVE EARTHLY BRANCHES

Associated animal	Name	Month	Double-hour	Direction	Hsiu and associated animals
Rat	Tzu 子	mid-winter	11 pm-1 am	N	鼠 hsiu (rat) 女 nu (bat) 危 wei (swallow)
Ox	Ch'ou 丑	last-winter	1 am-3 am	NNE	牛 niu (ox) 斗 dou (the hsiu 解 unicorn)
Tiger	Yin 寅	first-spring	3 am-5 am	ENE	寅 yin (wild cat) 尾 wei (tiger)
Hare	Mao 卯	mid-spring	5 am-7 am	E	心 hsin (fox) 房 fang (hare) 氏 ti (raccoon)
Dragon	Ch'en 辰	last-spring	7 am-9 am	ESE	亢 k'ang (dragon) 角 chiao (scaly dragon)
Snake	Sau 巳	first-summer	9 am-11 am	SSE	辰 chen (earthworm) 翼 i (snake)
Horse	Wu 午	mid-summer	11 am-1 pm	S	張 chang (deer) 星 hsing (horse) 柳 liu (roe-buck)
Sheep	Wei 未	last-summer	1 pm-3 pm	SSW	鬼 kuei (sheep) 井 ching (wild dog)
Monkey	Shen 申	first-autumn	3 pm-5 pm	MSW	參 shen (ape) 猿 yuen (monkey)
Cock	Yu 酉	mid-autumn	5 pm-7 pm	W	畢 pi (crow) 昂 mao (cock) 胃 wei (pheasant)
Dog	Hsu 戌	last-autumn	7 pm-9 pm	WNW	婁 lou (dog) 奎 kuei (wolf)
Boar	Hai 亥	first-winter	9 pm-11 pm	NNW	壁 pi (tapir) 室 shih (boar)

Time Systems

The Chinese time system has many aspects; it is based on a 60 year cycle, a binary system and hence 120 divisions in total.

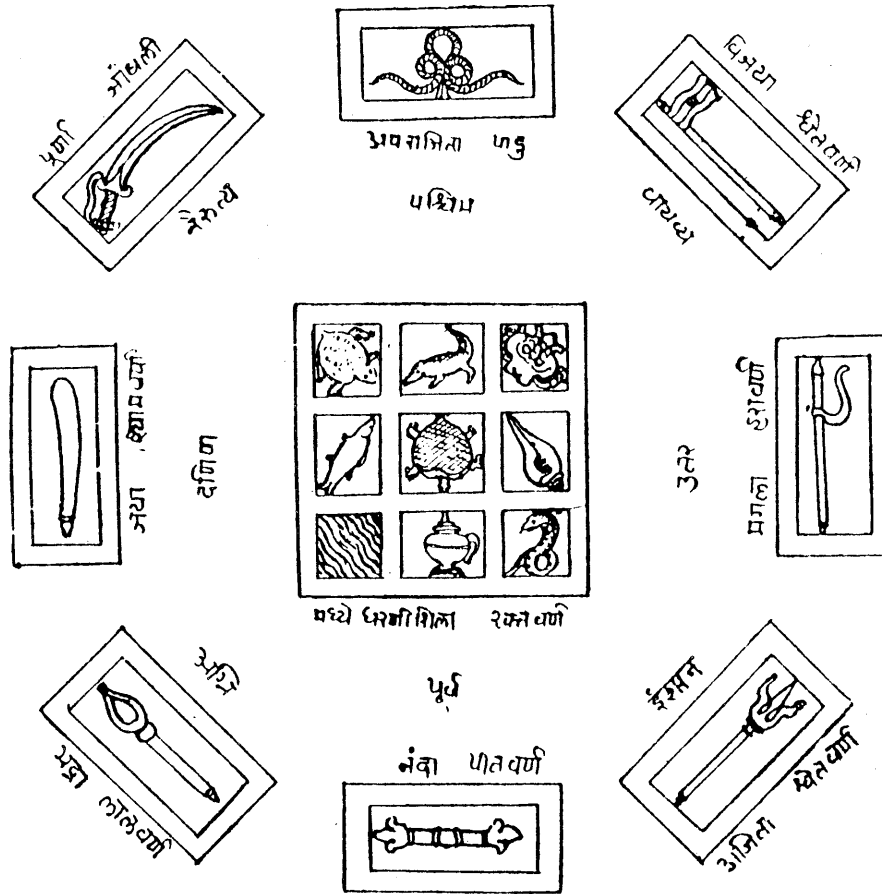
The "twelve earthly branches" on the geomancer's compass mark twelve earthly directions and symbolize twelve double-hour daily divisions.*

The twelve palaces are phases of cyclical recurrence of elements through the seasons of the year.

The twelve branches signified twelve points along the celestial equator and the corresponding months of the year.

The year is divided into 24 fortnightly (15.2 days) periods corresponding to 15 degrees on the ecliptic.

FOUNDATION STONE, KURMASHEELA, INDIA



Indian time is conceived of as a 4,320,000 year cosmic cycle.

Each divine year lasts 360 mortal years.

For Hindus, time doesn't move from past to present as it does in the west, instead it swings eternally like the seasons.

Endless periodicity of immense cycles is apparent as waxing and waning.

The Indian Astronomer chooses the exact location for the foundation stone and a stake is driven into that spot, the foundation stone is then laid above.

"Thus the cornerstone is at the exact center of the world."



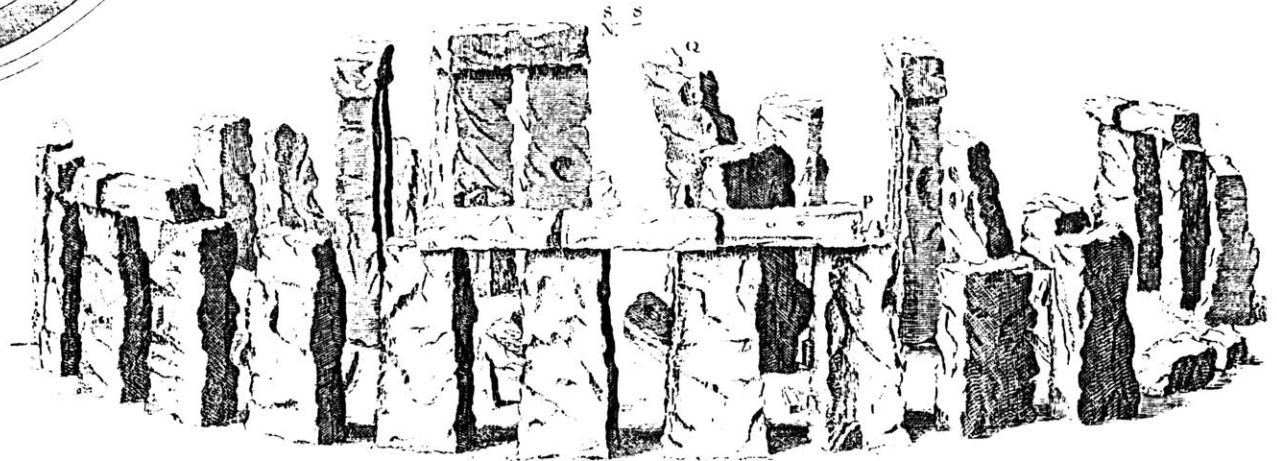
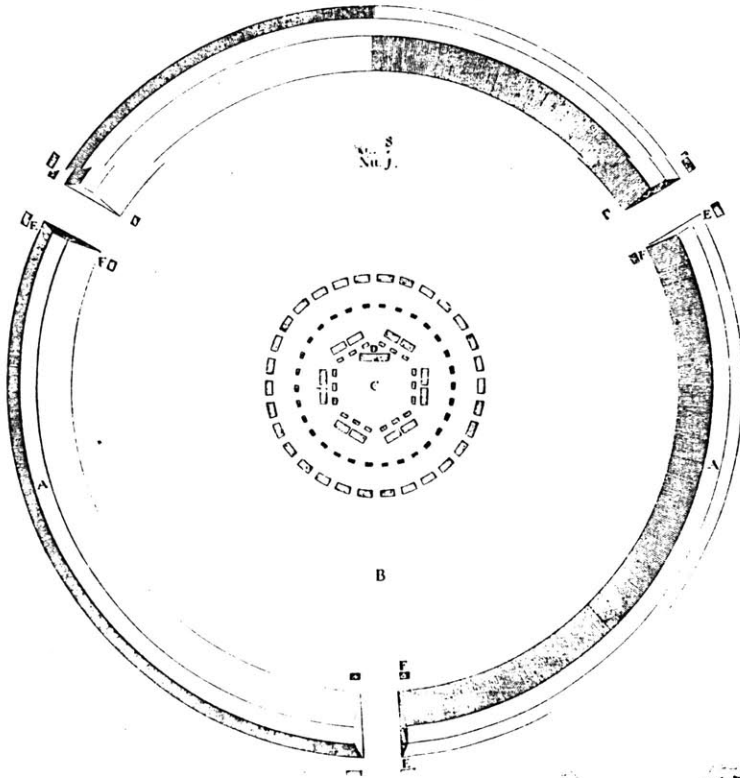
When Buddha was born a lotus flower grew at that spot which he stepped into looking in ten directions, up, down, the four cardinal and four intermediate directions. *

There are four Buddhas related to four realms symbolized by four gateways in physical form.

Similarly, there are four ages of civilization; we are presently in the Kali-yuga (black-death) age.

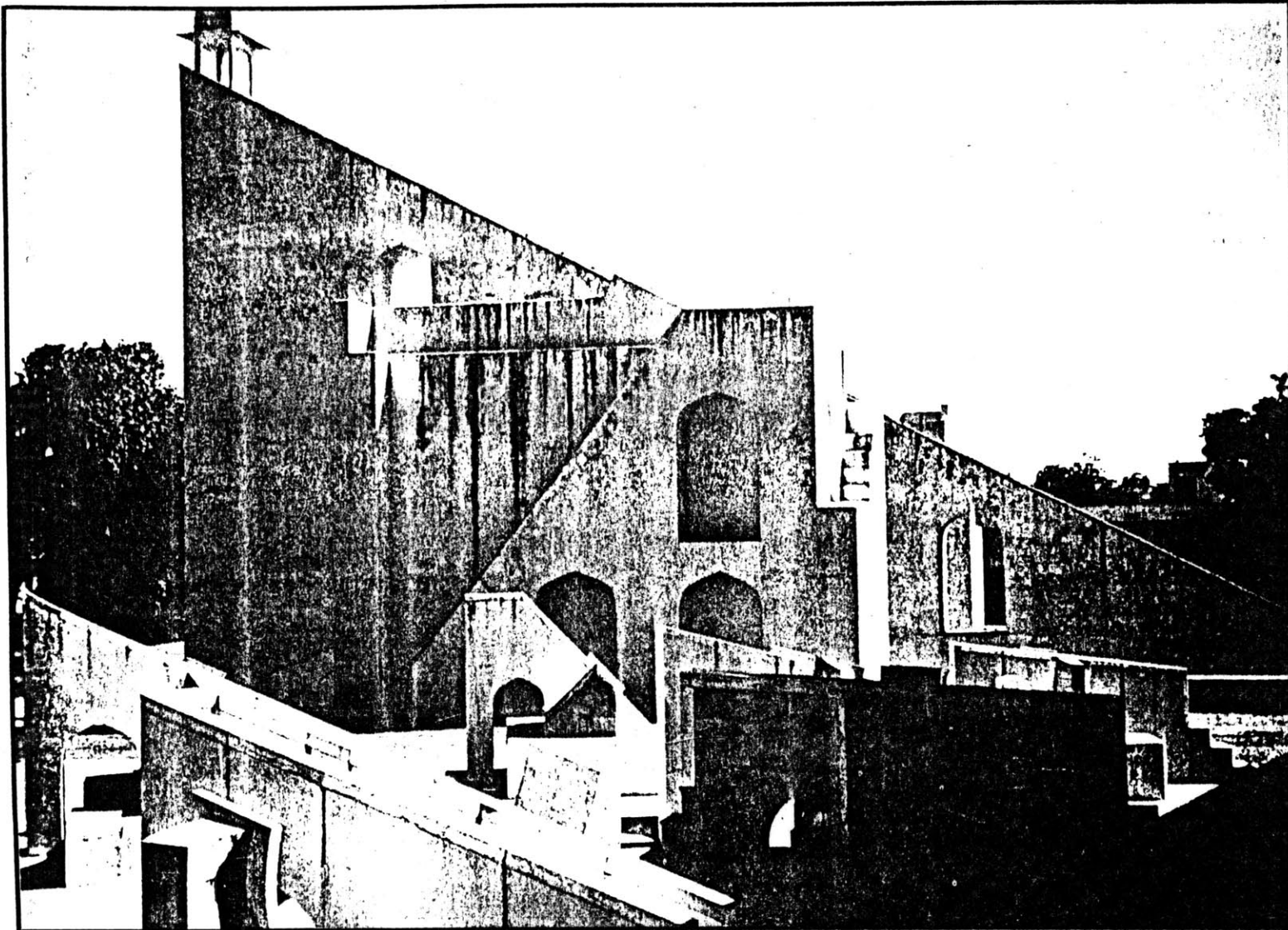
Stonehenge, 4000 years old, related the length of shadows cast by huge reference stones to the seasons, predicting solstices.

It is supposed that rituals occurred at the time of solstice which celebrated the death and rebirth of a legendary hero.



WILTSHIRE, ENGLAND





JAIPUR, INDIA, ARCHITECTURAL ASTRONOMICAL INSTRUMENTS

CLOCK, PIAZZA SAN MARCO, VENICE



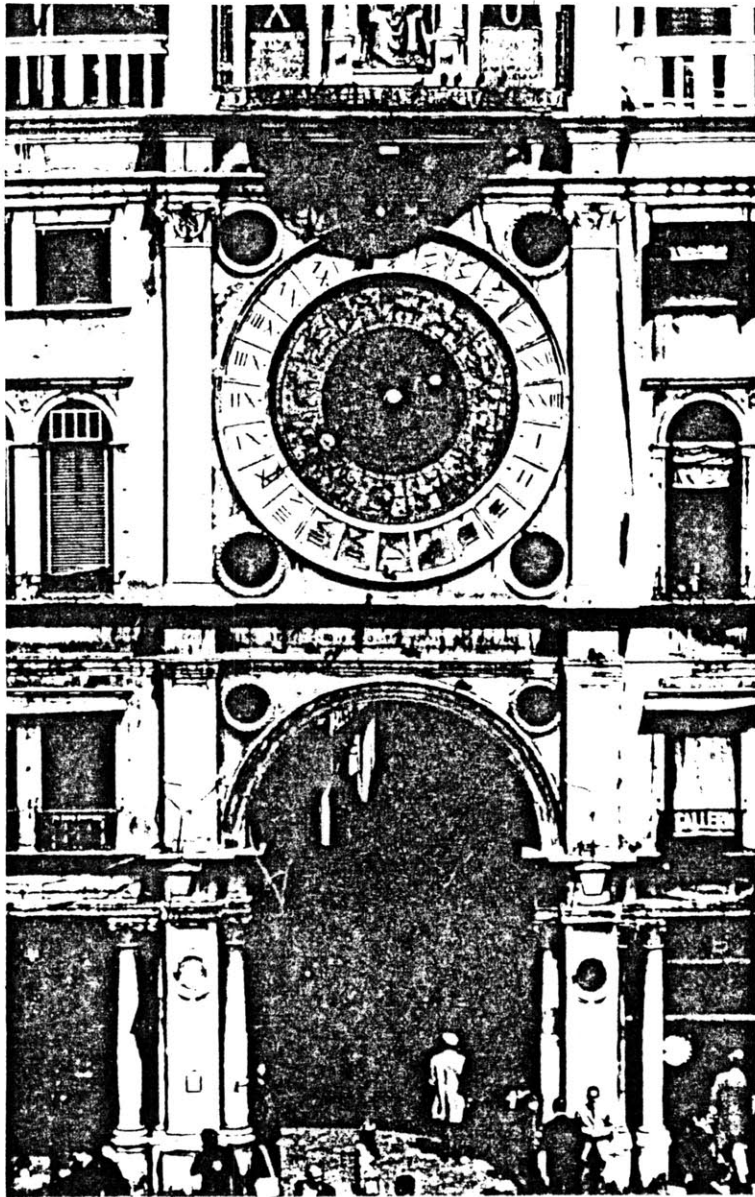
Clocks serve as calendars,
theoretically specifying equal
intervals of time.

An ideal clock would in reality run
according to an equation including
a large variety of variables; there
is no such thing as a perfectly
accurate clock.

Time was previously understood to
be independent of space and so
subjective, such notions are
obsolete by virtue of Einstein's
theory of relativity.

"Space alone or time alone is
doomed to fade into a mere shadow,
only a kind of union of both will
preserve their existence."

Minkowski, 1908



Continuity of time does not necessarily imply an arithmetic continuum.

The actual passage of time is merely the stimulus for temporal perception.

The time of myths is not linear or continuous, like dream-time it is reversible.

"In the mythical void of a time pure and bereft of whatever element may be similar to those that border us, the mind, assured only that there had been something constrained by an essential necessity to suppose antecedents, 'causes', supports of what it gives birth to - epochs, states, events, beings, principles, images or histories... That is why it came to me one day to write: in the beginning was the fable."

P. Valery

"All planned cities are interpreters of social myths."

A myth is a recital of how something in reality came to exist.

Myths reveal hidden truths and explain natural puzzles.

Myths are not about ordinary people, they are only about heroes, gods and superbeings

Man imitates the behavior and actions of mythical gods.

Many legendary religious leaders of heavenly birth led full lives, were killed and subsequently reborn.

Reborn religious figures include Christ, Buddha and many others.

A dominant theme of many myths is rebirth.

Myths of rebirth are eternally recurring.

Many myths are seasonal, recited during sacred time periods.

Myth

A myth is the repetition of an archetypal act independent of concrete time.

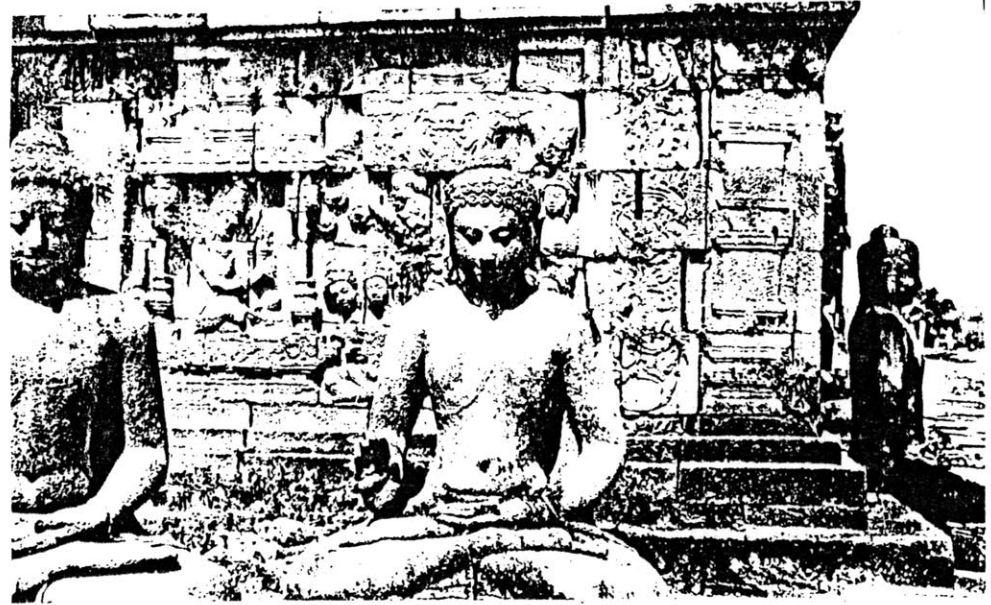
A myth is a universal belief, of the collective psyche.

Mythology represents reality.

In the east the myth still exists in the conscious level while in the west, the myth has receded to the unconscious.

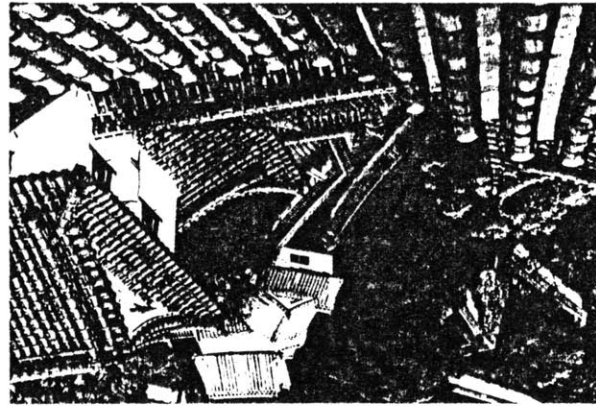
The myth lives in an antihistorical collective psyche which is less fleeting than the individual consciousness.

A myth is a sacred history/mystery of a primordial event that took place before the world as we know it was created, at the beginning of time.



The walls of Borobudur, a shrine of pilgrimage on the Island of Java, contains relief sculptures portraying historically significant legends, myths and truths.

In the lower relief, Sakro Devanam Indrah is sitting with heavenly beings taking an oath of protection of the queen, Lady Maya, Buddha was born to her by an immaculate conception



Rhythm

Rhythmic repetition of recurring events can be observed in the simple rhythms of life such as the opening and closing of flowers, the movement of leaves through the day/night naturally.

Similar patterns of growth and movement can be observed in a city organism.

Rhythm is the balance of action and repose.

Rhythm in built form is the repetition of relationships, not material units which define parts of the whole, allowing individuality to be sustained in the construction of the whole.

Connections between the individual entities which comprise the expanded whole exist through associations and interactions with other individuals.

a musical composition - is built of one or more scales
An architectural building systems: major, minor, dorian....
primary, secondary, tertiary

Rhythm is a result of time signature, beats and rests in a patterned sequence.
Proportion human scale closure openings

Forces are heard as crescendo of tempo.
apparent lines motion

Musical elements are tones, 1/2 tones, 1/4 tones...
Architectural elements are columns, panels, walls....

Harmonies form the overall sound.
Rules form the overall image.



KATSURA PALACE, JAPAN

Silence
bears
music.
Space
supports
form.

Just as music is of notes in motion, architecture is of houses in motion.

As one moves through time space, physical forms create the rhythms of human motion.

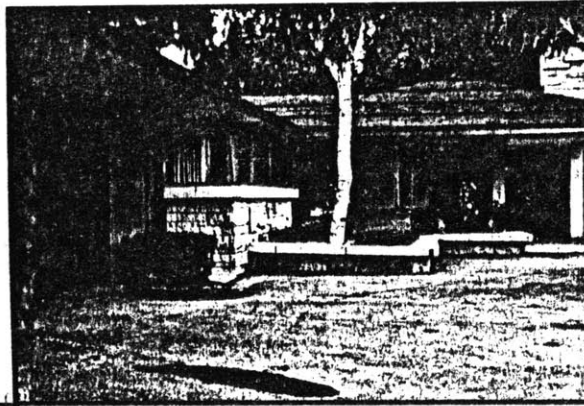
Landmarks, vistas and resting points clue movement.

Anticipation and patterned expectation create apparent rhythm.

As the eye works it needs both action and repose, visible similarities are grouped to form spatial organization.



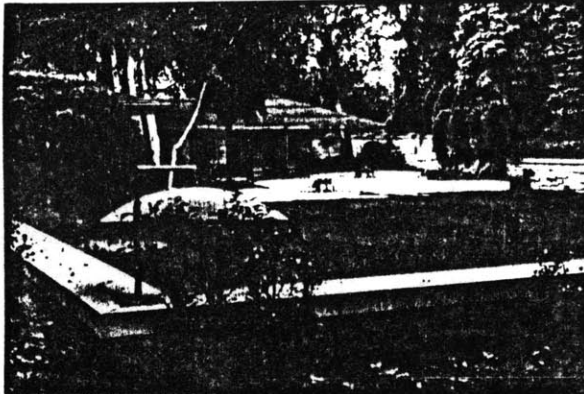
Design of this home is apparently influenced by the Work of...



A beat occurs as a pulse on a string.

Style is the metronome of societal progress.

A wave of style may pass through the designated world of buildings, clothes and automobiles.



... FRANK LLOYD WRIGHT.

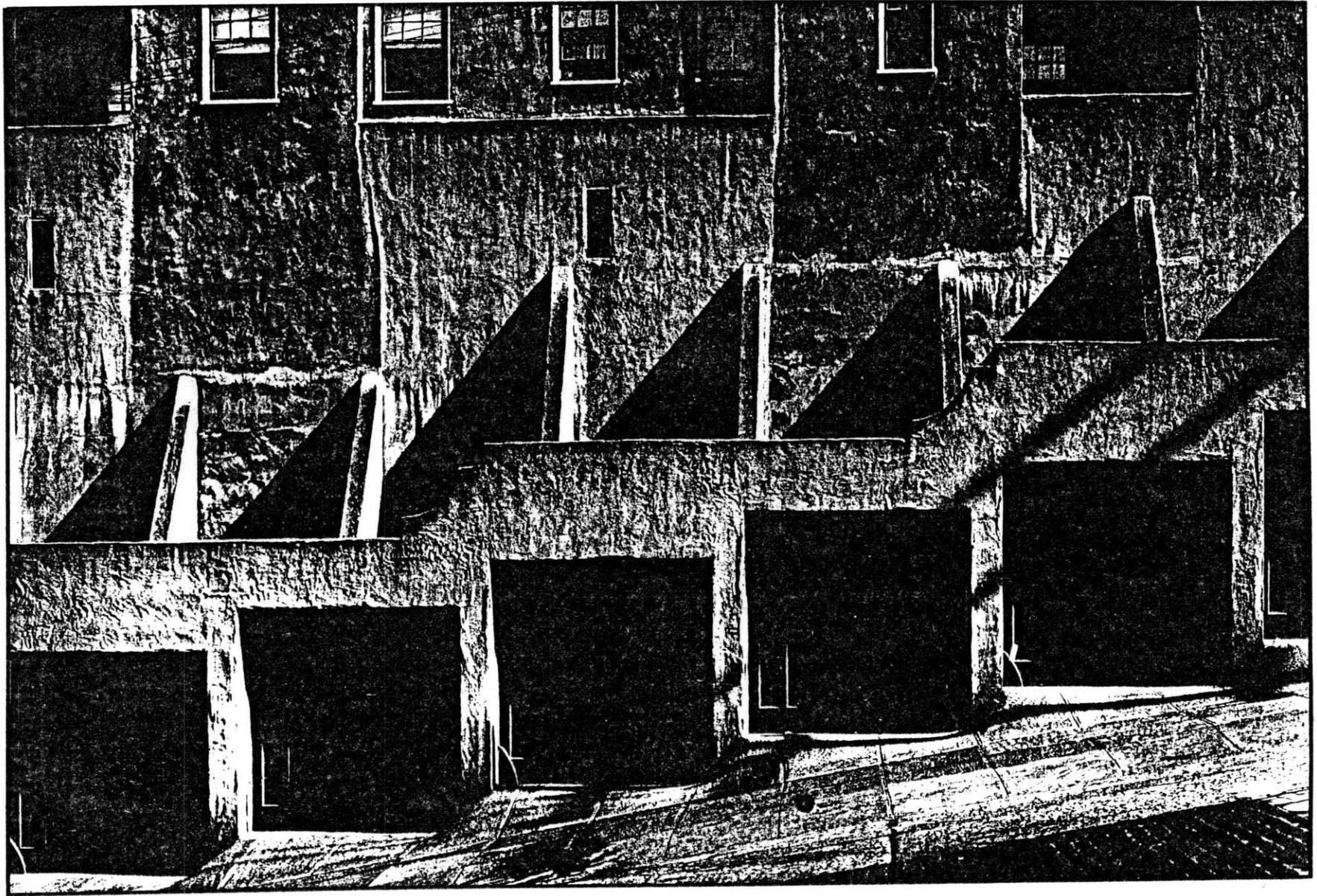
Within a building, neighborhood, village or city there is an observable visual beat, a rhythmic cadence at various scales, which can be and act in harmony with the surroundings.

Meter depends on patterned expectations.

Anticipation is unconscious in such perception.

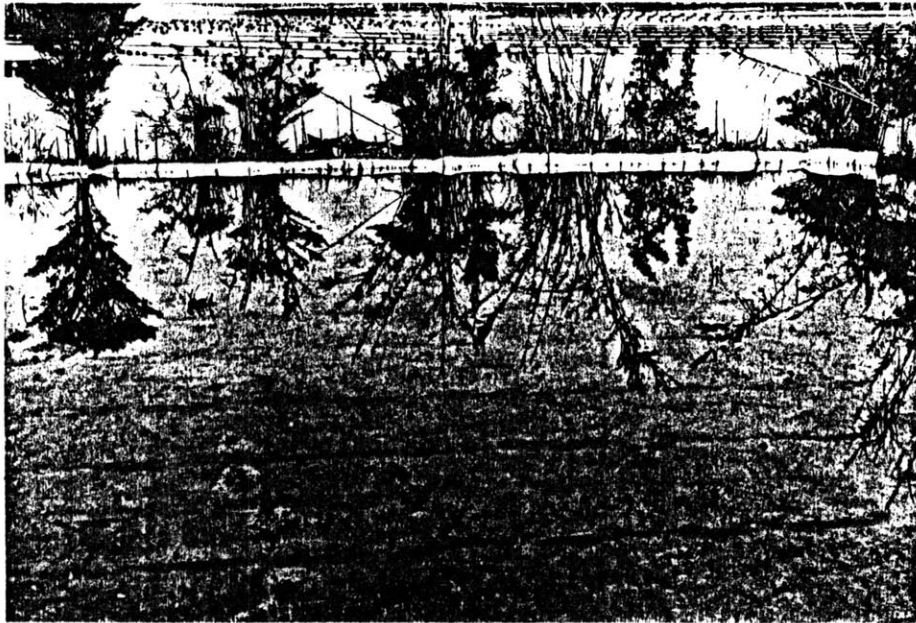
Disappointment and surprise arise from expectations.





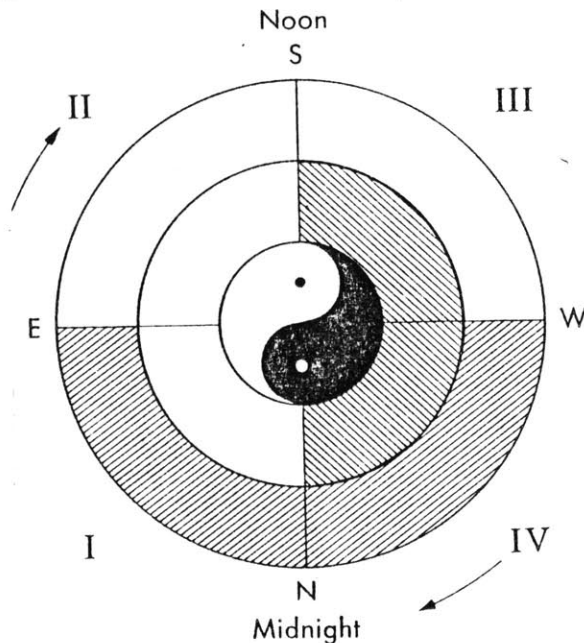
GARAGE DOORS

The reciprocity found in the landscape between land and sky and water is seen as interlocking positive/negative, black/white, dark/light and figure/ground.



"The male is identified with eternity, the female with time and their embrace with the mystery of creation." *

Zimmer



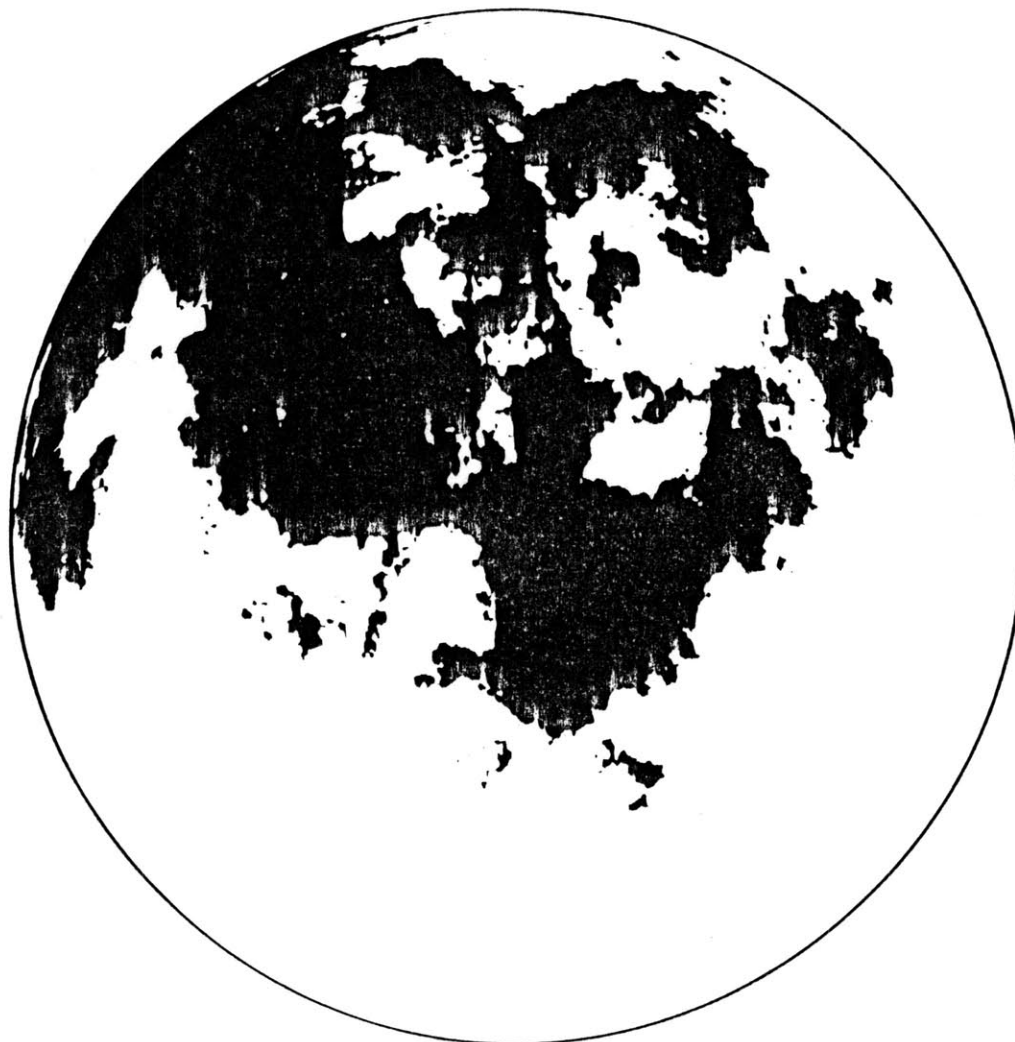
Yin~Yang

The words yin and yang were originally used to designate the shady and sunny slope of a mountain, later the meaning was extended to designate the northern and southern banks of a river and the dark and sunny seasons.* *

Yin-yang motion produces seasons while working through maximum-minimum yin-yang cycles.

In general yin identifies the active quality of an effective position, while yang identifies the structive aspect of an effective position.

Opposites are polar and as such a unity, a single whose such that light and dark are merely different aspects of the same phenomenon.



EARTH-FORM

Yin and yang stand for a great range of polarities.

The unity of opposites allows black to define white, white to define black.

Yin-yang forces are visible as harmonious complementarity.

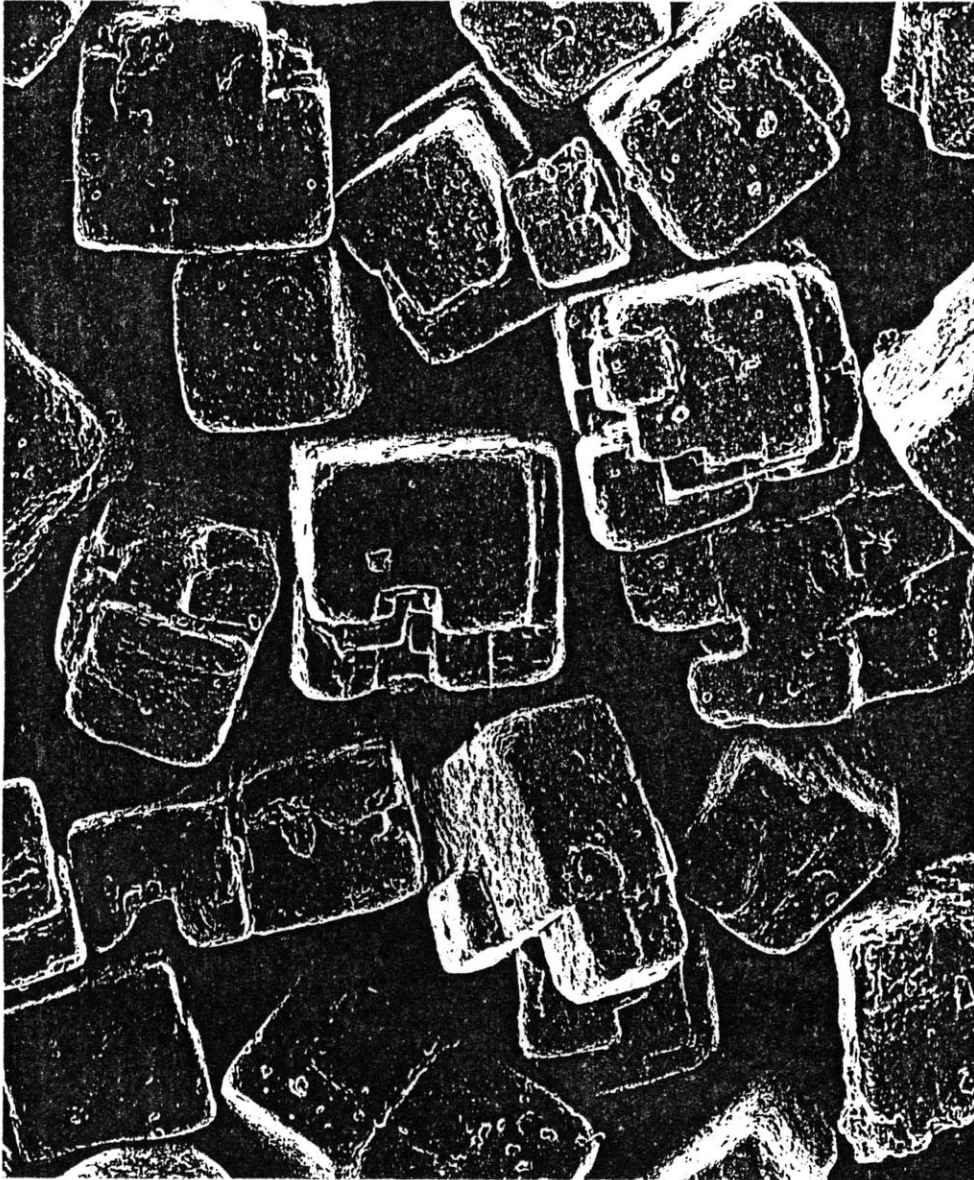
"May the day of proof come. To be able to reconcile the opposites; to express the Great Manifold in a single word."

"In general, raised (landscape) features are Yang and dips are Yin. This is obvious and Yin and Yang are not more definitely manifested in ground formation." *

Seen from far away, the simulated earth form is a fractal approximation based on a basic spherical shape and a coastline occurring when 3/4th of the planets surface is covered by water. The overall resemblance is strong while actual details are not accurate. * *

The salt crystals at 135X their actual size are architectonic forms.

77



Micro COSM

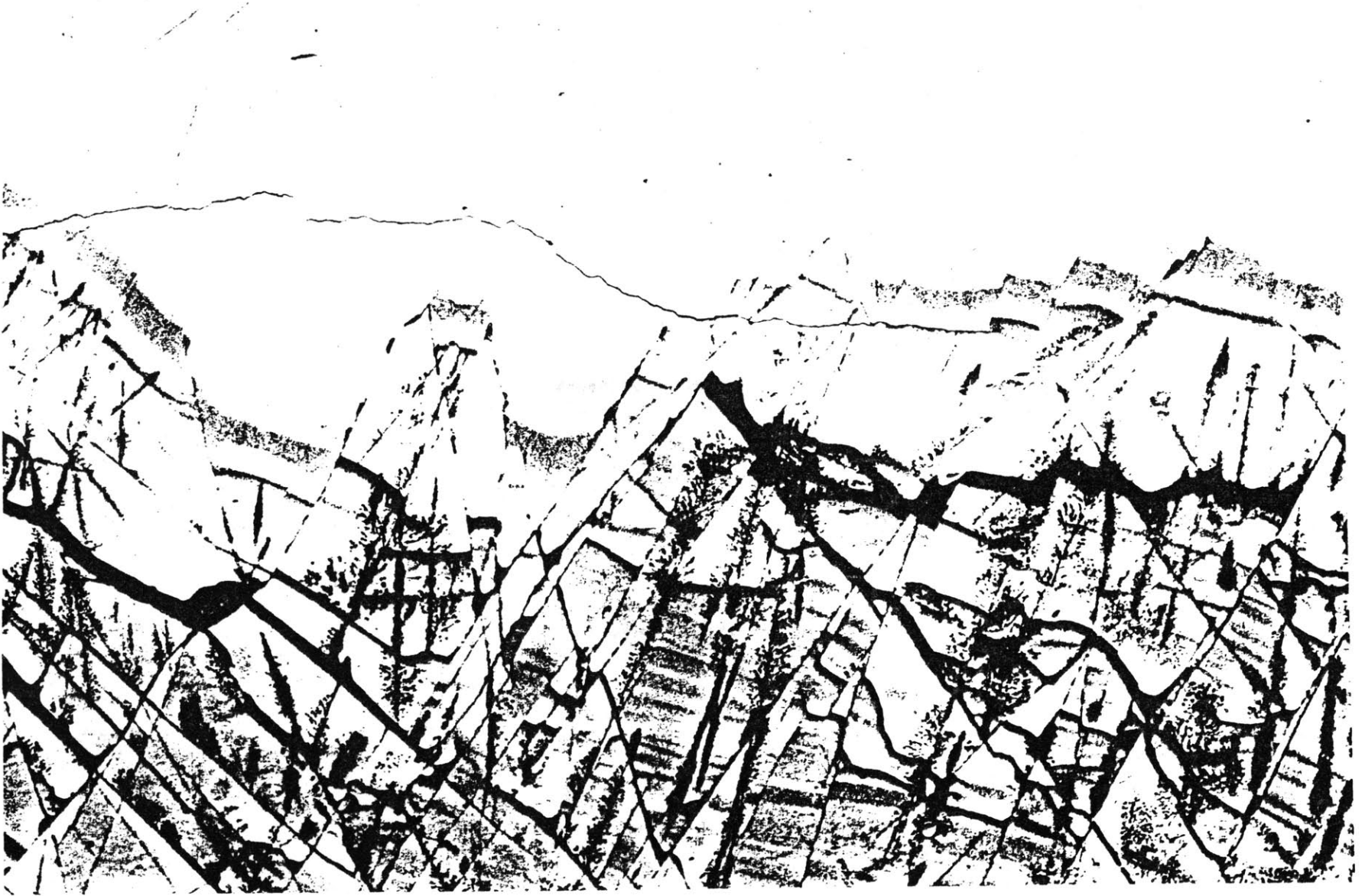


"To see a World in a grain of sand,
and heaven in a wild flower,
Hold infinity in the palm of
your hand,
and Eternity in an hour."

Blake

The miniature Elysian Mountain
detail from the Zen Gardens
symbolizes the five sacred
mountains, the four Elysian islands
and the eight seas.

Italian marble slabs, and naturally layered sandstone appear as much larger landscapes.





CHI' I ENERGY

Energy

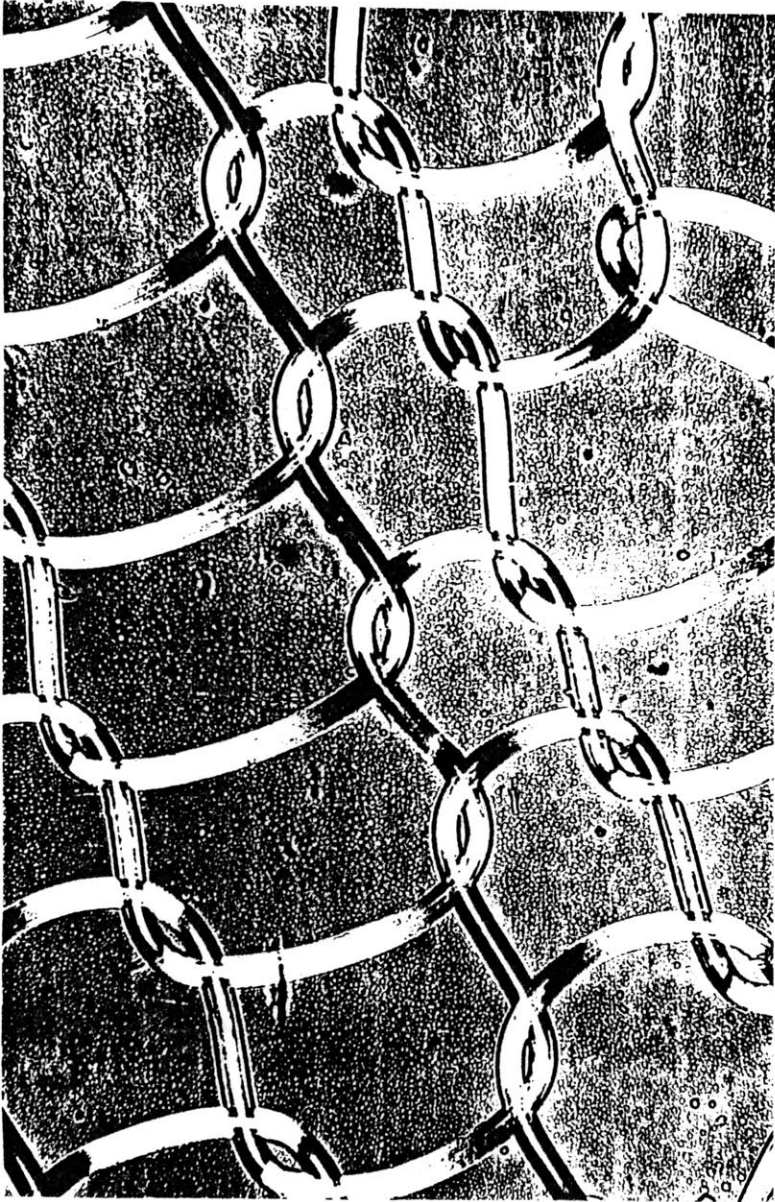
Five Elements

Feng-Shui

"Do you know, Fontanes, what most amazes me in the world? The inability of force to maintain anything at all. There are only two powers in the world, the sword and the mind. In the long run the sword is always defeated by the mind."

Napoleon

Notebooks I 156



NYLON FABRIC STRUCTURE

There is no English word exactly corresponding to ch'i; energy is the closest fit.

Ch'i energy is knotted to form the shapes of things, transitory configurations in time-space.

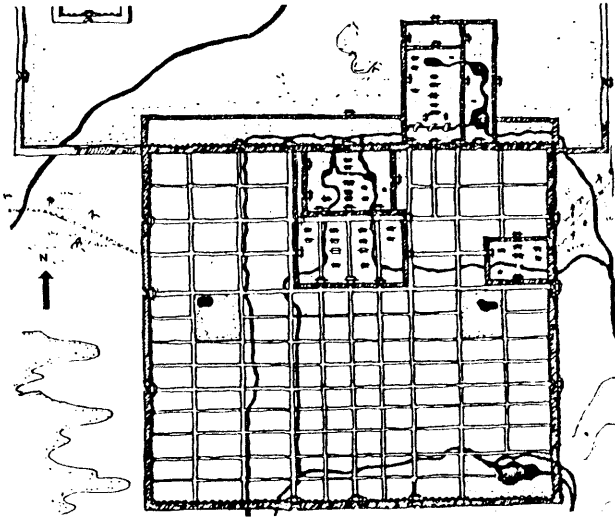
Ch'i, regardless of the context, always implies energy of a definite quality and defineable structure, i.e. and energetic configuration.

Ch'i energy is not touchable and exists as imperceptible.

There are two possible results of energetic interaction, chaos and harmony.

A change at one point in the universe, reverberates through every other point in the universe, especially points which are susceptible to the same resonant wavelengths. *

CH'ANG-AN



Evil forces originate predominantly from the northeast direction.

Optimally, a city is situated such that the largest obstacle, the highest peak is situated in the northeast corner.

The effect of influences from the northeast is visible in the city walls containing Ch'ang-an, an exemplary capital city in China.

Sha

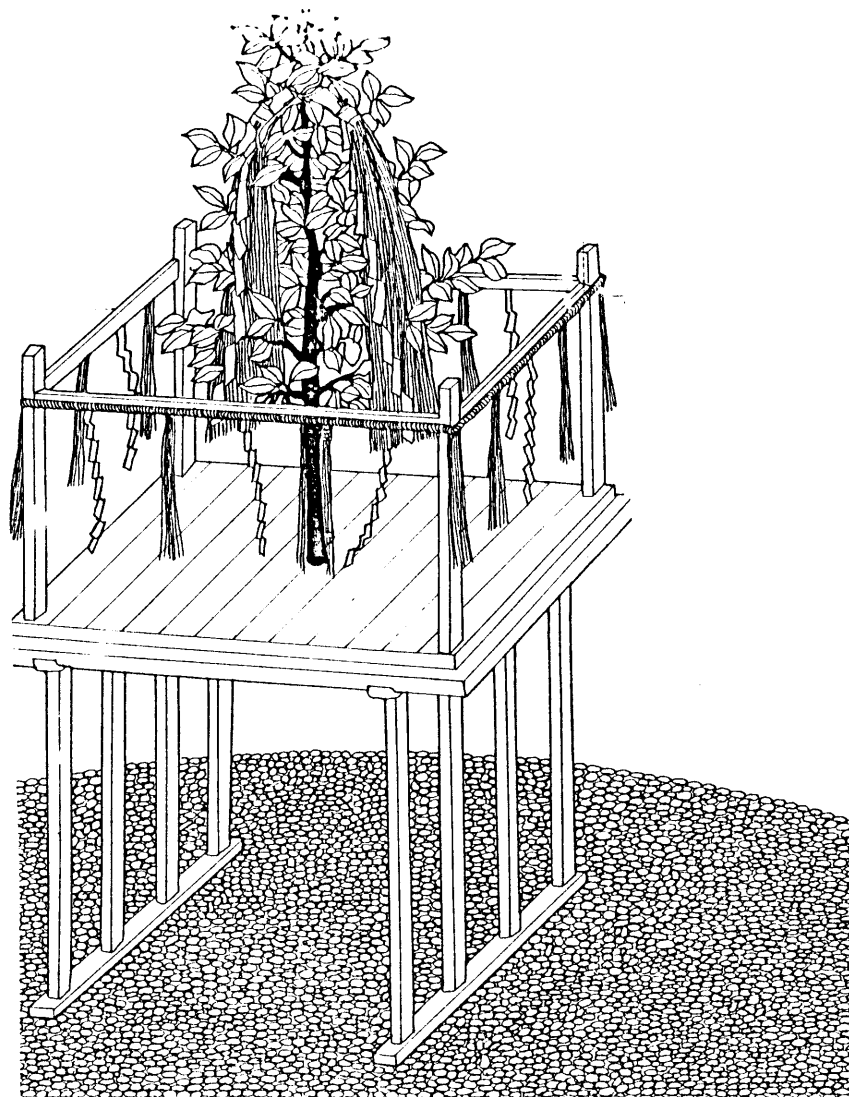
Ch'i travels in meandering paths while sha move in straight lines.

Sha can be understood as noxious vapours and secret arrows; the antithesis of ch'i.

The source and location and movement of evil spirits is fundamental to the science of geomancy.

Evil spirits belong to others, good spirits are mine.

Evil influences as such prefer travelling in straight lines, such paths of energy are stopped by embankments, clumps of trees, screen walls or a superstitious board with many charms on it.



In the traditional Japanese home, an ancestral shrine is built in the northeast corner.

This small shrine is prayed to, offerings are made to it, it is brought to specific places, through the gateway and then dismembered to ward off evil spirits.

What is malevolent to one clan or town is many times benevolent to a neighbor and so many times the pieces of the dismembered shrine were collected and reassembled creating a chain reaction.

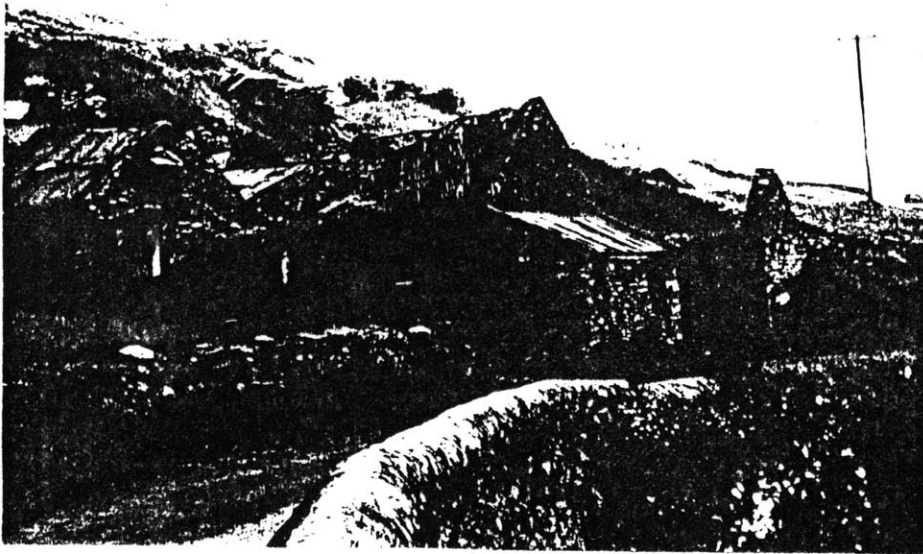
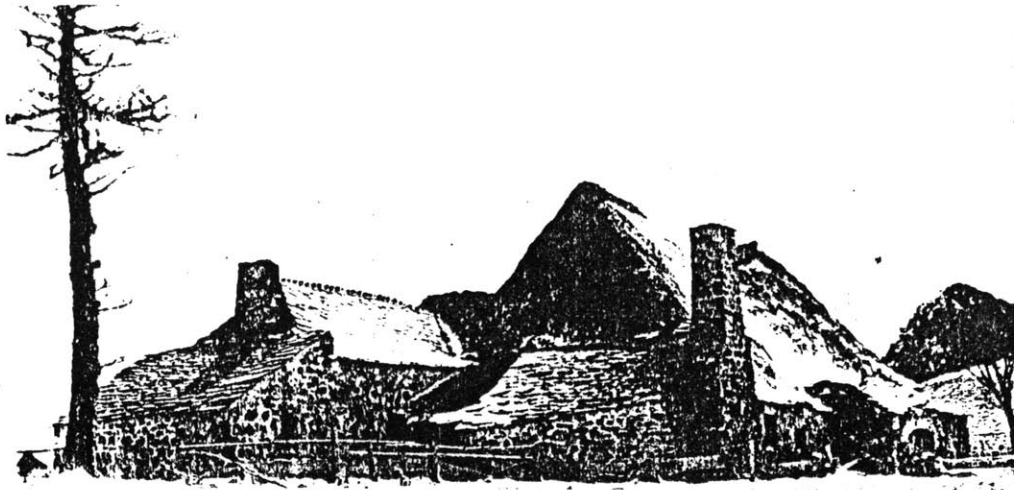
Condensation Evaporation

Ch'i energy condenses and evaporates while constantly being transformed.

Condensation intensifies apparent forms in an evolutionary sequence.

Evaporation causes physical form to pass away, the landscape is continuously changing and eventually disappears.

Condensation intensifies visible forms over time and the farmstead pictured near Mont Menzanc in France is a result of one-thousand years of occupation; streamlined by eroding high winds and is congruous with the nearby mountain at the right-hand side of the background.



Form can be conceived of as bundles of energy which will eventually break apart.

Condensation is organization of energy in physical matter making universal patterns of ch'i apparent and understandable.

The geomancer is interested in places where ch'i is likely to accumulate and subsequently condense into life energy i.e. growth.



Potential Kinetic

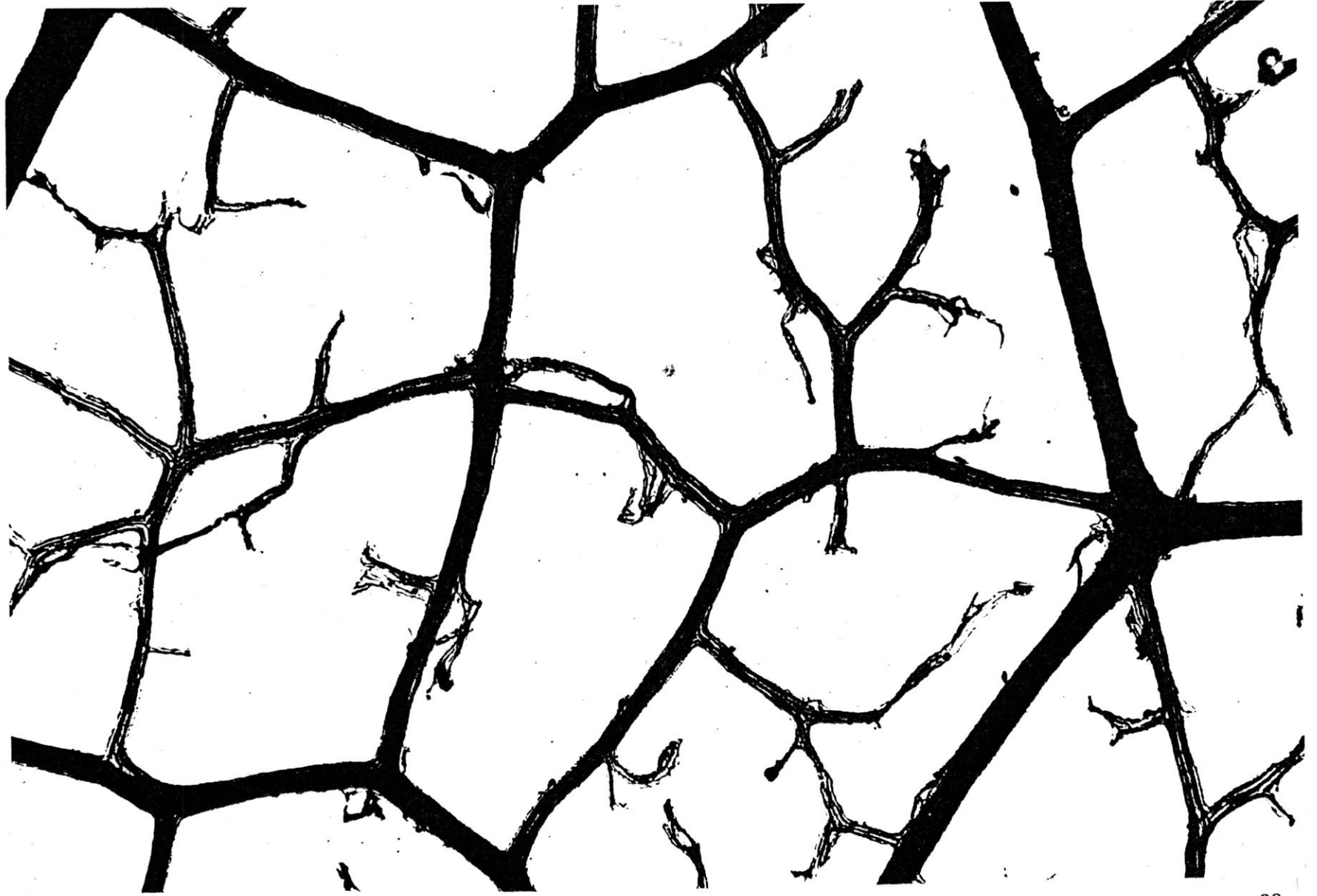
Everything is either potentially or actively kinetic.

Lines which develop between polygon shaped plates in a cracking field of mud create an orthogonal network of equilibrium.

Kinetic energy is demonstrated in patterns of growth and distribution in the veins of a leaf.

Energy





Feng - Shui



Feng Shui,

Wind-water,

is a Chinese conceptualization of nature and natural relations.

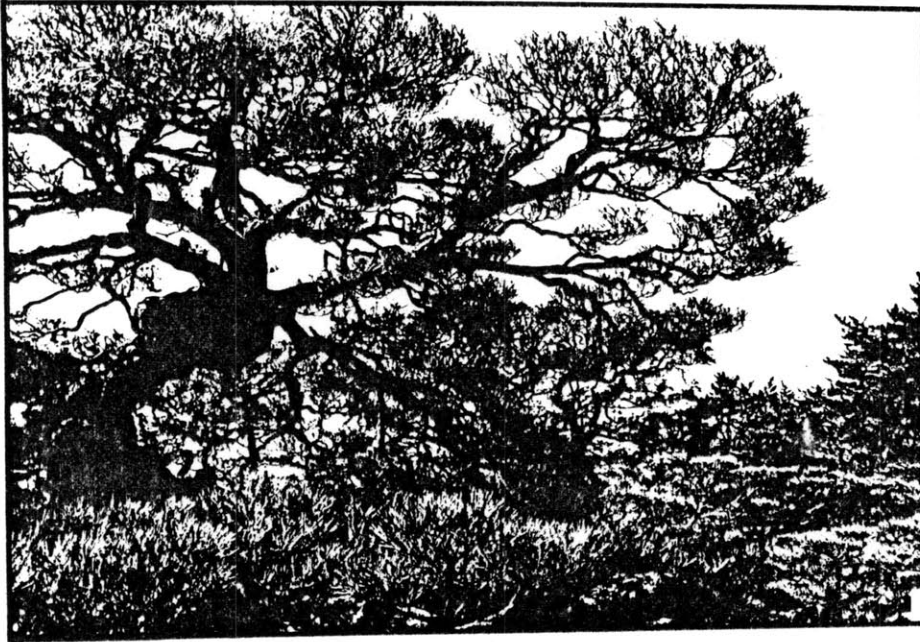
Nature is inherently in the realm of becoming not being.

Patterns of change are discernable to feng shui experts. *

The practical benefits of Feng Shui have both physical and mental benefits.

Prevalence of good/bad forces can be diagnosed at any spot on the ground.

Geomancy is theory using cosmological principles to place built pieces or objects to obtain favorable ch'i energy flows through favorable configuration. * *



"The art of geomancy is to place oneself appropriately in relation to the disposition of natural processes." *

The whole physical environment is an expression of hidden forces.

Feng-Shui attempts to predict and manipulate lucky forces.

"Feng-shui as a single term stands for the power of the natural environment, the wind and the airs of the mountains and hills; the streams and the rain, and much more than that: the composite influence of the natural processes."

There are two directions which feng Shui took, The Fukien School (1000 AD) concentrated on cosmology while the Yan Yun-sung School (800 AD) concentrated on landscape forms. **

Landscape Forms



Geomantical imagery includes extensive use of the dragon throughout the landscape; a ridge is a dragon's back, a contour is a dragon's vein and there are Green Dragon mountains.

The landscape plus the built form equals the cosmological language whose imagery is taken partly from astronomy and partly from the landscape, the animal world and the human body.

There is a significance of circumstances (shih) and manifestation in forms (hsing) appear in patterns.

Geomantic manuals speculate about the structure and dynamics of the universe.



KATSURA PALACE, JAPAN

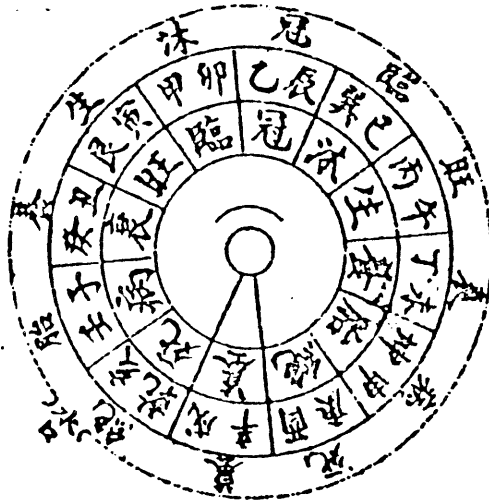
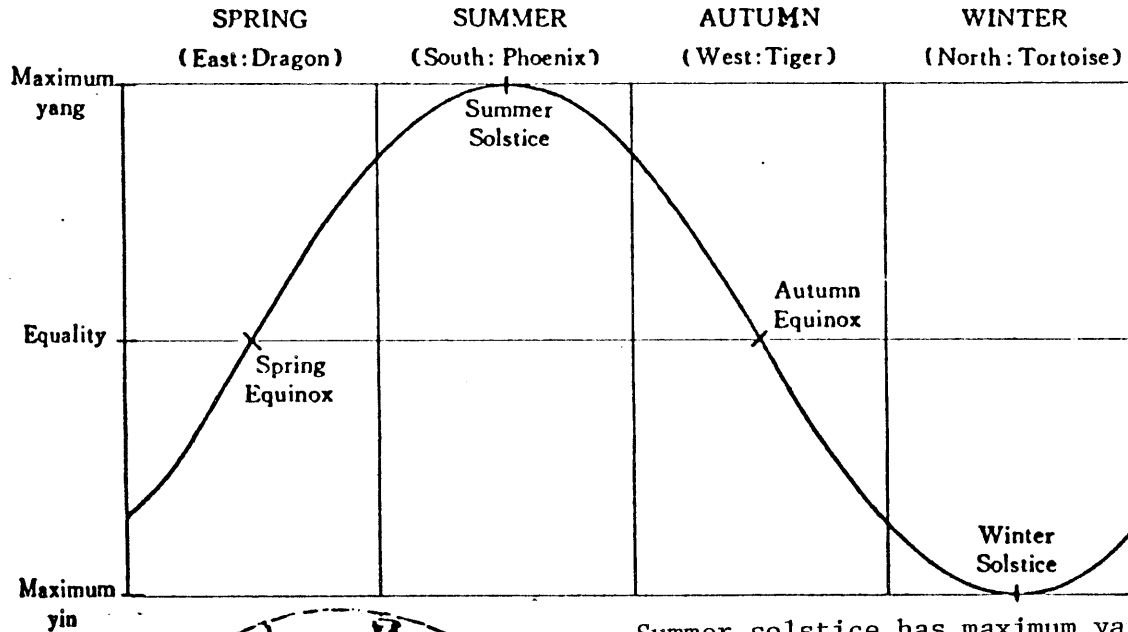
The south facing slope is the preferred site.

A pool should be located at the front of the site where natural watercourse already on the site naturally meet.

The yin-yang, dipped-raised features of the landscape are interrelated such that the mountains should enclose all but the south side in order to accumulate maximal beneficial influences.

Clumps of trees, paths, railroad tracks, roof lines and other landscape features may bear ch'i or sha, benevolent or malevolent energy.

Cosmology



TOMB direction chart
Two springs diverge

Summer solstice has maximum yang while winter solstice has maximum yin influence.

There is a Geomantically correct time and place to bury the dead, build a house.

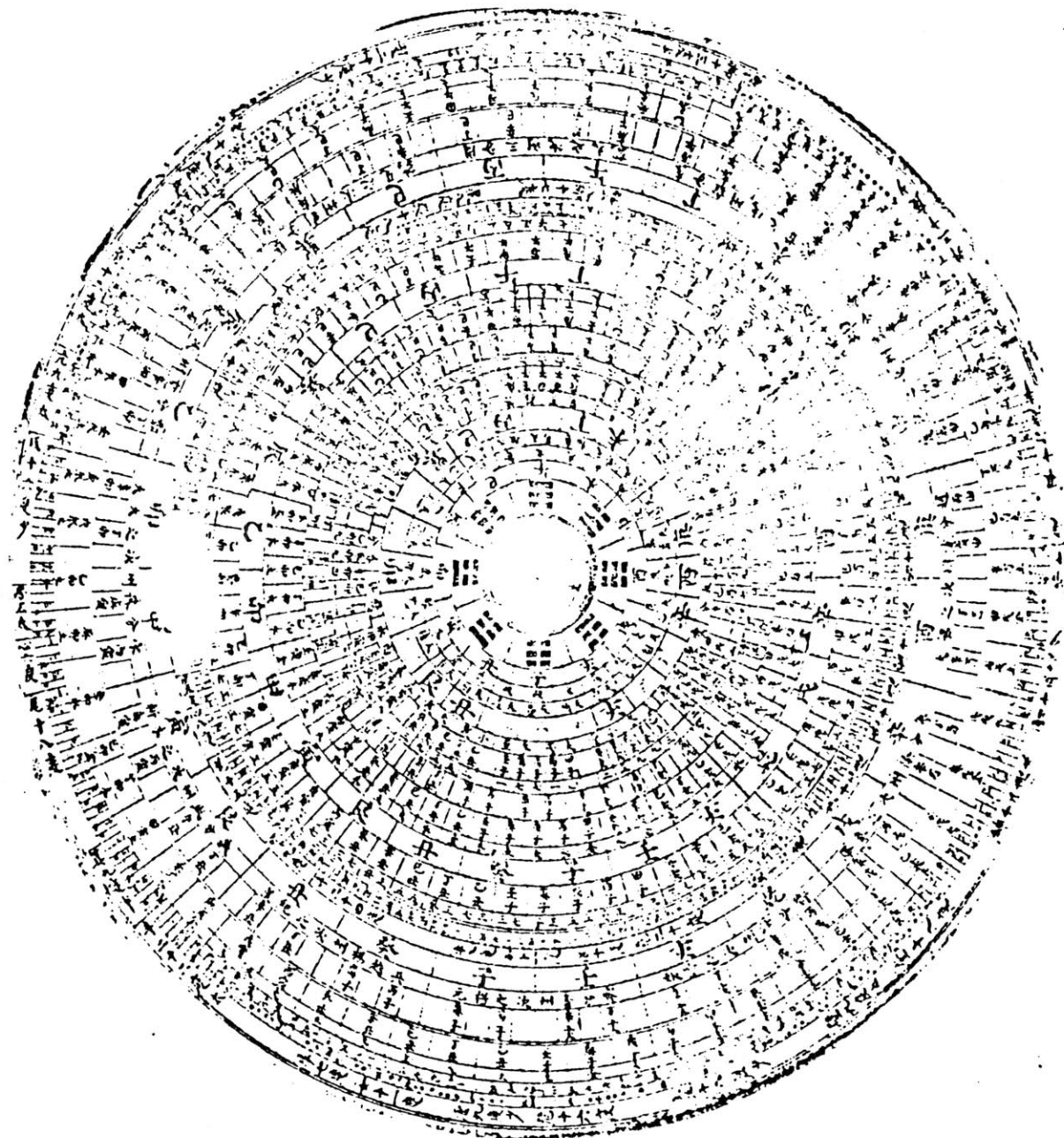
Cosmology was based on the ancient Chinese compass and gnomon.

The gnomon is a divining rod placed in the ground.

The compass is typically a table with successive rings and a central compass hand which pointed south.

Cosmological philosophers sought to determine whether a specific set of circumstances is in harmony with regular forms of the universe and whether it is an instance of constructive or destructive cosmological phase.

The East side of the Geomancer's compass has maximum yang while the West side has maximum yin influence.



The cosmological compasses vary greatly in detail but are all understood as models of the cosmos, seen as the center.

All compasses are read ring by ring starting at the center, with the needle pointing south.

There are twenty-four compass directional points which are divided into two groups of twelve or eight groups of three symbols.

Symbolic content is drawn from real groups of matter.

Three major circles divide the compass into plates corresponding to heaven, earth and wo-man.

This same trinity is formally apparent in design as triangulation.

The geomancers compass links the 24 points of direction and so integrate time and space into a single series.



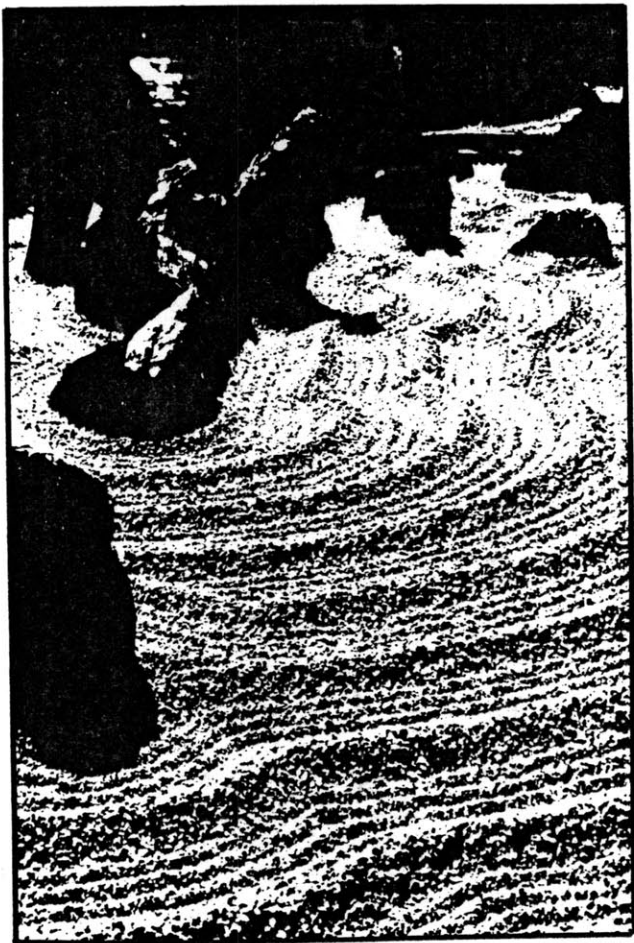
wind

The forces of wind can not be as closely and reliably classified as water formations.

Free circulation of air is necessary; too much air makes stagnant air pockets of malevolence in the house. *

A site will benefit most from warm, moist breezes and be most harmed by cold, dry winds.

Relationships between blood and ch'i in the human body are microcosmically analogous to water and wind.



WIND

"If the wind shakes the willow branches or if the wind bends the grass whether passing over the position or not it will mean trouble and even meandering water will not justify the site. It will bring decay and sickness."

Water Dragon Classic



water

If a building is sited too close to a trunk, and the water is too fast and straight, gentle penetration of ch'i into the house or grave will not occur. *

Inner ch'i branches feed into and are produced by outer ch'i trunks.

Water is a primary apparent carrier of ch'i energy.



AQUATIC SYMBOLISM

Man is symbolically borne by water.

"him whom they consecrate... the priests make into an embryo again. With waters they sprinkle; the waters are seed.... They conduct him to the hut of the consecrate; verily thus they conduct him to his womb...." *

Legendary floods represent a temporary reincorporation into the unknown. * *

A flood causes immersion and waters abolish forms, wash away sins and poetry.

Immersion symbolizes death and subsequent rebirth.

ELEMENTAL ASSOCIATIONS

Water	soaking and descending	solution	saltiness
Fire	burning and ascending	combustion	bitterness
Wood	formable (by carving, etc ...)	solidity	sourness
Metal	malleable and changeable (by melting)	solidity	acridity
Earth	producing edible vegetation	nutrivity	sweetness

Five Elements

Wood	8	lesser Yang	green	spleen	anger	relaxed	demeanour
Fire	7	greater Yang	red	lungs	joy	enlightened	vision
Earth	5	equal balance	yellow	heart	desire	careful	thought
Metal	9	lesser Yin	white	kidney	sorrow	energetic	speech
Water	6	greater Yin	black	liver	fear	quiet	hearing

There are "five elements"

water and all flowing liquids, fire, wood and all vegetation, metal, and earth and all impure mixed substances including ash produced by fire.

The emphasis is on five sorts of fundamental processes over five fundamental matter, relation over substance. *

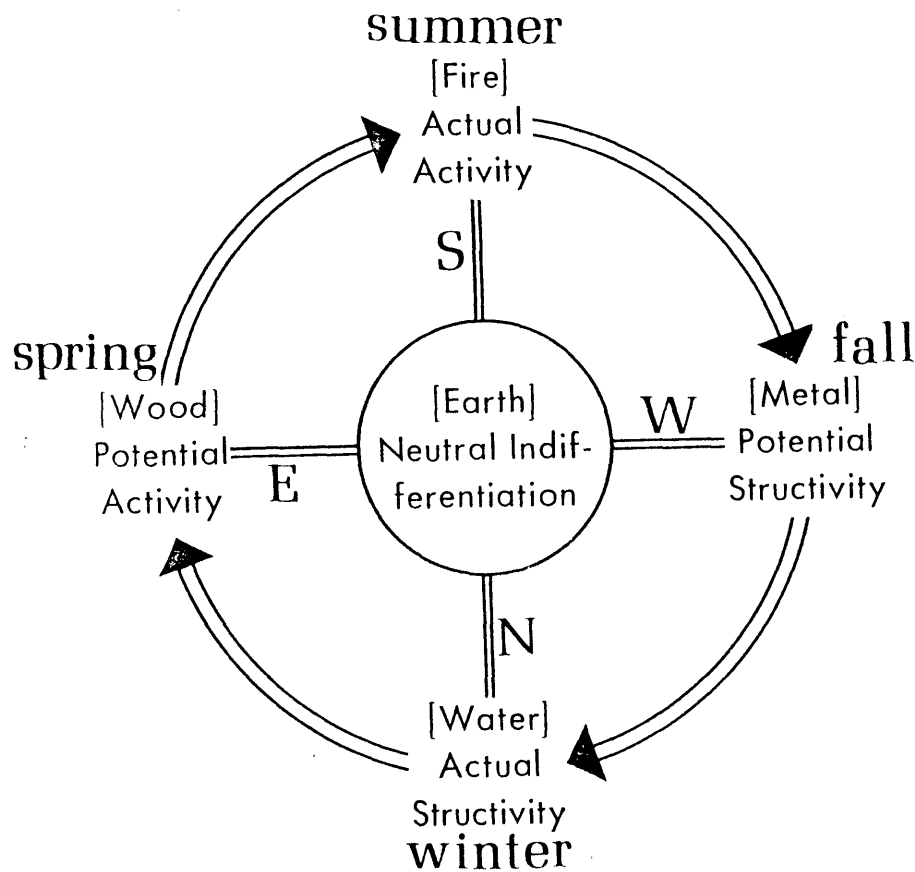
The Five Elements	Planets ¹	Star Palaces or Quarters	The Five Classes of Animals	The Five Domestic Animals
Wood	Jupiter	Azure Dragon	Scaly (fishes)	Sheep
Fire	Mars	Red Bird	Feathered (birds)	Fowl
Earth	Saturn	Yellow Dragon (centre)	Naked (man)	Ox
Metal	Venus	White Tiger	Hairy (mammals)	Dog
Water	Mercury	Dark Warrior	Shell-covered (invertebrates)	Pig

A system of correlation between groups of five elements exists.

Each of the twelve phases is occupied by all of the five elements in their mutual production.

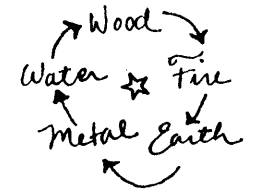
A system of interrelationships between various groups of five elements is used by practitioners of the five phase theory.

☆ quiet point'

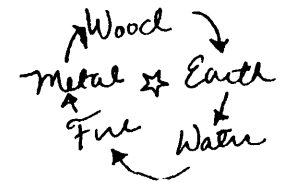


FIVE ELEMENTS RELATED TO FOUR CARDINAL DIRECTIONS

There are two primary sequences, the productive and destructive.



Wood burns to make fire, ashes form earth, earth combines to form metal, metal is melted to form liquid.



Wood is cut down by metal, metal is melted by fire, fire is extinguished by water, water is interrupted by earth, earth is penetrated by wood, wood is cut down by metal and so on. *



earth

Undrained subsoil gives off sha energy which if blown over the building endangers inhabitants and also important in coffin, bones grave preservation. *

Hard rocky soil is lifeless, not necessarily harmful but any garden planted there will be infertile.

Red loamy soil is full of life on the other hand, preventing decay.

Mother earth is associated with fertility.

Because woman is the original cultivator she controls the land and its crops. **

She is able to give birth without male assistance; spontaneously impregnating herself.



"Perceived by virtue of a religious experience, the specific mode of existence of the stone reveal to man the nature of an absolute existence, beyond time, invulnerable to becoming." * *

In numerous cultures from Indonesia to South America creation is the result of the sacred marriage between god of sky and goddess of earth.

Children come from the earth, the dead return to the earth.

"Crawl to the Earth, thy mother."

Rig Veda X,18,10

A stone or tree is worshipped as a sacred mystery.

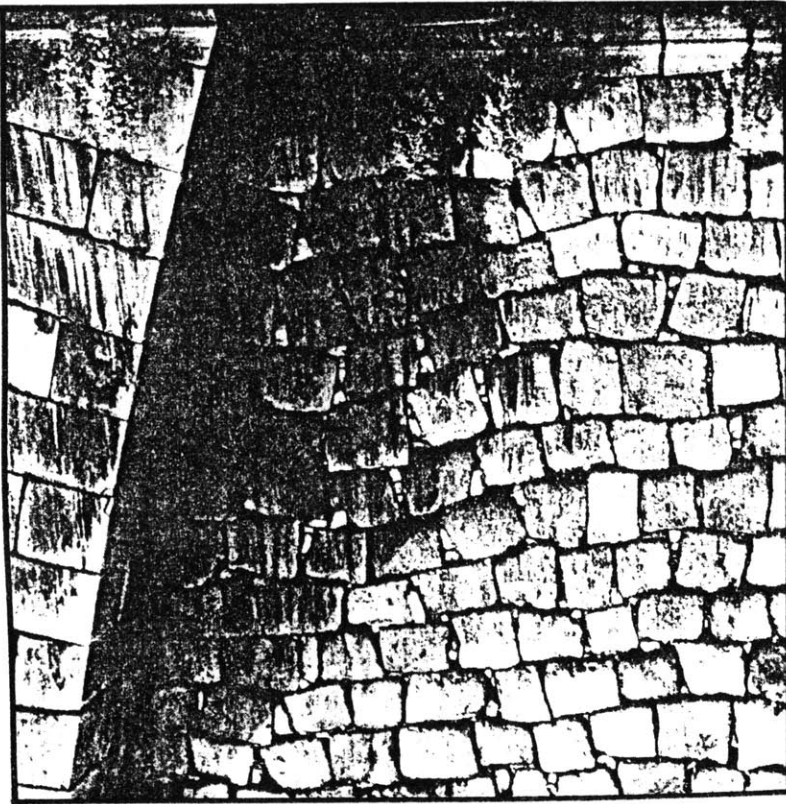
The stone is an absolutely existing symbol of eternity.

A stone frequently symbolizes the self since it too is unique and differentiable. *

Stones serve as markers and are ritually placed on graves.

Hindus passed stones which were supposed to have magical powers from father to son.

DRY STONEMWORK: NIJO CASTLE JAPAN,



Softer stone is easily carved and so usually is covered with sculpted reliefs.

Conversely, harder stone is difficult to carve and buildings made of such stone have minimal carving.

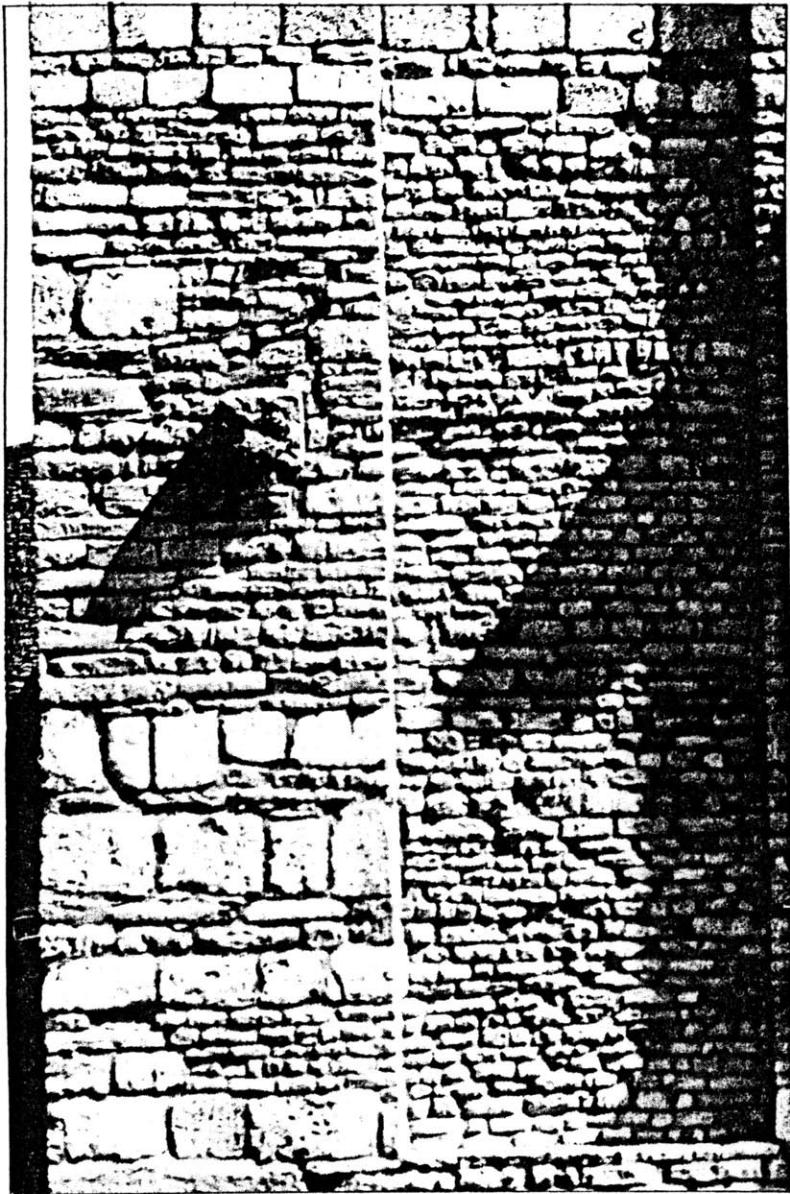
Cut stone of good quality can be laid dry, without mortar.

Such dry-wall constructions are found in numerous cultures.

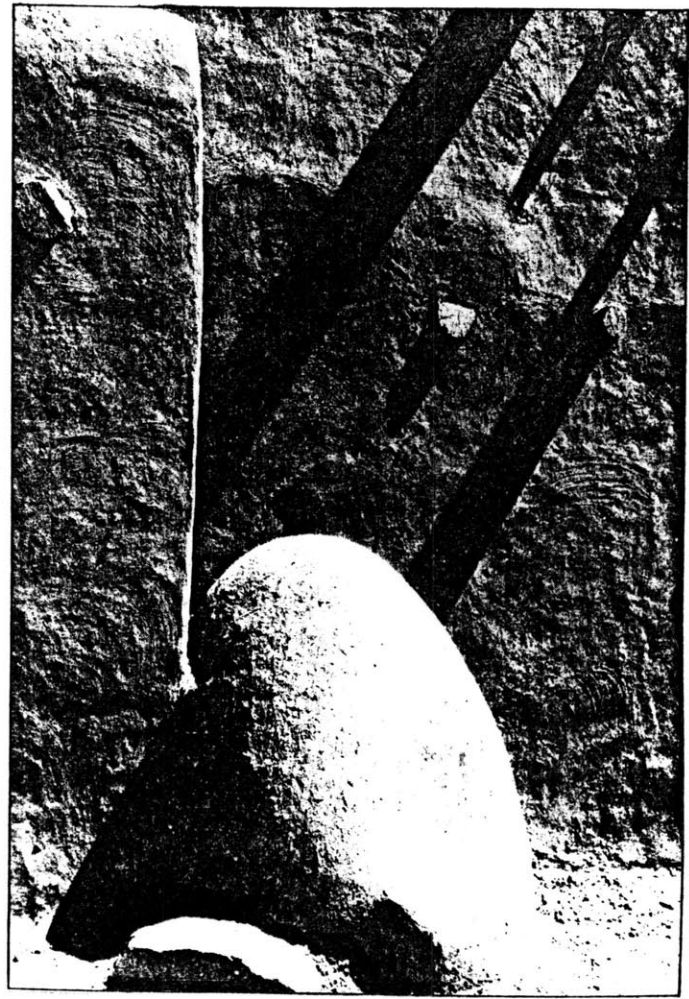
Frequently much smaller blocks occur between larger stones, like rocks and sand.

When material available can't be precisely cut, horizontal beds of stone are laid with mortar between blocks.

Clay can be poured into formwork to form bricks which are kiln dried or adobe which is sun dried, forming a continuous surface.



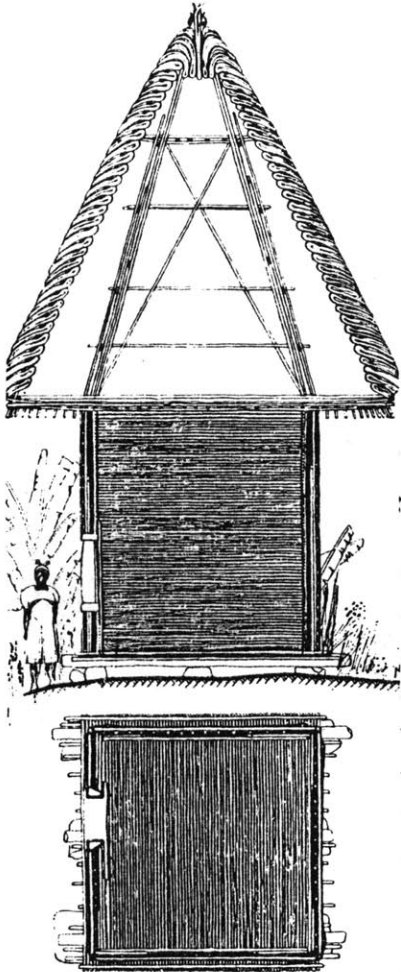
MASONRY WALL, TOURNUS



ADOBE WALL, TAOS, NEW MEXICO

wood

BAMIKELE STOREHOUSE, CAMEROONS



The individuation process of slow, powerful, patterned growth is observable in a tree.

A tree or plant is a symbol of development of psychic life.

Unlike a tree wo-man can be aware of her/his own growth.

The seed contains a future tree in latent form.

When, where and whether a seed grows is determined by fate.

When used in construction wood can be lashed into a framework which is not absolutely rigid, or it can be rigidly connected.

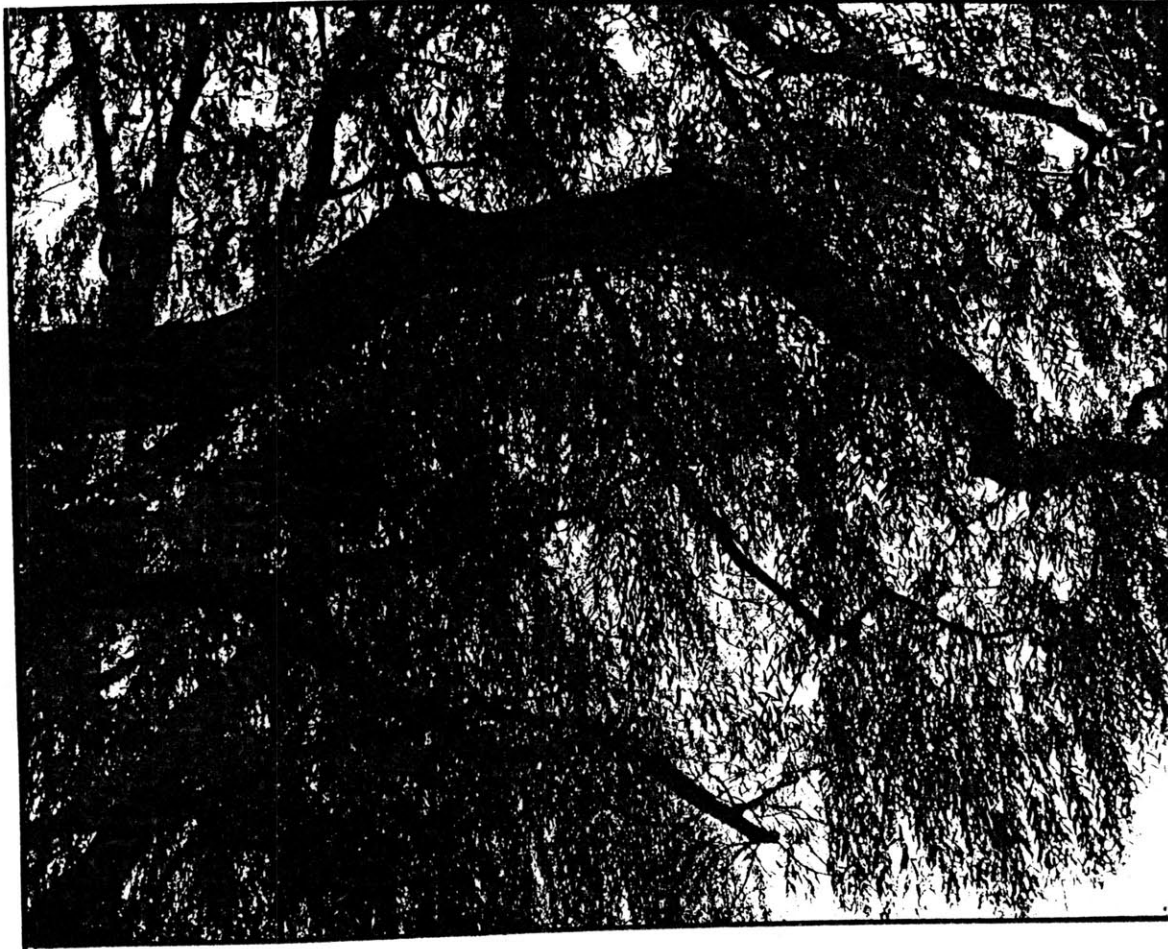


A wandering carpenter, called Stone, saw on his travels a gigantic old oak tree standing in a field near an earth-altar. The carpenter said to his apprentice, who was admiring the oak: "This is a useless tree.

If you wanted to make a ship, it would soon rot; if you wanted to make tools, they would break. You can't do anything useful with this tree, and that's why it has become so old.

But in an inn, that same evening, when the carpenter went to sleep, the old oak tree appeared to him in his dream and said: "Why do you compare me to your cultivated trees such as whitethorn, pear, orange, and apple trees, and all the others that bear fruit? Even before they can ripen their fruit, people attack and violate them. Their branches are broken, their twigs are torn. Their own gifts bring harm to them, and they cannot live out their natural span. That is what happens everywhere, and that is why I have long since tried to become completely useless. Your poor mortal! Imagine if I had been useful in any way, would I have reached this size? Furthermore, you and I are both creatures, and how can one creature set himself so high as to judge another creature? You useless mortal man, what do you know about useless trees?"

The carpenter woke up and meditated upon his dream, and later, when his apprentice asked him why just this one tree served to protect the earth-altar, he answered, "Keep your mouth shut! Let's hear no more about it! The tree grew here on purpose because anywhere else people would have ill-treated it. If it were not the tree of the earth-altar, it might have been chopped down." *



metal



Metal is an opaque, ductile and lustrous material mined from the earth.

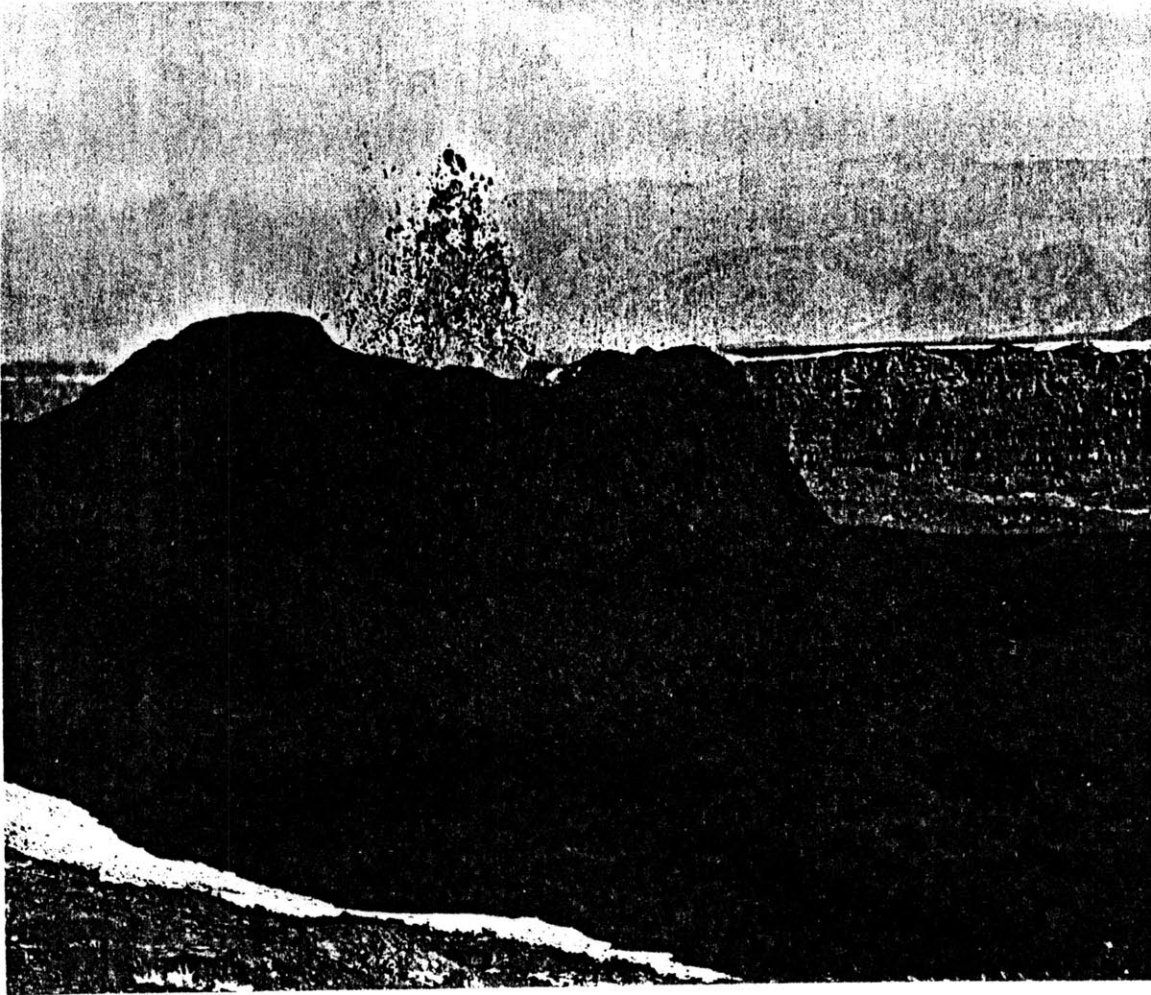
Pure metals such as gold or copper are good conductors of energy (heat and electricity).

Glass is referred to as metal in its molten state.

Glass and metal in combination mirror still water, allowing the possibility of light-energy reflection.

A mirror is a powerful tool, Medusa could be seen by men safely in a mirror while a direct gaze would turn a man into stone.

Metal is assembled like wood but a much lighter framework results. The behavior of metals can be more precisely predicted than wood.



A volcano violently erupts lava from deep within the earth which leaves a barren path of destruction in its wake.

Fire sparks the imagination.

Fire allows luminosity wherever there is an ample oxygen supply.

Heat is another product of fire.

Fire imitates sunlight in this way.

Light allows sight.

fire

light



Light is visible energy. Energy is equivalent to mass ($E=mc^2$). Gravitational field deflect masses; therefore gravity deflects light energy resulting in curvature of time-space.

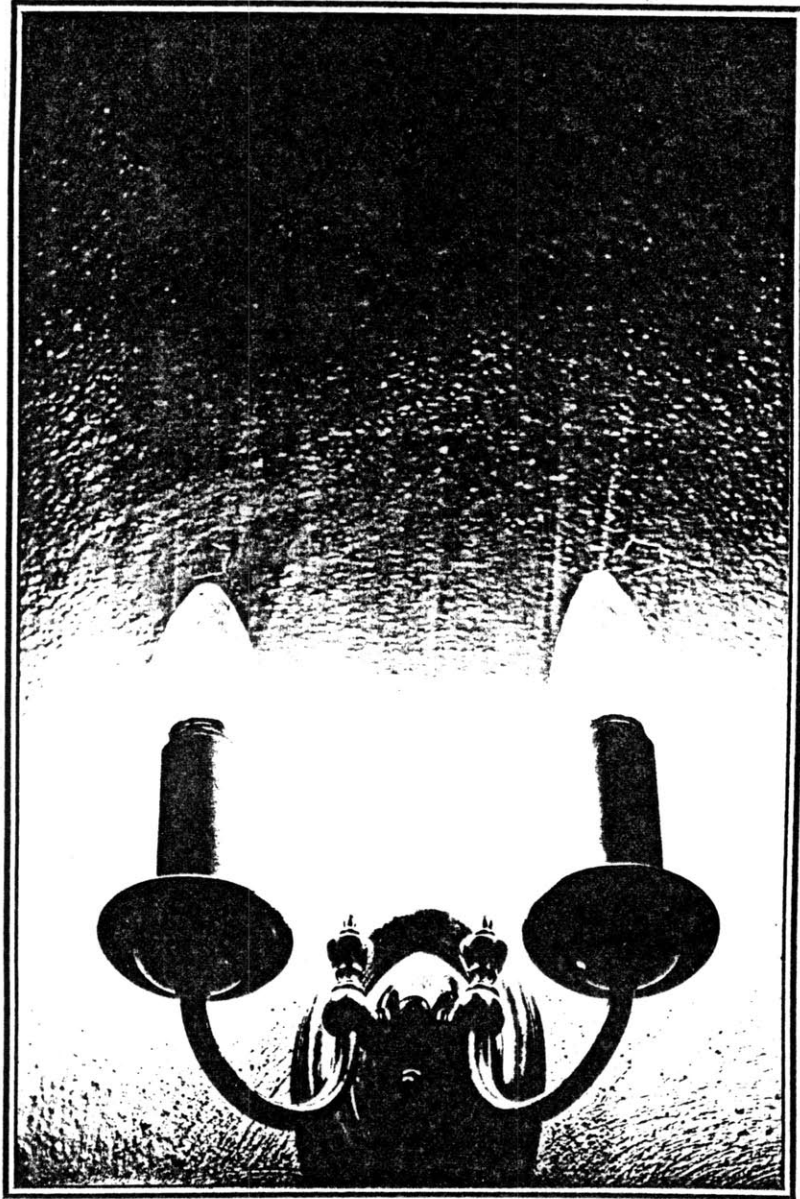
Lightwaves can be bent, blocked, blended, reflected, diffused.

Light allows life to exist.

Sunlight affects the basic life systems of plants and animals.

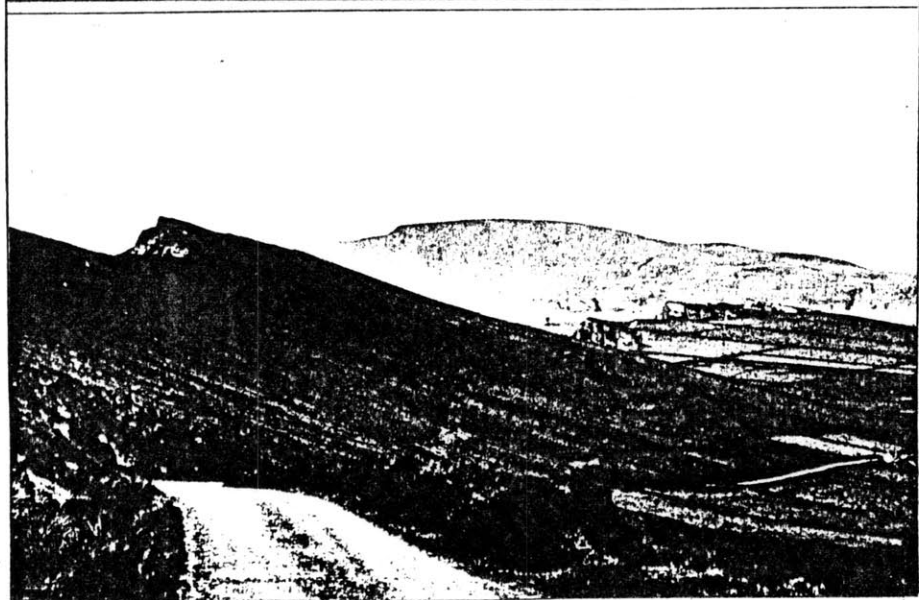
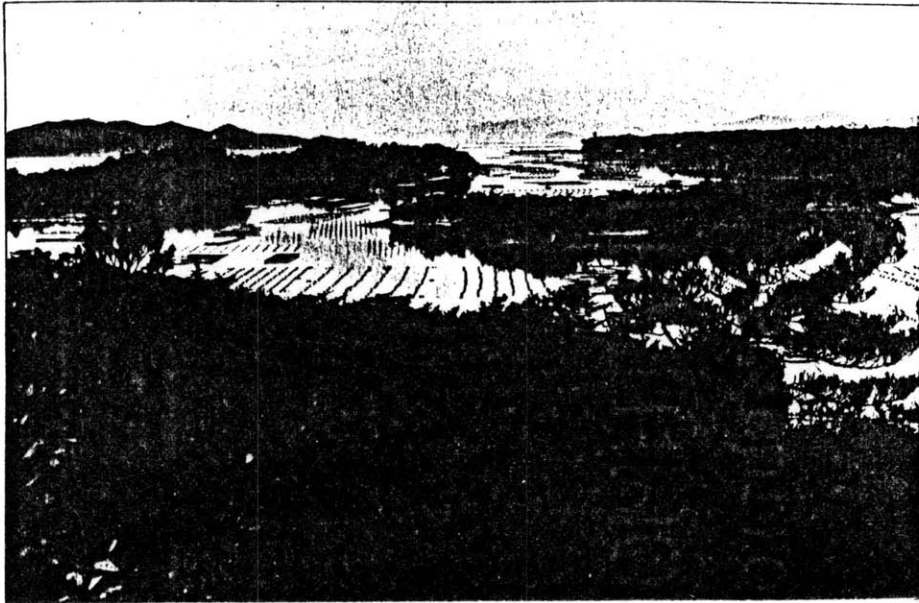
Light/shadow effects a fleeting image since the relationship between light and image change continuously with the movement of the sun.

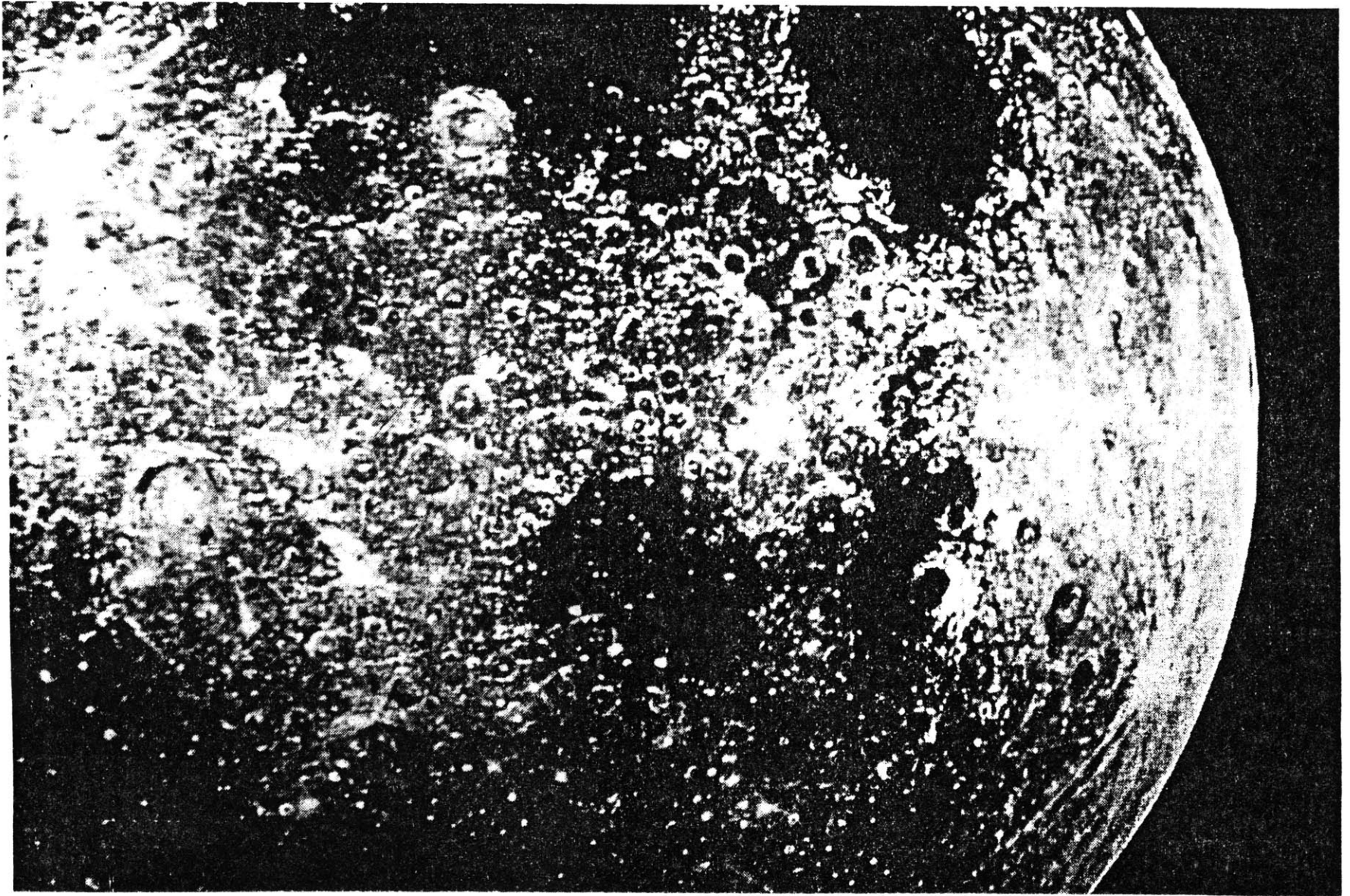
Objects rarely receive uniform illumination.



Light is built into the physical
environment articulated by form.

Cosmos





MOON

GALAXY



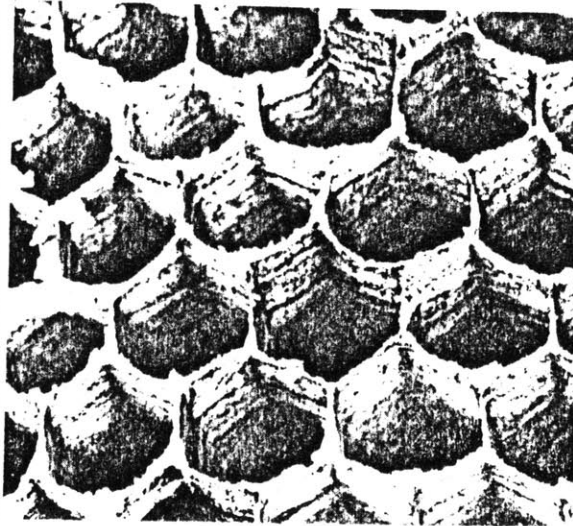
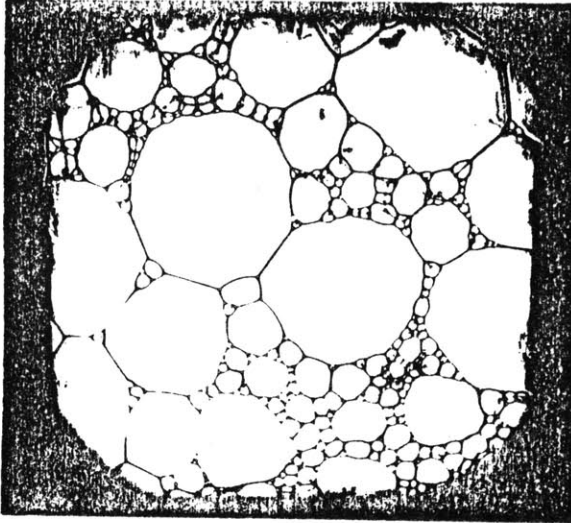
ORDER

Natural Framework

Manmade Framework

Constants

PROJECTED BUBBLE AND WASPS NEST



"Symmetria is a proper agreement between different parts and the whole general scheme in accordance with a certain part selected as a standard. This word emerges from proportion. Principles of symmetry are due to proportion." *

Vitruvius



HONG KONG

"... man feels the need always to exist in a total and organized world."

Order occurs where nature is controlled by manmade.

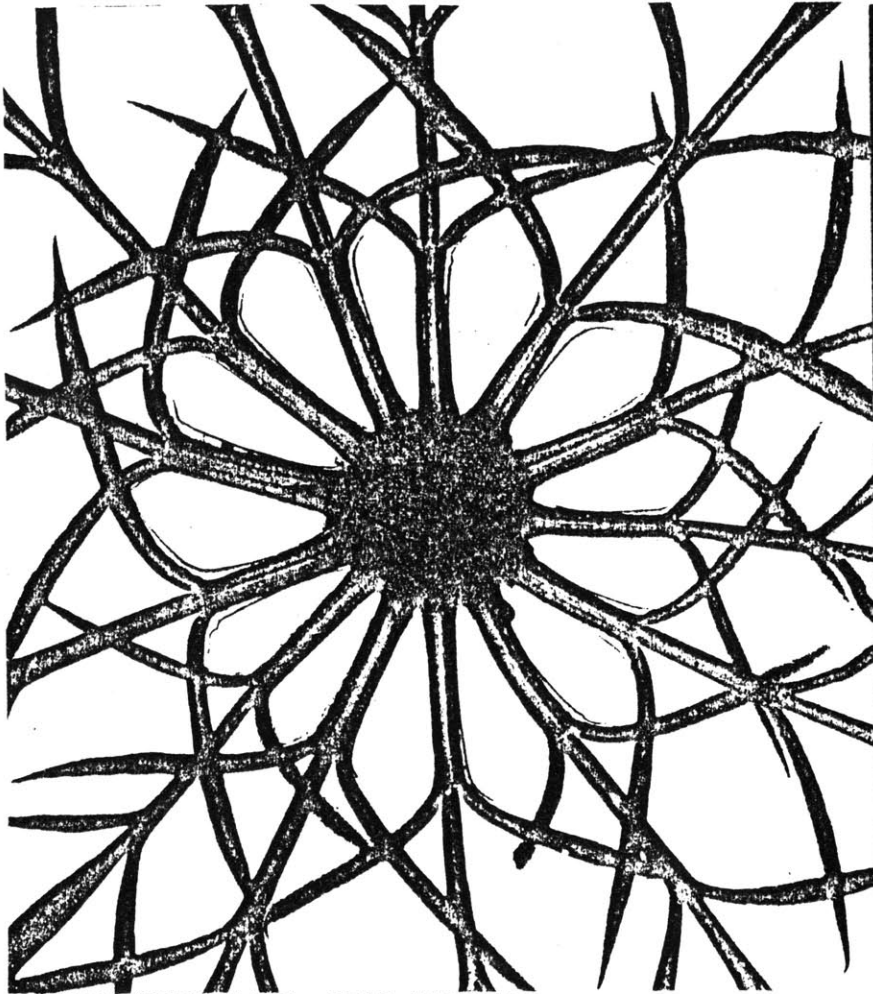
A grid can be a dimensional system and not completely built.

Lines of apparent physical registration visually organize space.

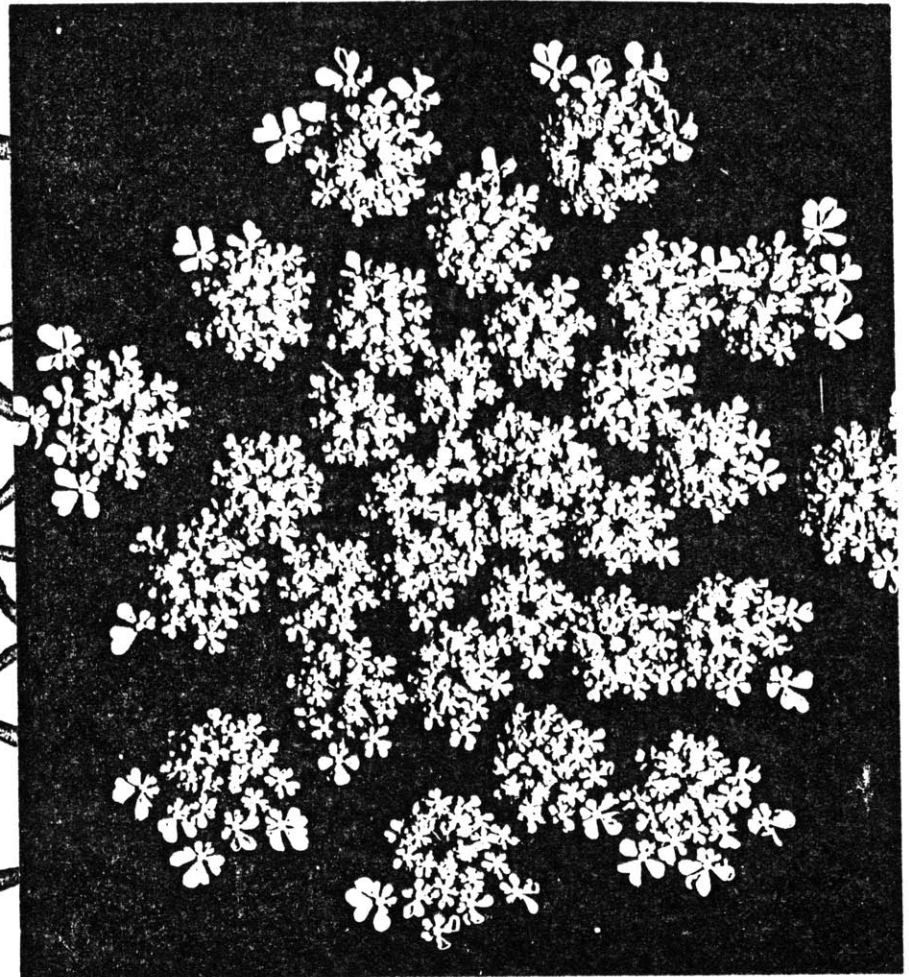
Dimensional grids are inherited.

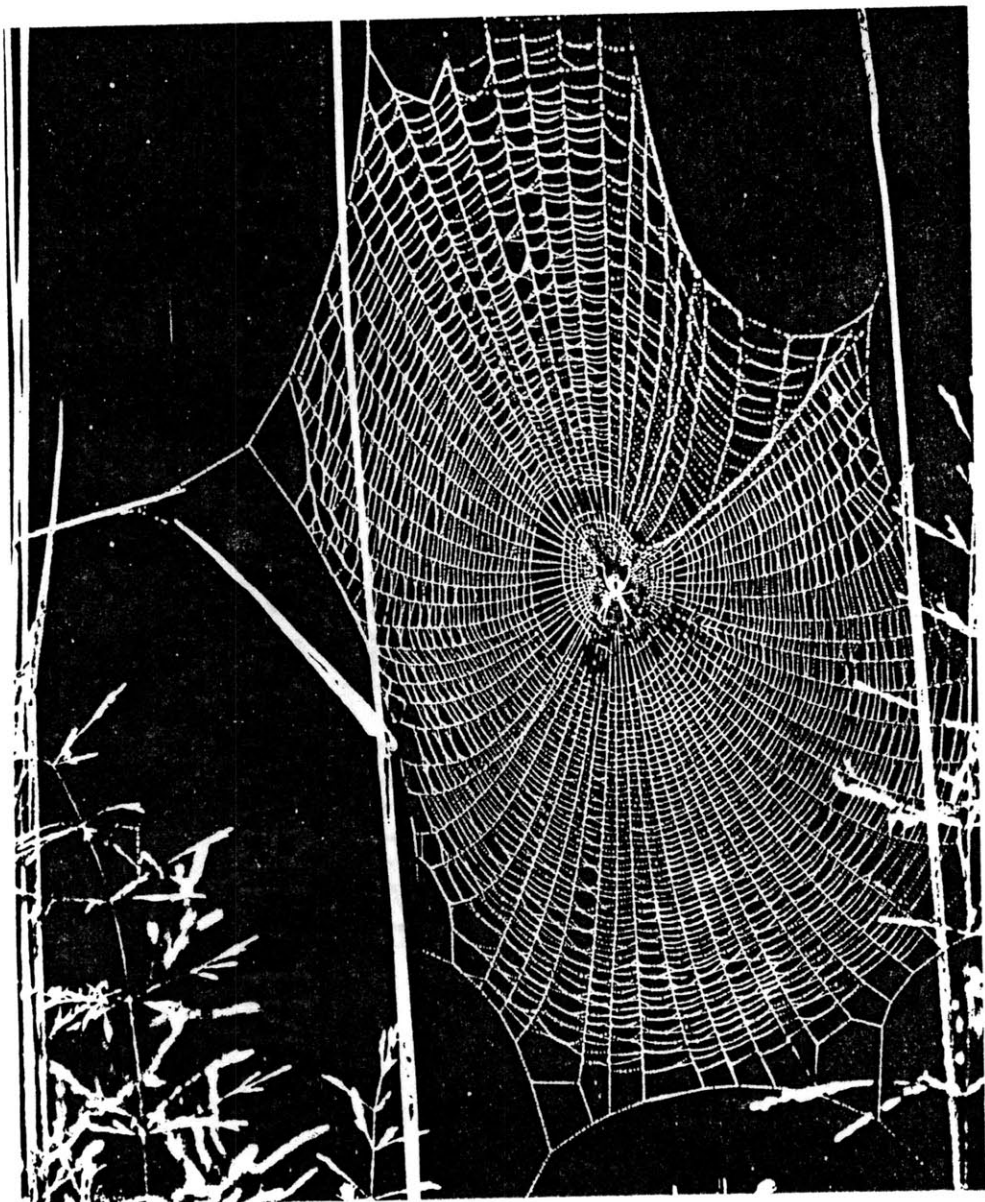
Space is filled with nonhomogeneous matter. Discontinuities occur in a three dimensional field as visible interruptions.

Natural Framework



QUEEN ANNES LACE, NEAR AND FAR





SPIDERS WEB

NOTRE DAME, PARIS, FRANCE



121

Anthropomorphism



Figure being tempted by bomb reflects social unrest in Spain preceding the civil war.

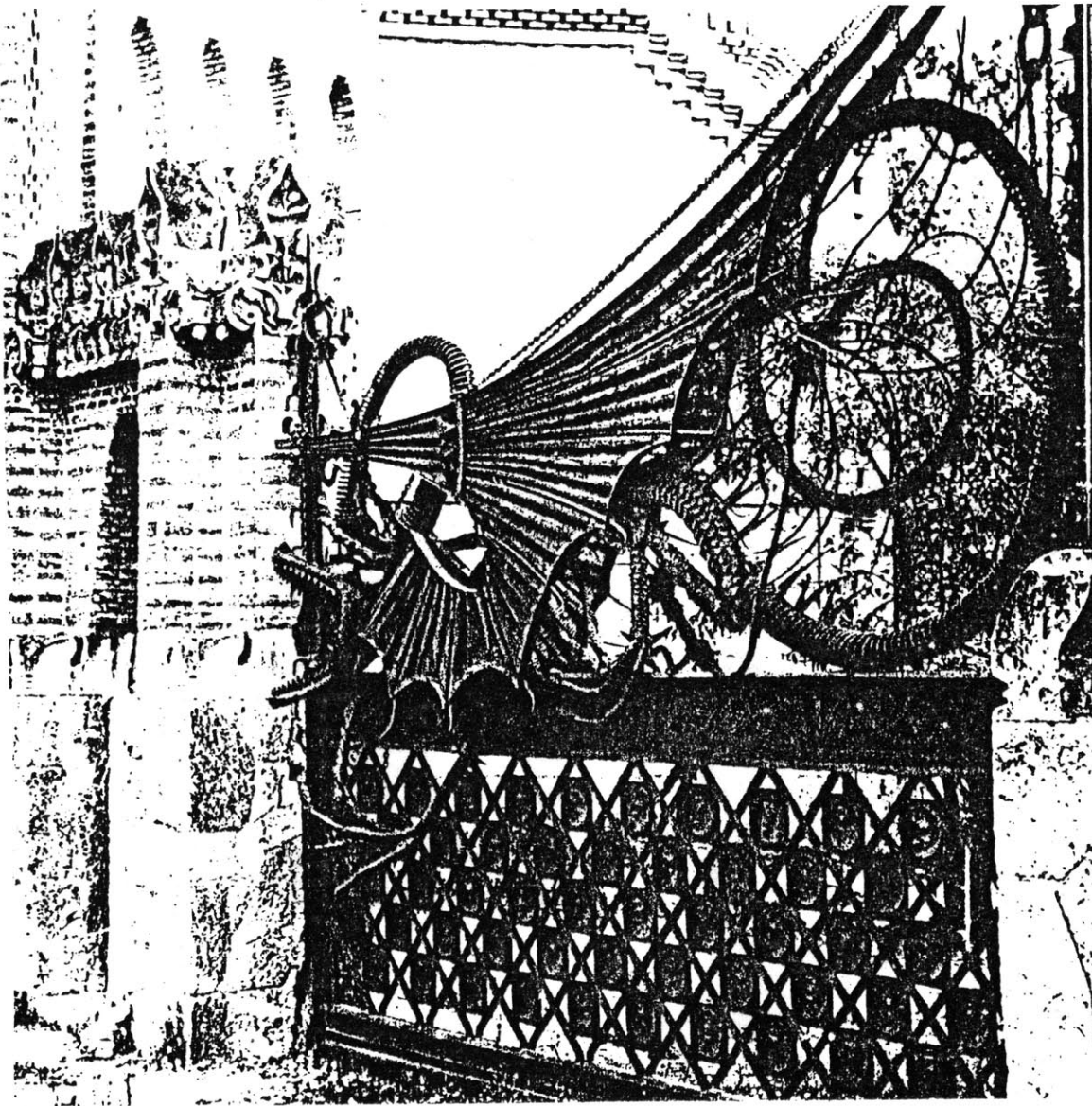


CYPRESS TREE WITH PELICAN AT BASE



The Sagrada Familia Rosary portal is a bible epic with a cast of the streets.

People, animals, even vegetation were photographed against a mirrored construction from many different viewpoints and plaster cast by the architect Gaudi.



Dragon

In Japan the topography is seen with attributes human and animal.

The attribution of hair, and bones, and blood to the landscape, links anatomy and topography. *

Dragon in Feng-Shui is the most basic form and so all topographical forms resemble it in some way.

Much of the landscape refers to parts of the dragon's anatomy, its veins, arteries, etc.

So dragons are seen simultaneously as mountains and watercourses.

The Dragon forms are essentially linear and so directional.

The dragon symbolizes the overall animation of all landscape features.

Human victories over attackers reiterate the victory of god over dragons. *

The dragon is formless, and symbolizes darkness, night, deathly cosmic waters and the amorphous.

The dragon represents chaos, the antithesis of order.

Humans attempt to tame nature, conquer the dragon.

The dragon is a powerful symbol since it is able to transform itself in size and to take the appearance of other animals.

The dragon is the all pervading element in every myth related to the powers of nature.

The power of transformation is the basis of a conception of nature and the landscape that is continually undergoing cycles of change and the lines of motions.

The legendary dragon is ritually slaughtered, and cut into many pices from which other things may be created.

Tiamat, a marine-dragon, was conquered by Marduk and the pieces were used to create the world.

The dragon is in fact an all pervading element of every myth * relating to the powers of nature.



DRAGON OF ST. GEORGE FROM MEDIEVAL MANUSCRIPT

Roofs precede walls as a shelter form.

The slope of a roof is a function of the physical terrain and corresponding climatic conditions.

In general, roof slope increases with distance from the equator where flat roofed adobe roofs are the rule since wood is usually scarce.*



BOATHOUSE, JAPAN

City Structure concentric

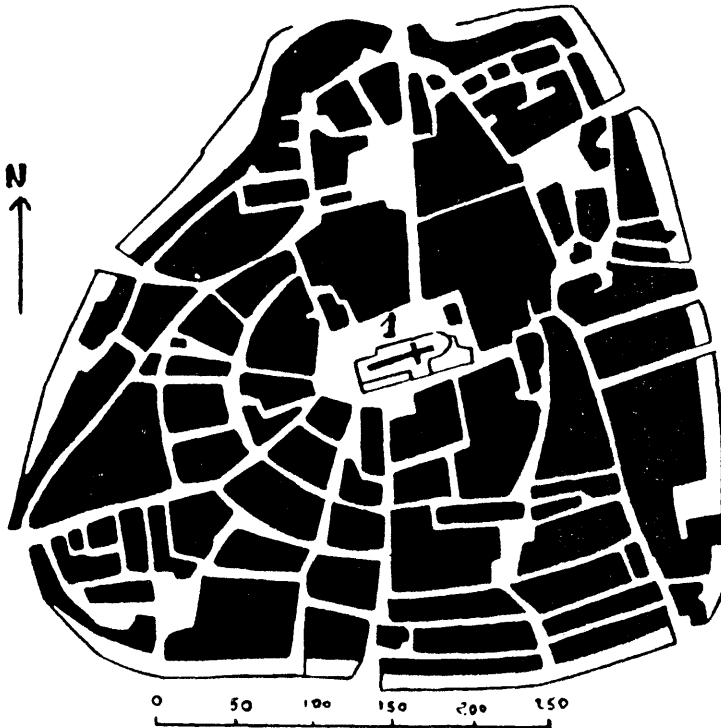
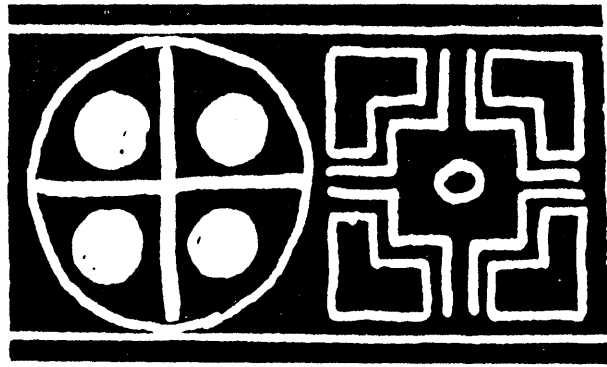
The first cities were ceremonial centers which attempted to control hostile forces natural and otherwise.

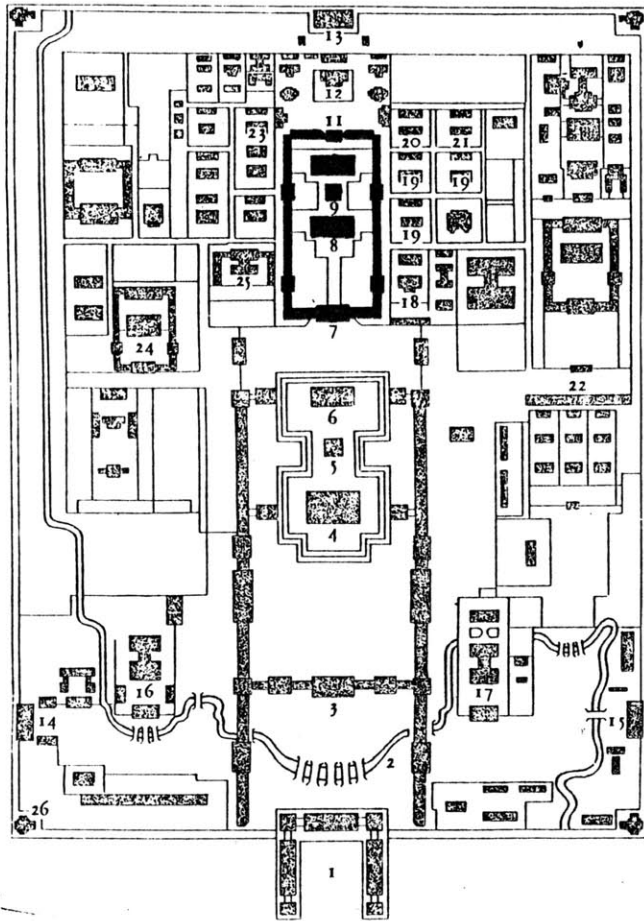
The trenches and labyrinths fortifying many ancient Indian cities were designed to repel invasion by demons and ghosts.

Similar patterns of defense were built in Europe where deathly and devilish characteristics were easily attributed to human enemies.* Concentric organizations are self-contained, sustained towns.

The Medieval City of Brive, France, is a cosmological configuration of groups of seven.

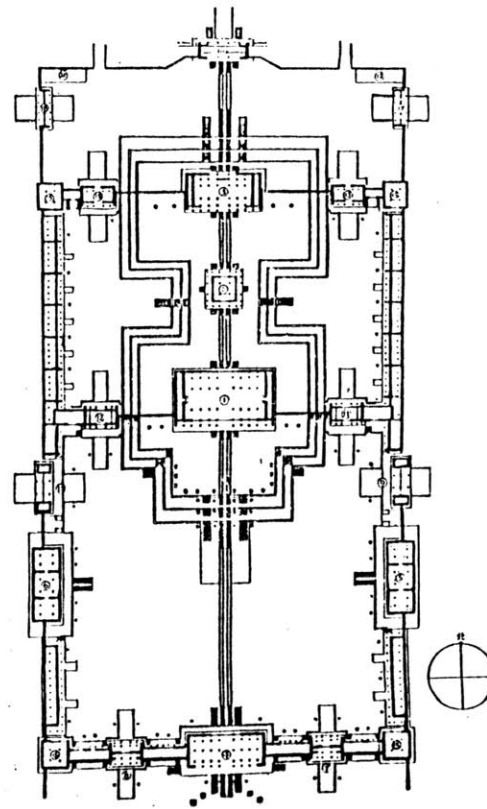
There are seven gates, seven radial streets, seven circumambulatory streets and seven neighborhoods.





"The capitol of the perfect Chinese sovereign is located at the center of the world, then on the day of the summer solstice, the gnomon must cast no shadow."

M. Granet



T'AI-HO TIEN 1627

Peking is built as a microcosm of the universe just as T'ai-Ho Tien (1627), located at the climax of the precessional axis inside the capitol city.

In the far East cosmic significance was the most important criteria of city form; the city was seen as a microcosm of the universe and was built in response to local malevolent and benevolent forces. Stability was of primary import, in order that everyone might know their place in society.*

The predominance of an axis mundi in many Eastern cities reflects the mixture of religion and government as the powerful elite in the society.**

The city as universe unfolds from the center reaching out in the four cardinal directions.

The square city form is quadranted into four sections corresponding to the four cardinal horizons.

In China, the north star, polaris, forms and axes between heaven and earth.

geomorphic



Most settlement patterns reflect man's desire to control natural forces.

Most planned cities are either concentrically organized or respond to existing land forms.

Few settlements are sited geomorphically.

City organization which respond to existing landscape shapes are made up of directional built definitions aligned with the field.

Toledo, originally a Visigothic citadel, is geomorphically protected by a natural moat and located along a steep hillside.*



VENICE

Venice is unique in that it is a completely man-made, controlled, landscape structure around a main canal which is no further than 1000 feet from any spot in the city.

The growth of Venice is like that of an actual living organism without long straight lines.

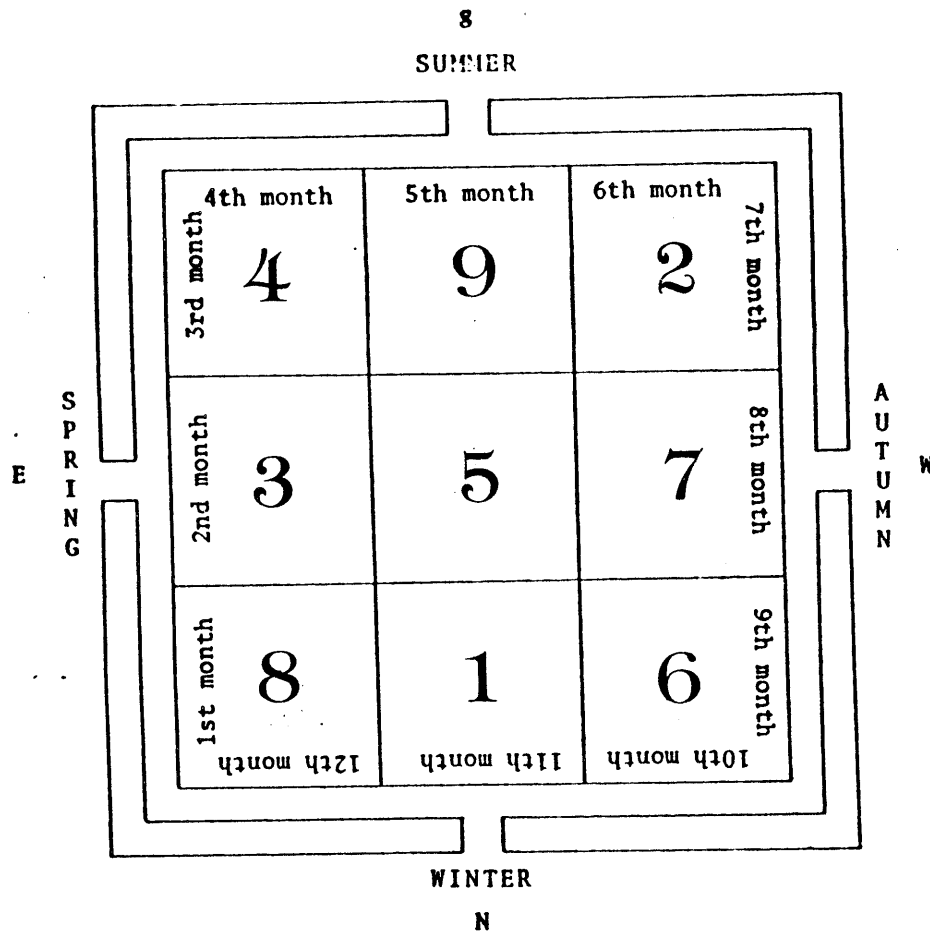
Urban tissue should be self-regenerative, able to heal its own wounds.

A destruction of a city is a regression to a state of chaos, the transformation of chaos into cosmic order occurs where a territory is claimed, possessed and inhabited.*

Consecration of a territory is a micro cosmic reproduction of primordial creation.

Rituals of possession symbolize rebirth.*

Building Structures

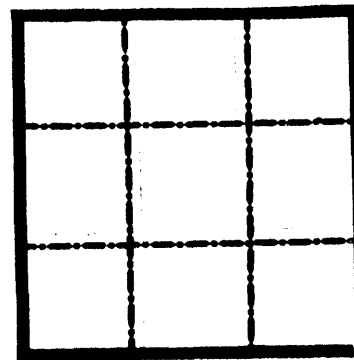
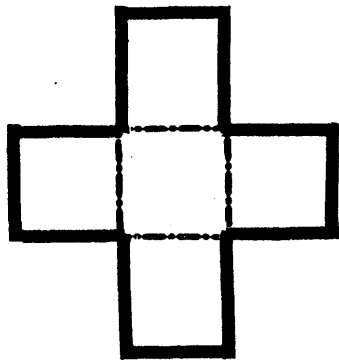


"Thus the Lo Shu magic square is the product of a river that links the organization of space and time." *

Individual building forms are either centripetally organized or geomorphic.

The Lo Sho form was a cosmic concept relating pattern of nine numbers (any three in a row add to fifteen) to the four cardinal directions, four seasons and twelve months.

Rôga	Ahi	Mukhya	Bhalla	Soma	Bhujaga	Aditi	Diti	Agni
Papa-yaks-man	Rudra	Mukhya	Bhalla	Soma	Bhujaga	Aditi	Apa	Pary-anya
Sosha	Rudra-jaya	Prthividhara			Apa-vatsa	Jayanta		
Asura						Indra		
Varuna	Mitra	Brahma			Aryaman	Surya		
Kusuma-danta						Satya		
Sugriva	Indra	Vivasvan			Savitr	Bhrsha		
Dauv-rika	Indra-jaya	Bhrgaraja	Gandharva	Yama	Braha-kata	Vitatha	Savi-tra	Anta-riksha
Pita-rah	Mrga	Bhrgaraja	Gandharva	Yama	Braha-kata	Vitatha	Pusan	Amila



MING T'ANG

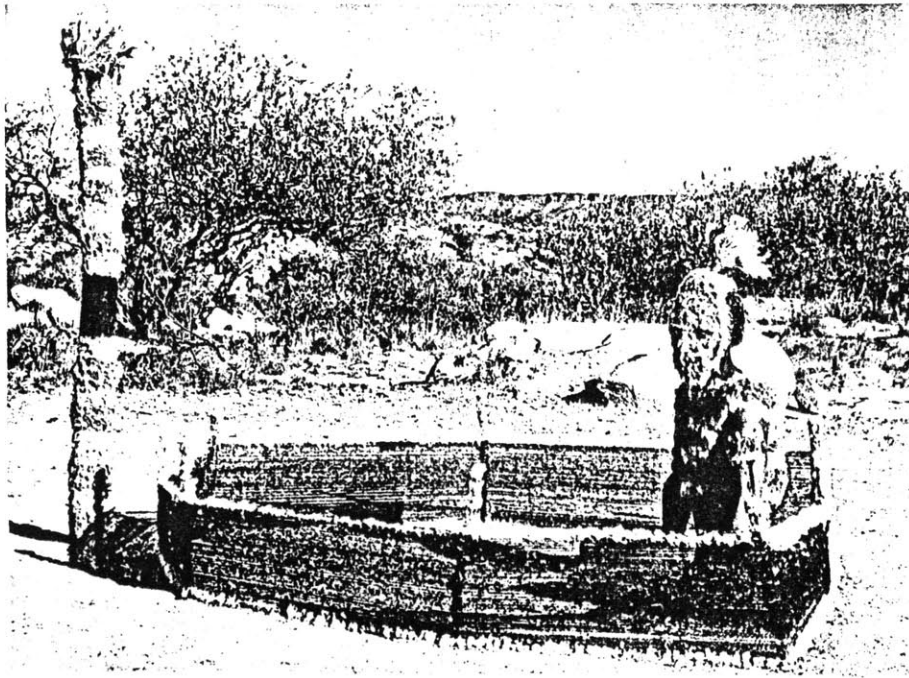
The magic square was built as the Ming-T'ang hall central to the Chinese capitol city.

The earthly, square building is covered with a heavenly, circular thatched roof.

Ming T'ang was an ideal hall of five or nine rooms, a central chamber surrounded by equal sized squares. *

The plan was further divided into twelve to manifest the twelve months as twelve corresponding directions.

Ming T'ang was a cosmic model, and so the nine halls are seen on the geomancers as twelve sets of five numbers indicating Yin and Yang positions for time of year.



Axis Mundi

Cosmic symbolism is built in habitation forms.

To build a dwelling is to create a world to inhabit, the house is also a model of the cosmos.

Among the Nad'a people of Flonos Island the axis mundi appears in the ceremonial house as a sacred "pole of heaven" supporting the sky like a tent and serving as a place of sacrifice. *

The Achilpa, an Arunta tribe, makes a cosmic pole which allows communication with the sky.

Numbakula, the legendary ancestor, made a sacred pole which he consecrated with blood and then climbed it, disappearing into the sky. *

A similar cosmic pillar was used in the ceremonies of North American Indians.

The Sioux and Algonquin, native Americans, built a sacred lodge which represented the universe while simultaneously symbolizing the year. The year was understood as a journey through the four cardinal directions signified by the four doors and four windows of the lodge. *

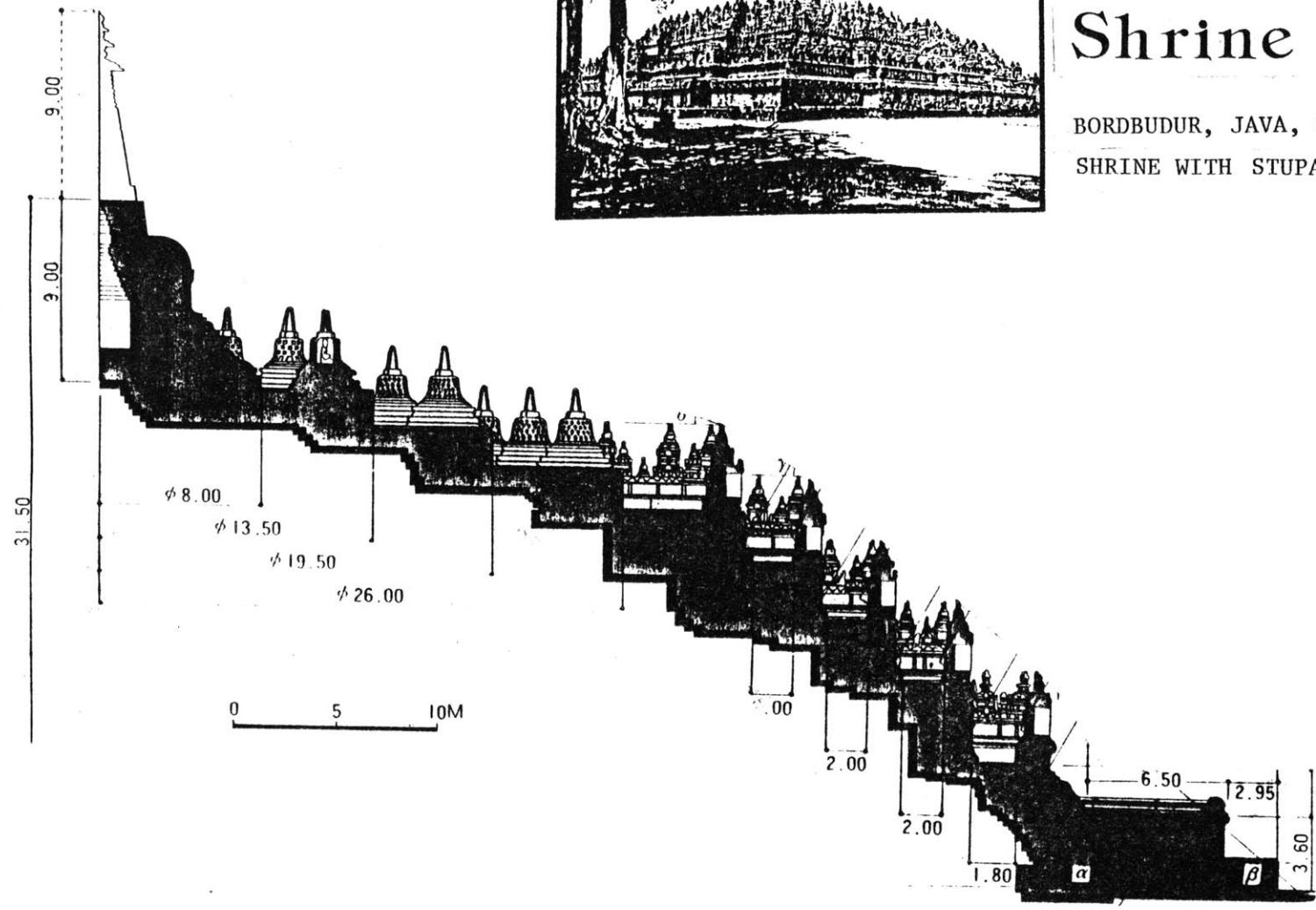
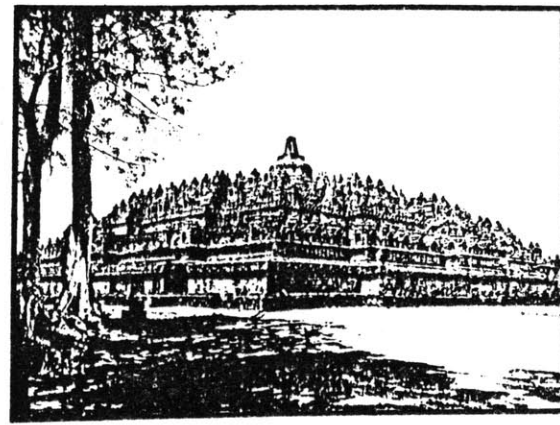
The yurt, found in central Asia, contains a stripped tree base which emerges through a hole in the roof.

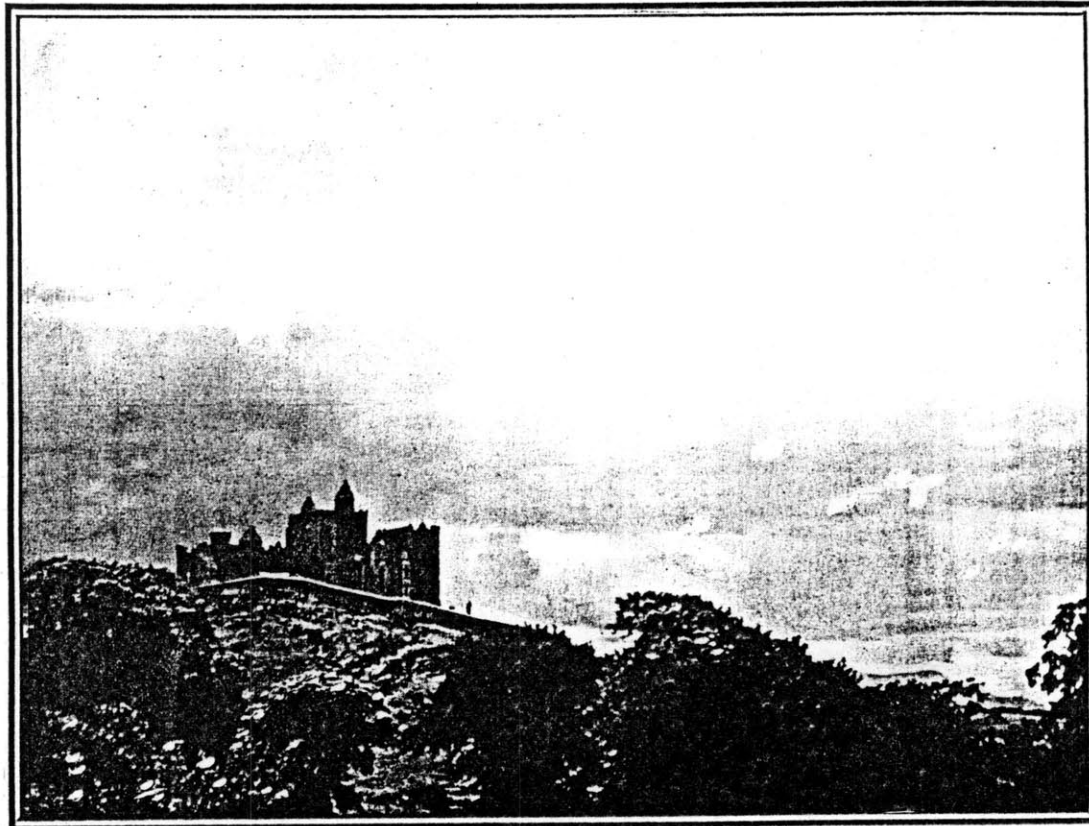
A ladder symbolically leading to heaven is climbed by Shamans on celestial journeys.

Constants

Shrine

BORDBUDUR, JAVA, STEPPED PYRAMID SHRINE WITH STUPA





ROCK OF CASHEL, IRELAND

Landmarks are noteworthy and contrast with the background, have spatial prominence, are historically significant.

Landmarks are distinguishable, clear forms, which serve as reference points.

Landmarks stand alone, and are often single, isolated objects in the landscape.

Landmark



Monument

A monument is a group memory extending through many generations and serving to connect one with one's origins spiritual and physical.

The continuity of place which results is a physical connection to some part of the past.

Monuments as such, possess timeless qualities which transcend any single human lifetime.

Monumentality is woman's attempts at immortality.

Eternity is in reality independent of things which are temporary.

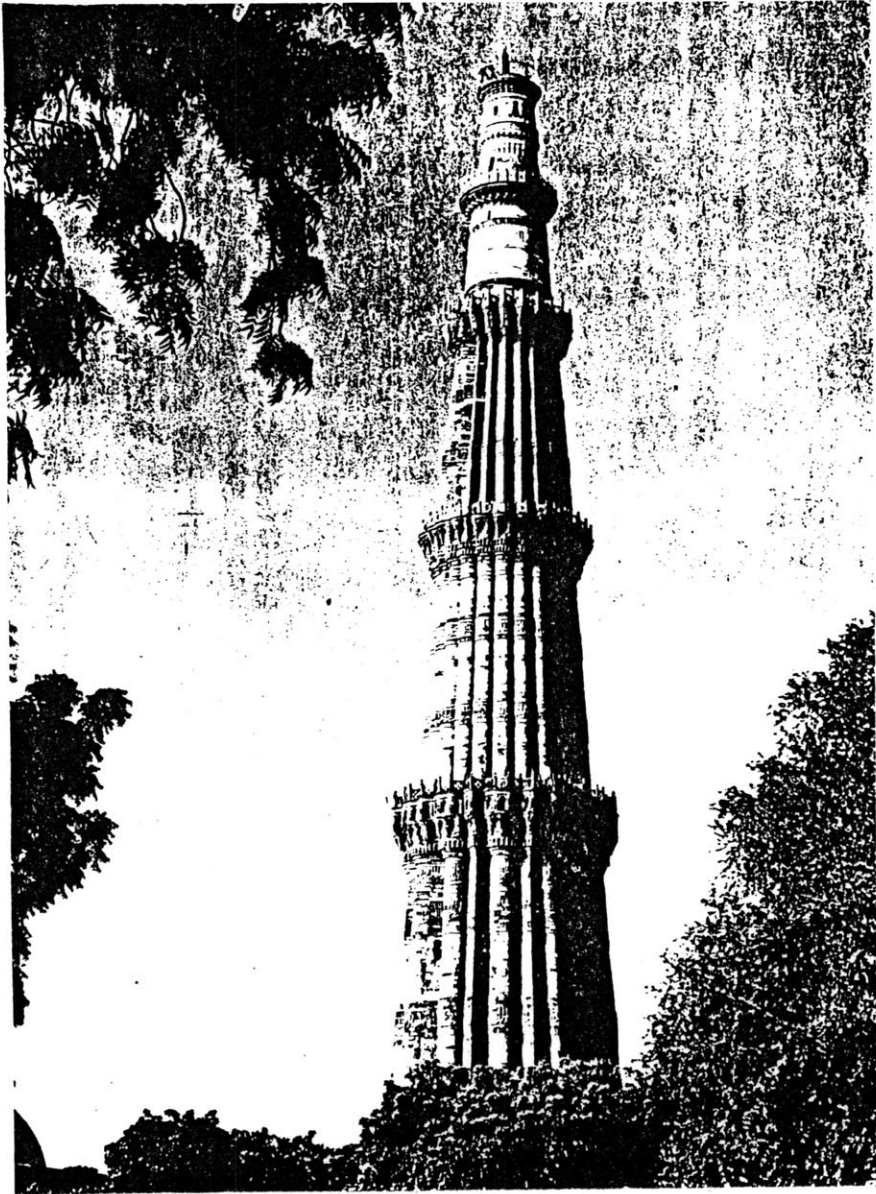
Eternal things are strong, self-sustaining, and not easily disturbed.

Is greatness eternal?

"All great deeds and all great thought have a ridiculous beginning."

"Monumental history is like the men who made it dead."

Nietzsche



TOWER OF VICTORY, QUTB MINAR, 1200 A.D.

The tower acts as a natural
pinnacle, a landmark in contrast
with the background scene.

VICTORY TOWER:

The tower measures radially
twenty-four feet at the base, and
five feet at the top.

The tower was originally four
stories high but another was later
added.

The vertical lines and sculpted
bands between the stories, rich in
geometrical design and ornamental
inscriptions from the Koran, make
the 238 feet high tower obviously
Islamic.

burial

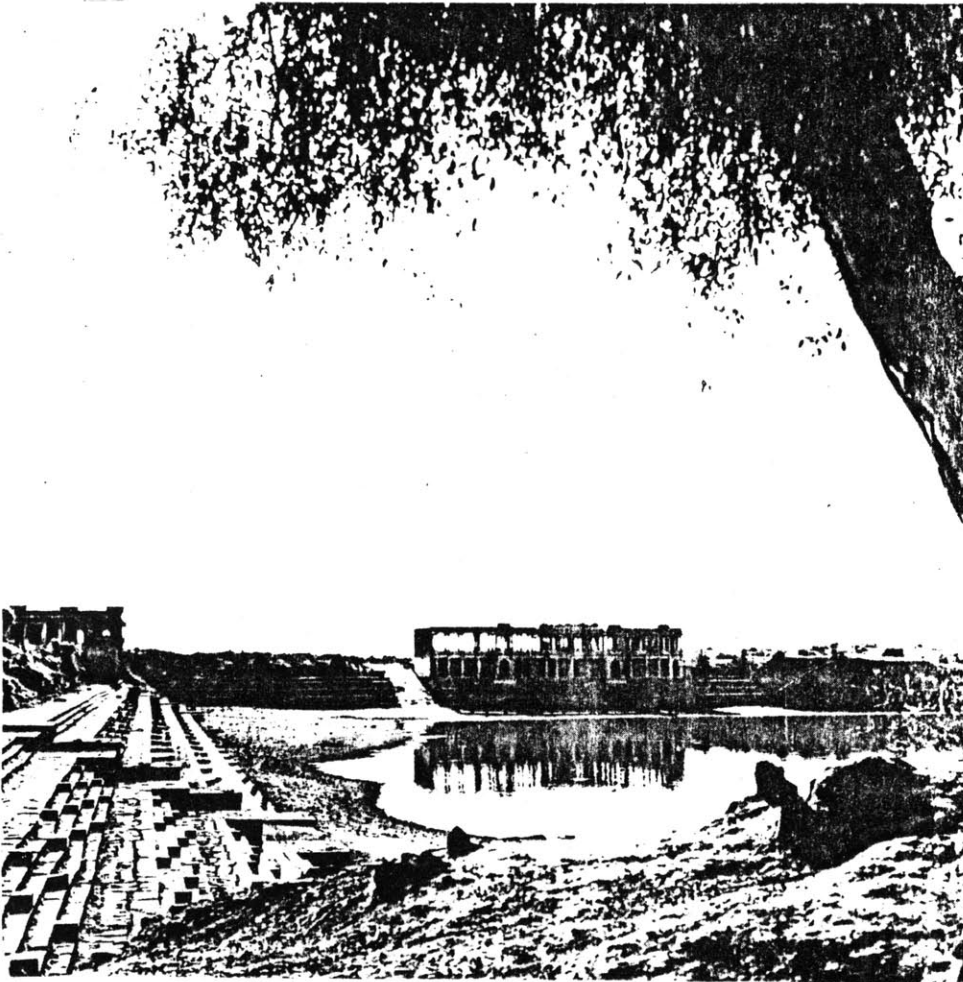
Death is marked in all cultures by gravestones, tombs and mausoleums.

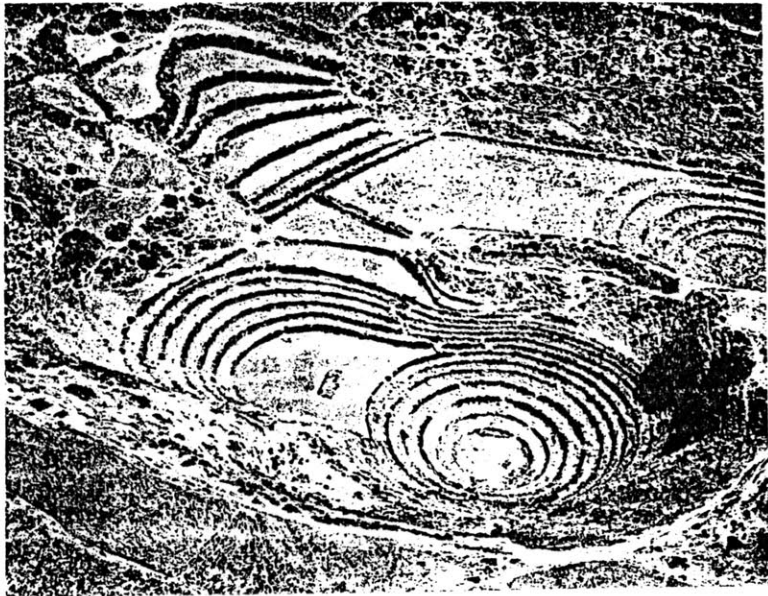
The Surkej complex was built at the turn of the fifteenth century at a major intersection of Mandu.*

It was rediscovered by the British about one hundred years ago.

The Moslem mortuary complex was built as a retreat from city life.

"To be born or to die, to enter the living family or the ancestral family (and to leave one or the other), there is a common threshold, one's native Earth... When the newborn infant or the dying man is laid on the earth; it is for her to say if the birth or death are valid, if they are taken as accomplished and normal facts."*





MAYAN AMPHITHEATERS, MACHU PICHU, PERU

Certain elements of the environment serve as constants connecting environments as they change through time.

Many such forms were built to last, monuments commemorating "important" people, places and events.

Collective forms contain individual citizens as a single unit.

Machu Pichu was built on a remote mountain top 1400 feet above a river winding through the Andes.

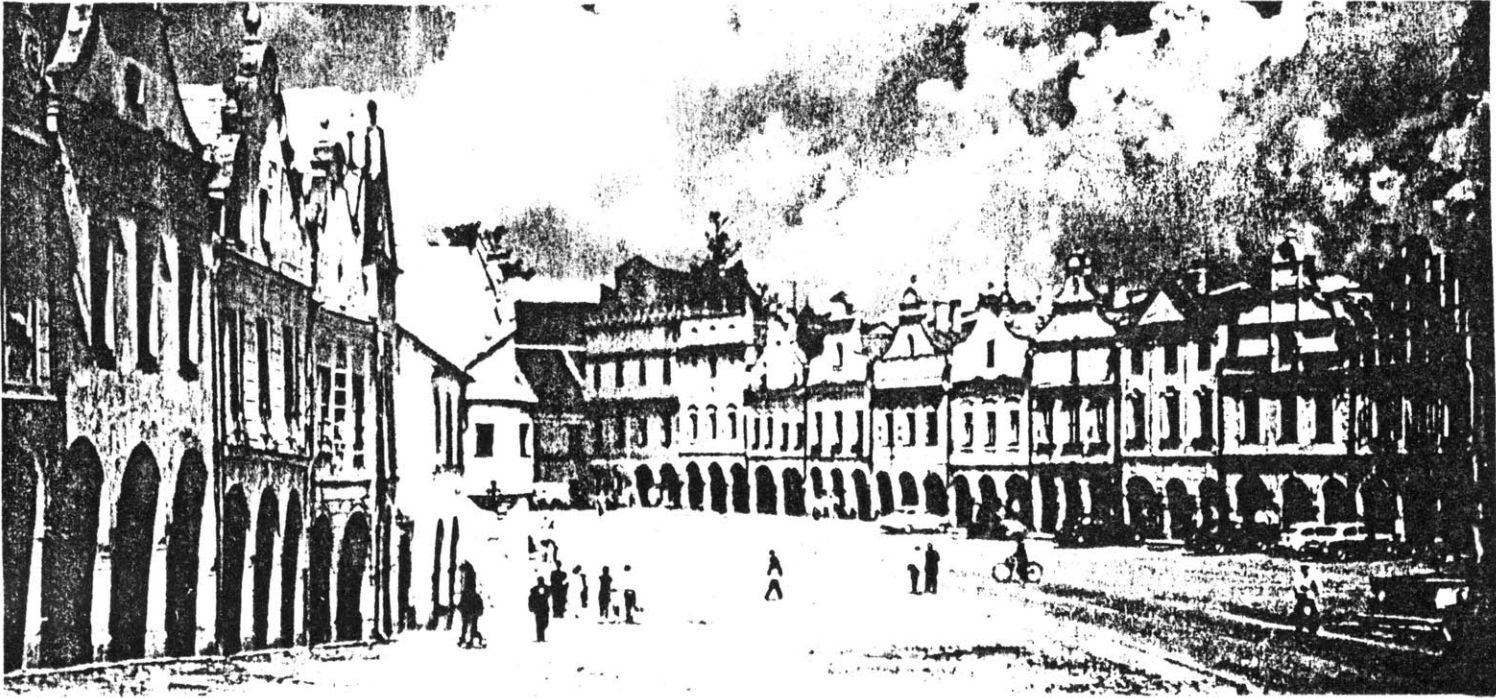
The original inhabitants were sun worshippers.

At the highest point of the five huge terraces there is a plaza where a sacred rock "tied the sun" every winter solstice theory insuring a plentiful harvest.*

Collective Form

PLAZA MAYOR, CUZCO, PERU

Plaza



Public territories are defined and protected by aggregate private buildings.

Usually public places are the most permanent elements of a city structure.



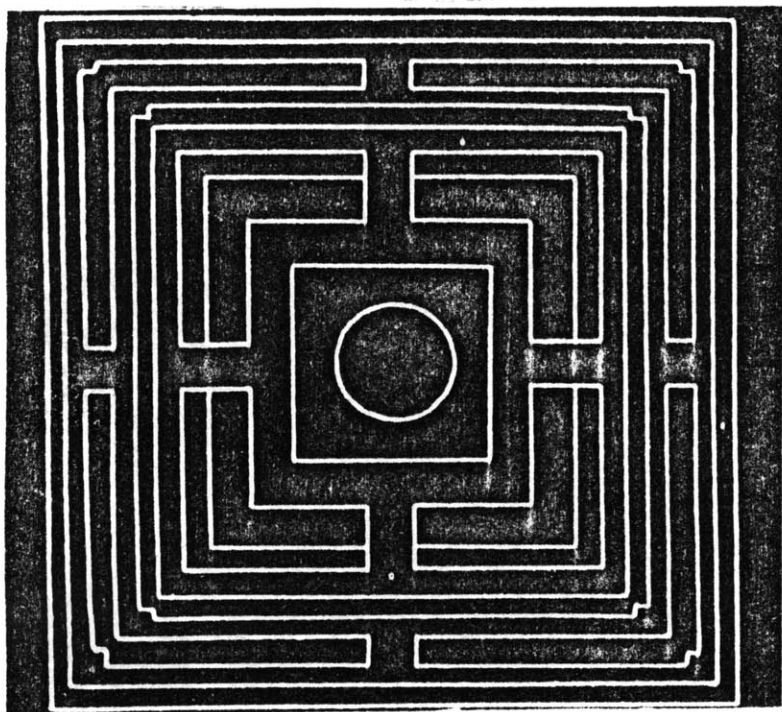
TIMES SQUARE, NEW YORK

A plaza is not necessarily
contained.

Plazas occur at intersections of
human motion.

Labyrinth, Ancient Chiffre, of wo-man's eternal search for salvation.

143



Square

A square is a static form with a motionless center.

Because it is a non-directional physical form it becomes a singular place stopping human movement.

Usually when two directional forces meet, one controls.

Usually one direction dominates in a natural intersection, a square occurs where neither direction controls.

Corners are articulated over time creating diagonal growth and movement.



Mandala illustrating humans place on square earth at the center of a heavenly dome surrounded by deities. 144

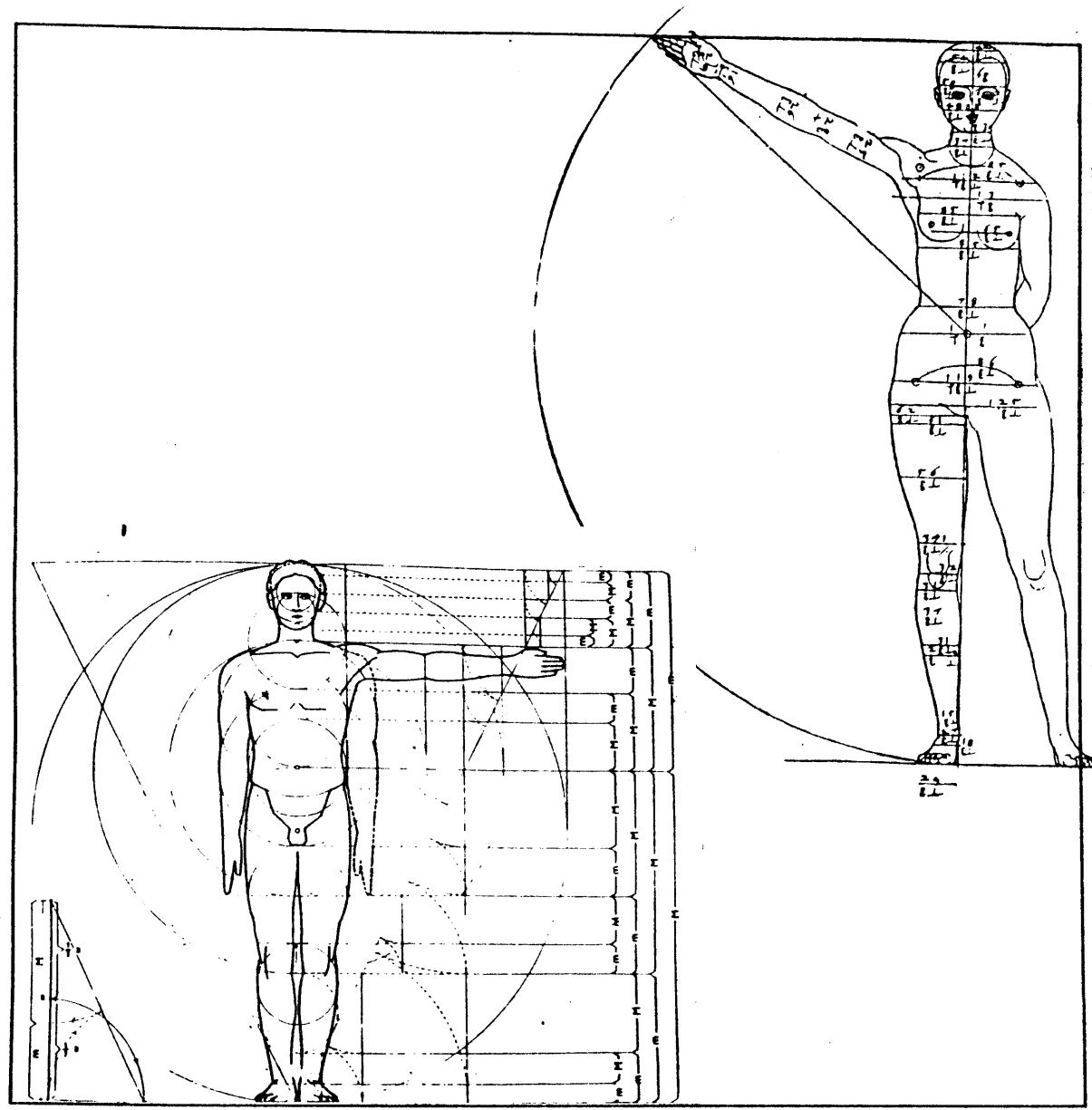
Human in the Square

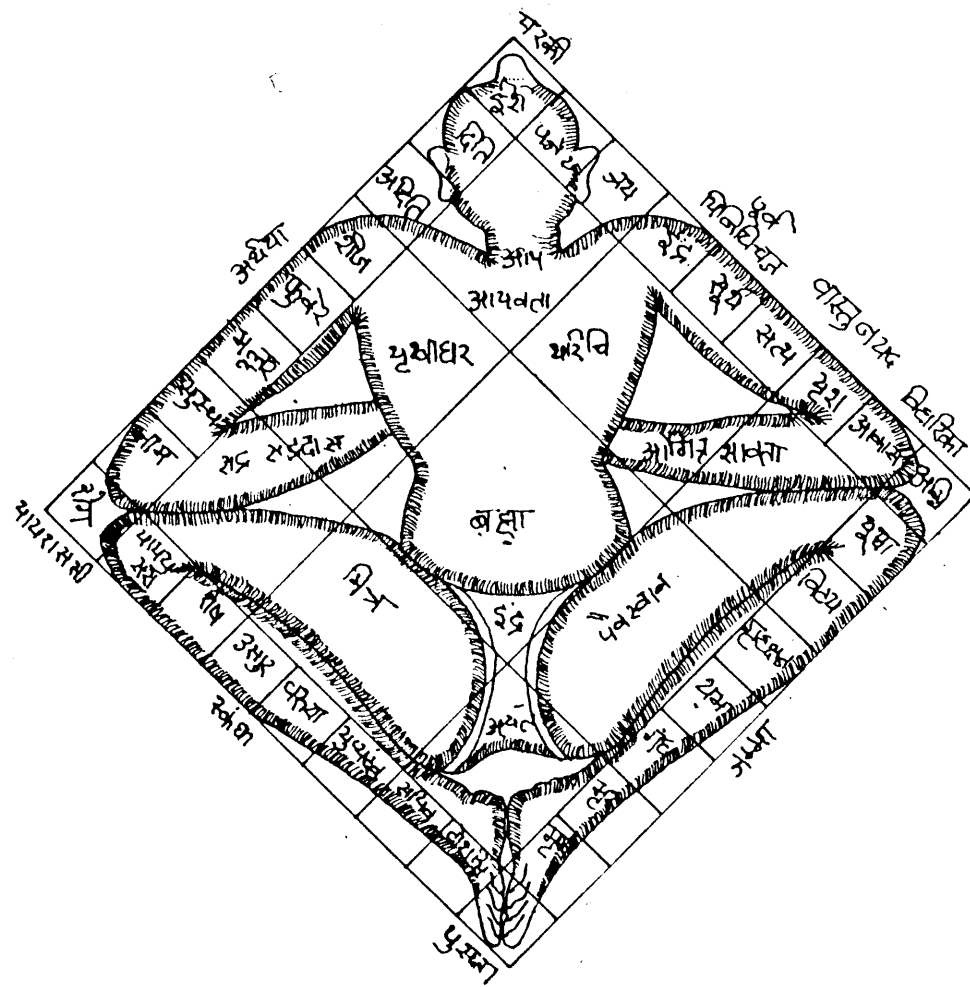
Dimensions of built definitions result from human size.

The scale of a building is defined by the size of the human figure.

Units of measure are traditionally based on human dimensions or limitations.

The handlength, eight inches, is the smallest useful dimension of construction; roughly the dimension of a stair, and a concrete block.





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