



Sacred Geometry

Patterns of Number & Nature

Janus Welton, Architect

What do Art,
Architecture,
Nature, Animals,
the Human Body,
Numbers, Shapes,
Colors, Light, Form,
and all Creation
have in common?

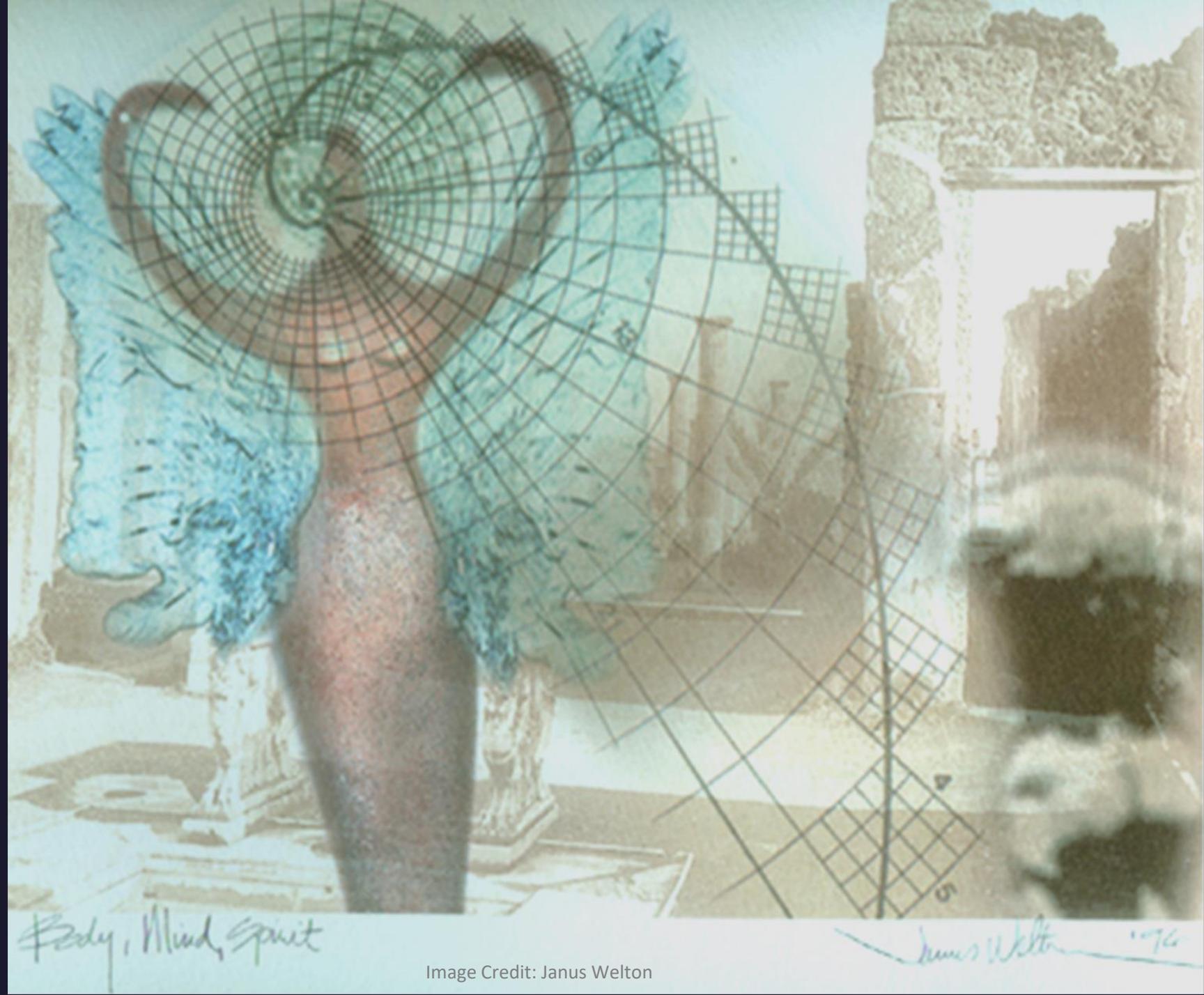
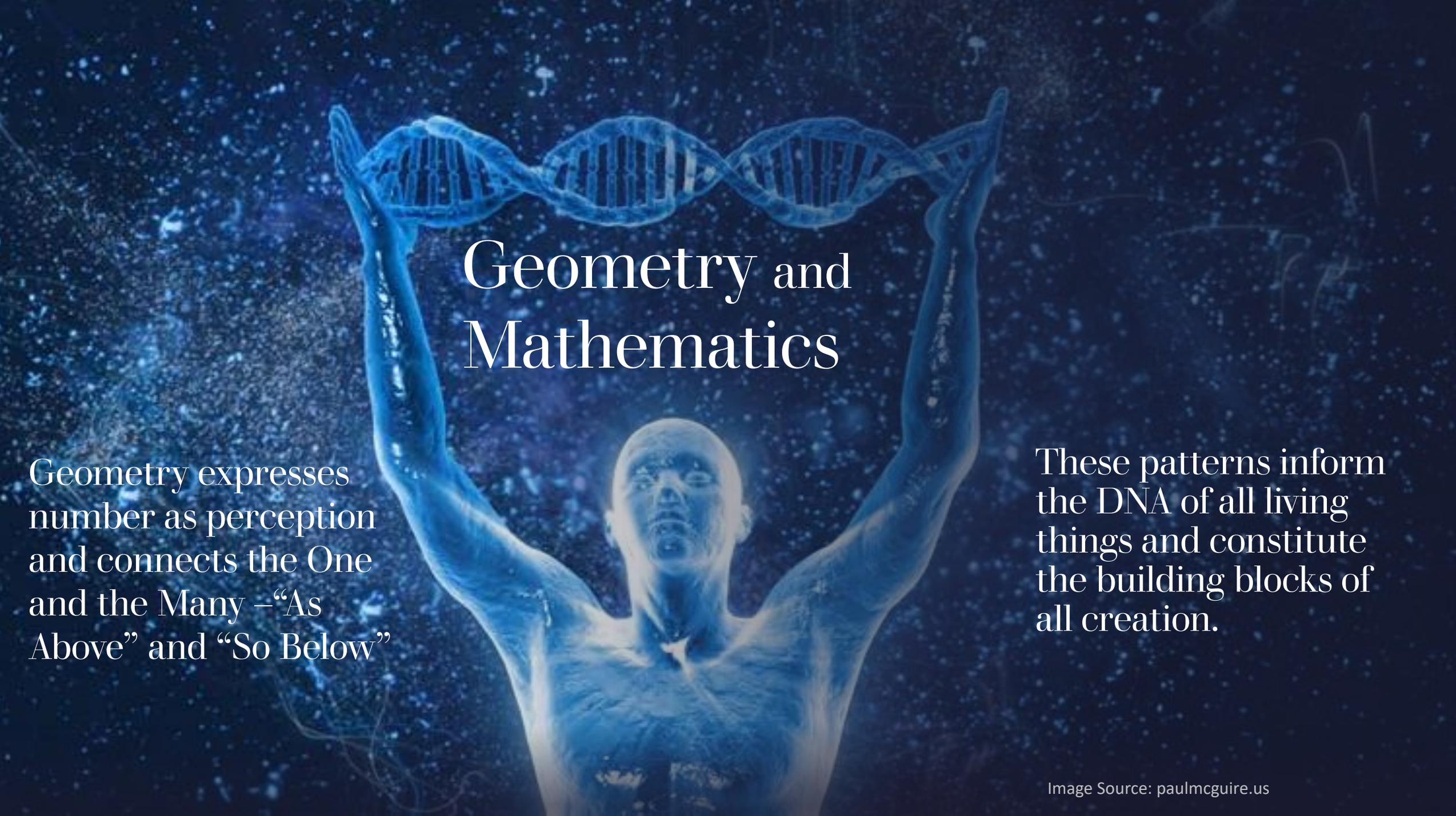


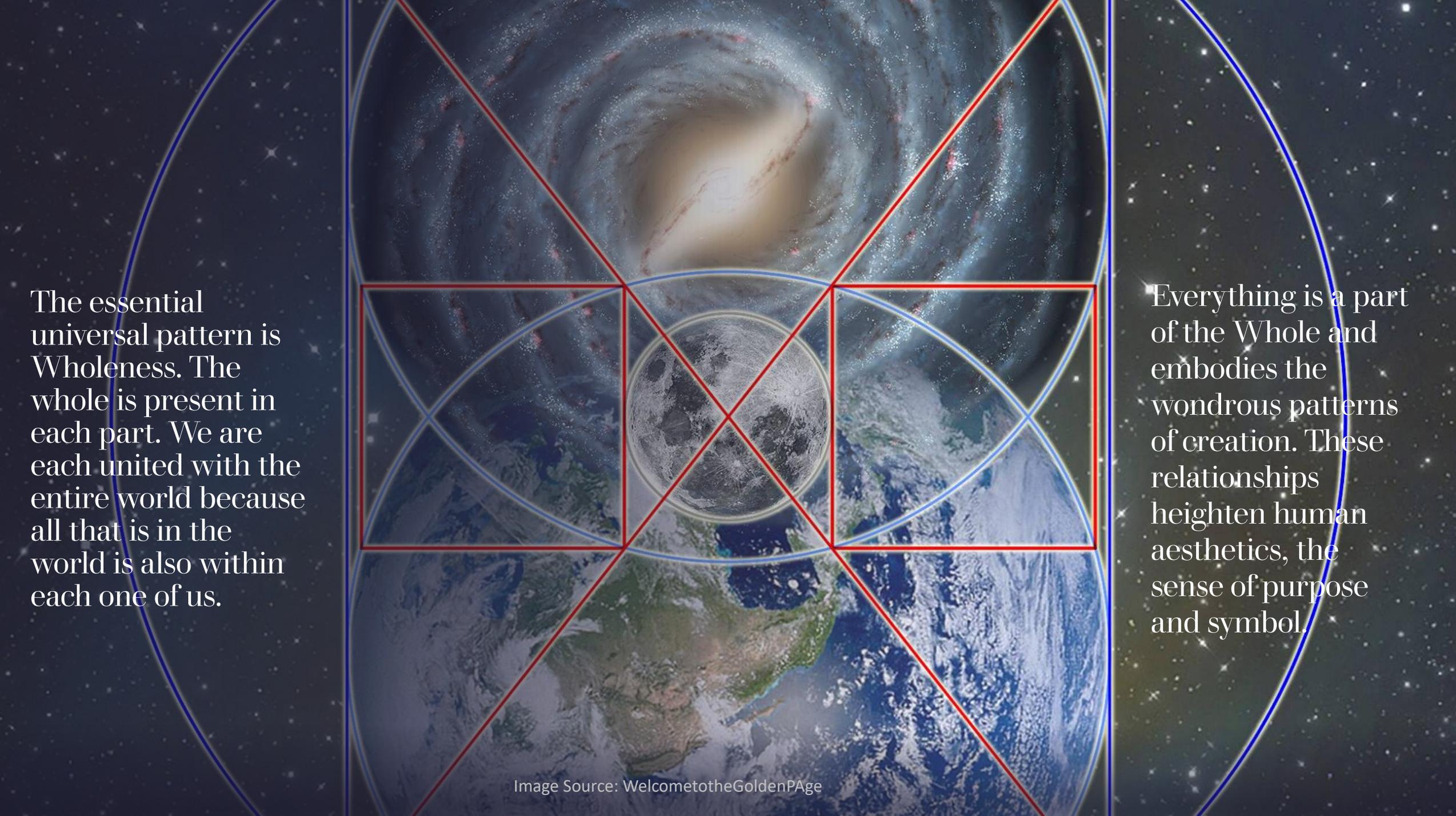
Image Credit: Janus Welton



Geometry and Mathematics

Geometry expresses number as perception and connects the One and the Many –“As Above” and “So Below”

These patterns inform the DNA of all living things and constitute the building blocks of all creation.

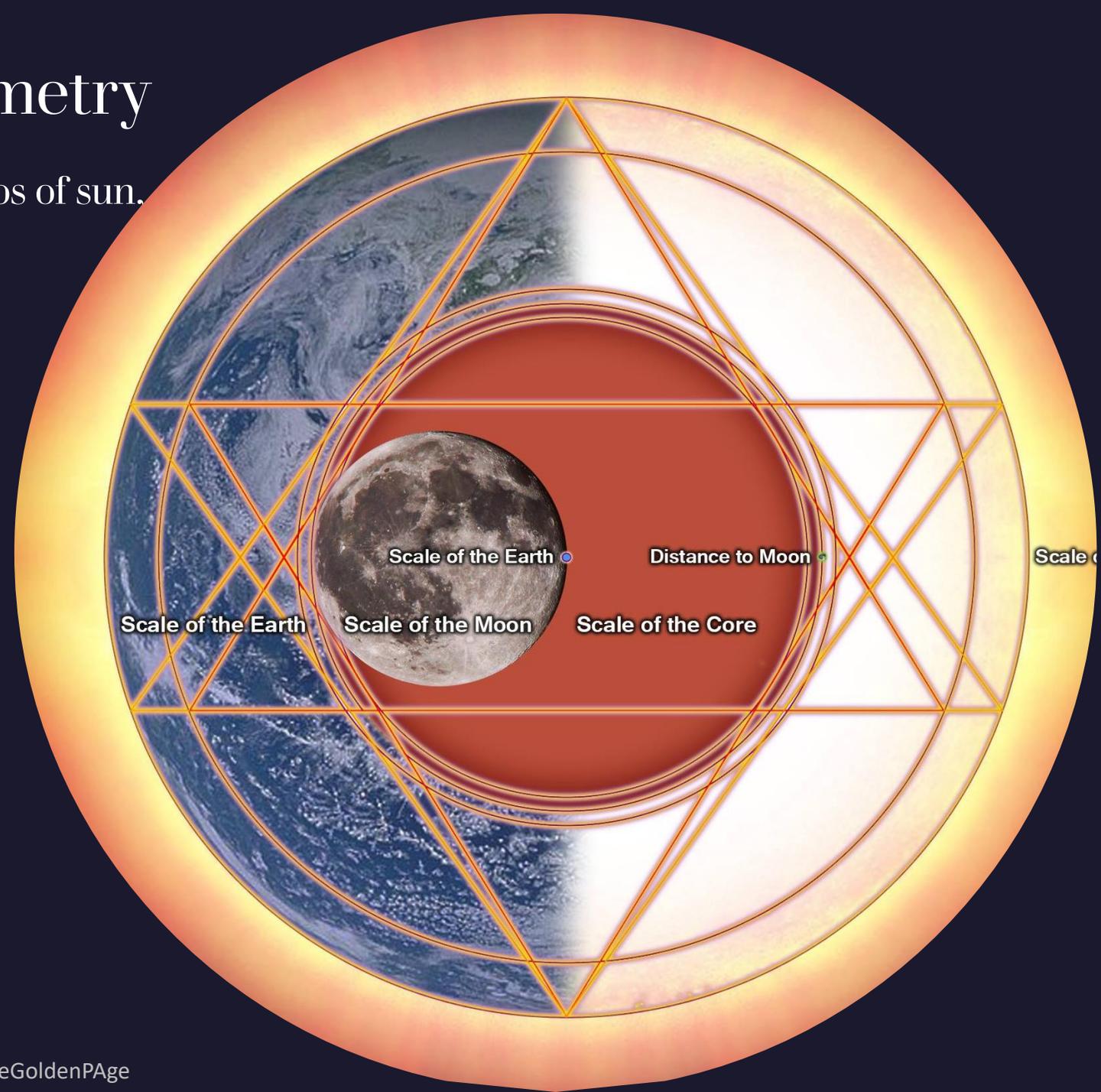
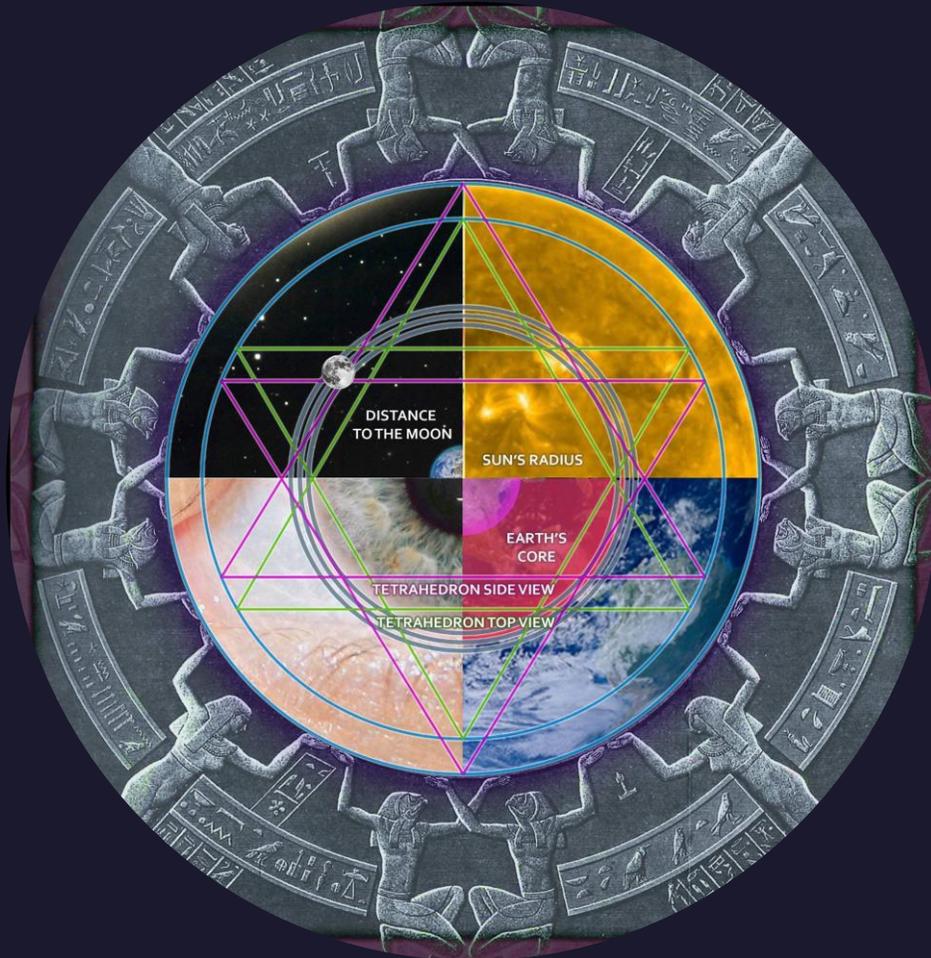


The essential universal pattern is Wholeness. The whole is present in each part. We are each united with the entire world because all that is in the world is also within each one of us.

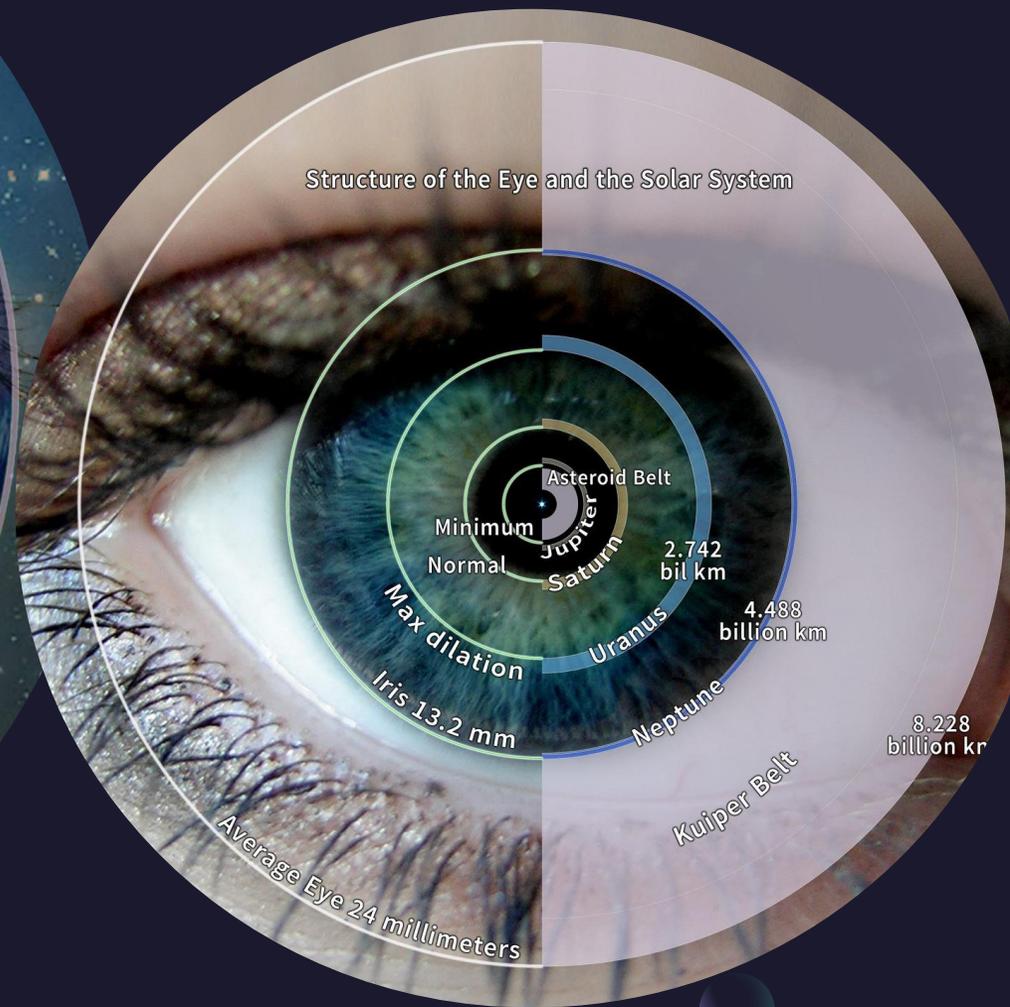
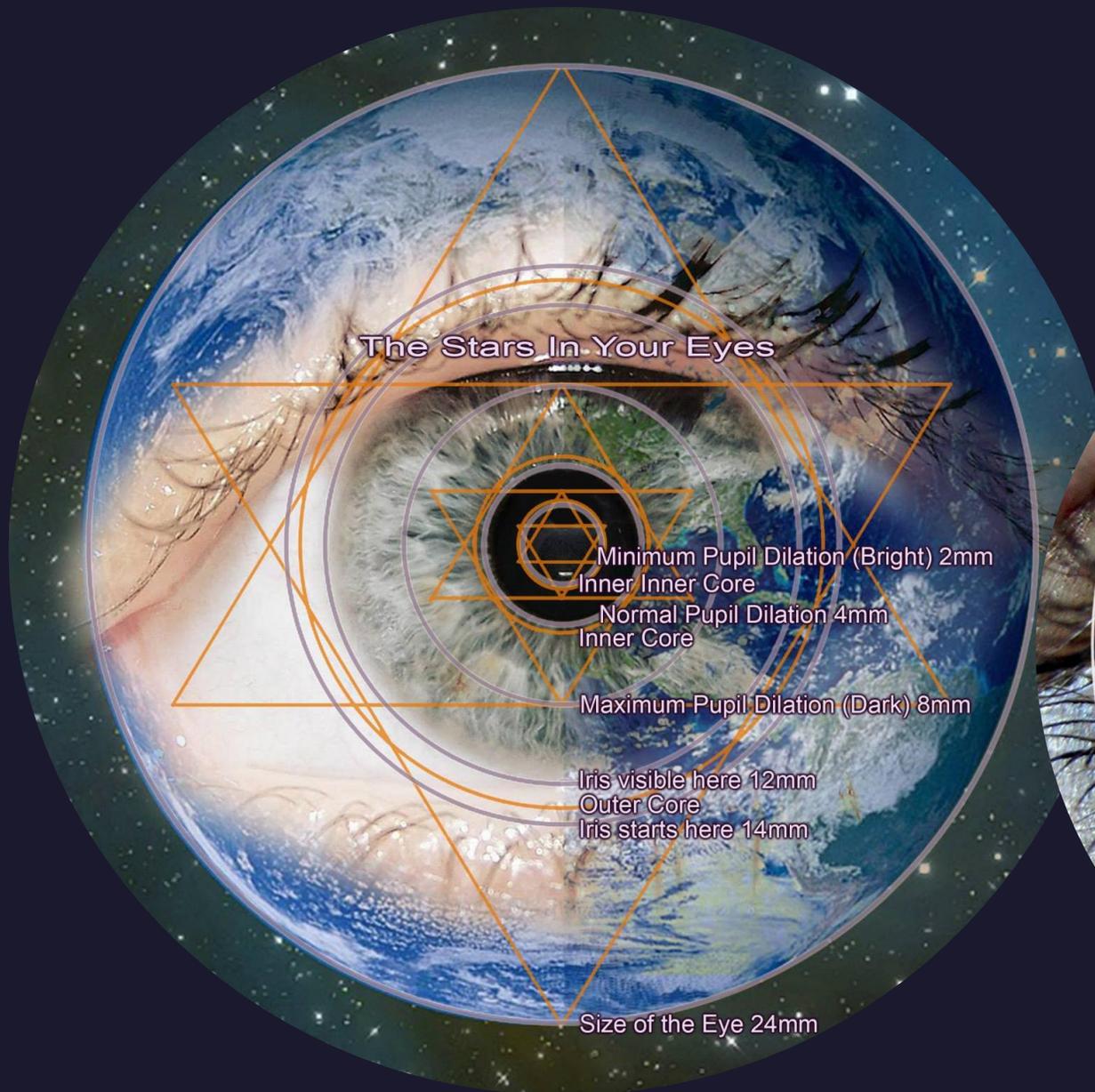
Everything is a part of the Whole and embodies the wondrous patterns of creation. These relationships heighten human aesthetics, the sense of purpose and symbol.

Universal Patterns and Geometry

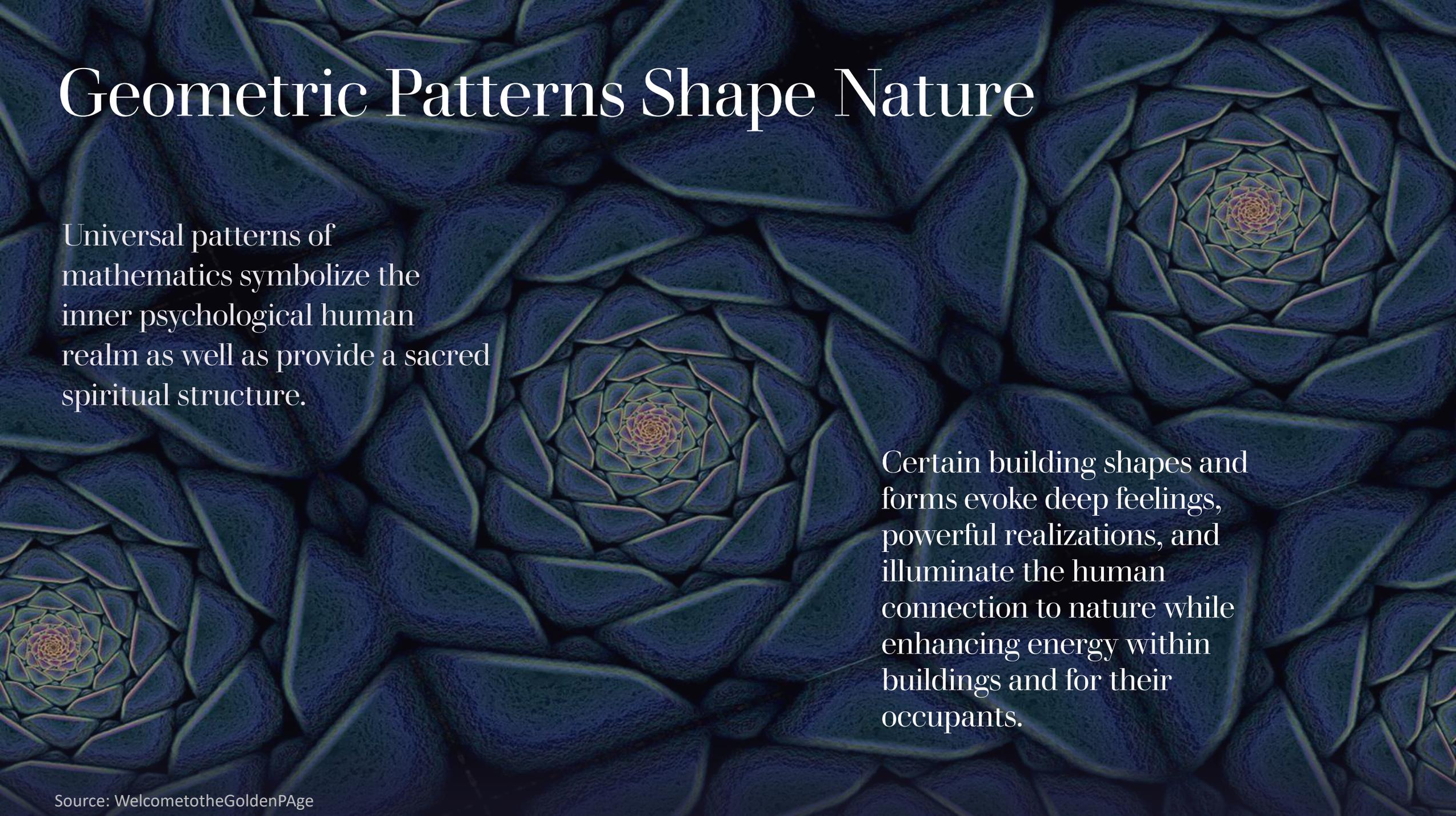
connect us humans as fractals of a larger cosmos of sun, moon, earth and skies with universal patterns, geometries and numbers.



The Earth with its core and inner core has the same dimensional relationship as the average human eye, iris and pupil.



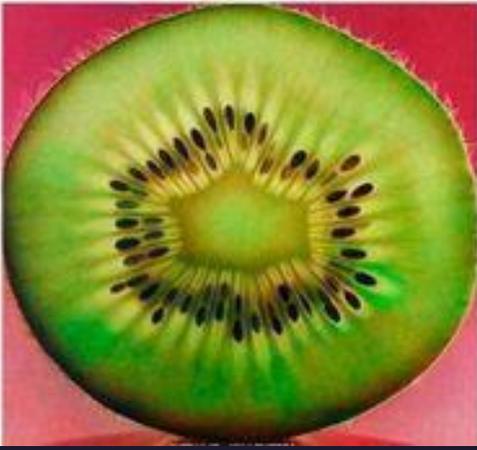
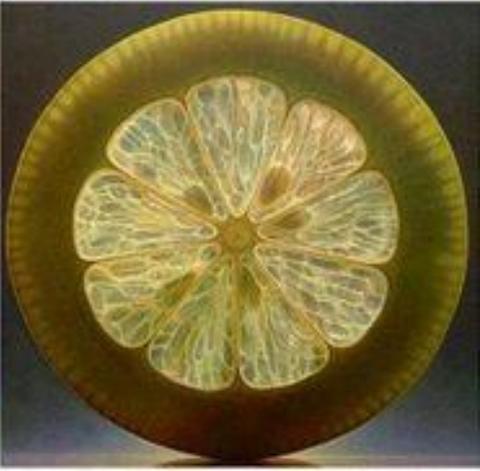
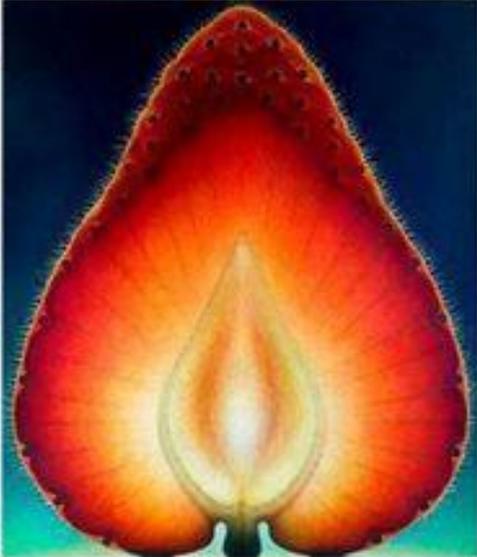
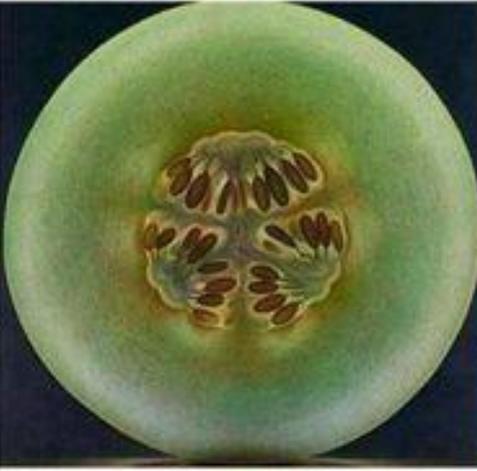
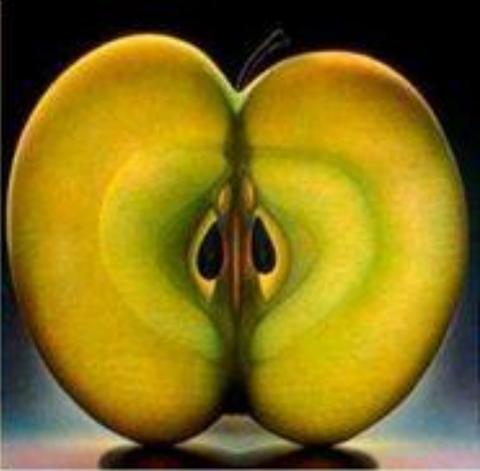
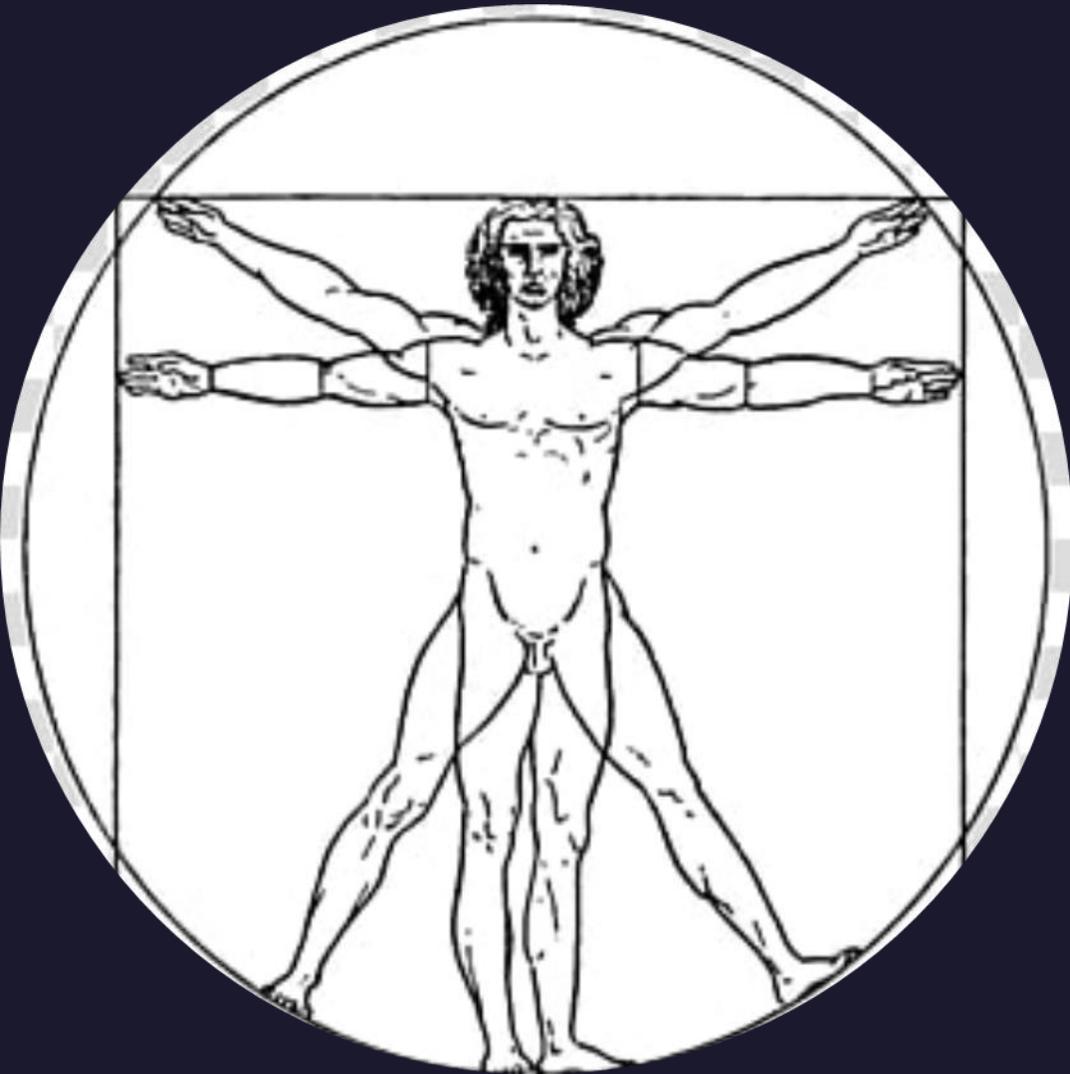
Geometric Patterns Shape Nature



Universal patterns of mathematics symbolize the inner psychological human realm as well as provide a sacred spiritual structure.

Certain building shapes and forms evoke deep feelings, powerful realizations, and illuminate the human connection to nature while enhancing energy within buildings and for their occupants.

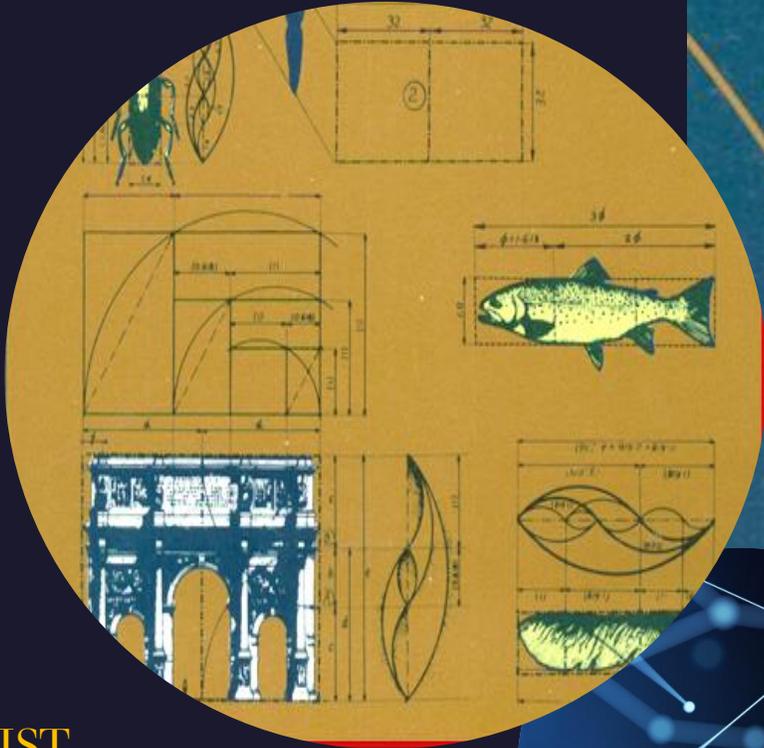
Nature's Geometry



Sacred Geometry

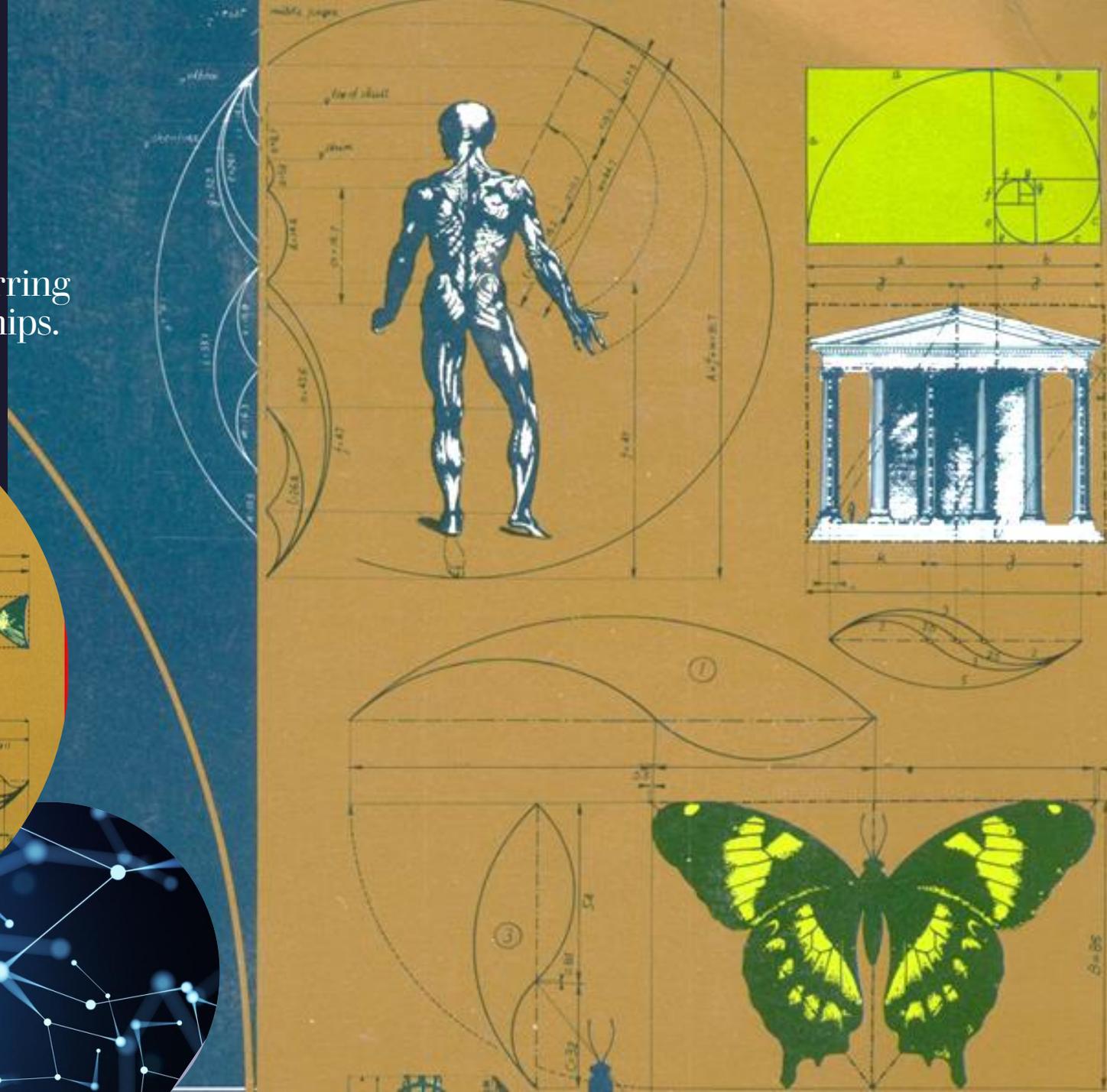
Universal Order

All life forms at every scale are based on reoccurring geometric patterns and mathematical relationships.



* READING LIST

Credit Cover and Reference: [The Power of Limits](#) by Gyorgy Doczi, Shambhala Publications



NUMBERS :

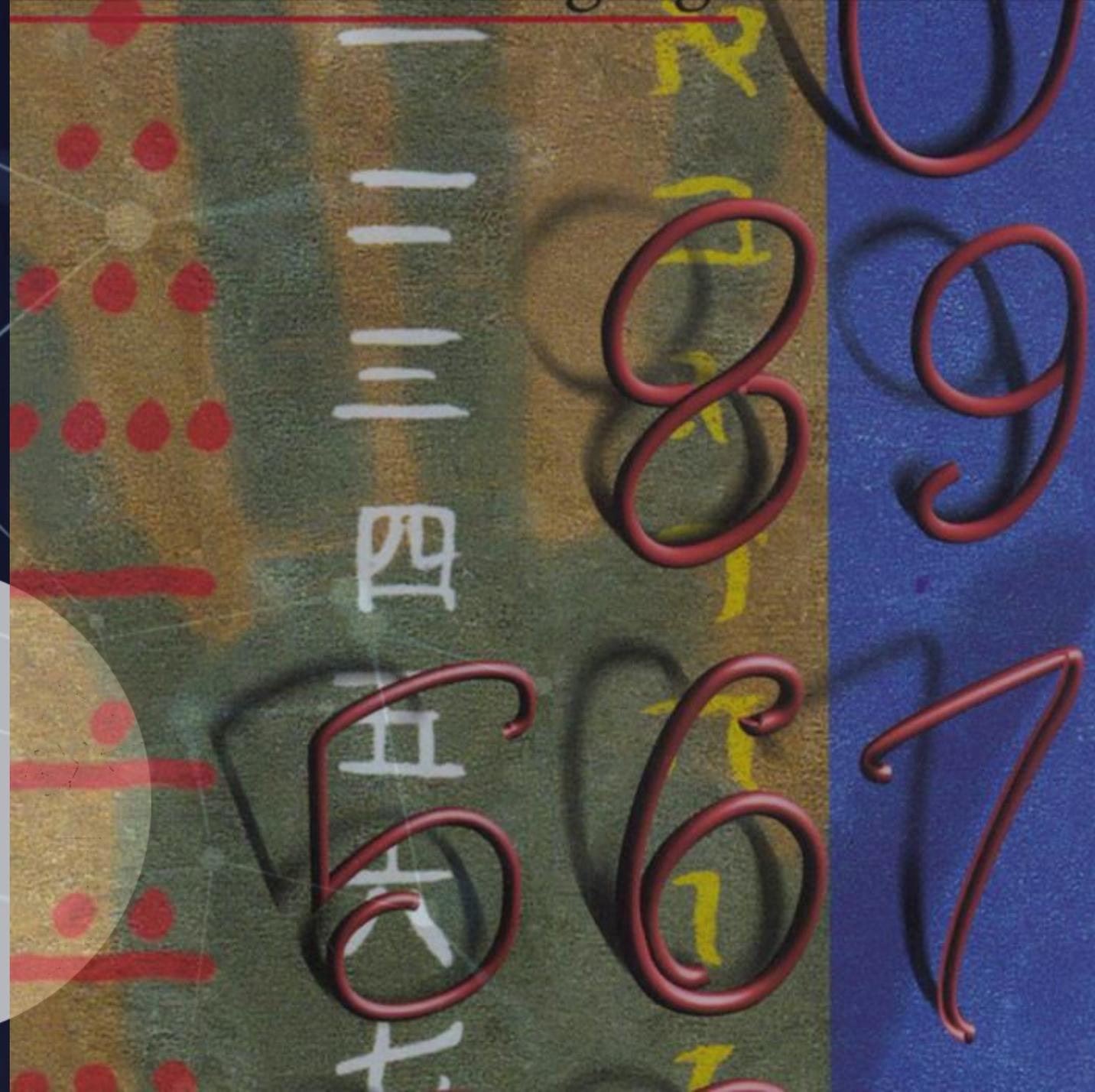
UNIVERSAL LANGUAGE

Every natural pattern of growth or movement in the universe conforms inevitably to one or more simple geometric archetypes and mathematical truths.



* READING LIST

Credit Cover and Reference: [Numbers - The Universal Language](#) by Denis Guedj, Harry Abrahms Publishers



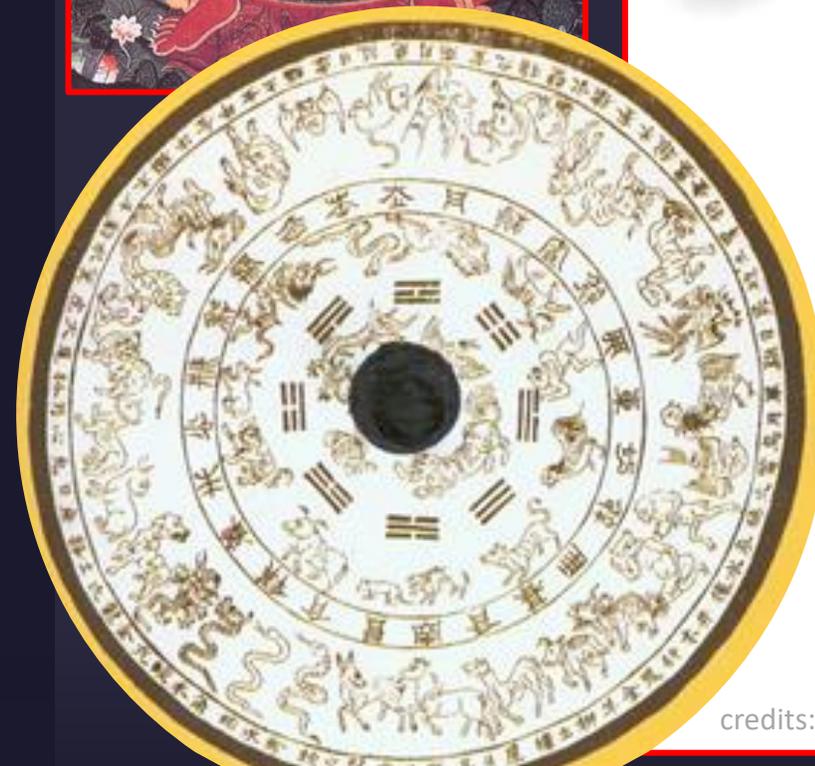
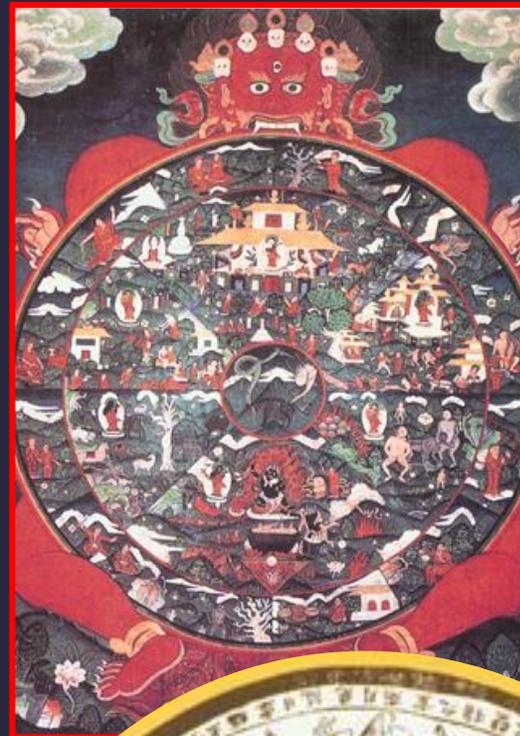
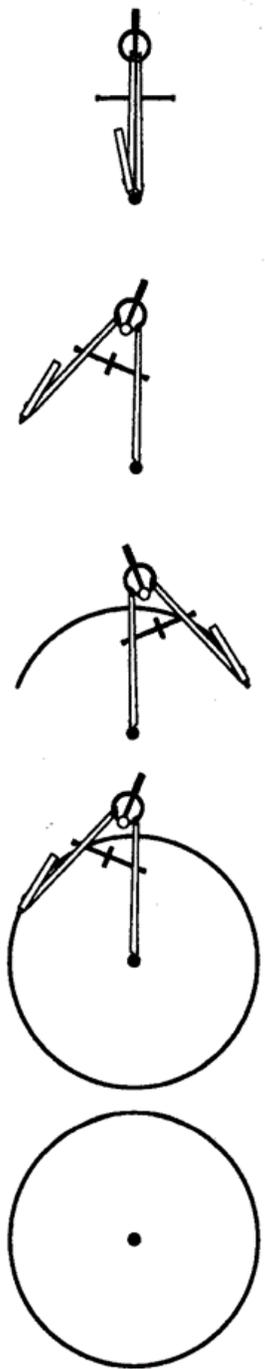
Constructing ONE: the point within the circle

The circle is womb and cradle of
our symbolic universe

No matter how many times it is
multiplied by itself the result is the
same = ONE = 1 ($1 \times 1 = 1 \dots 1 \times 1 \times 1 = 1$)

Draw & Experience One-ness by
concentrating on the Center Point as
your own Center of Gravity

In Feng Shui the Circle also
represents the Element of Metal. It
contains the most concentrated
energy of all elemental shapes !



ONE : Monad the Circle

Ancient Geometry begins with ONE

Zero was an Indian concept that came about in the Age of Reason and negates the beginning or unity of One- it is not a number – but a placeholder

Symbol: Point within a Circle

this symbol was also the Egyptian, Chinese, and Mayan glyph for “light”



ONE : the point within the Circle

Archetypal principle #1

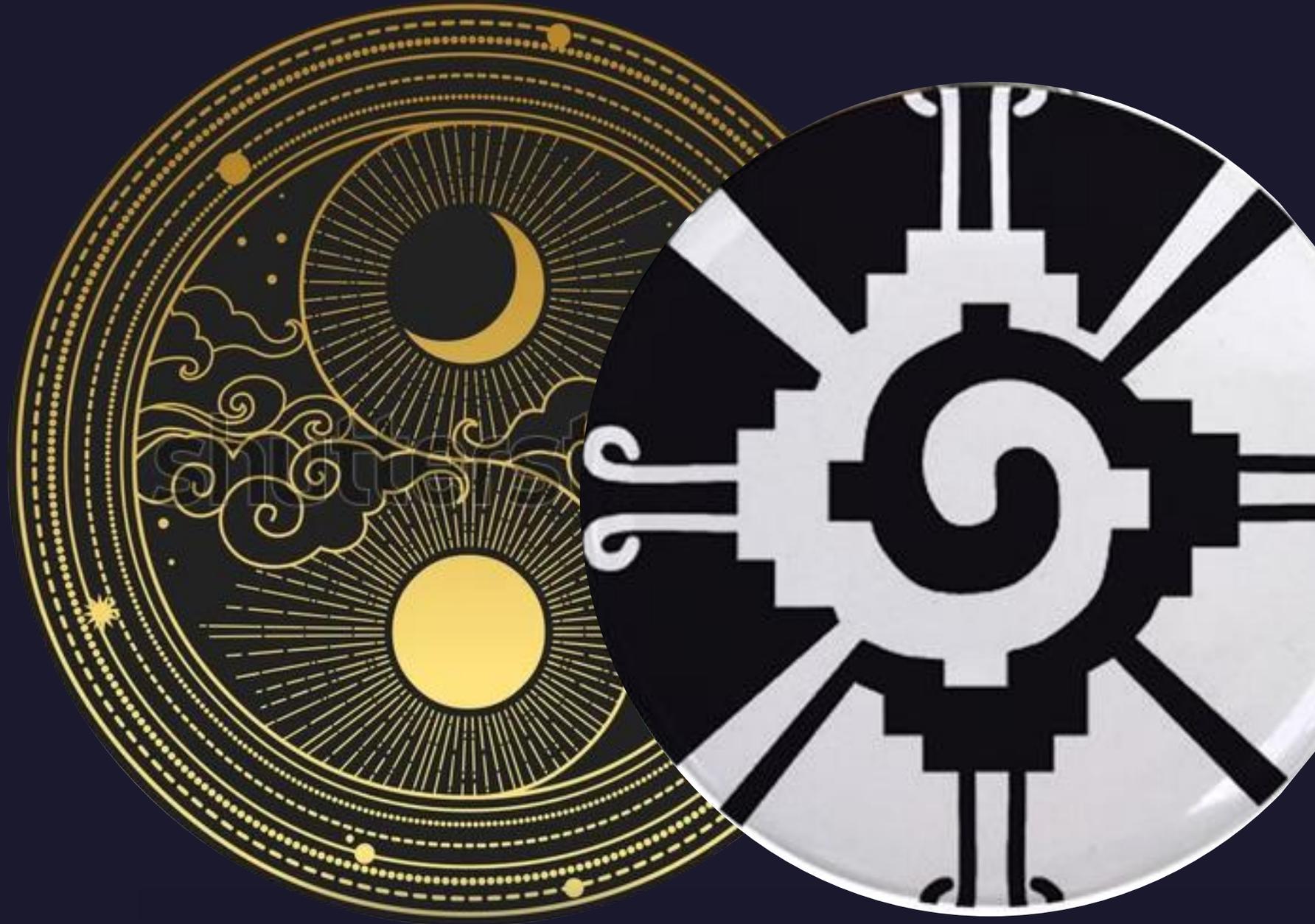
CenterPoint

Equal Expansion in all directions from a Divine Center expresses UNITY and Divine Order of The Universe

Archetypal principle #2

Circumference

The circle is a Wheel of motion . The circle represents nature's Universal cycles, orbits, vibrations, rhythms, seasons. All cycles rise and fall with yin and yang.



ONE : the point within the Circle

Archetypal principle #3

Radius forming AREA maximizes efficiency

The Circle encloses the MOST space and provides the MAXIMUM enclosure with the least resources including materials and energy providing the most sustainable energy profile .



Source: Ebay.com



Source: lushhome.com



Credit: Paul King



Credit: Irene McGarvie

Circular Structures



Source: freepix.com

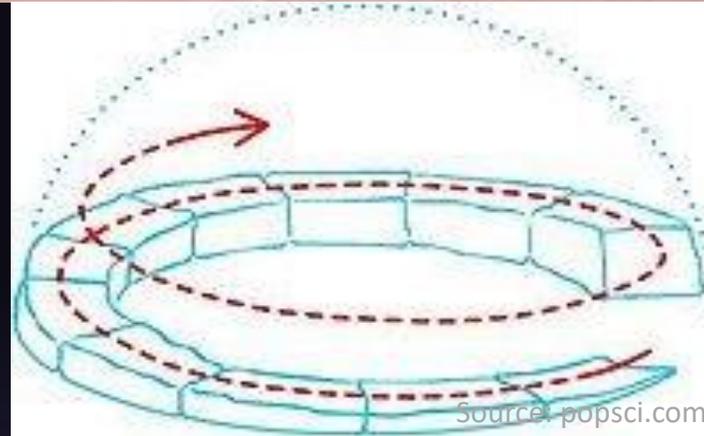


Source: Pintspoundsandpate.com



Source: Tripadvisor.com

1. Nepalese Stupas
2. Round Table
3. Alhambra room ceiling
4. Igloo



Source: popsci.com



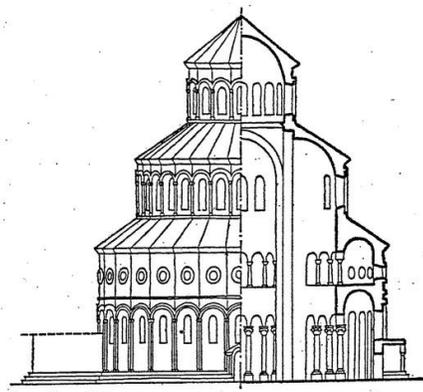
Credit: Bryan & Cherry Alexander

Sacred Circular Structures

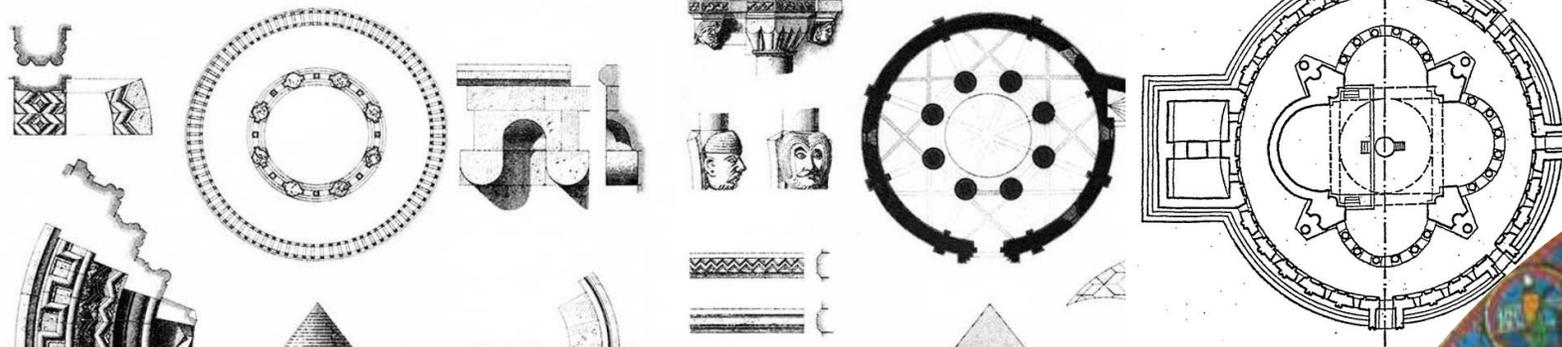
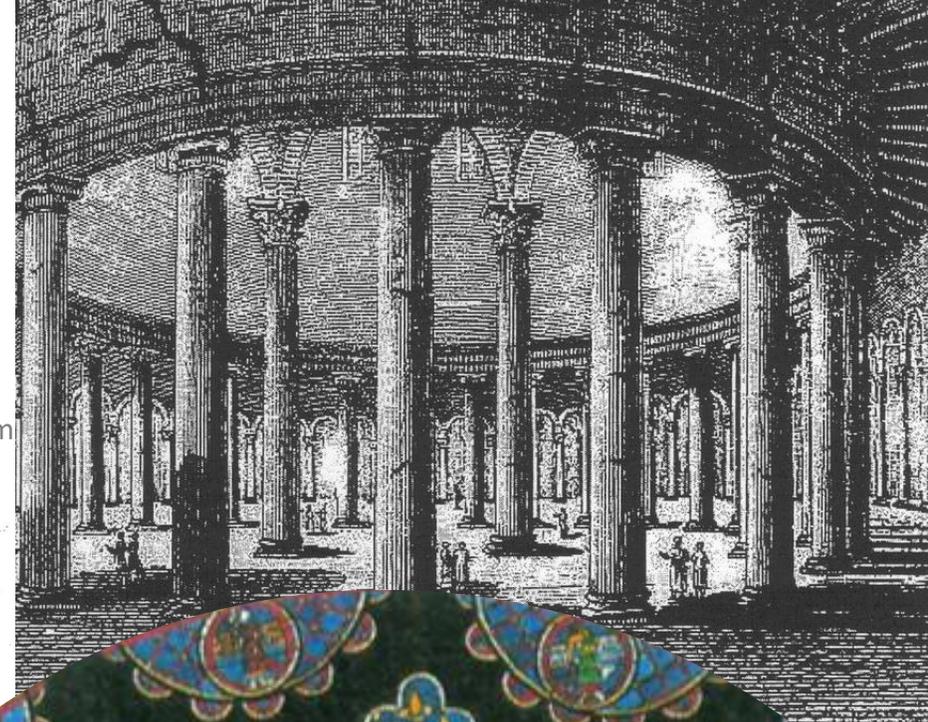


Round Church History

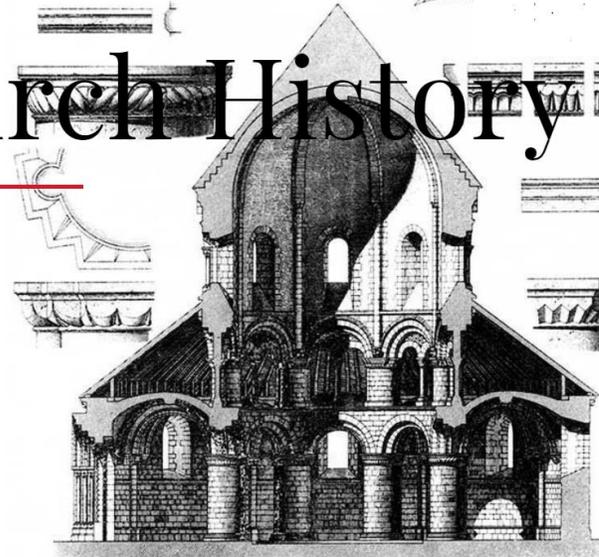
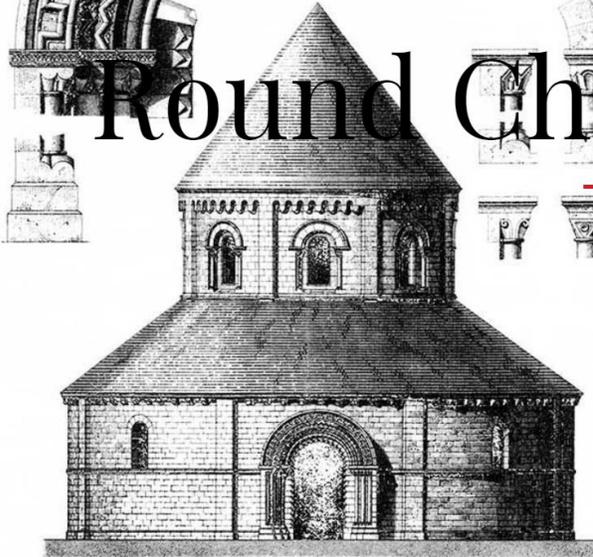
The circular plan enhances worship, religious, meditative and yoga activity where the purpose is to center oneself and support endless energy and connection to divinity.



Source: quadralectics.wordpress.com



Round Church History



The Guggenheim Museum NYC by Frank Lloyd Wright

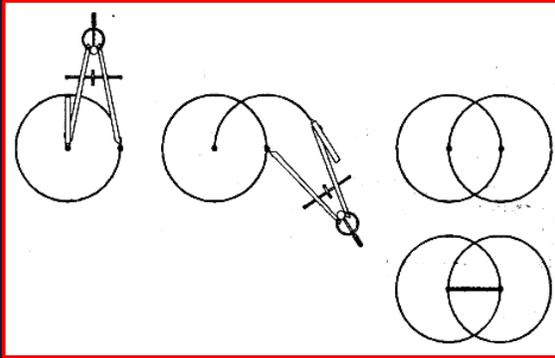


Photo by Stan Honda. Image courtesy of Getty Images.

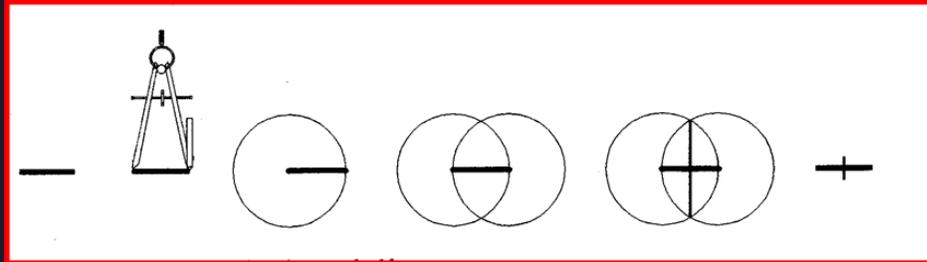


Image credit: guggenheim.org

Constructing TWO : the line within 2 circles



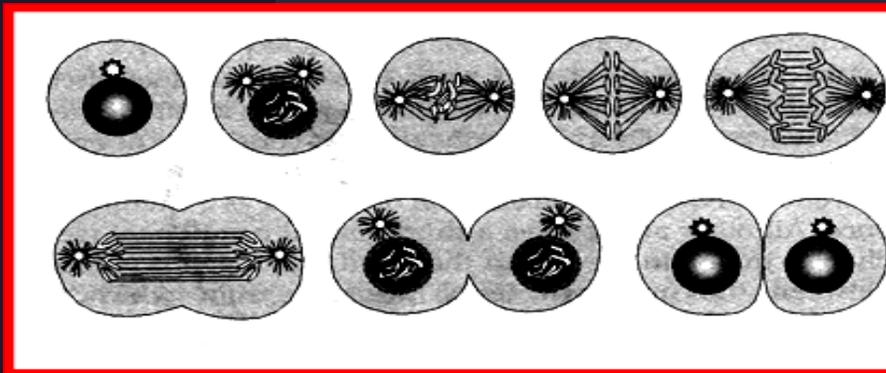
Draw another circle from any point on the first circle = connect the center points and the point gives birth to the LINE formed



The Birth of Two-ness meant Other-ness to the Greek philosophers five centuries before Christ.

Their world view was shattered by this break from UNITY into SEPARATION.

TWO-ness is the BIRTH PORTAL
the Mitosis of a cell into sister cells

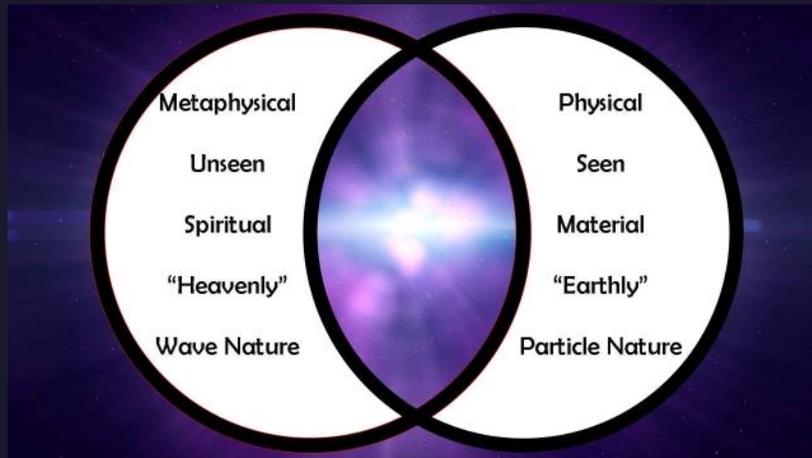


Principle of TWO : DYAD

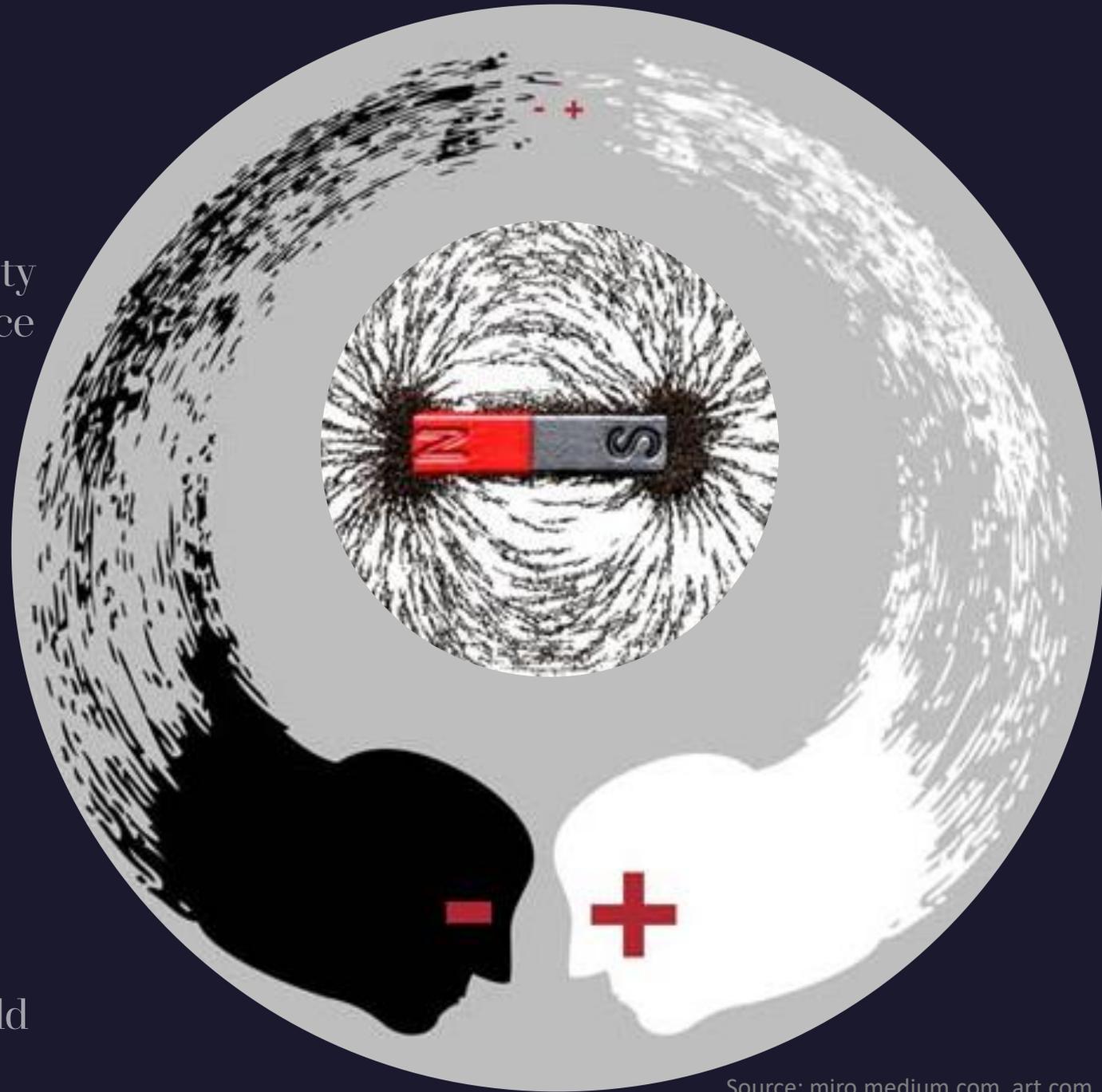
Symbolism of Polarity

The dyad is a paradox of separation from unity while its opposite poles remember their source and attempt to merge as in Magnets.

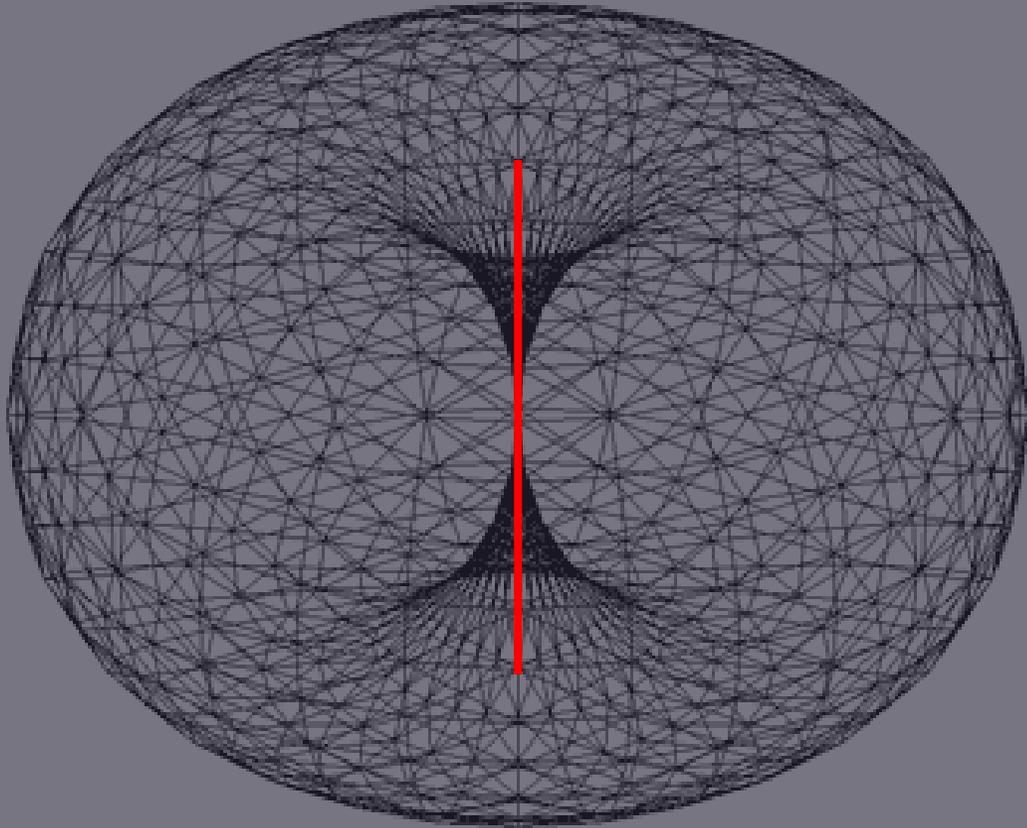
Polar tension is at the root of Birth and Creation and every Creative Process



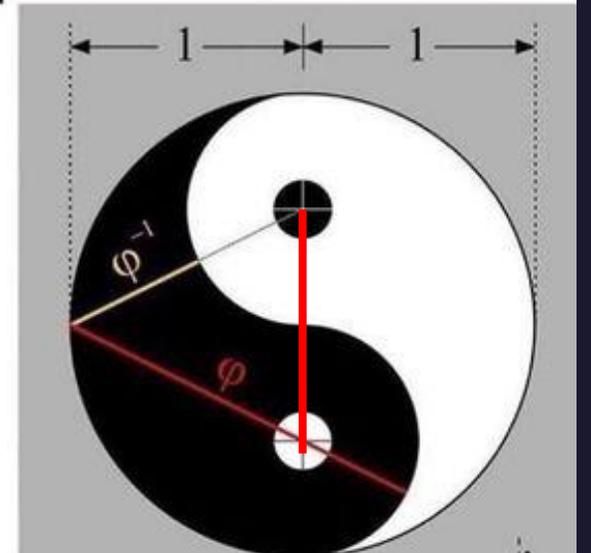
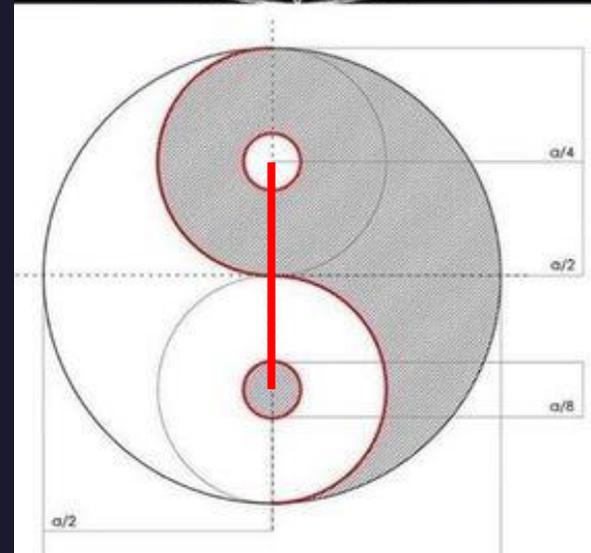
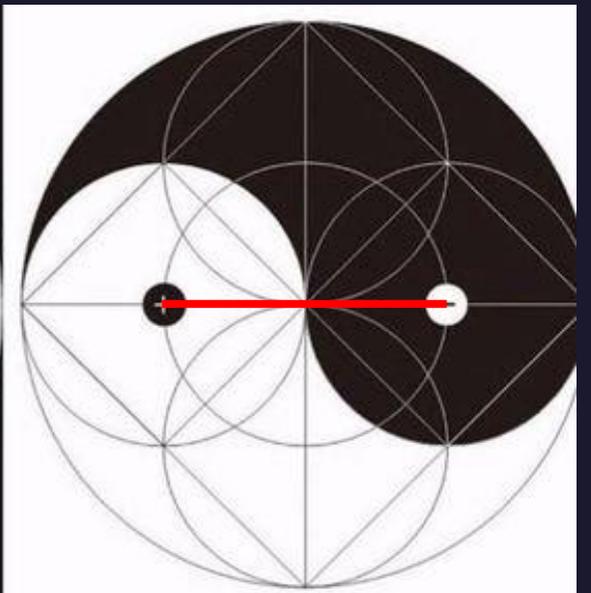
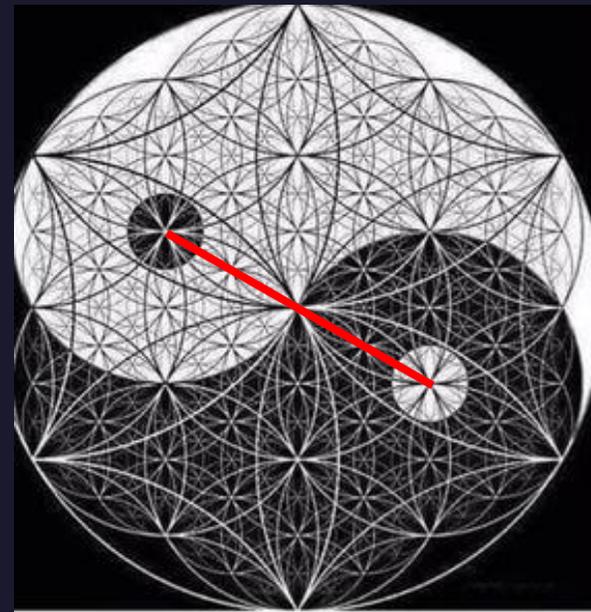
Human Inner Nature Mirrors the Outer World



Principle of TWO : **Polarity**



Source: gifer.com



Source: Jain108academy.com

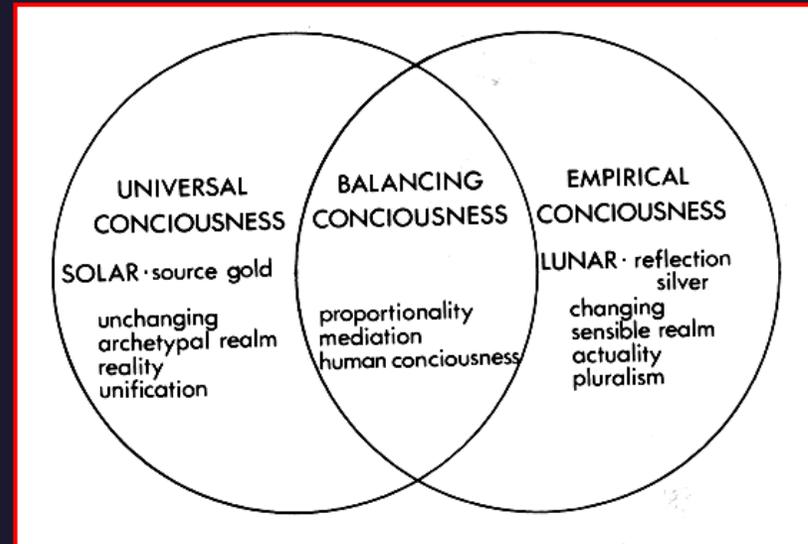
A line creates both a boundary and a link that attracts and binds together.
Thus, Polarity is the twin, the polar tension between yin & yang, me & you, day & night

Vessica Piscis

The Vesica Piscis is the intersection between the One and The Two creating the Doorway or Threshold to Three

The Birth Portal

The union of points and line through two intersecting circles that create the Vesica Piscis contain all the necessary proportions to generate the numbers, shapes and patterns found in nature, including the triangle, square, and pentagon.



Principle of TWO : In ancient architecture, the Vesica Piscis appears particularly in doorway arches or domes of places of worship signifying the portal between the mundane and sacred worlds. Often floorplans of temples will reflect this intersection of circles, the portal between heaven and earth.

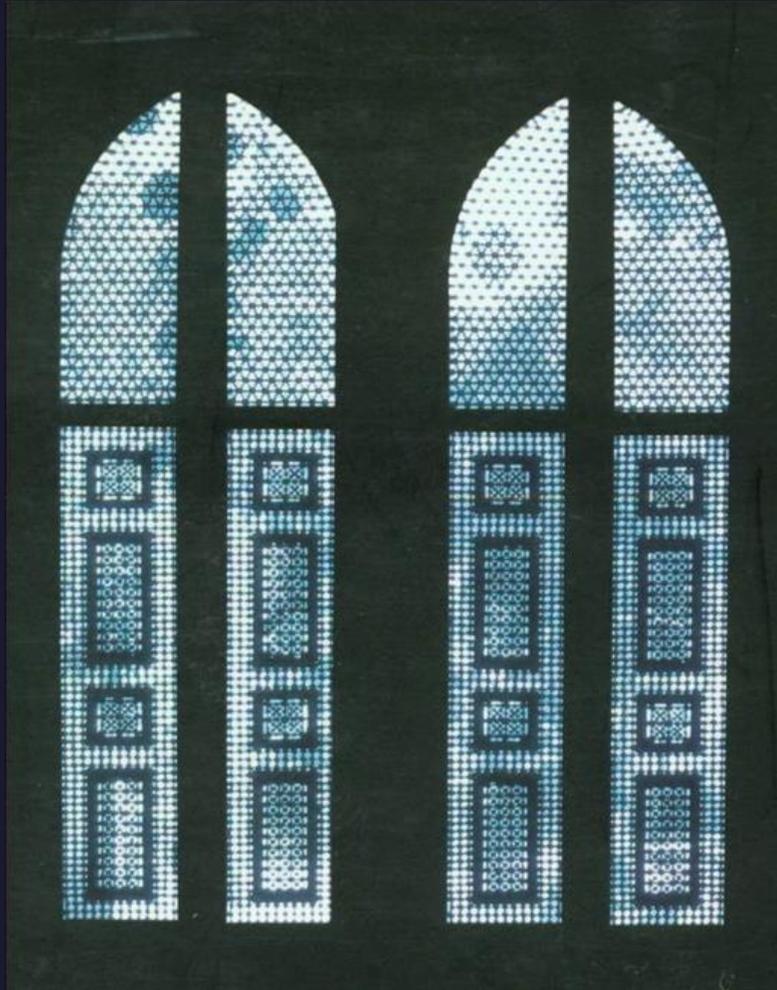
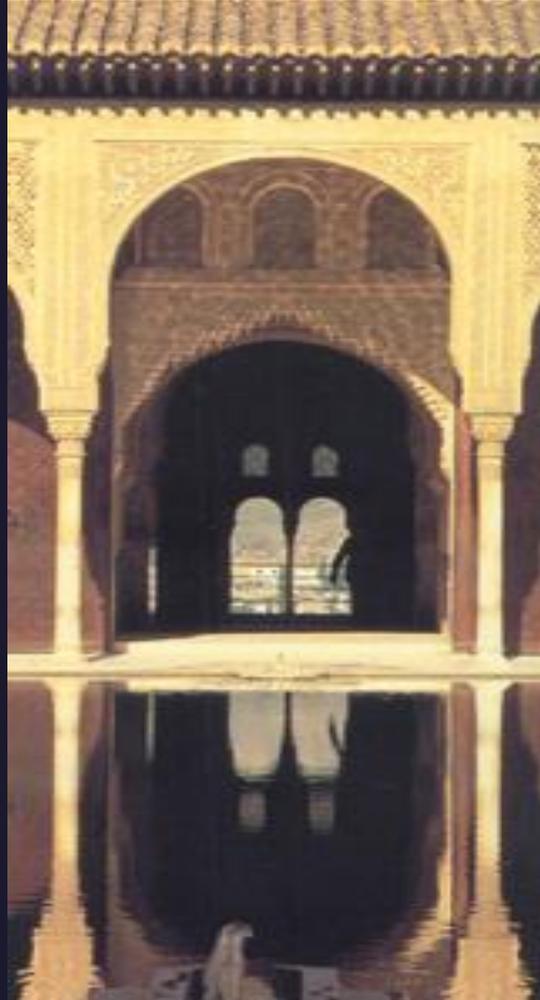
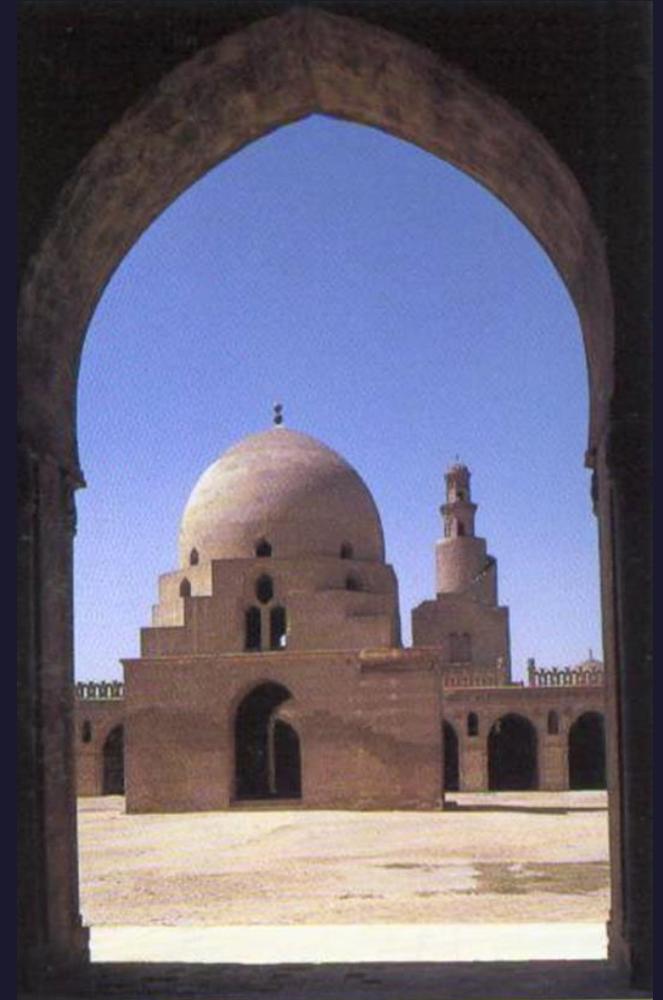


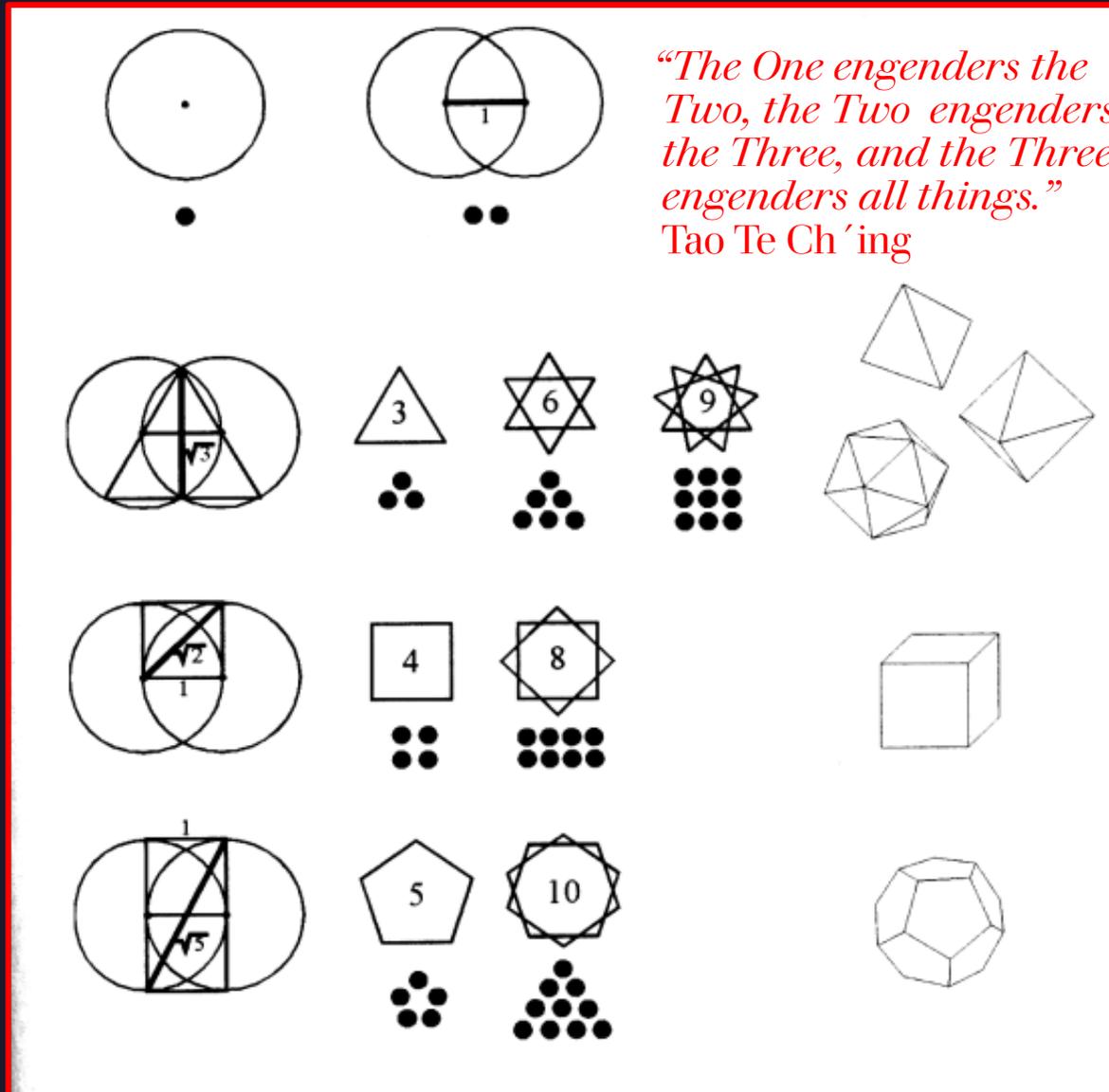
Image: Yasuhiro Ishimoto



Source: Moorish Style by Miles Danby



Vesica Piscis : **Mother of all Forms**



“The One engenders the Two, the Two engenders the Three, and the Three engenders all things.”
Tao Te Ch’ing

In the beginning was the void...A Single point of Consciousness

The “ONE” looks into the mirror and sees its Reflection and falls in Love and sees Itself

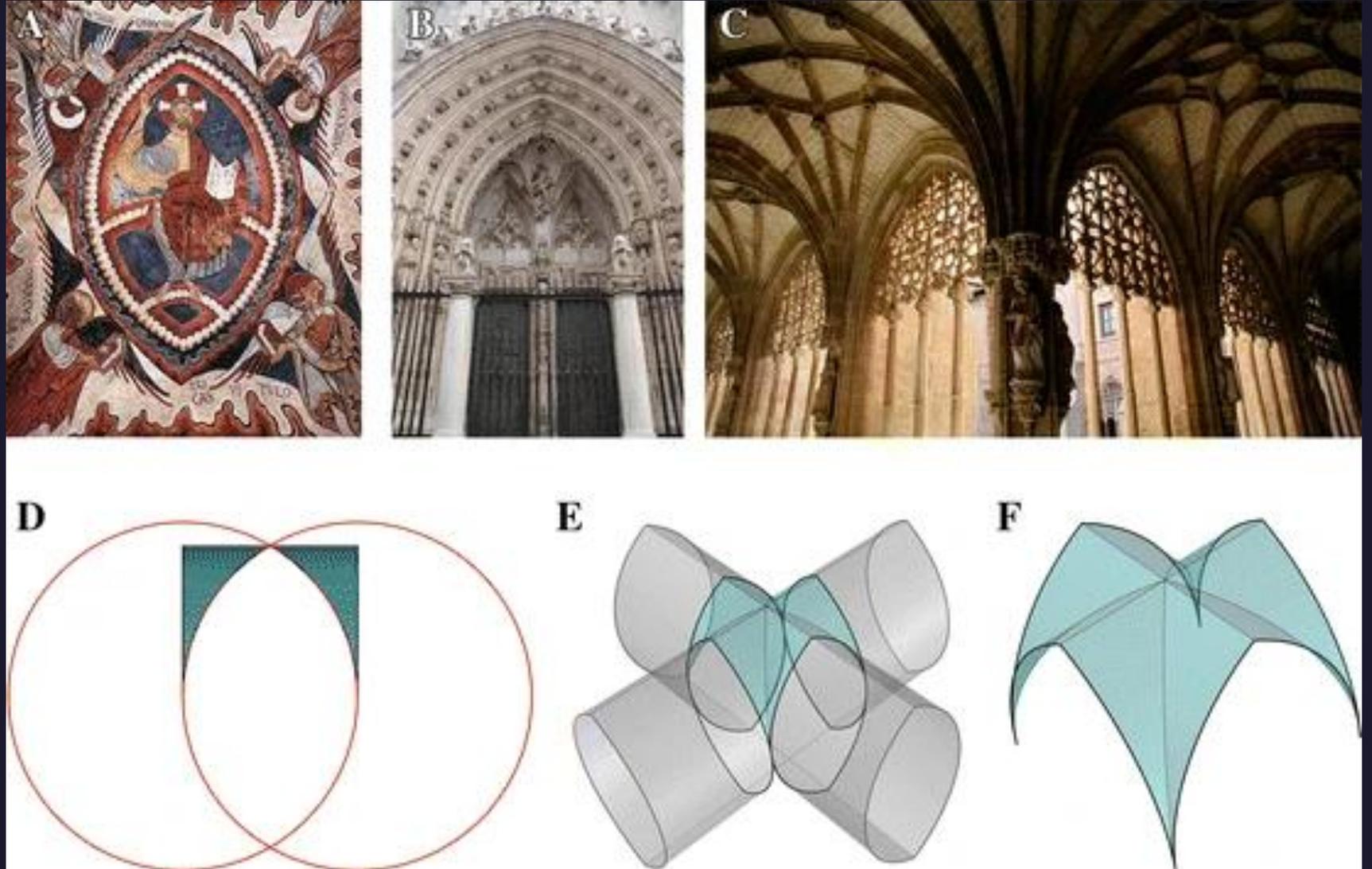
The “Reflection” and the “One” were drawn together and joined and made love

The Sun (Universal Consciousness) and Moon (Reflected –Experiential Consciousness) join together and create THREE (Balanced Consciousness)

From this Mother of All Forms= the VESICA PISCIS.....symbolizing Pisces & Fish from this, all the proportions and shapes in the universe are created

Vessica Piscis in Early Christian Architecture

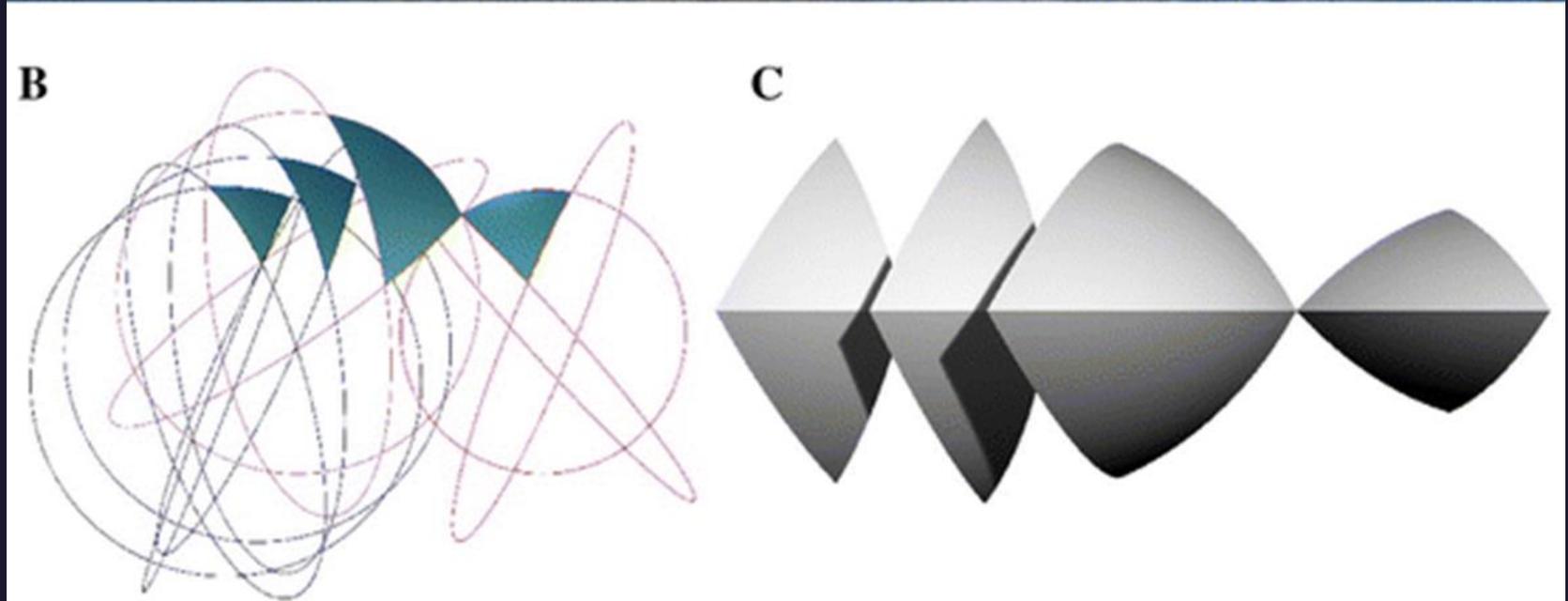
The Christian religion was most likely responsible for its spread, first as a fish symbol, then as an architectural niche surrounding sculptures and drawings of Christ, and finally as the Gothic pointed arch and 4 sided arch.



Vessica Piscis in Modern Architecture

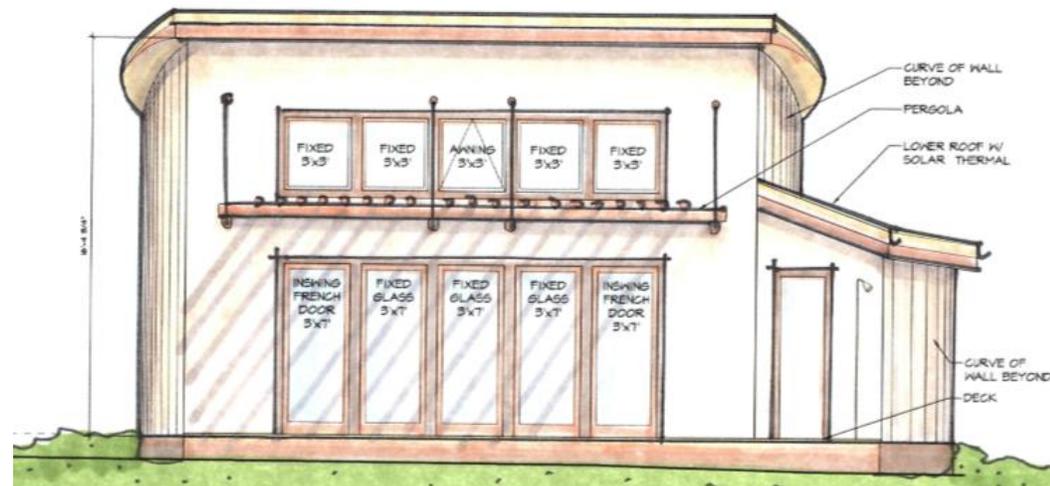
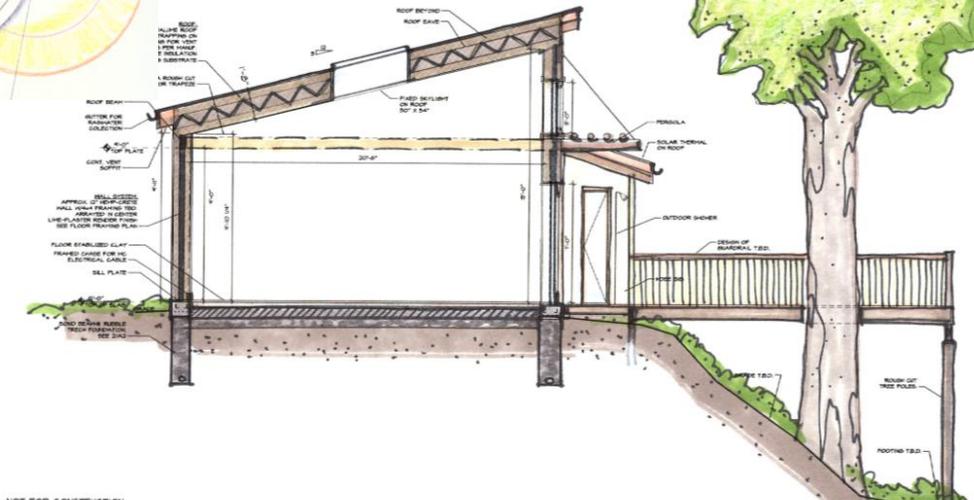
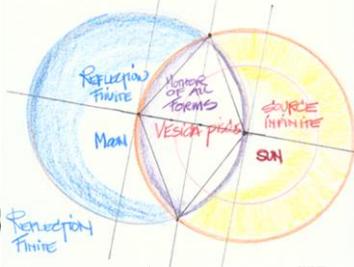
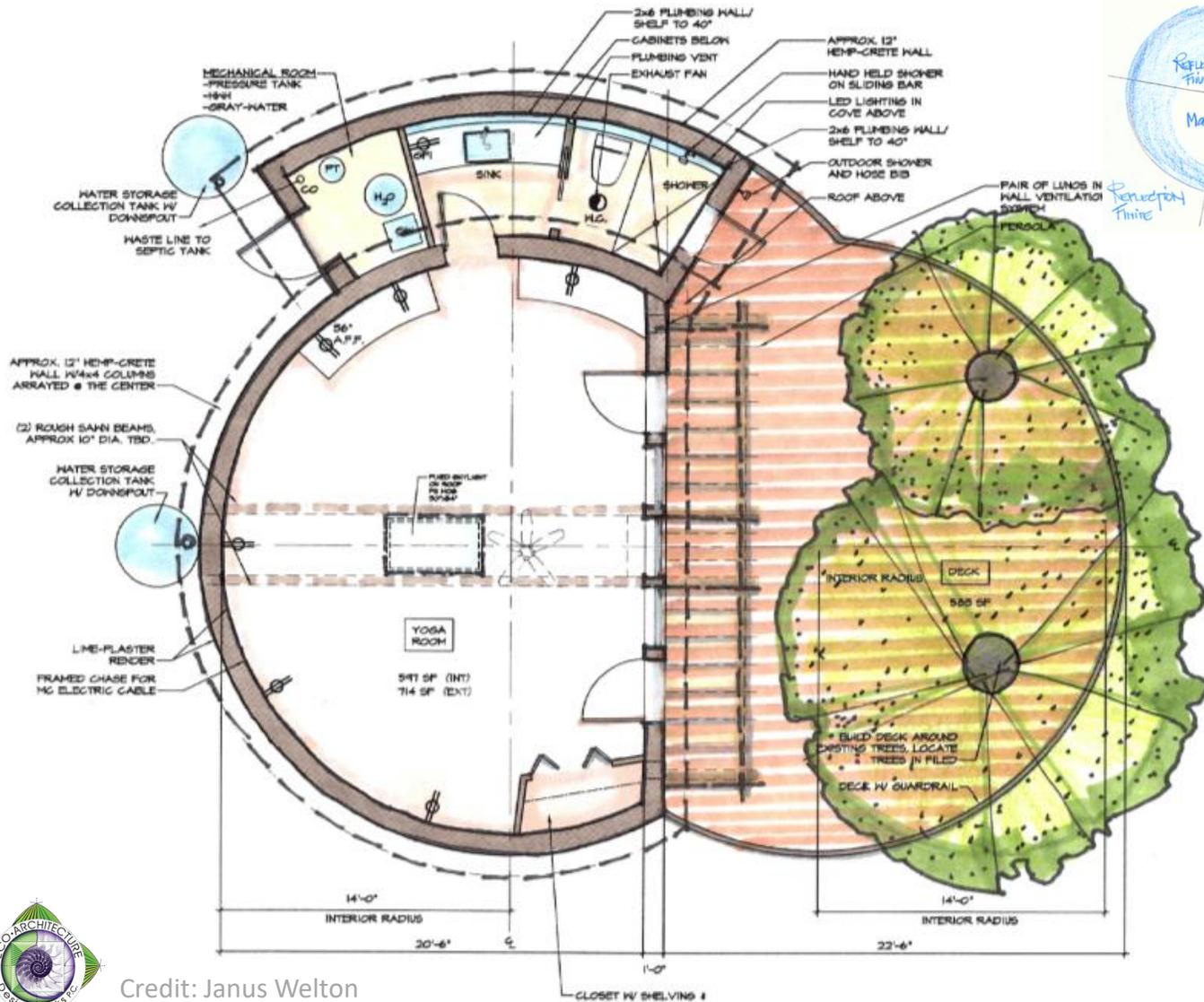


The iconic Sydney Opera House by Jørn Utzon. All the *spherical* sections have uniform curvature in all directions, so they can be extracted from a single sphere



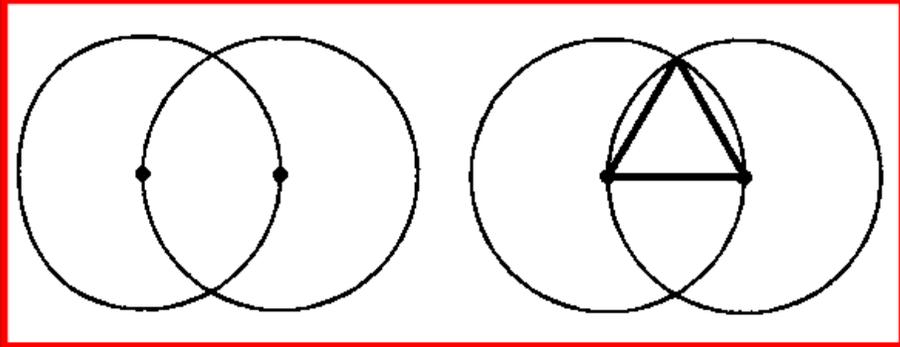
Yoga Studio based on Vesica Piscis

Nexus of Sun and Moon



Credit: Janus Welton

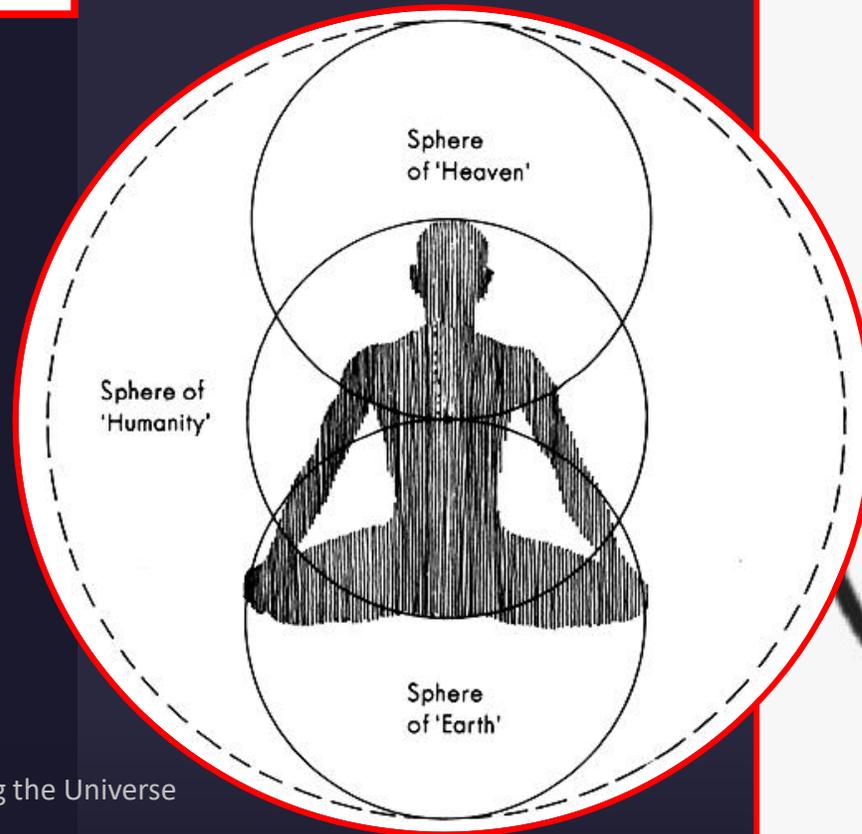
Constructing Three: *The Triangle*



Since 1 and 2 are the Parents, Three is considered the First Born = *THE TRINITY*

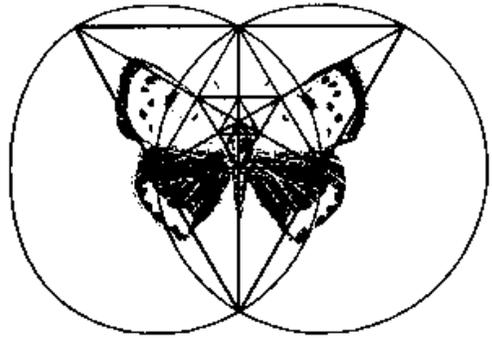
Symbolism: The triangle means wholeness, strength, stability, science meets religion, relationship and balance

The triangle encloses the smallest Area with the largest Perimeter and Surface

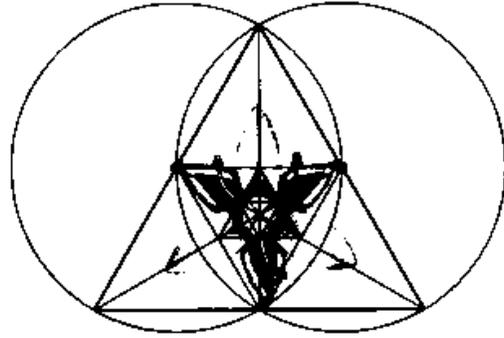


The Trinity in NATURE: three - part harmony

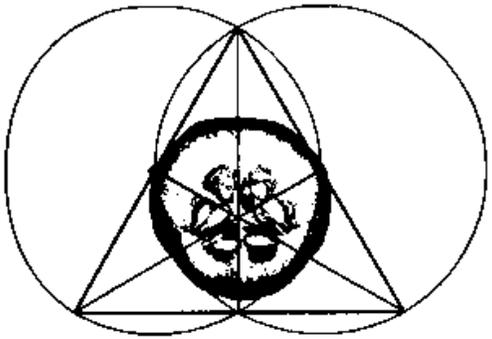
Life Forms in general have a three- part structure:
Trinity = Tri- Unity
Human Form, Butterflies, Flowers, Vegetables ,
Insects, and Architecture



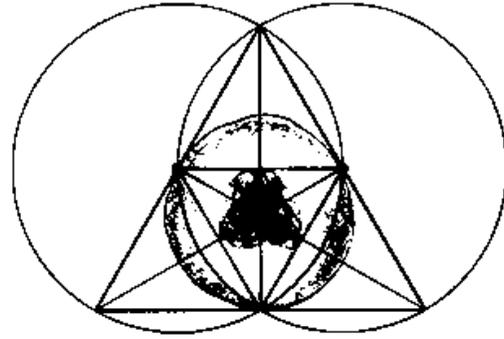
Butterfly



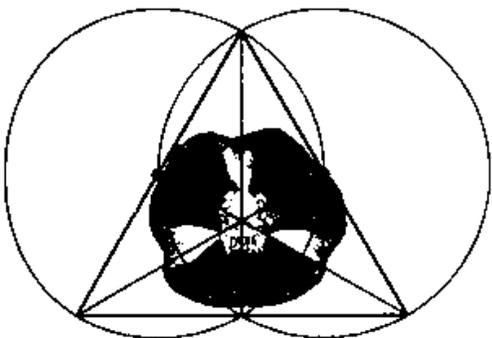
Flower



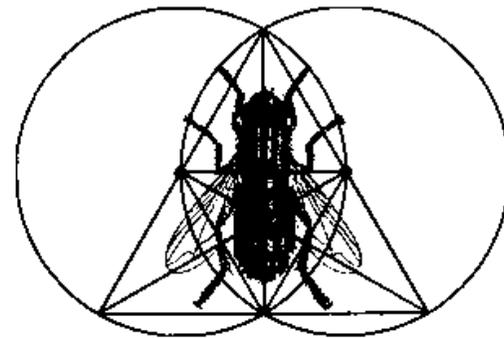
Cucumber slice



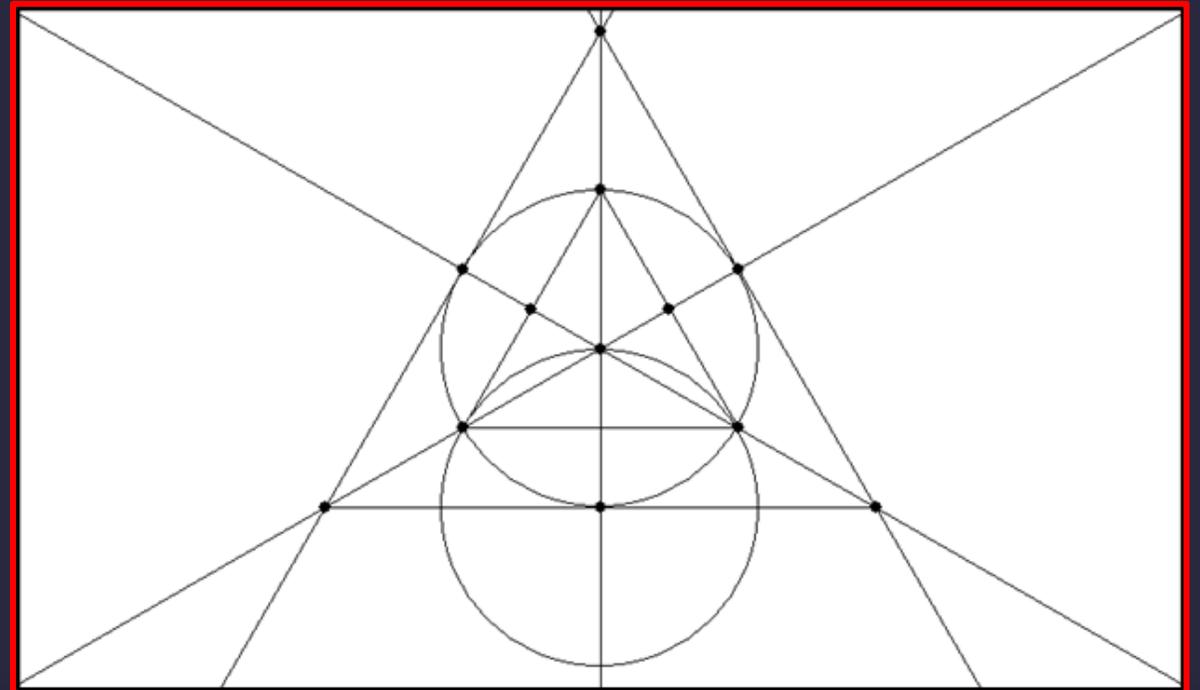
Honeydew melon



Green pepper



Fly



Triangles and Architecture: **Strongest Shape**

Triangles are used in the design of buildings and other structures as they provide strength and stability.

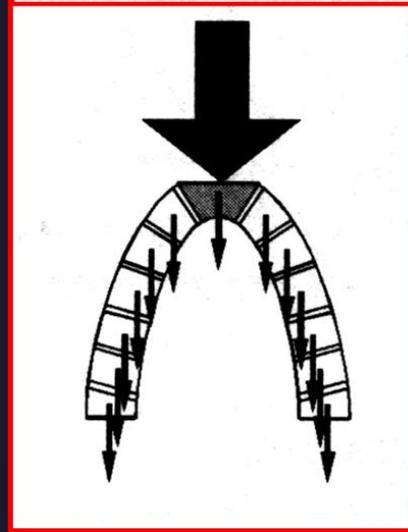
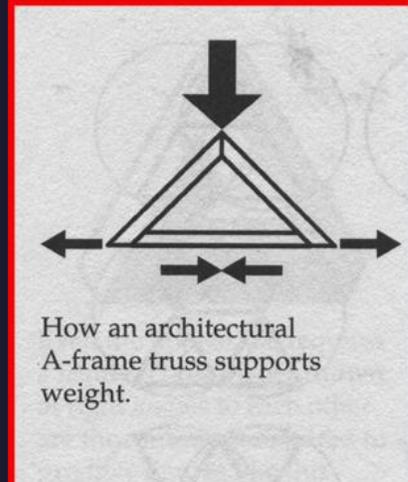
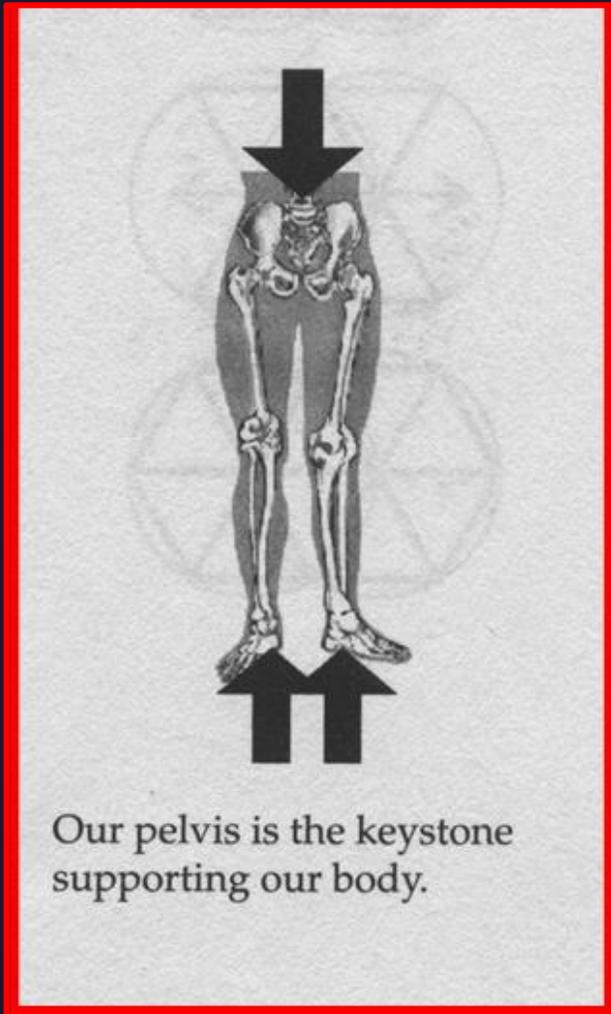
When building materials are used to form a triangle, the design has a heavy base and the pinnacle on the top is capable of handling weight because of how the energy is distributed throughout the triangle.

This explains why many residential homes have A-frames; it provides a sturdy structure.

The sturdiest of the triangles are equilateral and isosceles; their symmetry aids in distributing weight.

“AN ARCH NEVER SLEEPS”

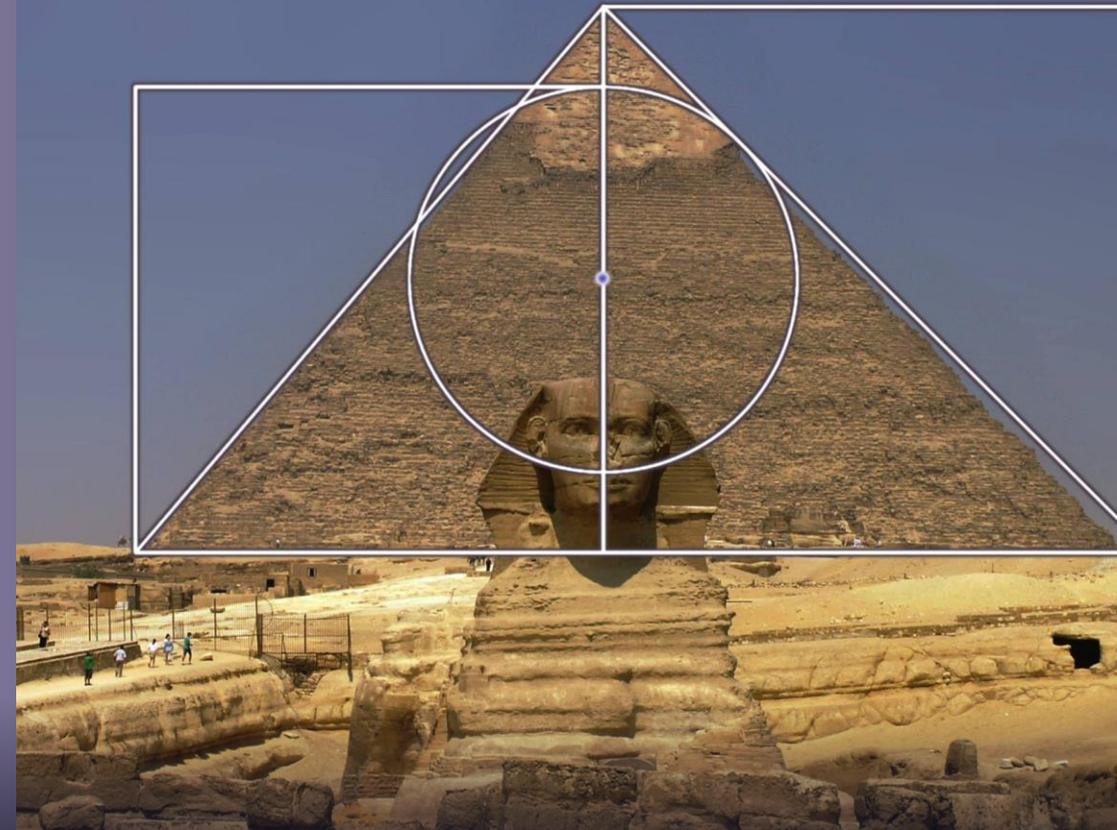
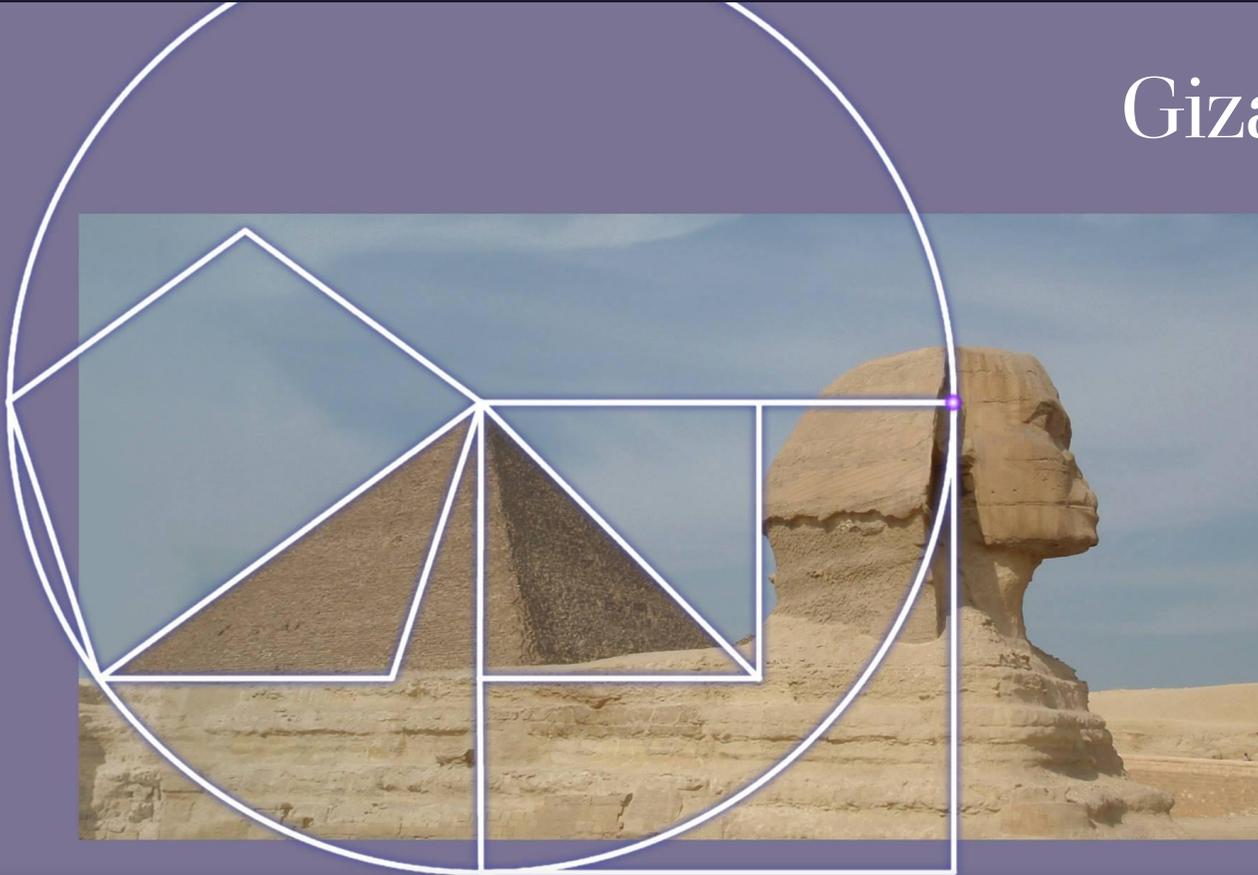
Ancient Hindu



The Equilateral Triangle:

Is by far the most common triangle used in architecture. An equilateral triangle features three congruent sides and angles measuring 60 degrees on each corner. The lengths of the sides vary. Each of the four triangular sides that form the pyramids are equilateral triangles.

Giza, Egypt



Number Three: **Traditional Triangular Structures**

Indonesian Batak Toba House

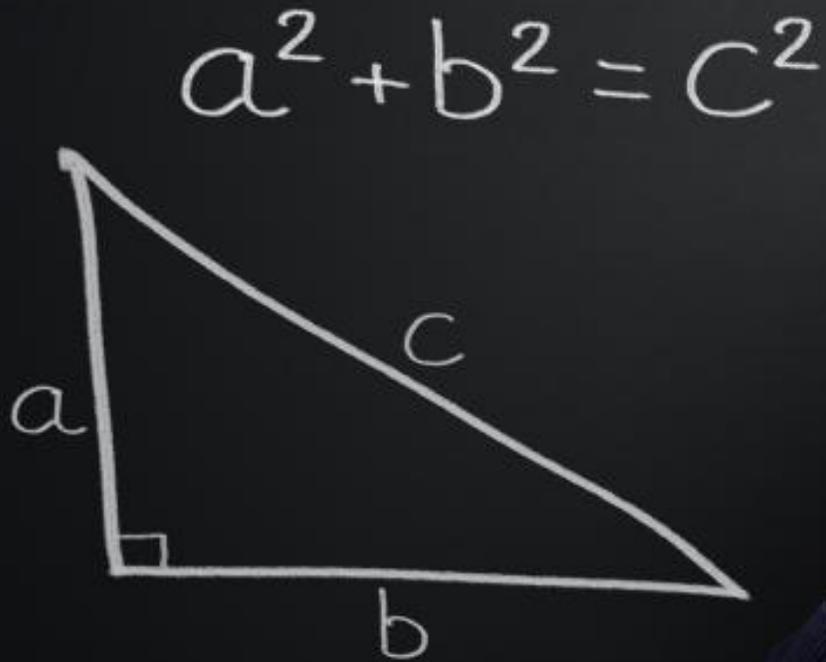


Mayan pyramid, Chichen Itza

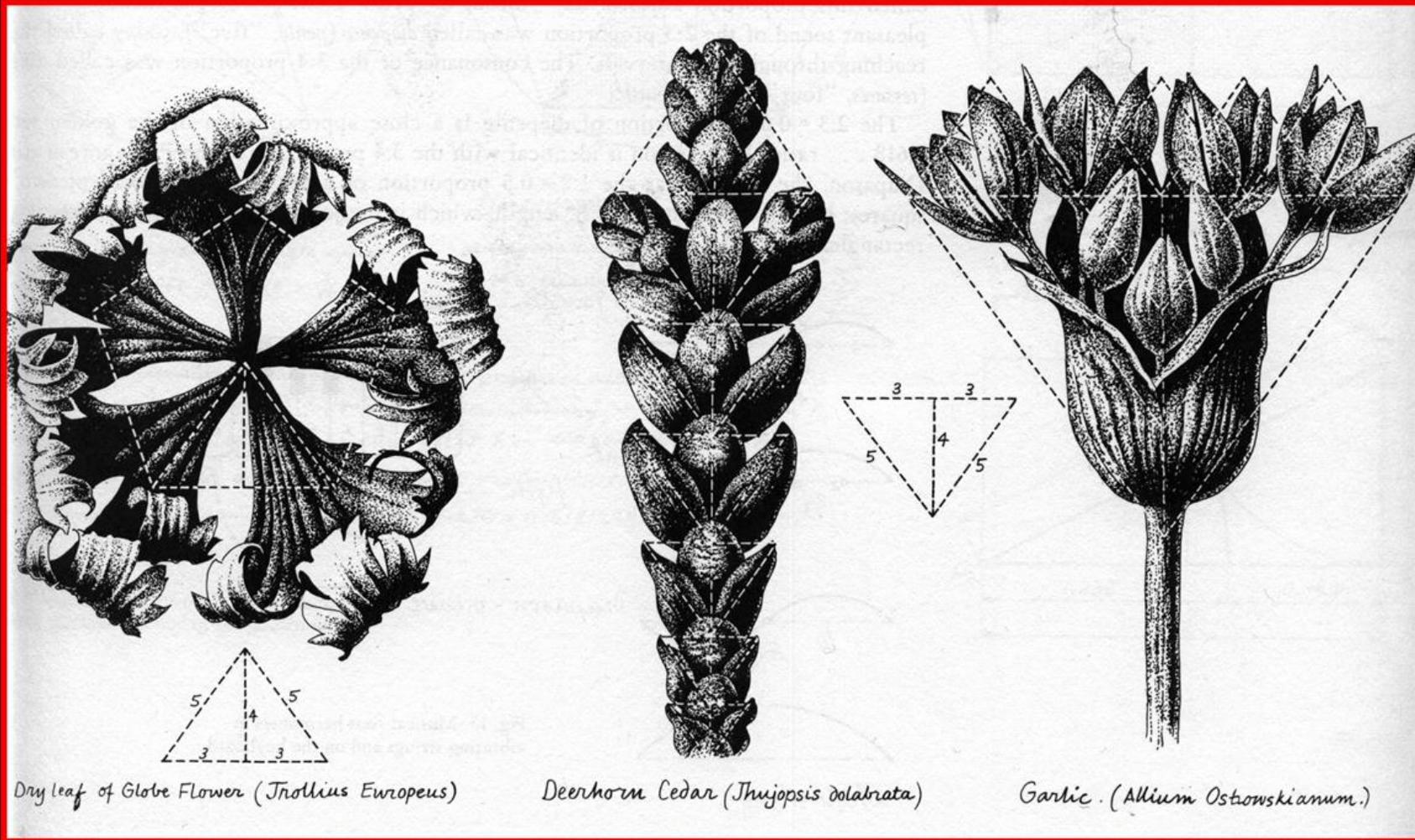


Pythagorean theorem

Relates to three sides of a right triangle, where the sum of the areas of the two squares on the legs (a and b) equals the area of the square on the hypotenuse (c).



Pythagorean 3-4-5 triangle



Referred to as the Pythagorean Triangle because it illustrates the : the square of the hypotenuse of a right triangles equal to the sum of the squares of the other 2 sides

This pattern is frequently found in Plants

$$A^2 + B^2 = C^2$$

The Embrace

is a study in triangles ...incorporating both *equilateral* triangles that form the geodesic dome with an *isosceles* triangular addition jutting out from the geodesic dome.

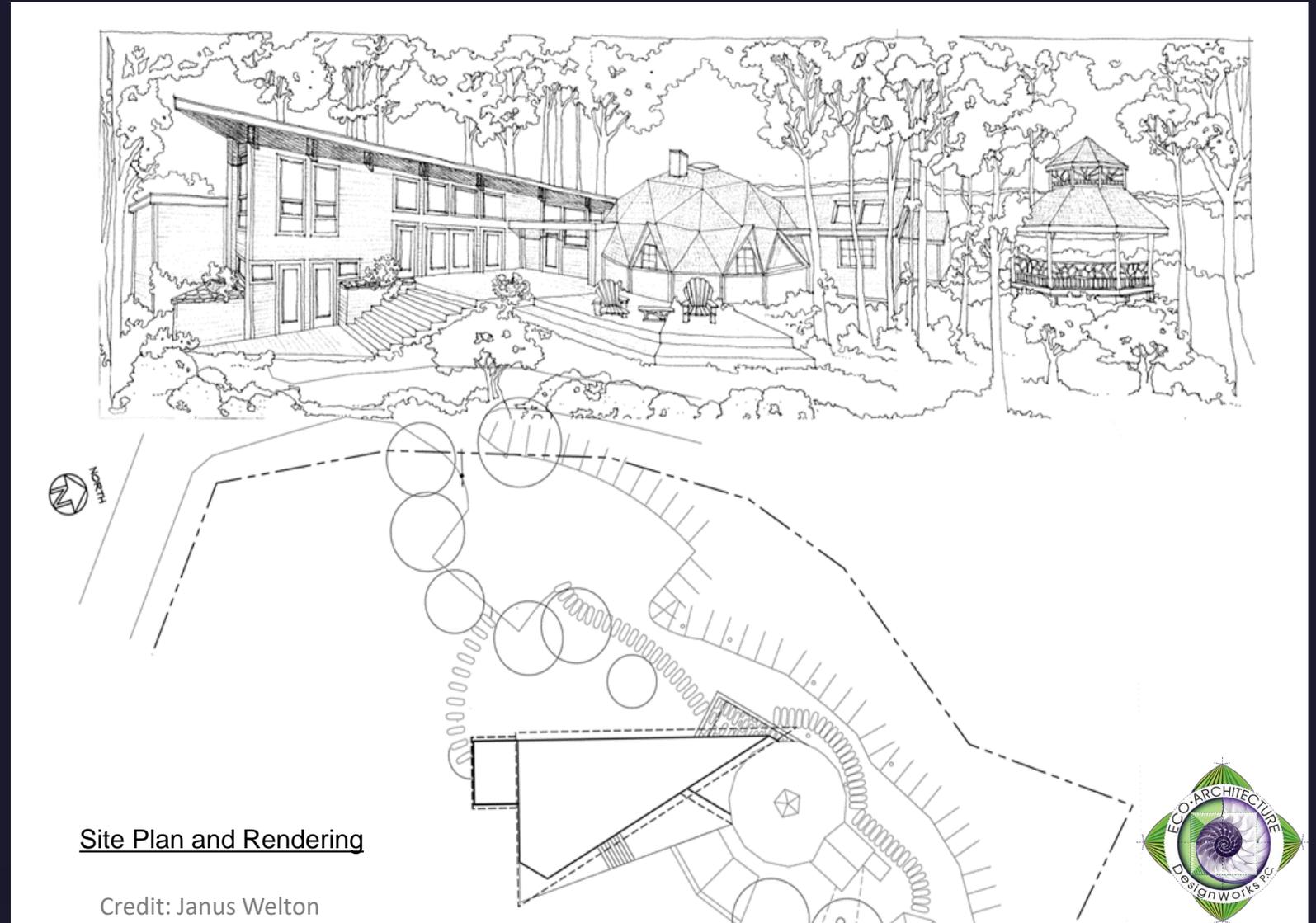
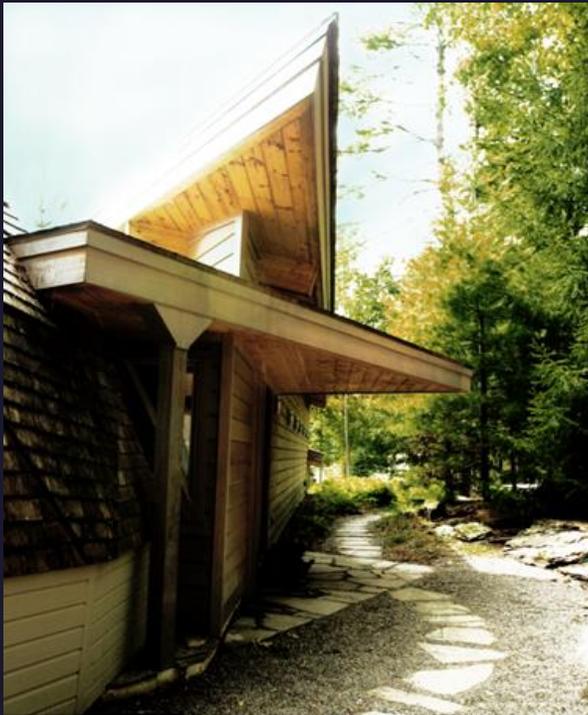


Design Credit: Janus Welton

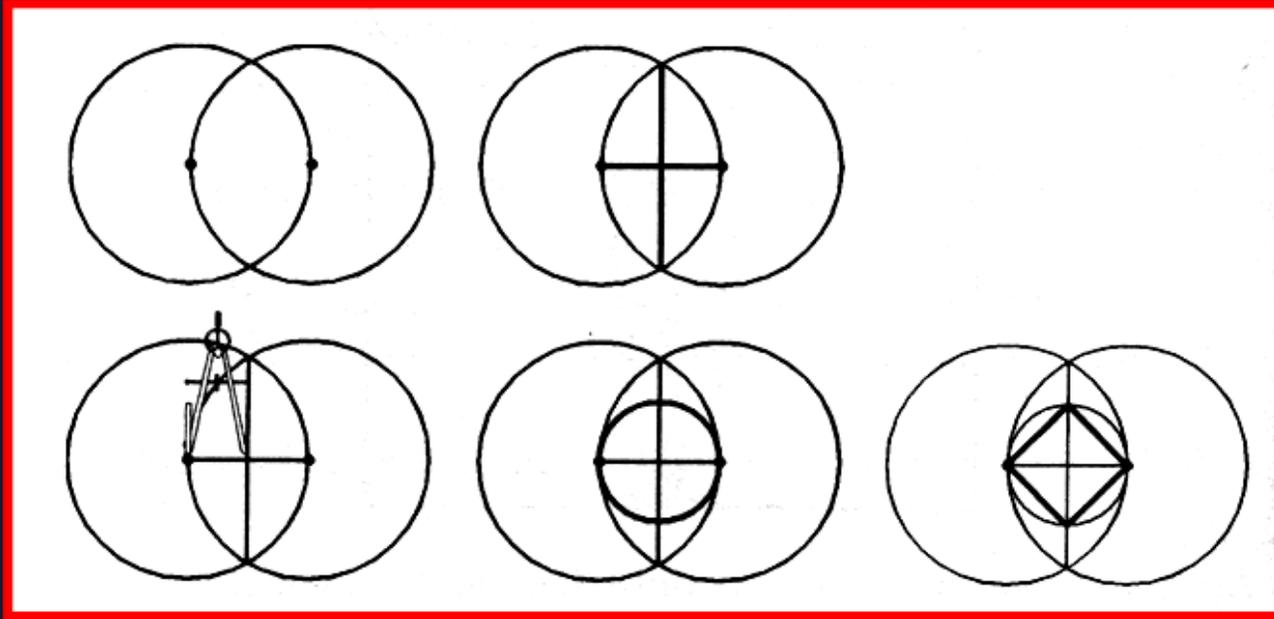
“The Embrace”

Woodstock, NY

The two triangular elements meet at the dramatic entrance where triangular *fractals* were employed to bridge the two distinct building forms and form a protective entry.



Constructing Four: *the Square*



From The vesica Pisces – Draw another circle and connect the lines to form the SQUARE = TETRAD

We have now journeyed from point, line, surface, and we now birth VOLUME.

Four is the first number and shape of 3-Dimensional space



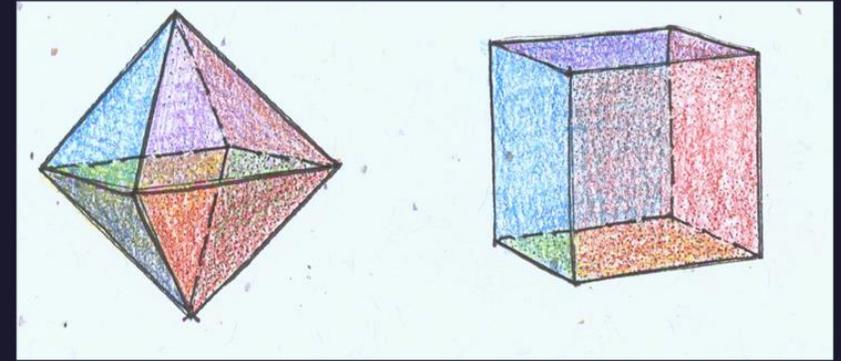
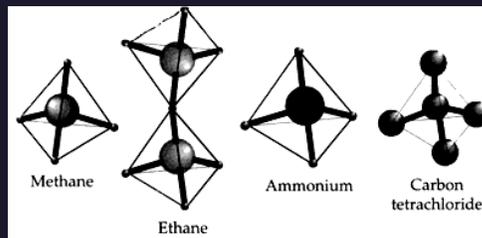
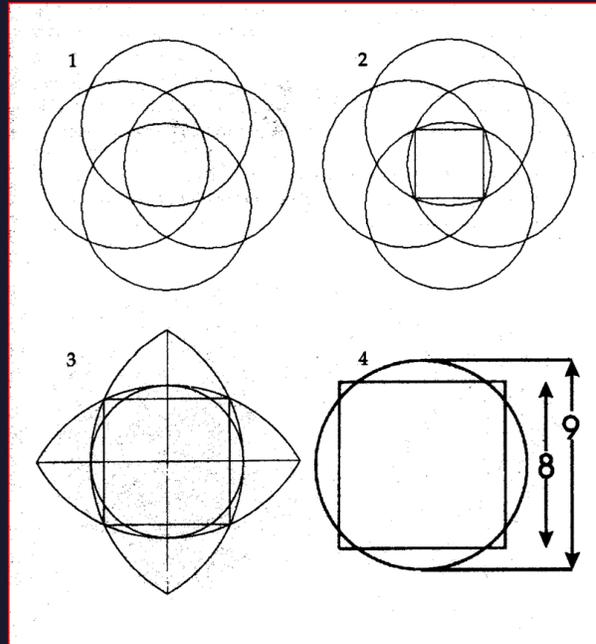
FOUR in NATURE

From the point, to the line
to the surface, to the birth
of volume

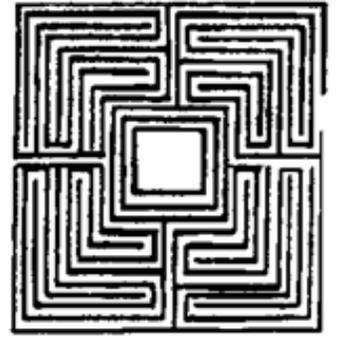
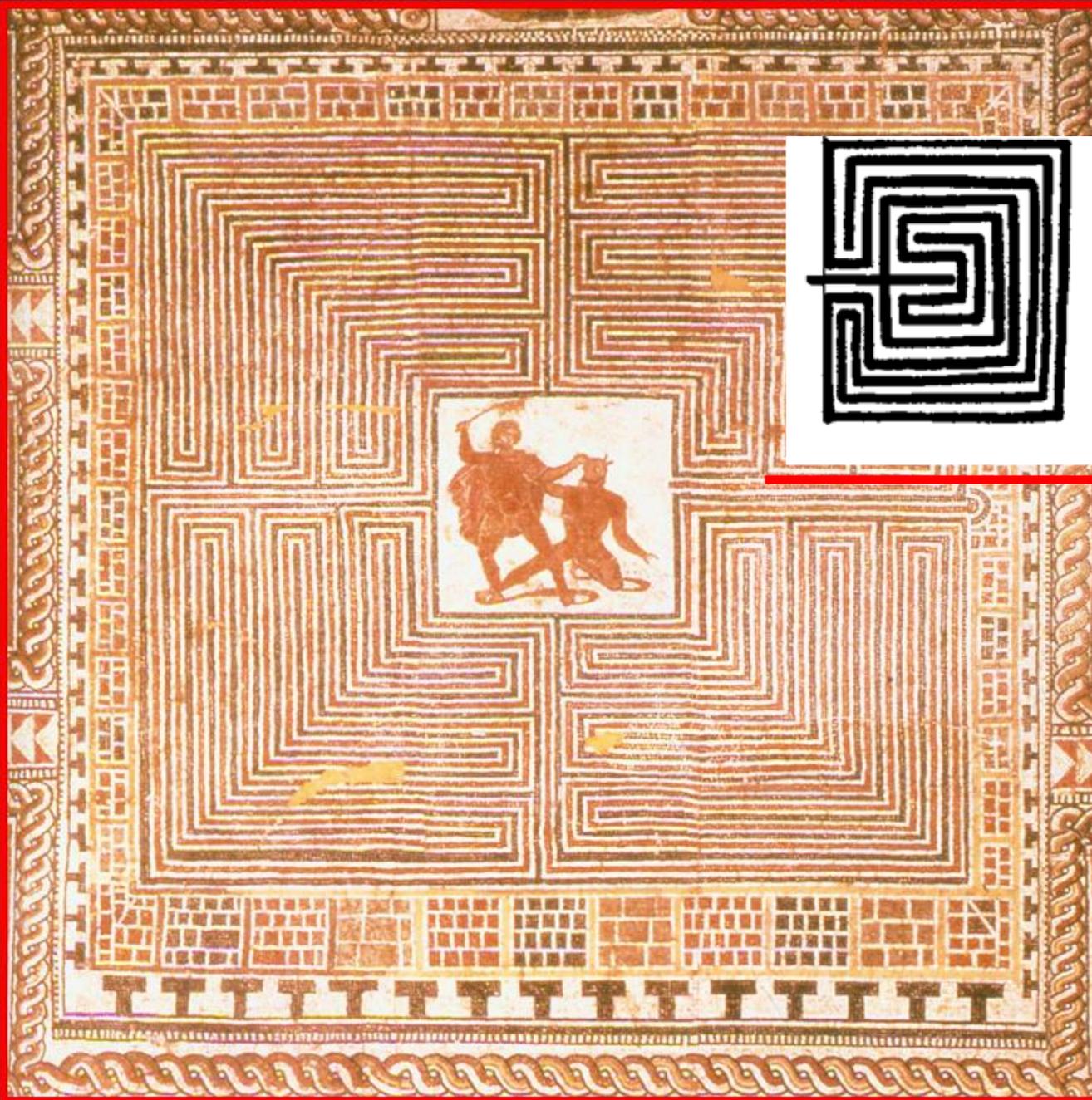
the FOUR expresses the first
number and shape of 3-D space

Widely used in architecture, these
three geometric forms are
widespread expressions of Four as
microscopic structures of atoms,
molecules, crystals, viruses, and
living cells

- TETRAGON-Flat square
- TETRAHEDRON- Four identical
triangle faces
- CUBE -Six identical square faces

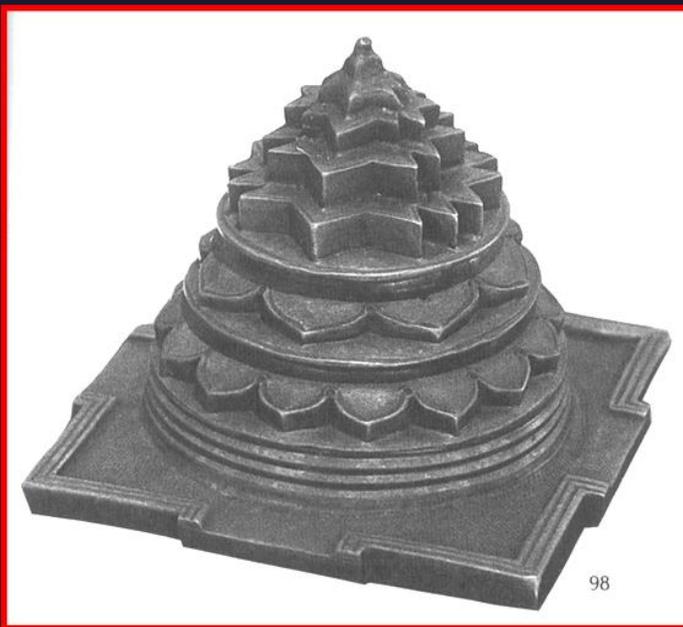
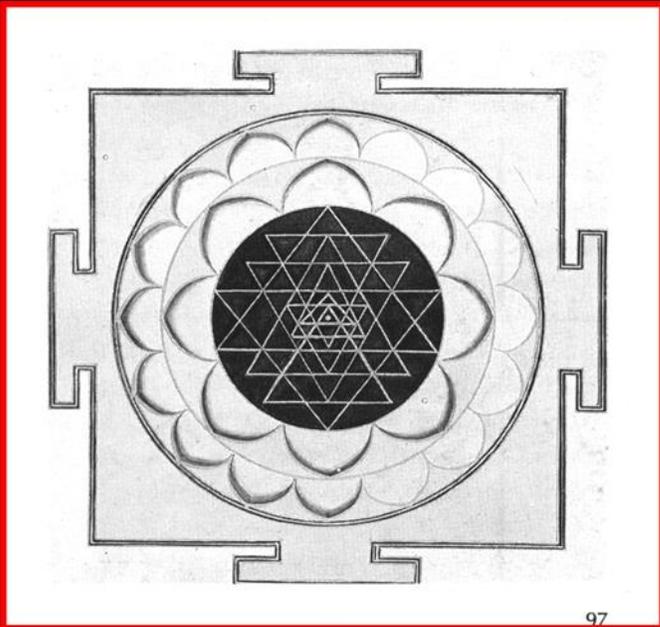


FOUR Directions :



Hopi Symbols for mother earth,
Chartres Cathedral labyrinth and
Italian Renaissance garden plans.

Square labyrinths and those built
around squares and crosses are
METAPHORS for of our wanderings
through EARTH, within ourself, on our
path of transcendence

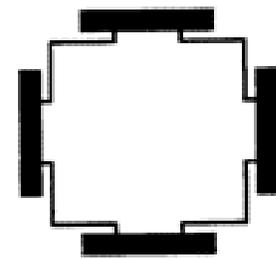
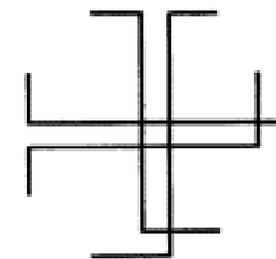
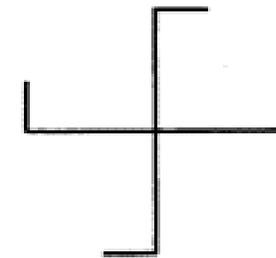
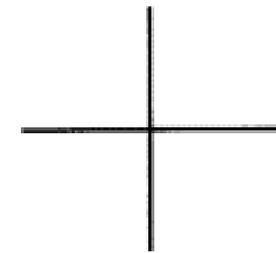
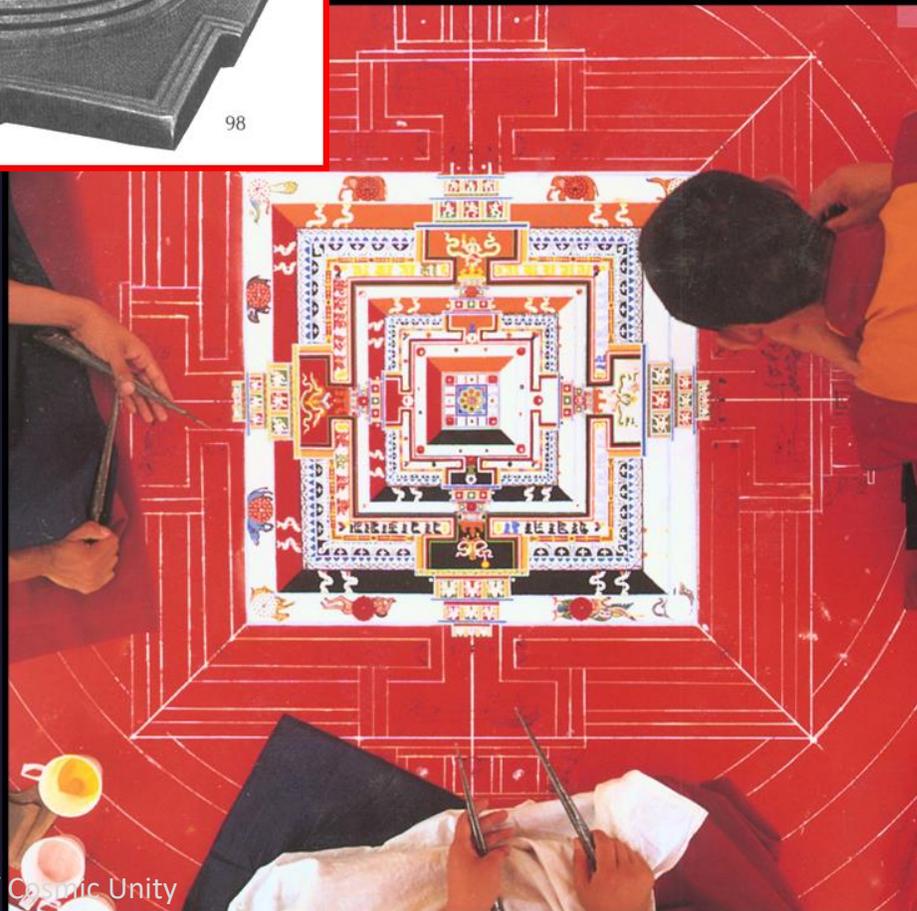


Number
Four :
Mother Earth

In the fully formed temple enclosure, the gates open out at all 4 sides to receive energy flow

Four is associated with
PHYSICAL MANIFESTATION
...of Substance

The Cross extended by into a double swastica show that the Divine Center can be reached by both left and right hand paths



Number Four :

Vedic Yantras

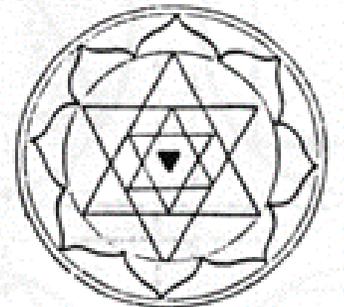
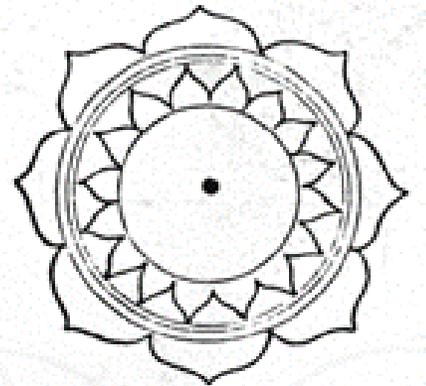
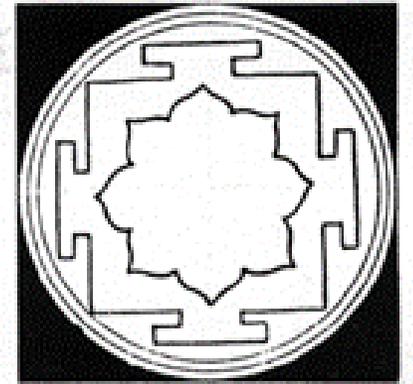
The SQUARE is the fundamental form of most Vedic Yantras- or Mandala – and express the rhythm of creation and man’s connection with high symbolic content- containing many sacred geometries within the whole, and used as tools of visualization ..

The SQUARE denotes the TERRESTRIAL world which , in Indian Cosmology and Temple Building...must be transcended



नेत्रयामण्डल

Source: Khanna Madhu, Yantra: Tantric Symbol of Cosmic Unity

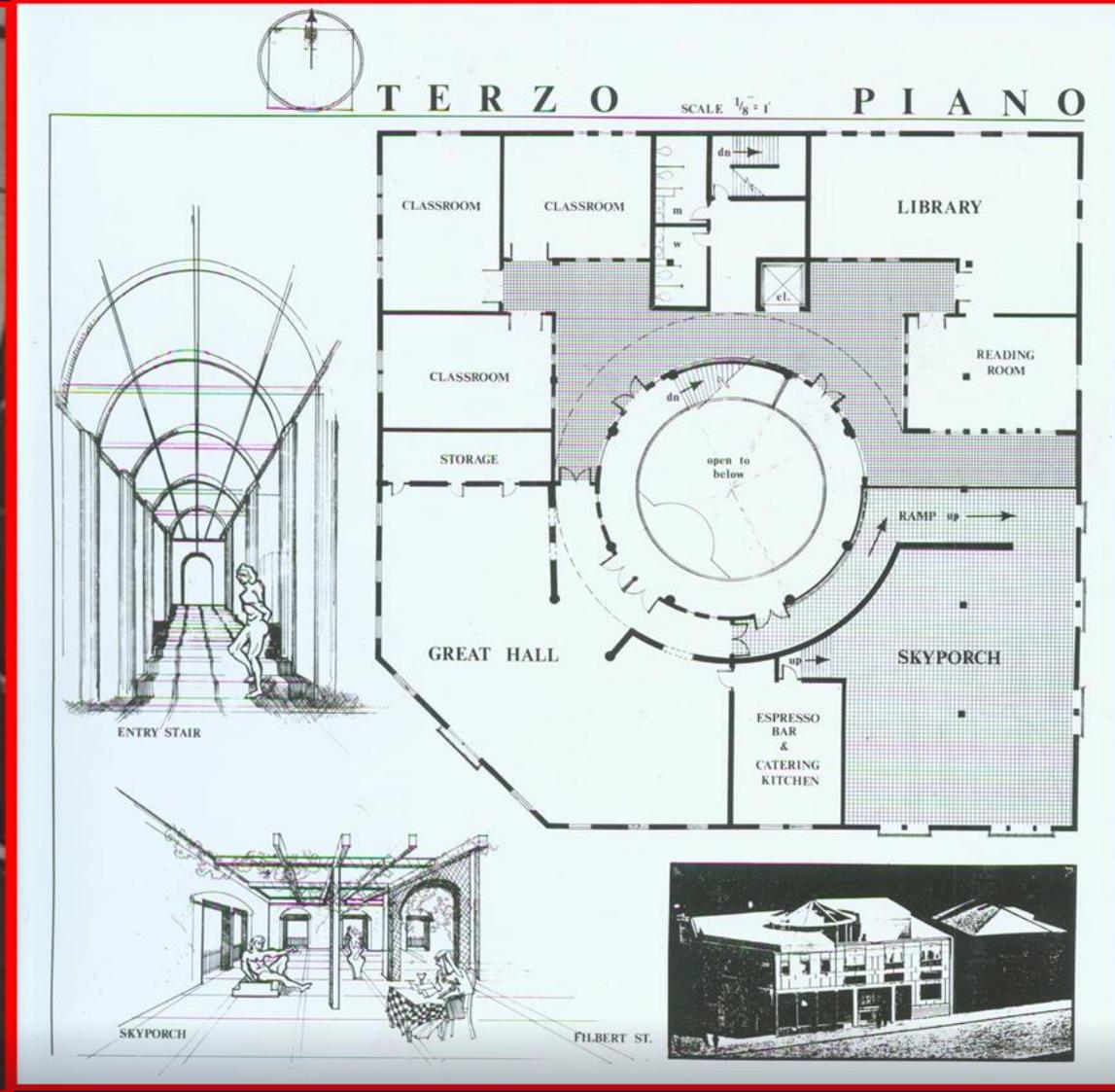


FOUR : SQUARE

Muslim pilgrims surrounding the Ka'bah (center) at the Great Mosque of Mecca, Saudi Arabia.

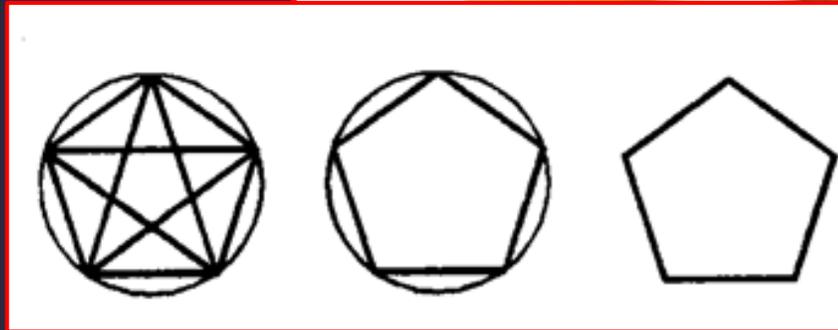
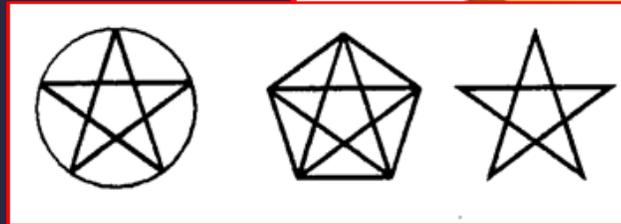
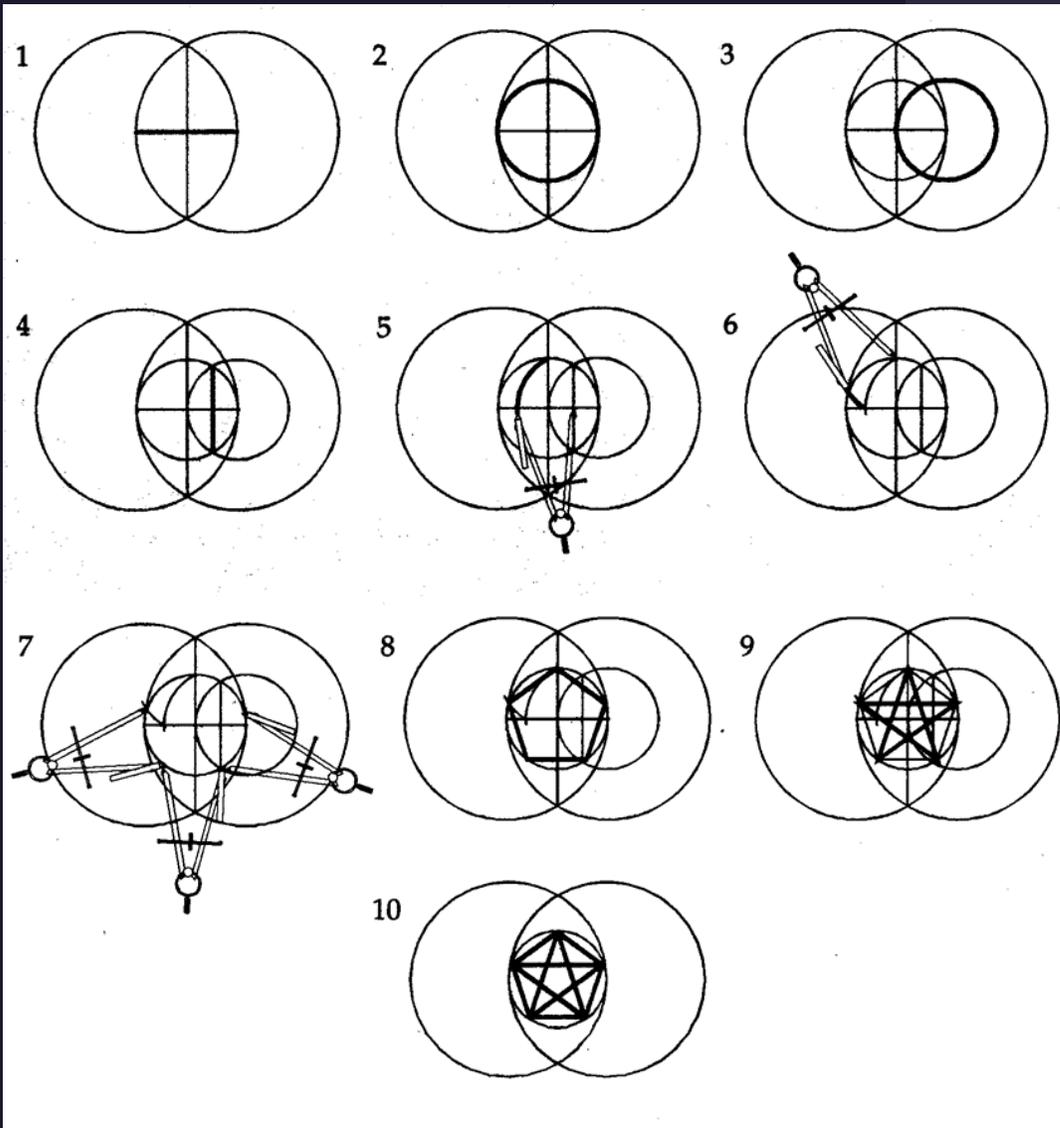


The Circle in the Square: Museo Italiano Americano, San Francisco



Credit: Janus Welton

Constructing FIVE : the Pentagon



THE PENTAGON In NATURE

Flower Geometry

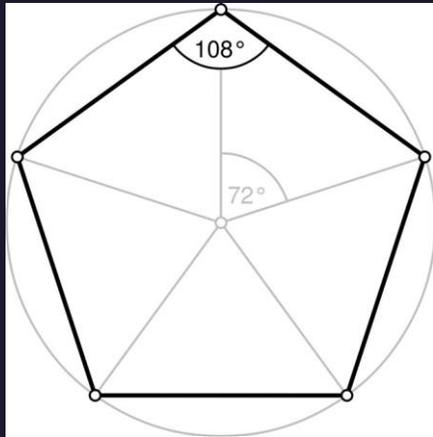


Image credit: Dean Marston

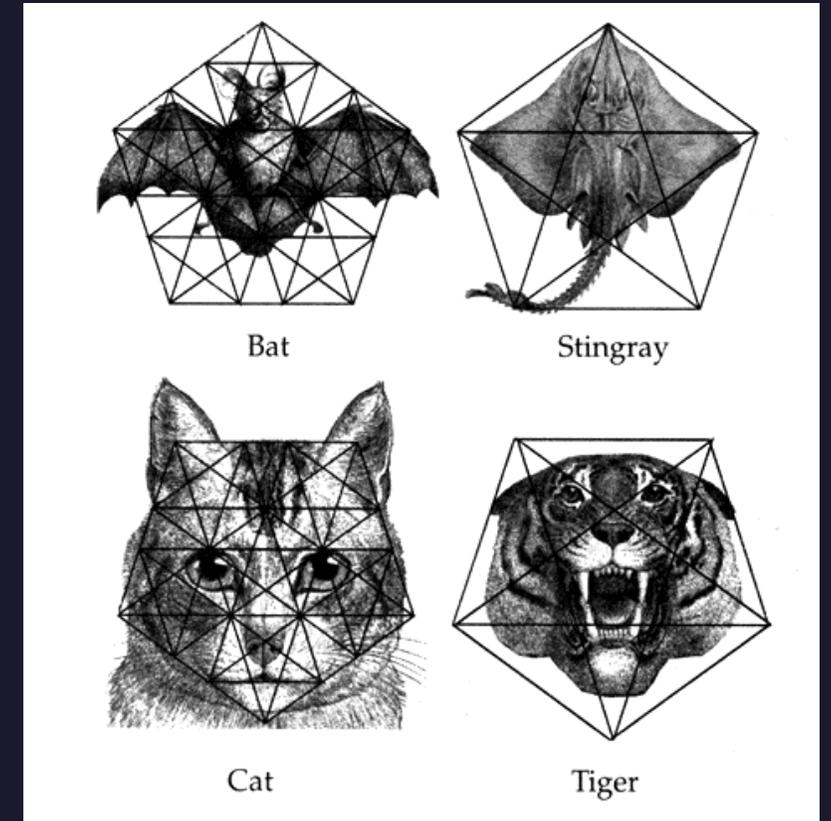
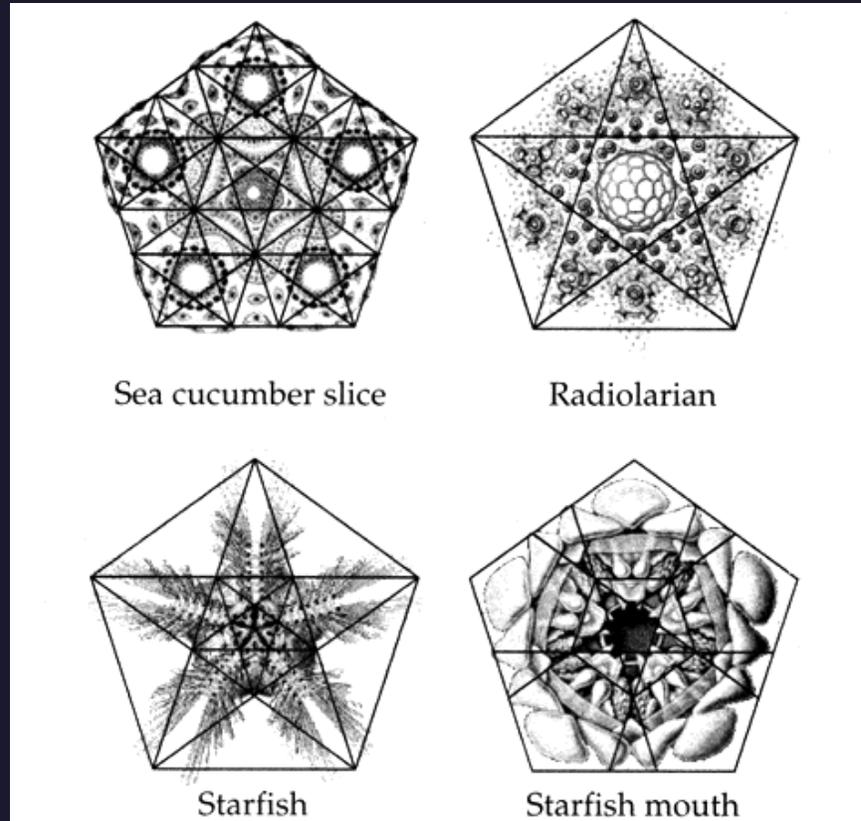
FIVE: The Pentagon

Pentagons abound in the Animal Kingdom , the Plant kingdom, and in Humans
Fives are manifested in Nature as beautiful and efficiently designed forms

Symbol of Humanity and Health to the Pythagoreans



Pentagon has 5 equal sides and 5 equal angles of **108 degrees**

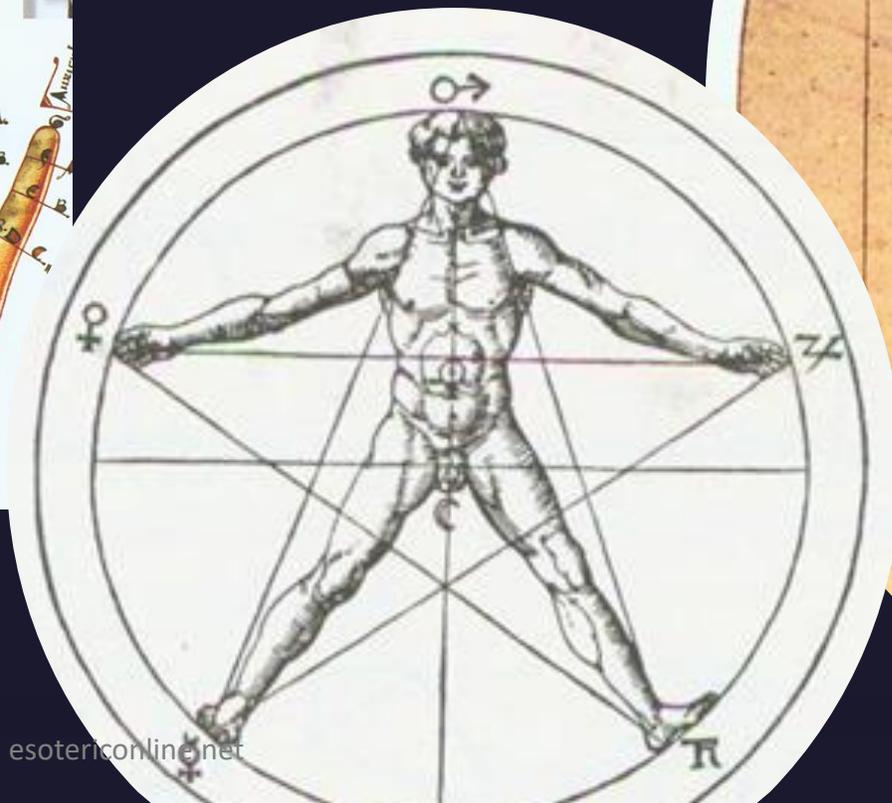


Pentad symmetry: **Human Body**

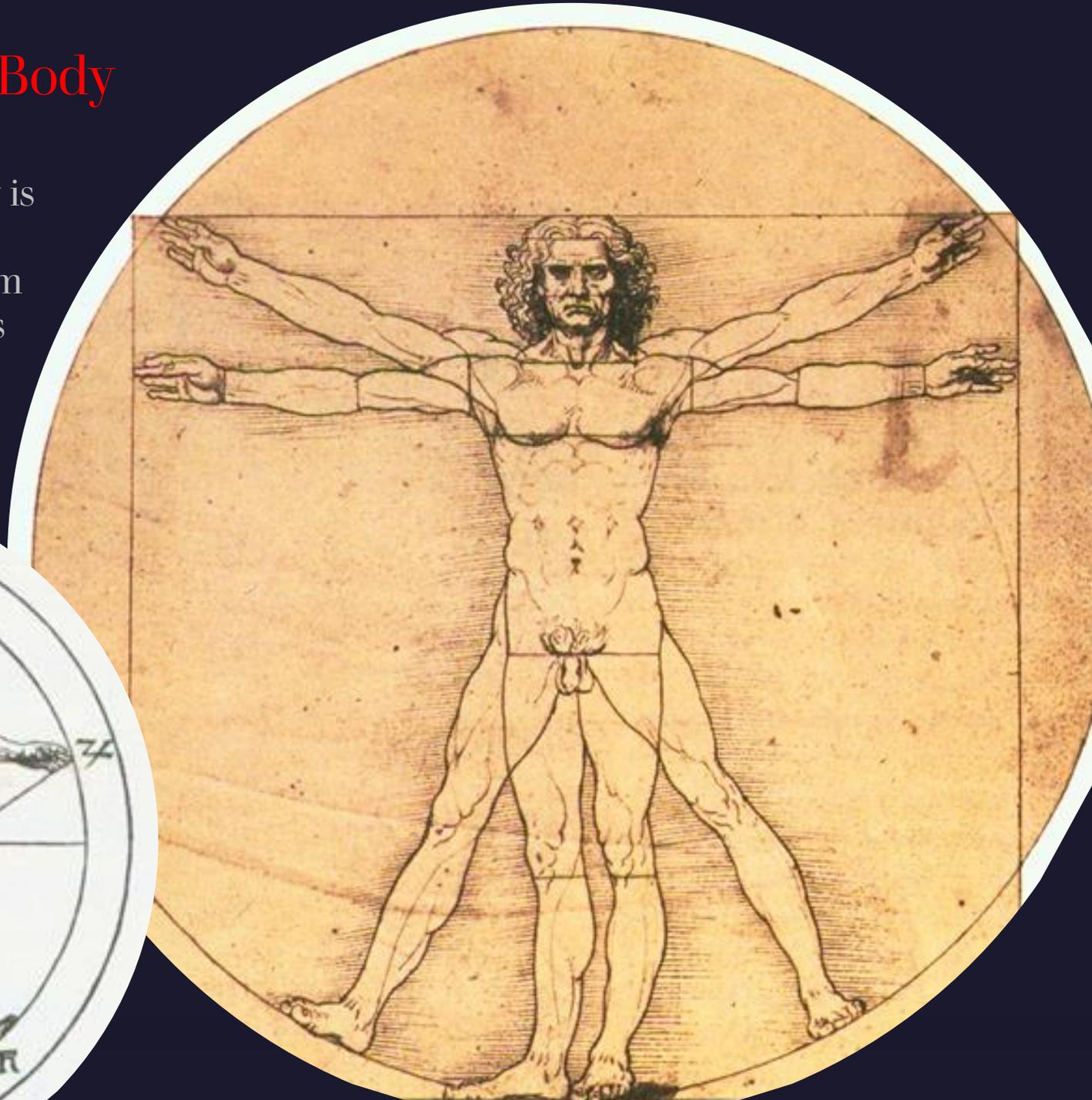
Not only were the fingers, hands, ears, arms, legs, and torso used for counting ...but the Human body is an exemplary expression of the Measurement of FIVE- The Pentad ...5 senses, the 5 extensions from the torso, and each limb ending in 5 fingers or toes
The shape of the head , and the shape of the V = the Roman Numeral for 5



Source: Denis Guedj, Numbers –Universal Language



Source: Leonardo Davinci | esotericonline.net

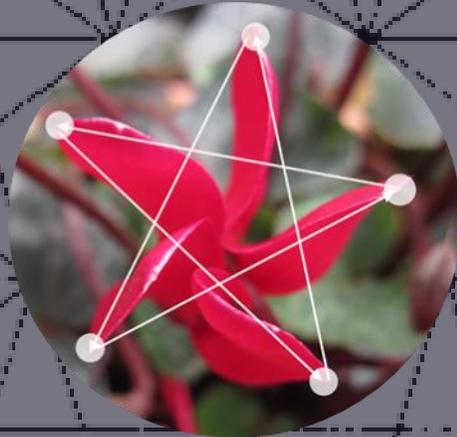


LAW of FIVE REGENERATION

Pentagons
perpetuate their
own image
endlessly.

This self similar
accord.. repeating
the same shape on
different scales, is
the basis of

**FRACTAL
MATHEMATICS**

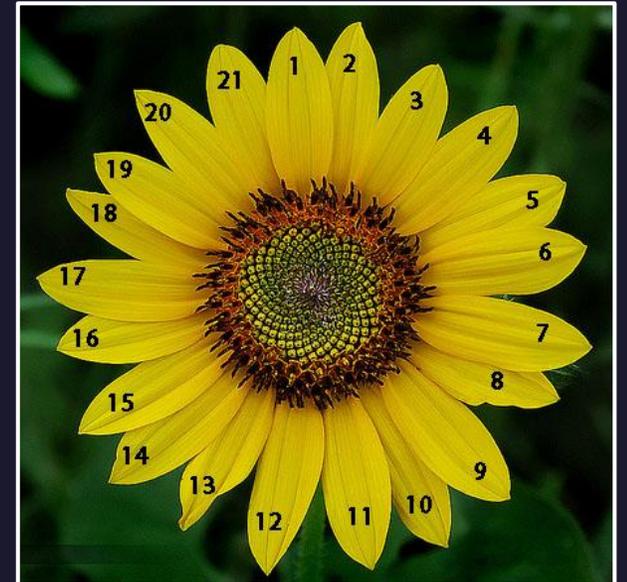
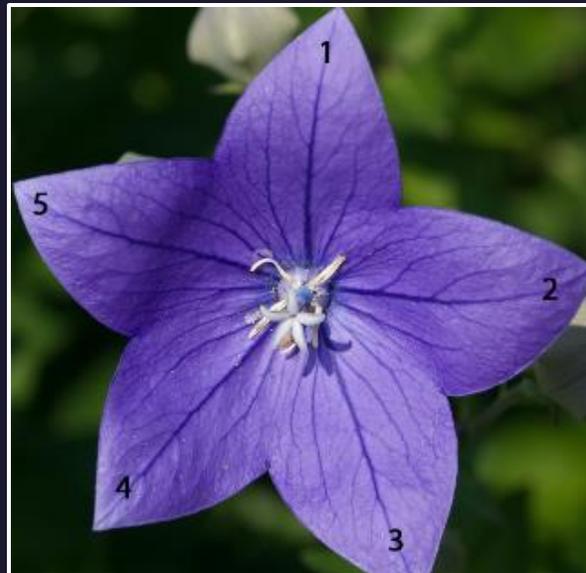
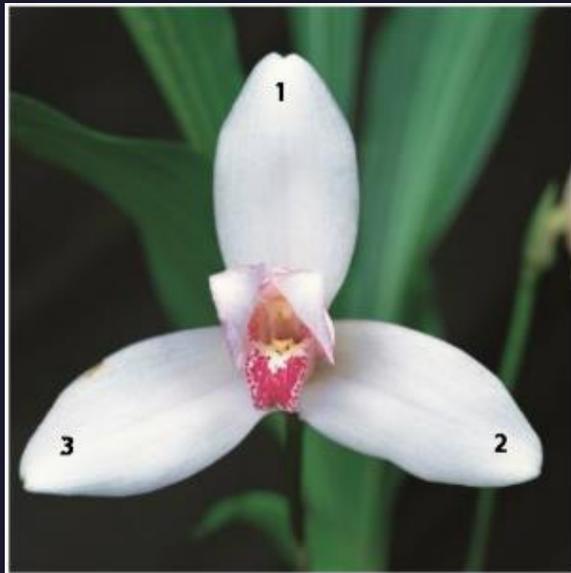


0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, 144, 233, 377, 610,

Source: Robert Lawlor, Sacred Geometry

Fibonacci Sequence *In Nature*

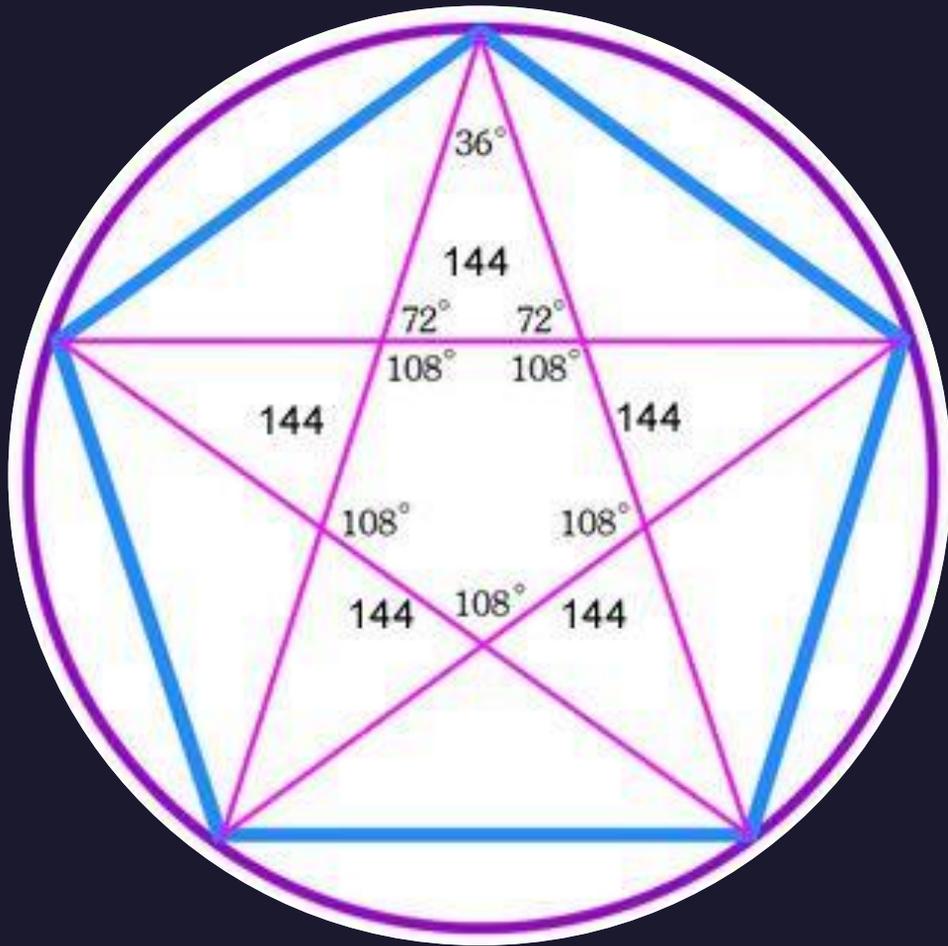
The series grows from within itself- from its immediate past, using nothing from the outside for its growth appears in plants, music, seashells, spiral galaxies, the human body , and everything associated with FIVENESS in Nature.....



And the sequence or pattern in which it regenerates is called the **FIBONACCI SEQUENCE**
Add up all the sequential numbers starting with 0 and you see the pattern

0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, 144, 233, 377, 610,....

Pentagon: Symbolism



- The 5- pointed Star is a worldwide symbol in Flags of over 60 countries - that all stand for something different, yet respected as a symbol of Power and excellence
- It has universal appeal to mankind and a deep archetypal connection
- From ancient times The 5- sided Star has been a magical symbol to ward off the devil in many cultures

The Pentagon in Architecture: *Past and Present*

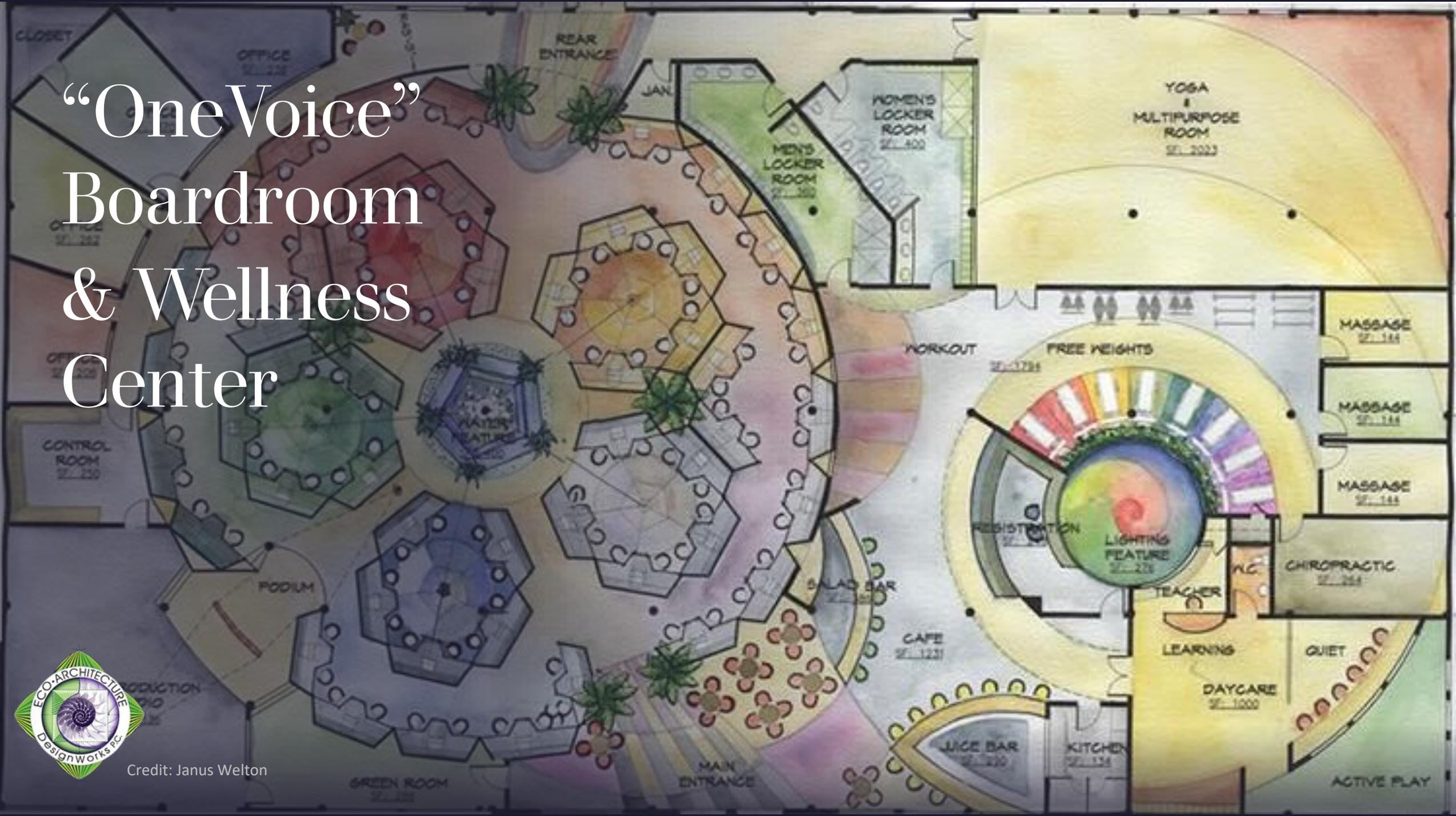


Source: Fort Mifflin National Monument and Historic Shrine



Source: Wired.com

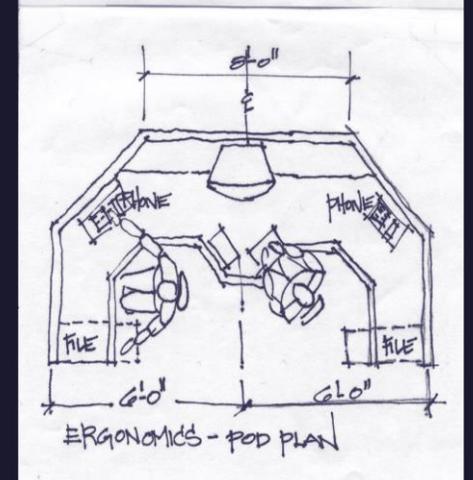
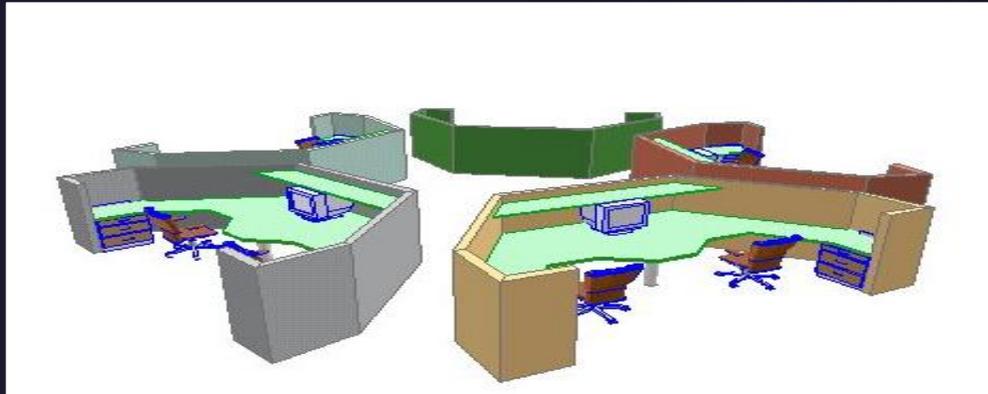
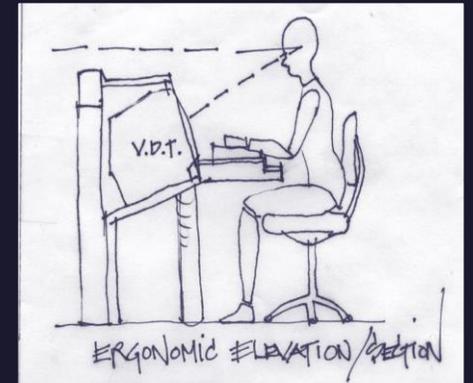
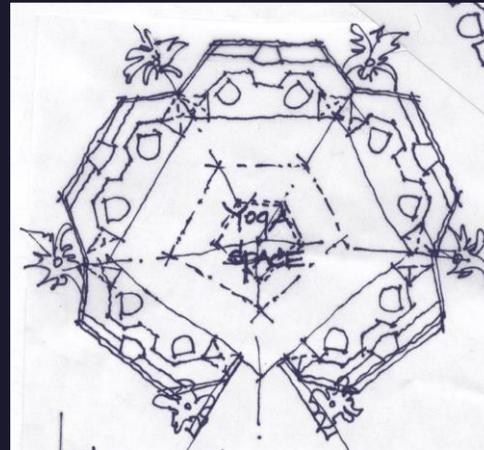
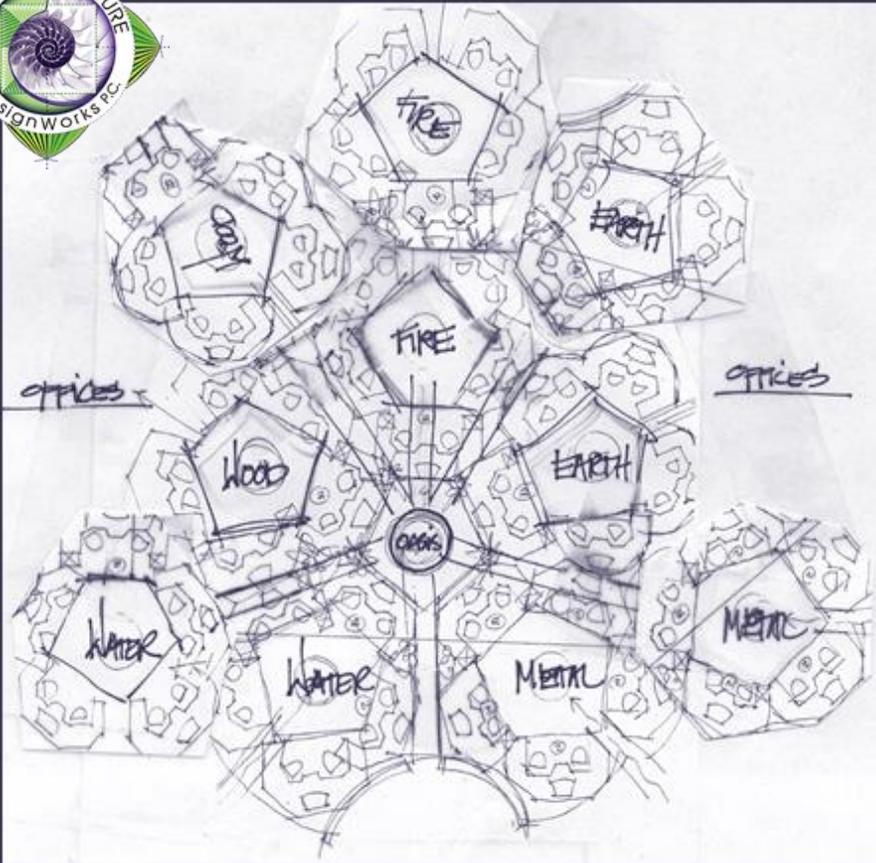
“One Voice” Boardroom & Wellness Center



Credit: Janus Welton

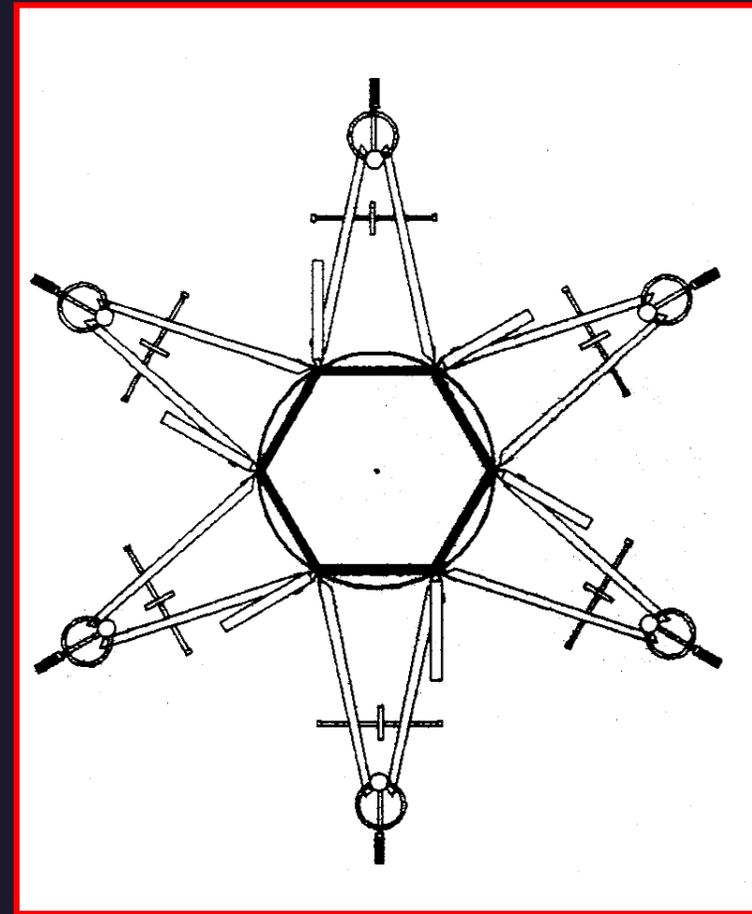
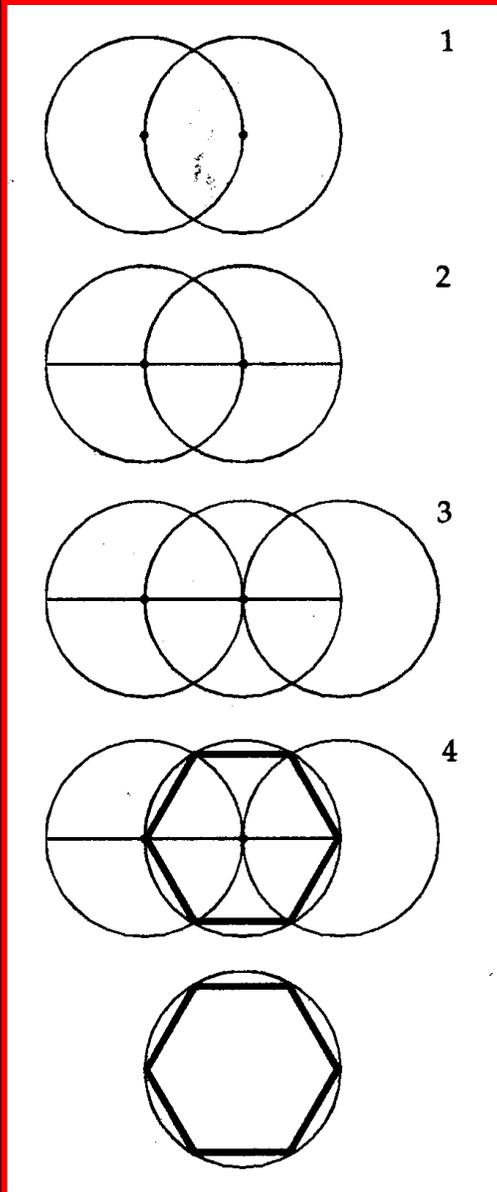
Number Five: **Symbol of humankind and wholeness**

Ergonomic work- stations grouped in five (5) element pods with a modular desk system that grows organically in pentangles to accommodate up to 100 telemarketing staff for wellness product sales



Constructing SIX

6- Hexagon



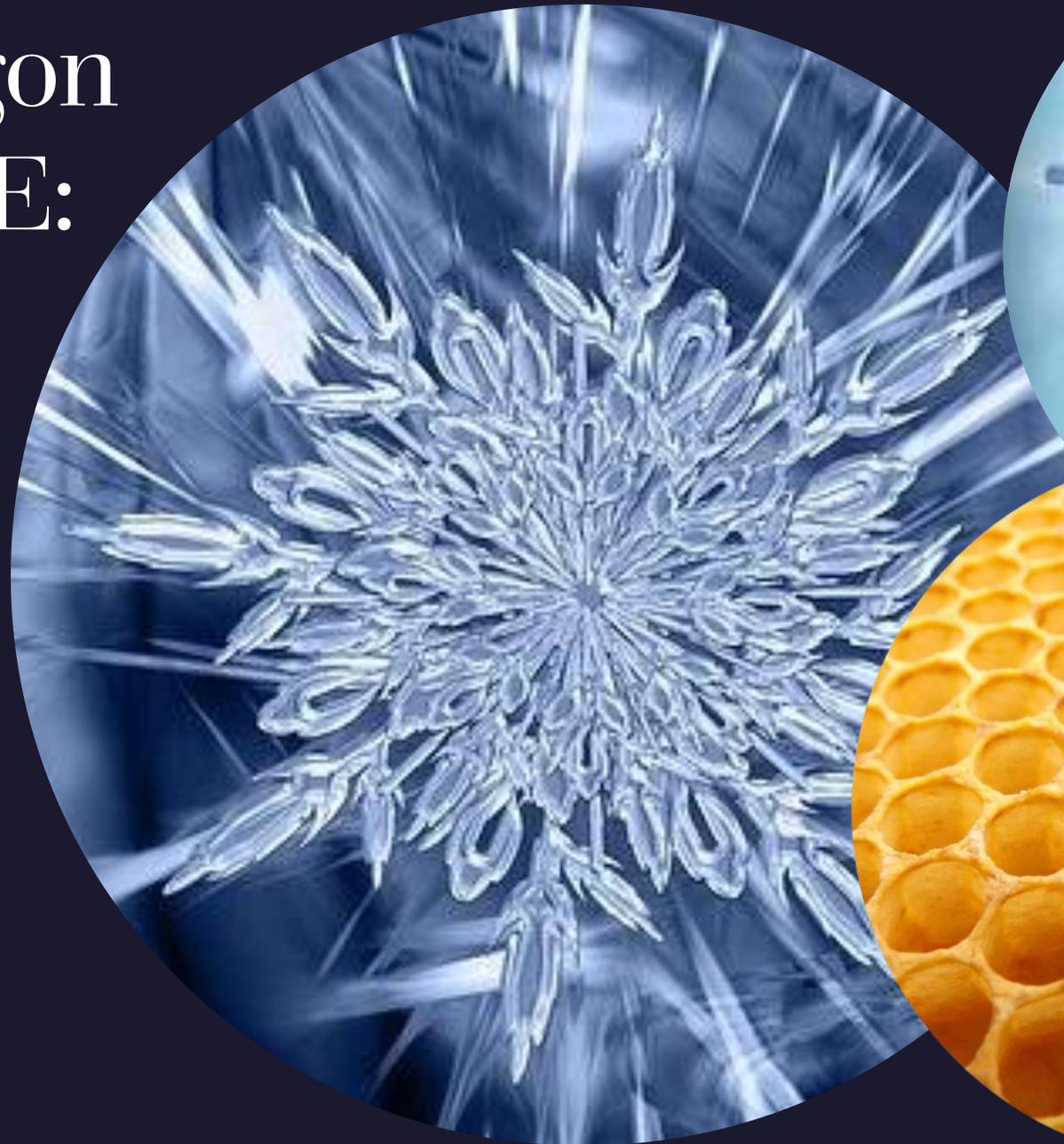
The Hexagon In NATURE:

Universal
Order

Ice crystals

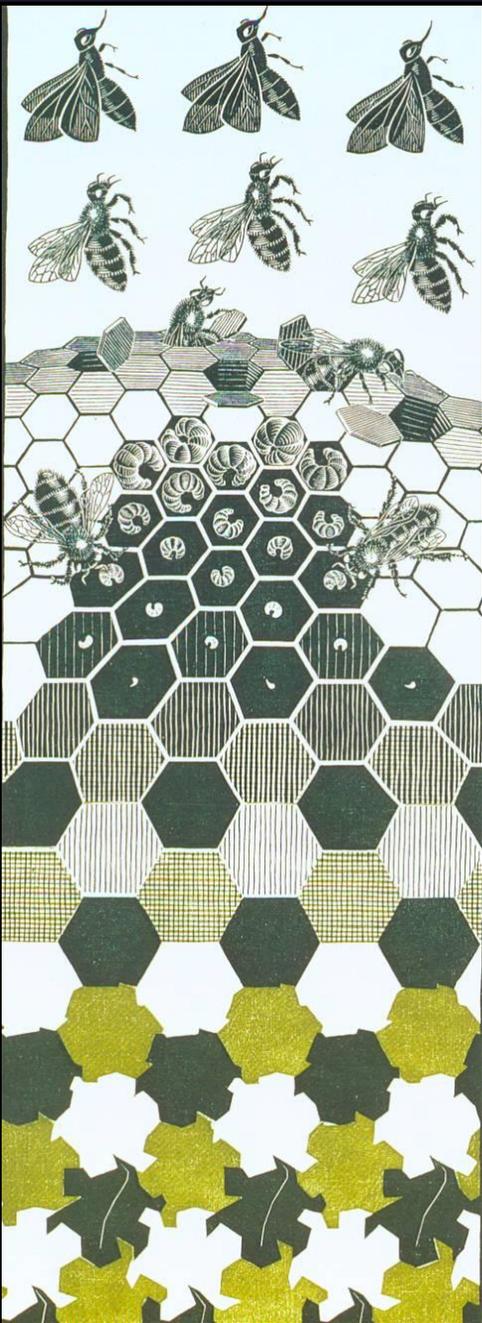
Snowflakes

Beehive cells



6 - Universal Order

- Meaning of the Hexagon
- Islamic Tile
- Ornament Patterns Based on Hexagon
- Wood Cellulose
- Hexagonal Buildings
- Bagua



Images: M.C.EscherWikiart.com

- Hex Beehive
- Molecules
- Crystals



Image: I. El-Said & A.Parman , Geometrical Concepts in Islamic Art

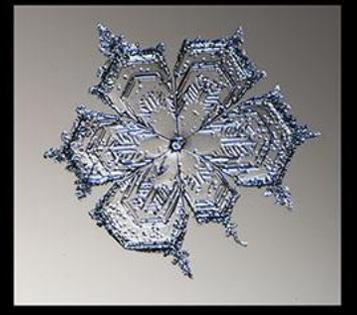
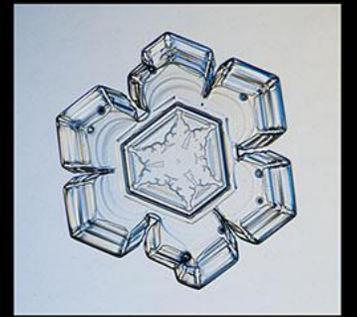
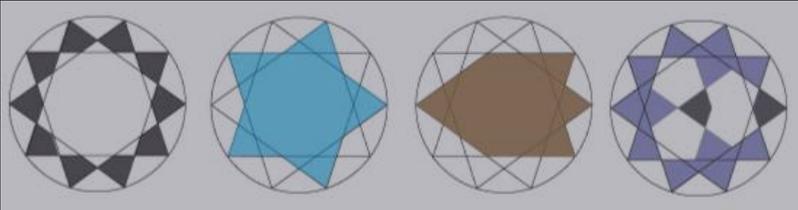


Image: Michael Peres@mrppph.cias.rit.edu

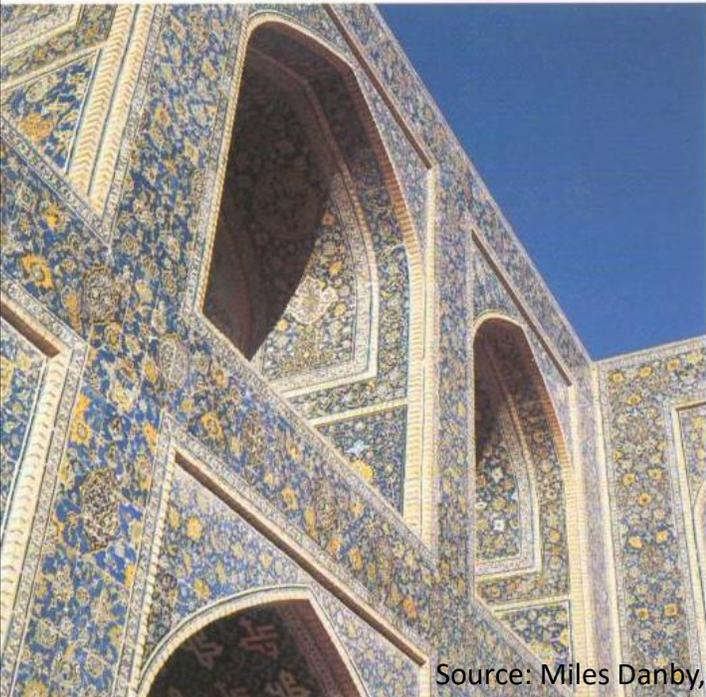
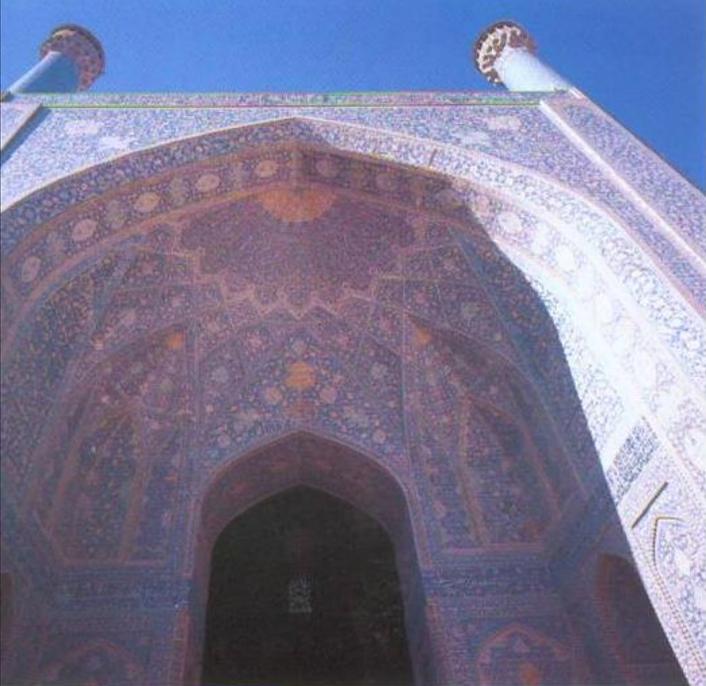
Number Six:

Universal Order

Harmony and Balance



Source: pinimg.com



Source: Miles Danby, Moorish Style

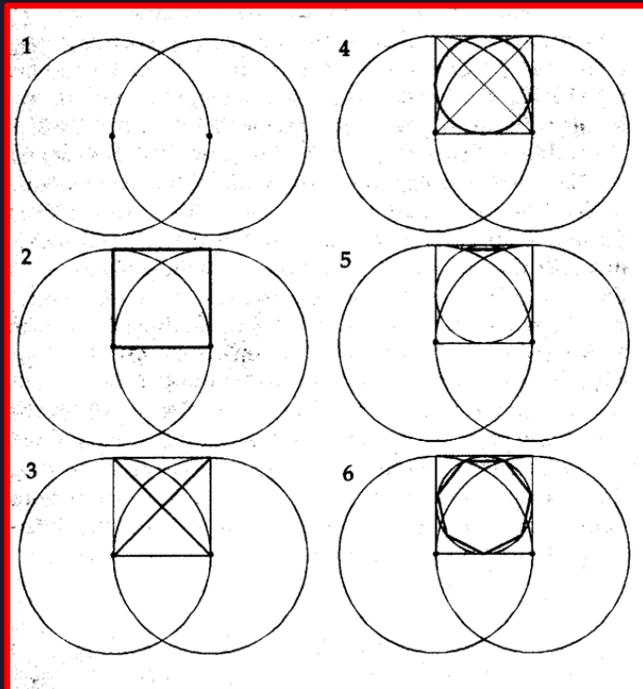
Geodesic Architecture at EDEN PROJECT



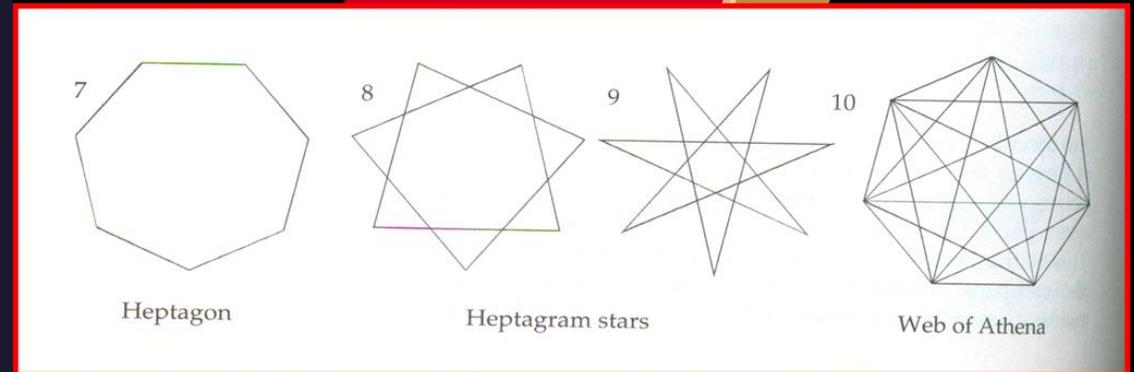
Seven - Birth of the Heptad

Virgin number - 7 only divisible by itself

Pops out from the Vesica Piscis- Most venerated number associated with magic, mythology, mysticism, ceremony, superstition.



- 7 wonders of the World
- 7 days in a week
- 7 colors of the rainbow
- 7 year itch
- Snow White and the 7 Dwarfs
- Noah's ark loaded by Sevens
- Lucky numbers 777



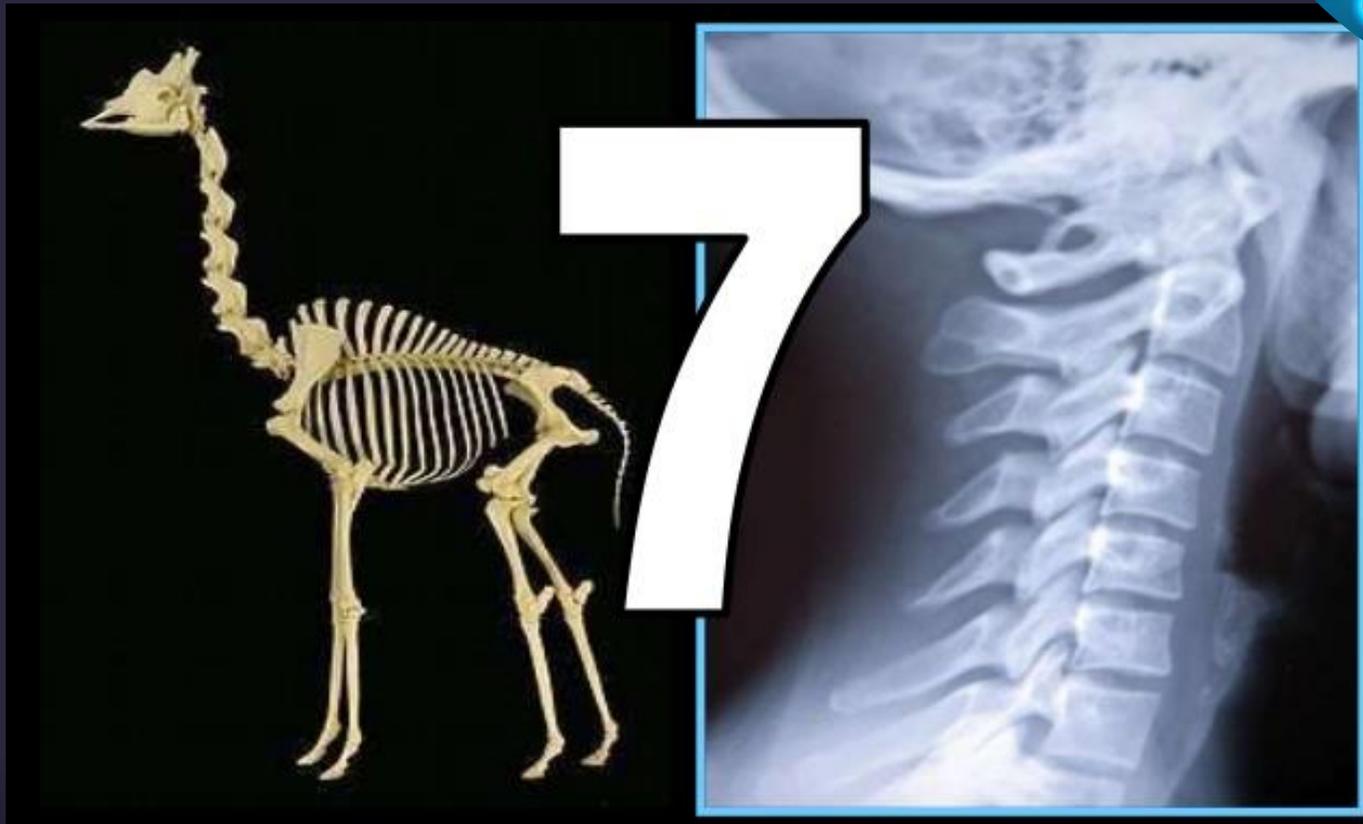
7 Seven in Nature



7 is the atomic number of the nitrogen molecule

Source: depositphotos.com

Most Mammals have 7 cervical vertebrae



Source: rkbentley.blogspot.com

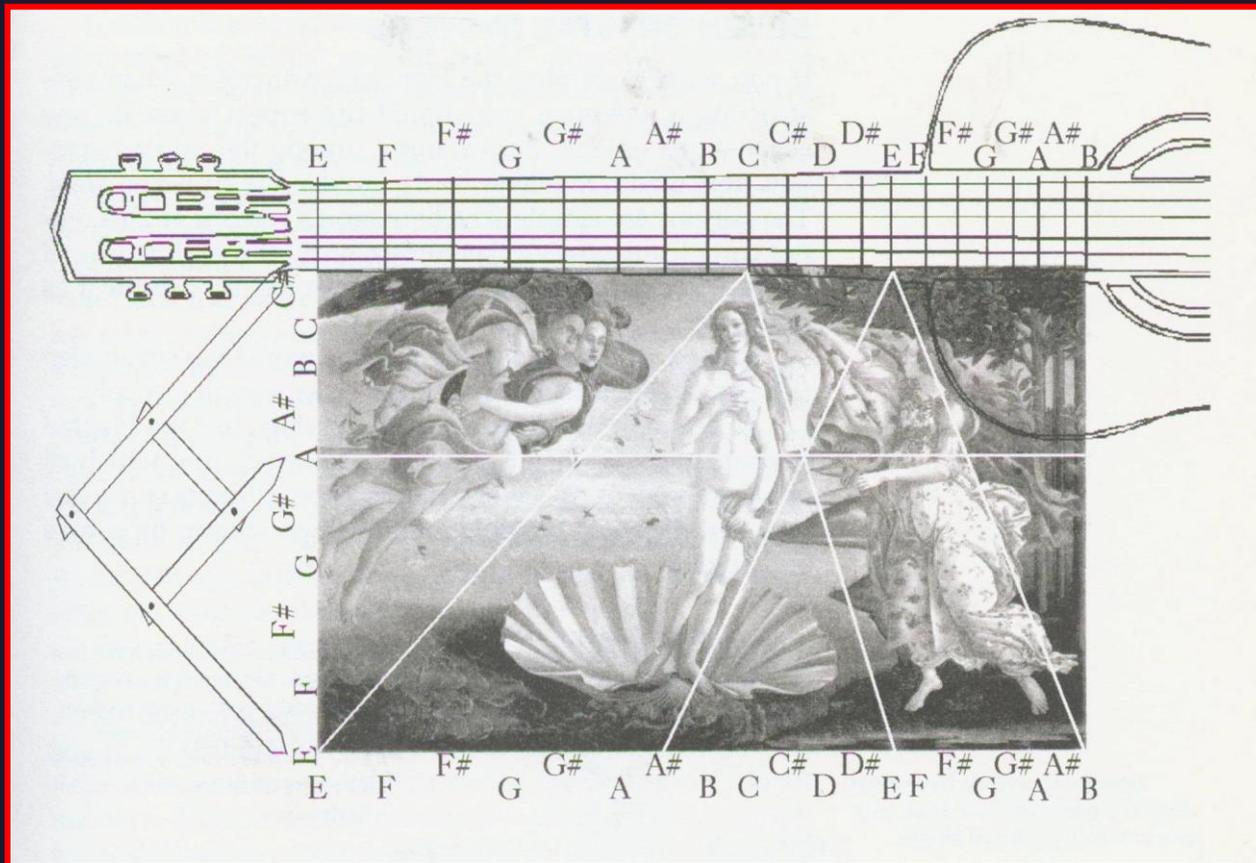


Lady Bird bugs have 7 spots

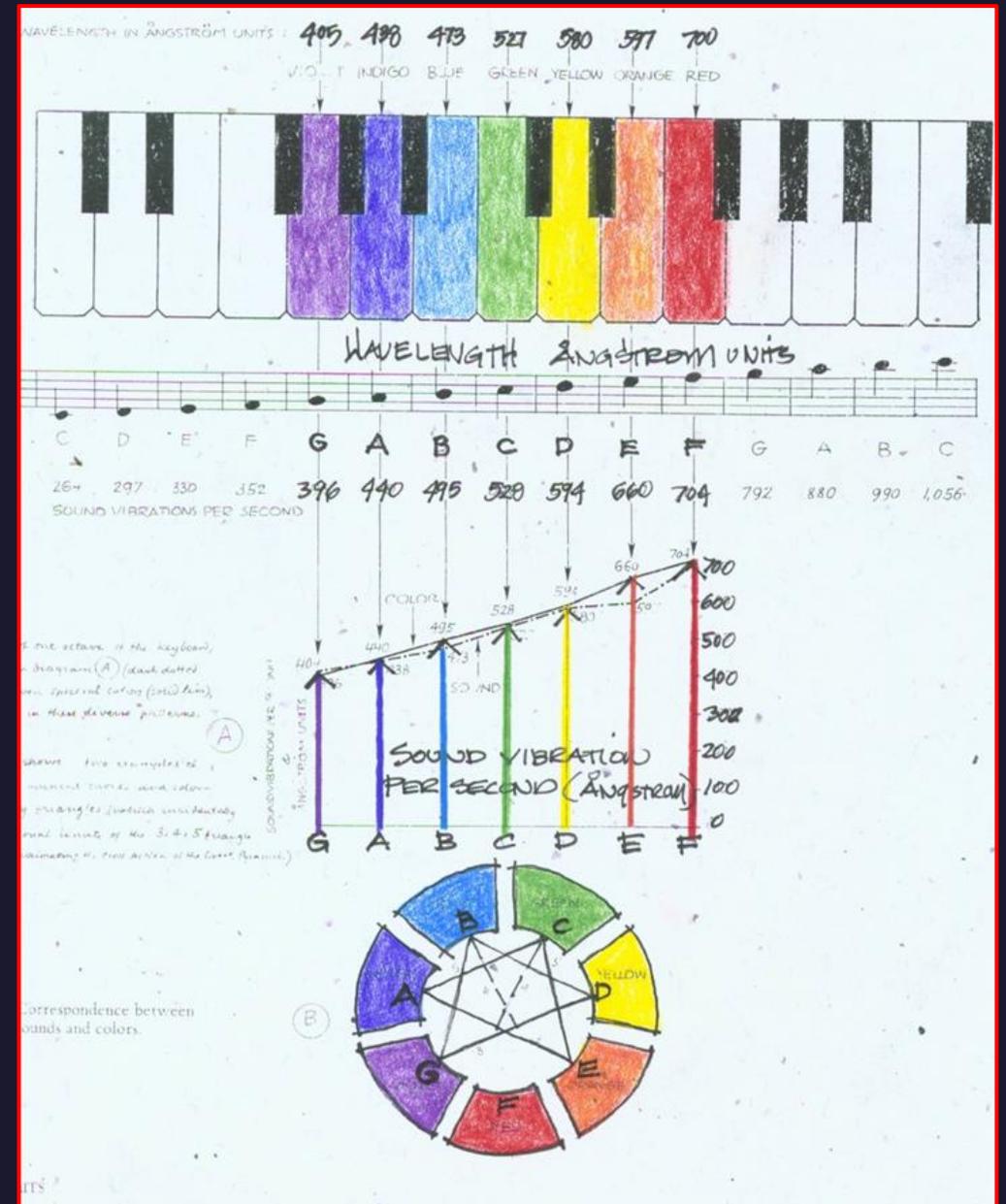
Source: lifeisagarden.co.za

Harmony of 7 Chords

Color, Light & Sound share the Seven - fold Harmonies of Music and all growth patterns.



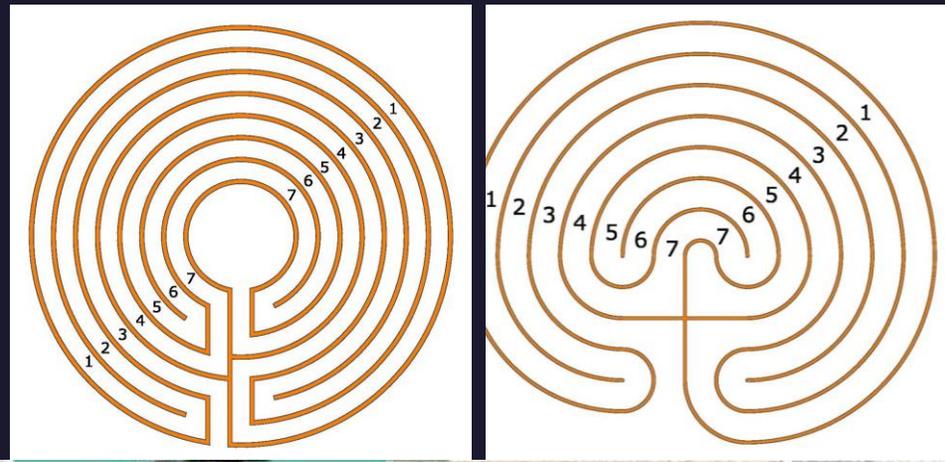
Credit: Birth of Venus, Galleria degli Uffizi



Credit: Gyorgy Doczi, The Power of Limits

Number Seven: Classic 7 circuit labyrinth

“The purpose of a labyrinth, as in all initiation activity, is to enter an altered state where the spirit journeys up through the spirit worlds, experiencing the after-death journey while still alive.”



Number Seven:

Ancient Serpent Mound In Ohio

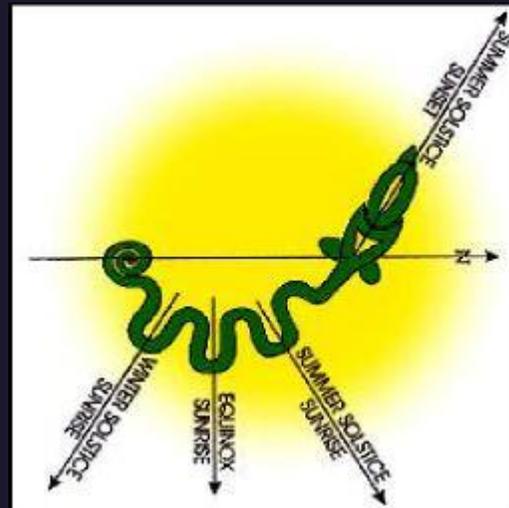
Classical Seven circuit
Labyrinth

Heptad:

7 labyrinth

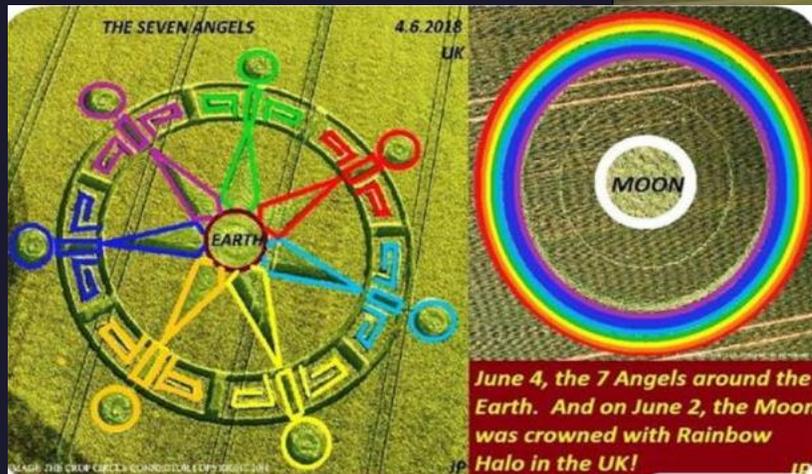
7 stages – seen in nature

7 steps – the journey

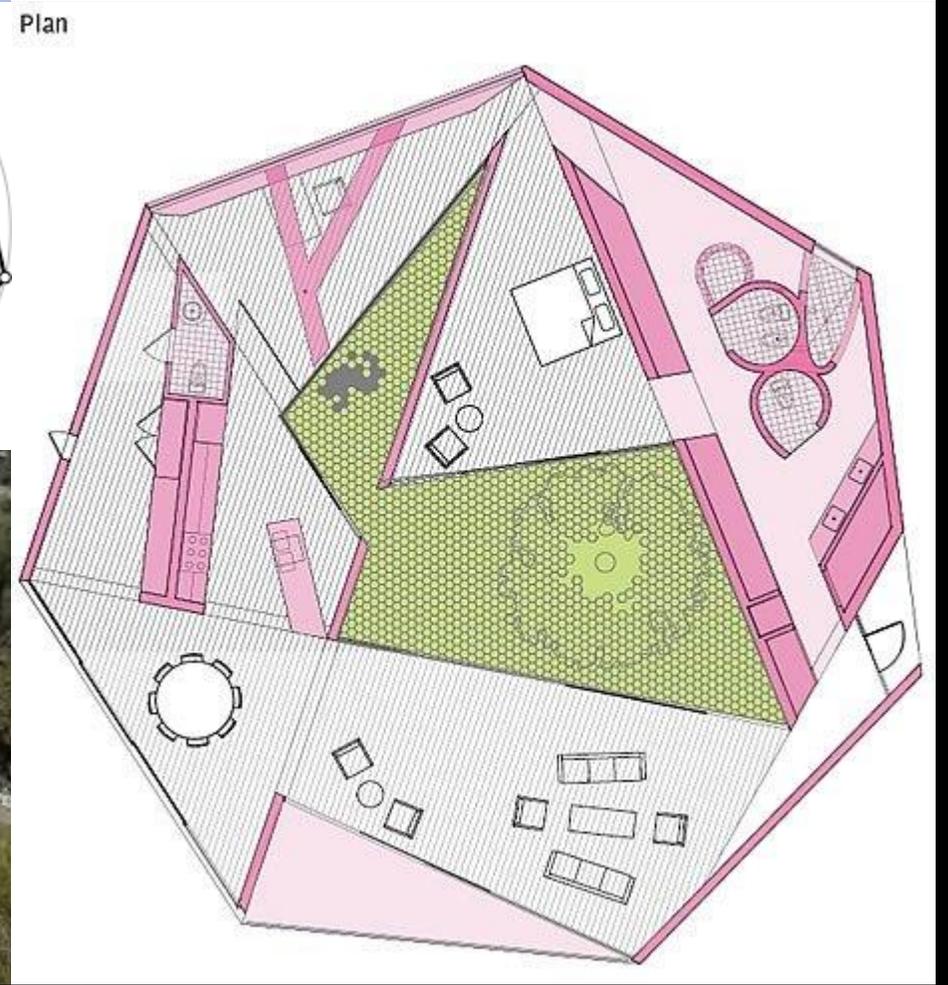
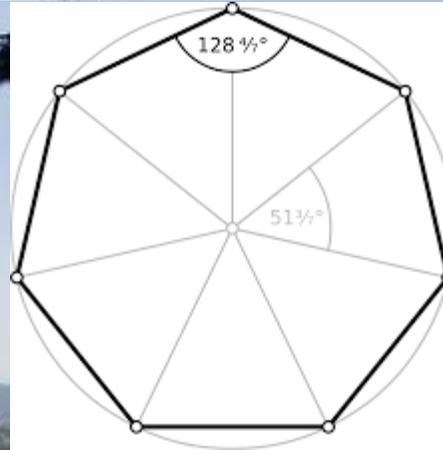


Example of Seven

The seven angels crop circle reported 6/4/18 Dorset, UK.

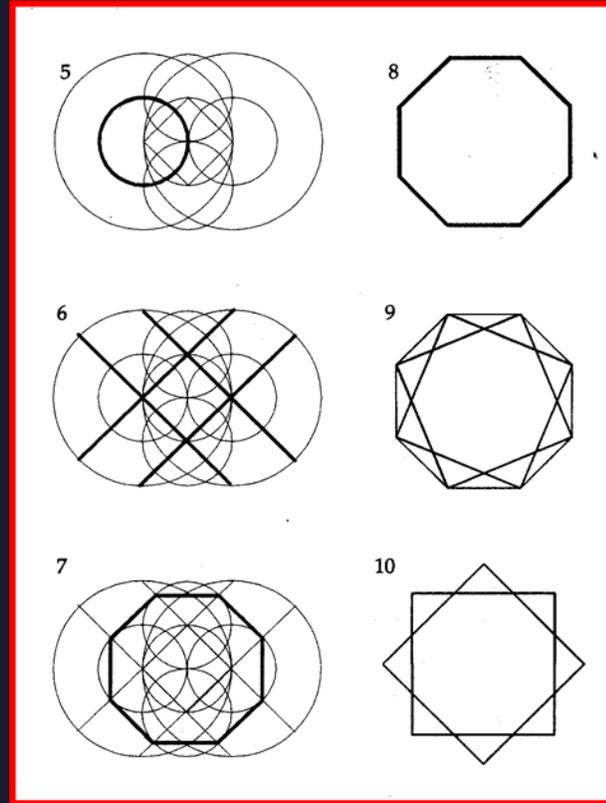
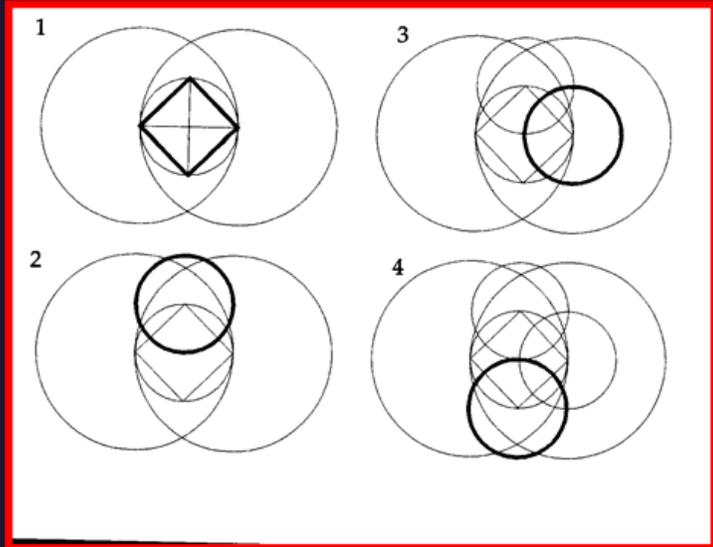


Modern architectural example of Seven-7

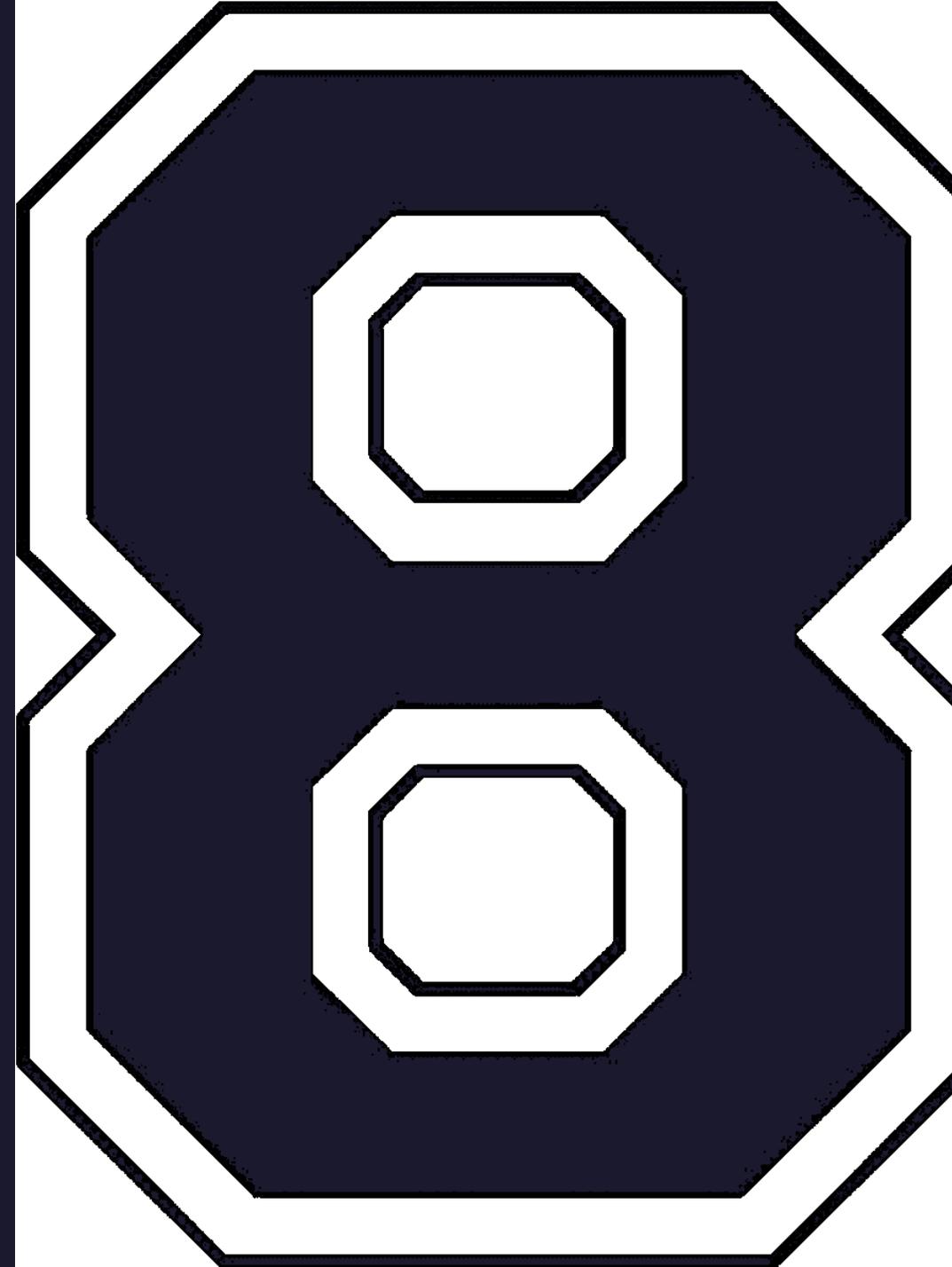


Constructing Eight- 8

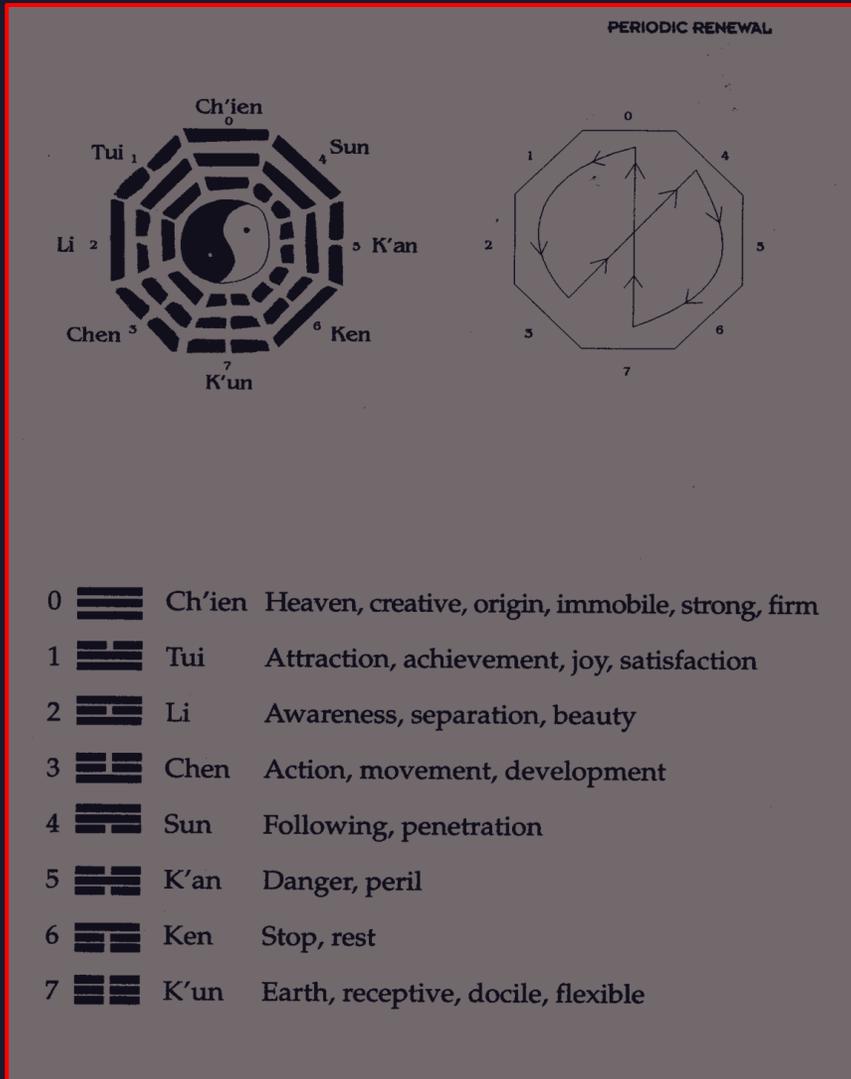
Octagon- Octad



- Periodic Renewal
- Unity and Expansion
- Earth Mother Goddess
- Justice
- Infinite
- Divisible by 1,2,4,8
- Great Asian symbol



Harmonic of Eight- Classical Chinese trigrams



Credit: Michael S Schneider, Beginners Guide to Constructing the Universe



Eight- 8 Octagon- Octad



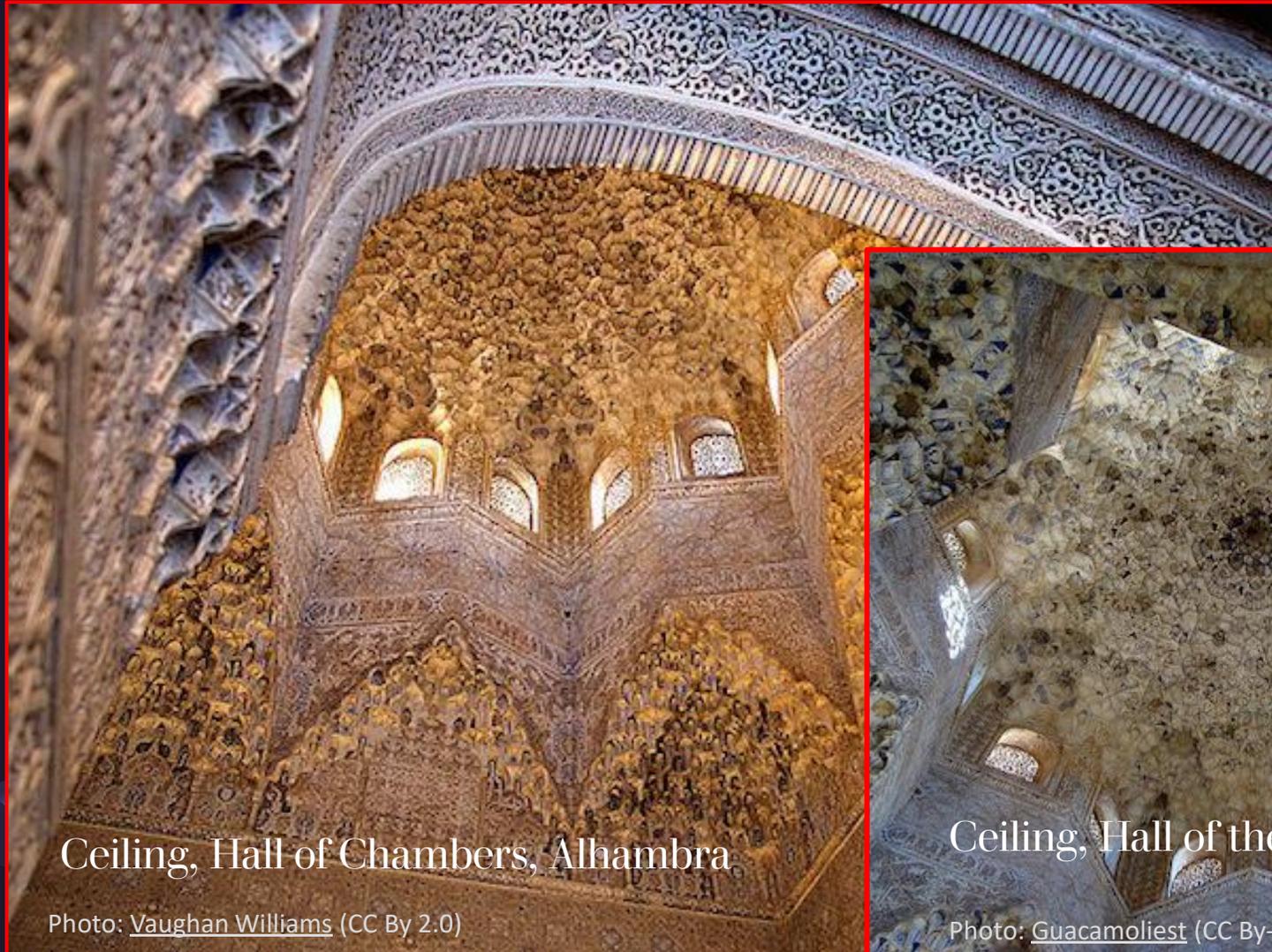
Credit: Michael S Schneider, Beginners Guide to Constructing the Universe



Source: Khanna Madhu, Yantra: Tantric Symbol of Cosmic Unity

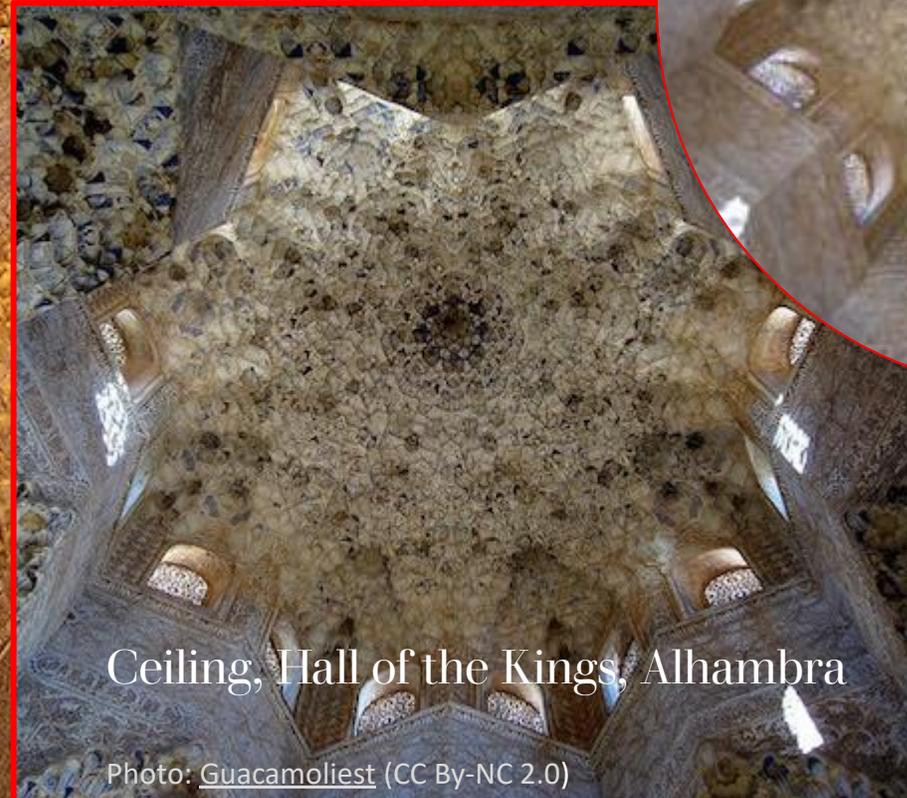
Number Eight: *The Eternal Return*

The Court of Lions at the Alhambra, Granada Spain



Ceiling, Hall of Chambers, Alhambra

Photo: [Vaughan Williams](#) (CC BY 2.0)



Ceiling, Hall of the Kings, Alhambra

Photo: [Guacamoliest](#) (CC BY-NC 2.0)



Ceiling, Hall of the Ambassadors
Alhambra

Photo: [amyhsk](#) (CC BY-NC-ND 2.0)

Eight- 8 *ASTAKANA*

The eight-sided Astakana is the result of superimposing a square upon another square.

The number Eight symbolizes Infinity.

The Astakana shares eight sides with the lotus flower which in ancient Indian cosmology represents the unfolding energies of creation.

The square denotes the earthly world and must be transcended.

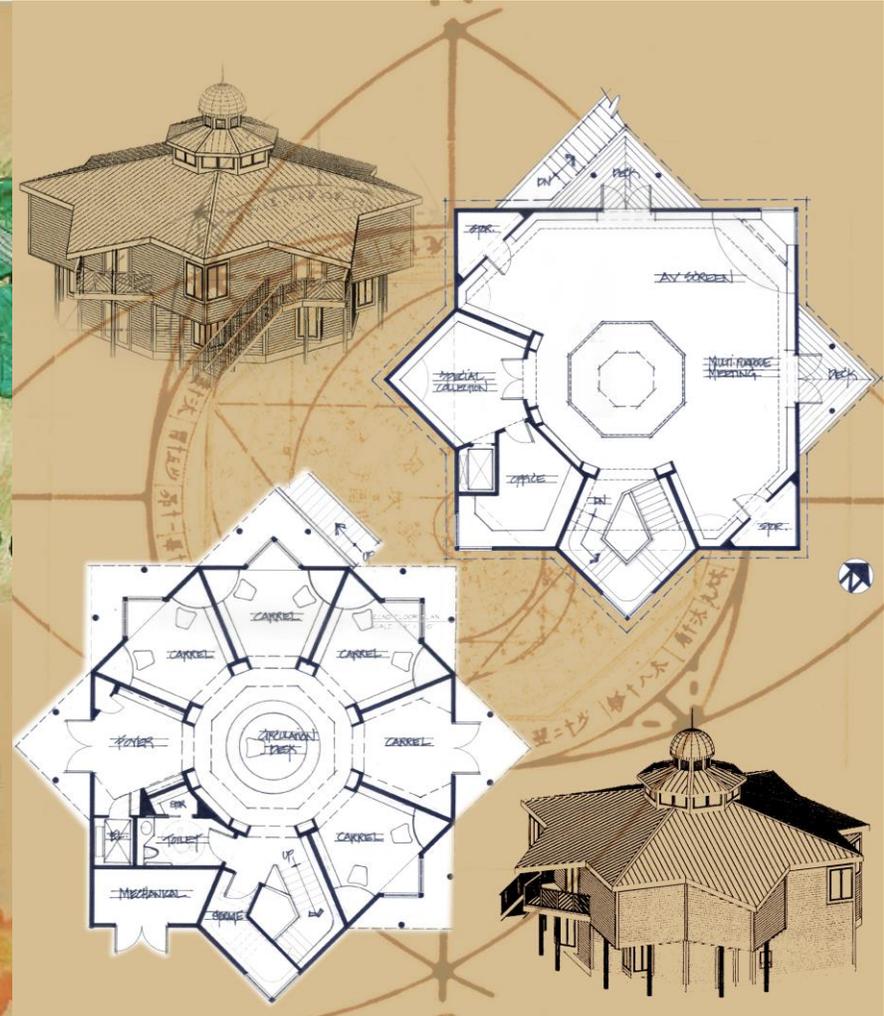
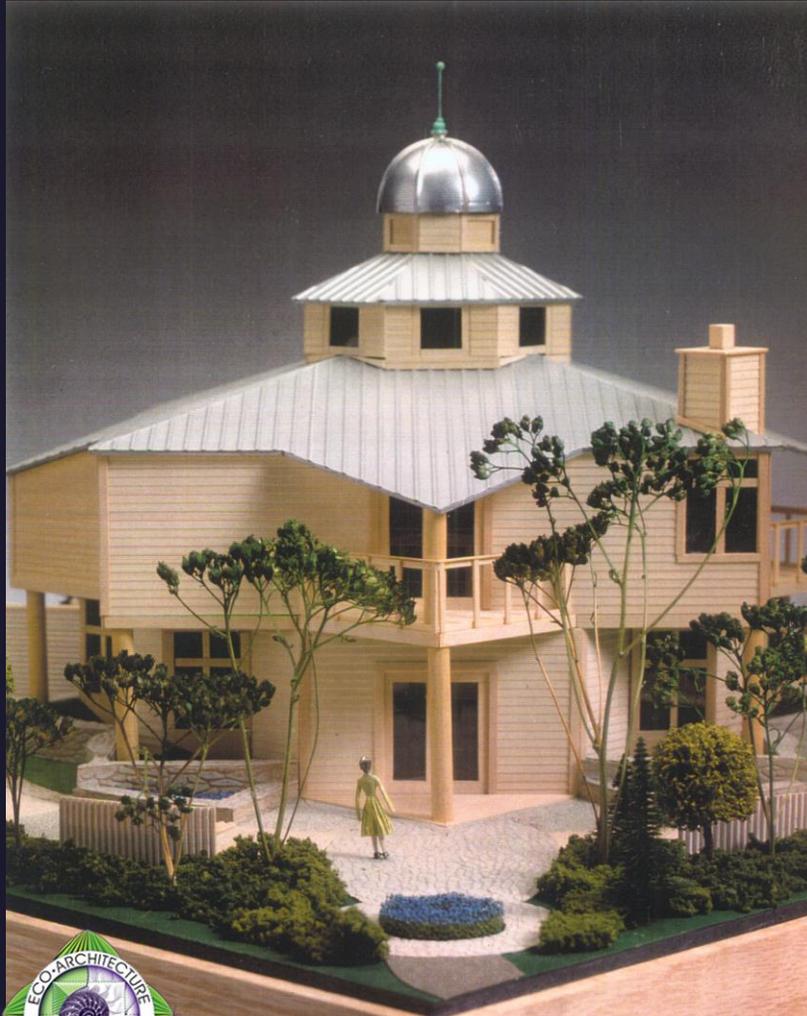


The Ram Dass Library

Credit: Janus Welton



Eight - 8 Ram Dass Library @ Omega

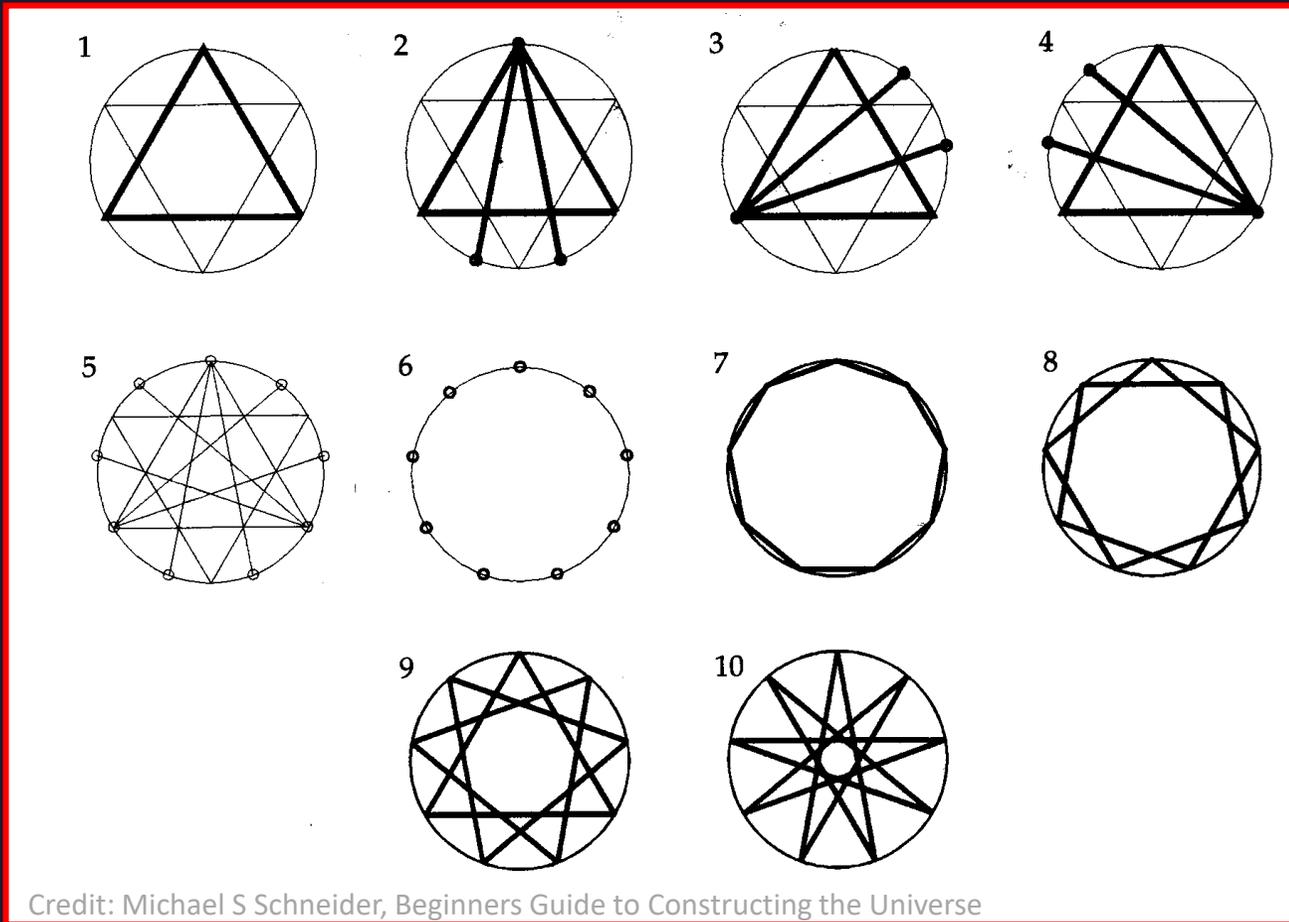


Credit: Janus Welton

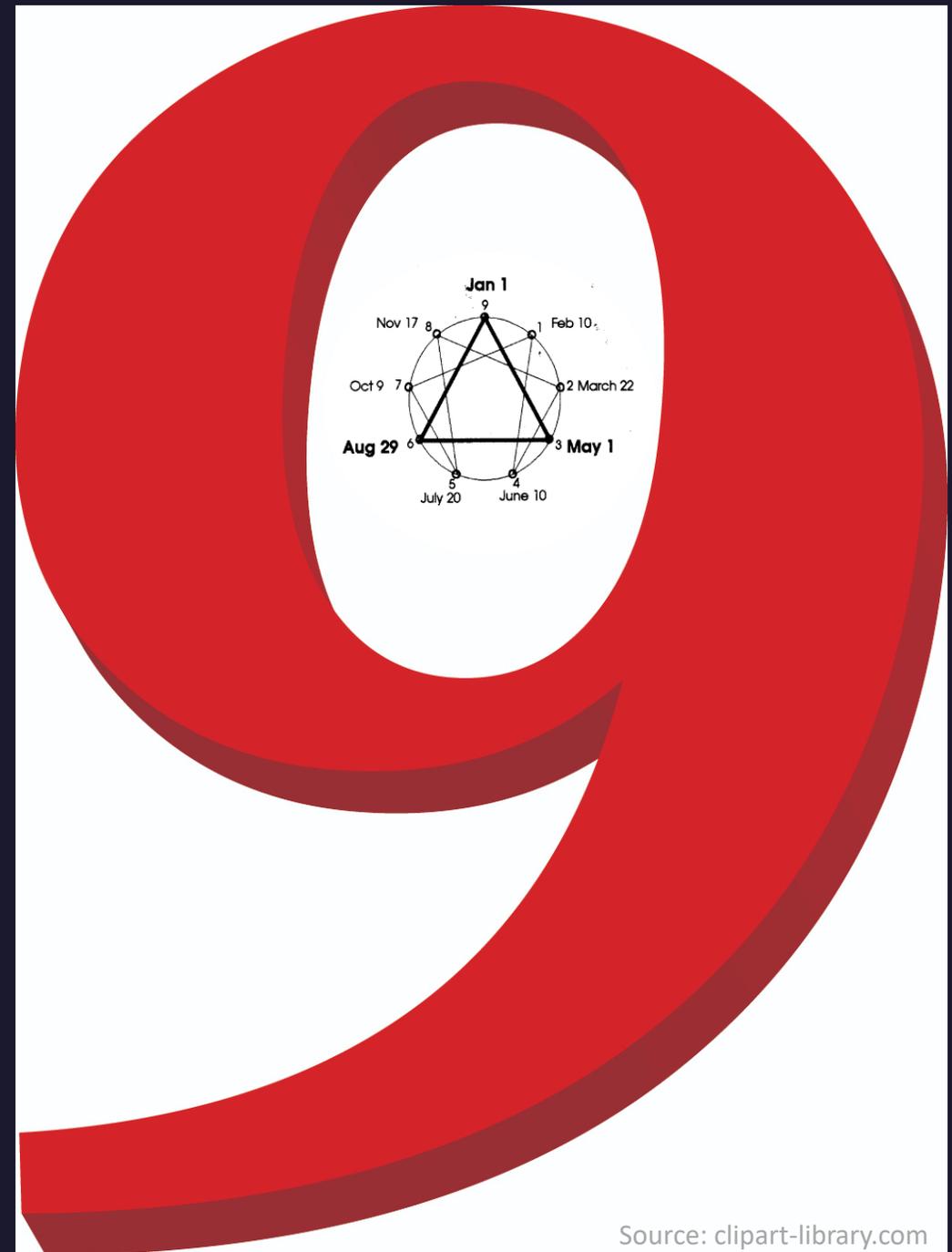
Constructing Nine -9

Ninefold = Ultimate Extension

- Number of Completion
- End of a Cycle
- 9 Months of Birth process



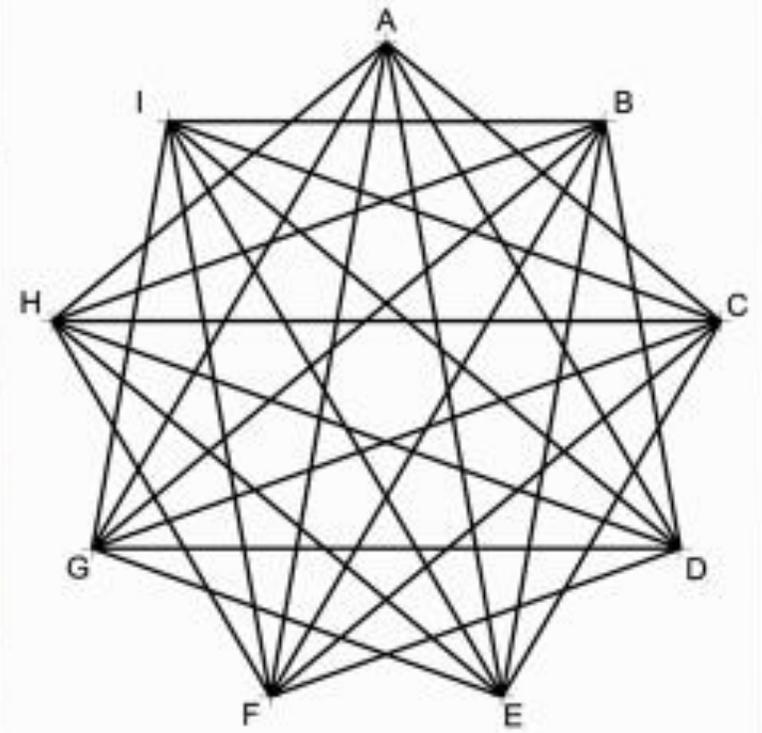
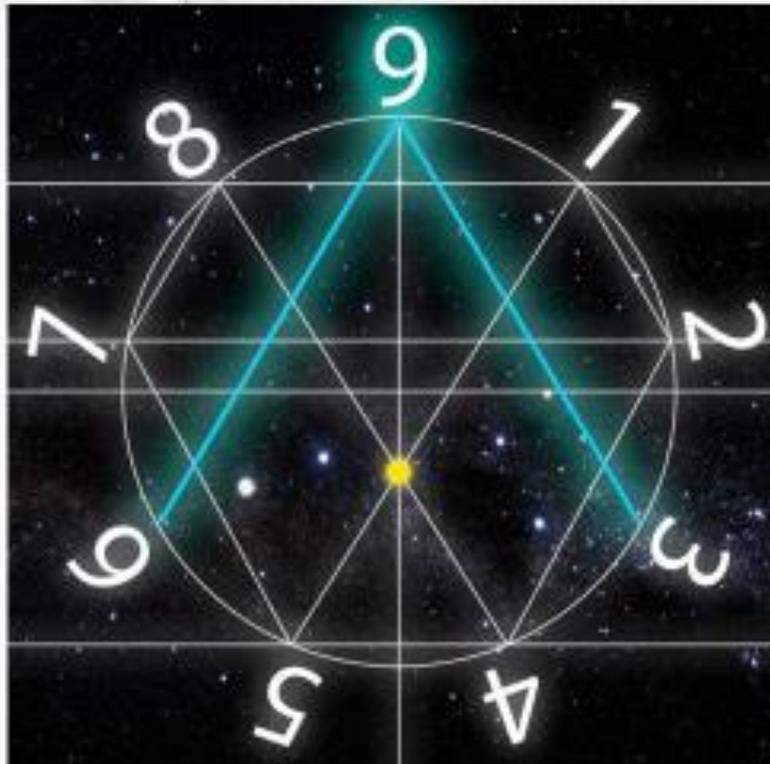
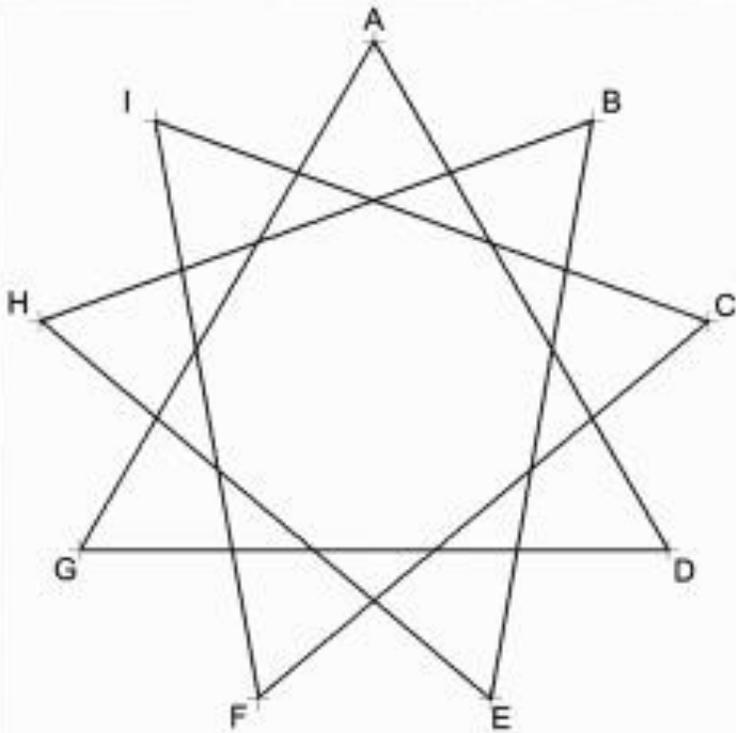
Credit: Michael S Schneider, Beginners Guide to Constructing the Universe



Source: clipart-library.com

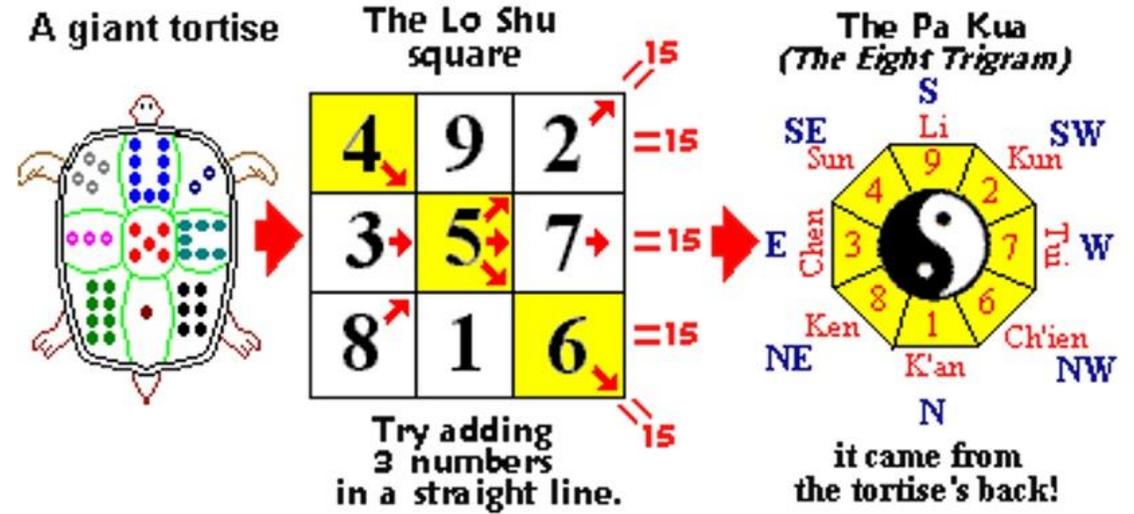
Symbolism: 9- sided nonagon

- 9 SIDED NONOGON SYMBOLIZES PERFECTION, BALANCE, ORDER & MOST SACRED NUMBER
- 9 IS SIGNIFICANT IN BIRTH & RE-BIRTH AND IS THE CULMINATION OF CONSCIOUSNESS
- 9 SYMBOLIZES PATIENCE, MEDITATION, SPIRITUAL ENLIGHTENMENT AND AWAKENING
- ANCIENT BUILDERS INCORPORATED 9 INTO STONE CIRCLES, TEMPLES OF HEALTH & ENLIGHTENMENT



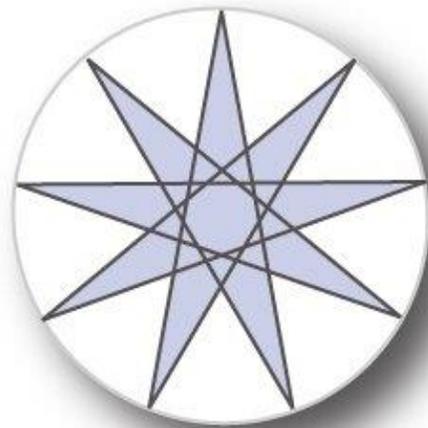
Number Nine: the ultimate journey

the Enneagram and the Magic Square



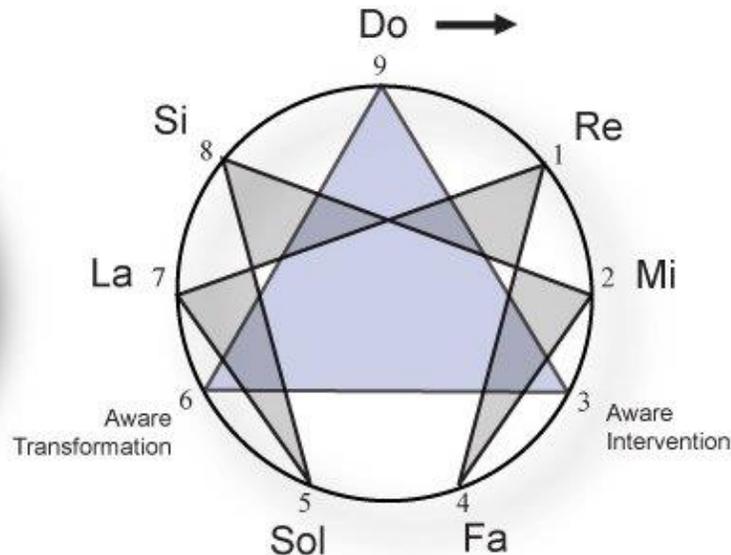
Credit: Zack Browning

9-Point Nonagram



Credit tokenrock.com

Gurdjieff Enneagram



Science of Magic Square- Lo Shu square in Feng Shui

Number Nine is the final number having a specific identity

The Ennead – nine represents boundary between the mundane & the infinite “Ultimate journey” – beyond nine is a new journey or the ultimate expression of birth

Number Nine in Nature

Physics of harmonic
vibration

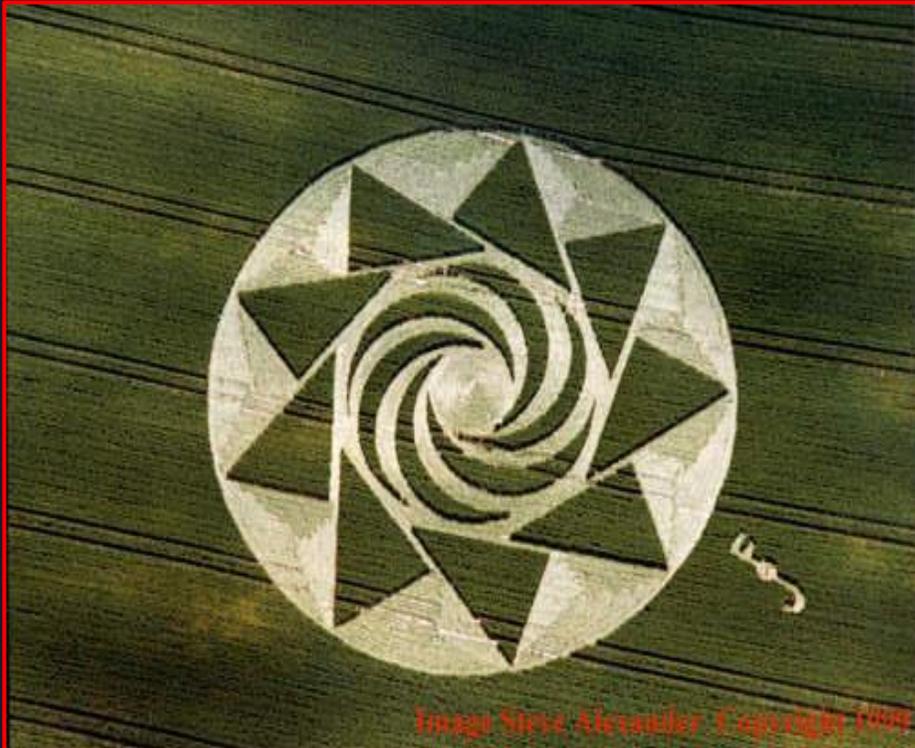


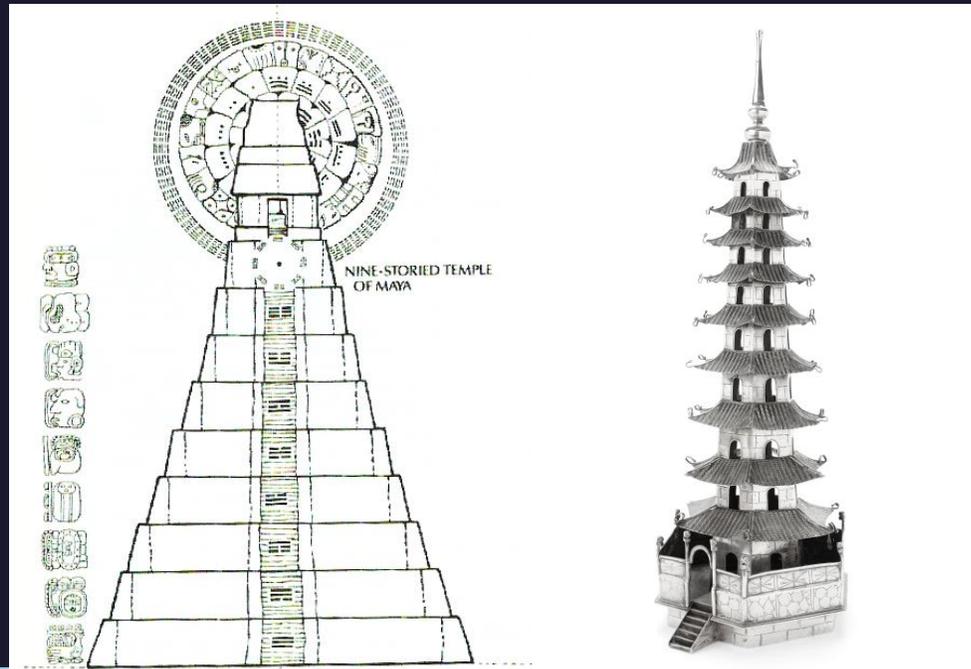
Image Steve Alexander Copyright 1999



Number Nine in architecture

Ultimate Journey

9 storied temples of Maya
9 tiered Pagodas



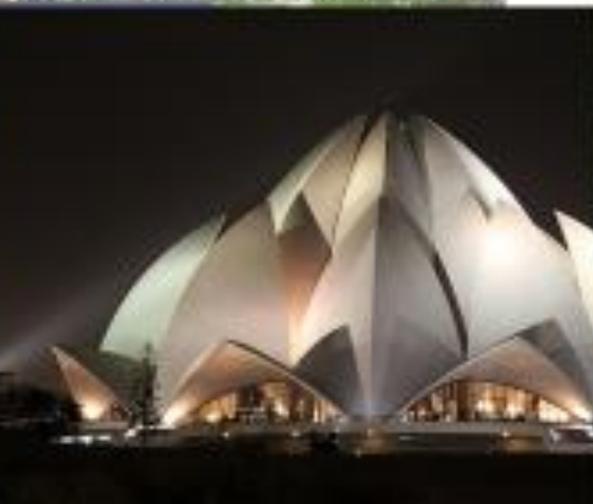
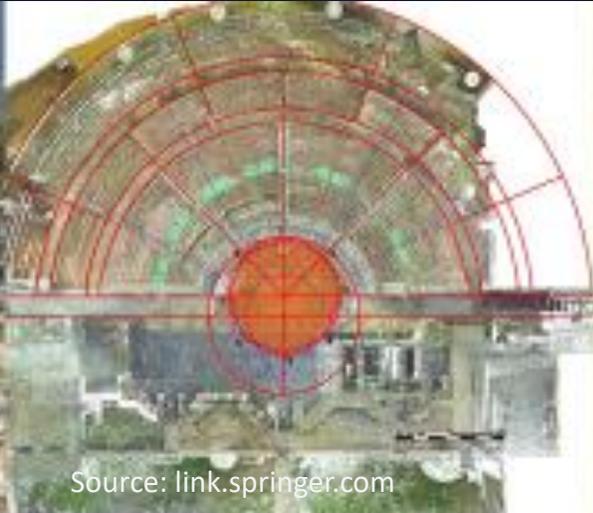
Source: viewofchina.com
Shibaozhi Pagoda Daoist
Temple Precious Stone
Fortress

Source: calleman.com



Power of Nine in Architecture

9 star shaped and nonagon architecture examples



Number Ten Decadon

- Ten Christian spiritual graces
- Ten Sufi Vedas
- Decad - Kabala

Number Ten

Symbolism

Recapitulation of the Whole
Immortality and Rebirth

- New beginnings
- World Heaven
- Tree of Life



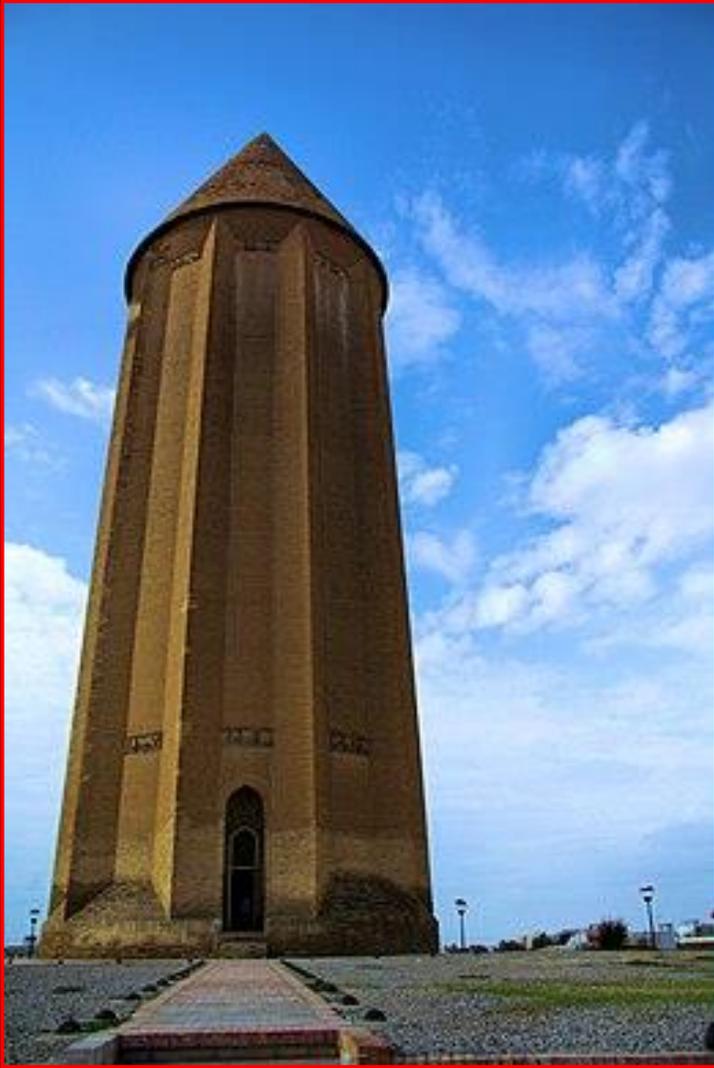
Credits: cleanpng.com



Credit: Jannes Jacobs

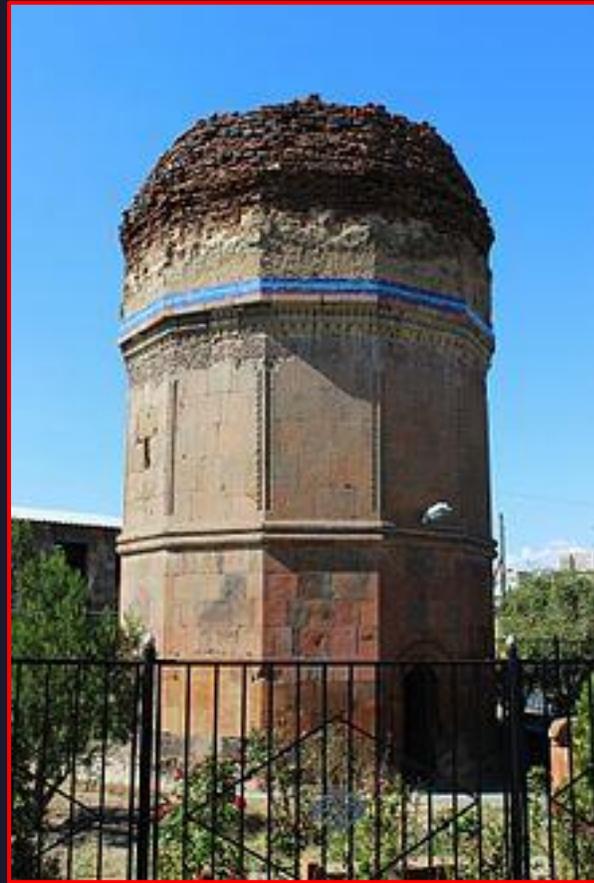
Number TEN

Decadonal 10-sided Buildings



Gonbad-e Qabus, Iran

Mausoleum of Kara Koyunlu, Armenia



Ralph Snyder Barn, West Virginia



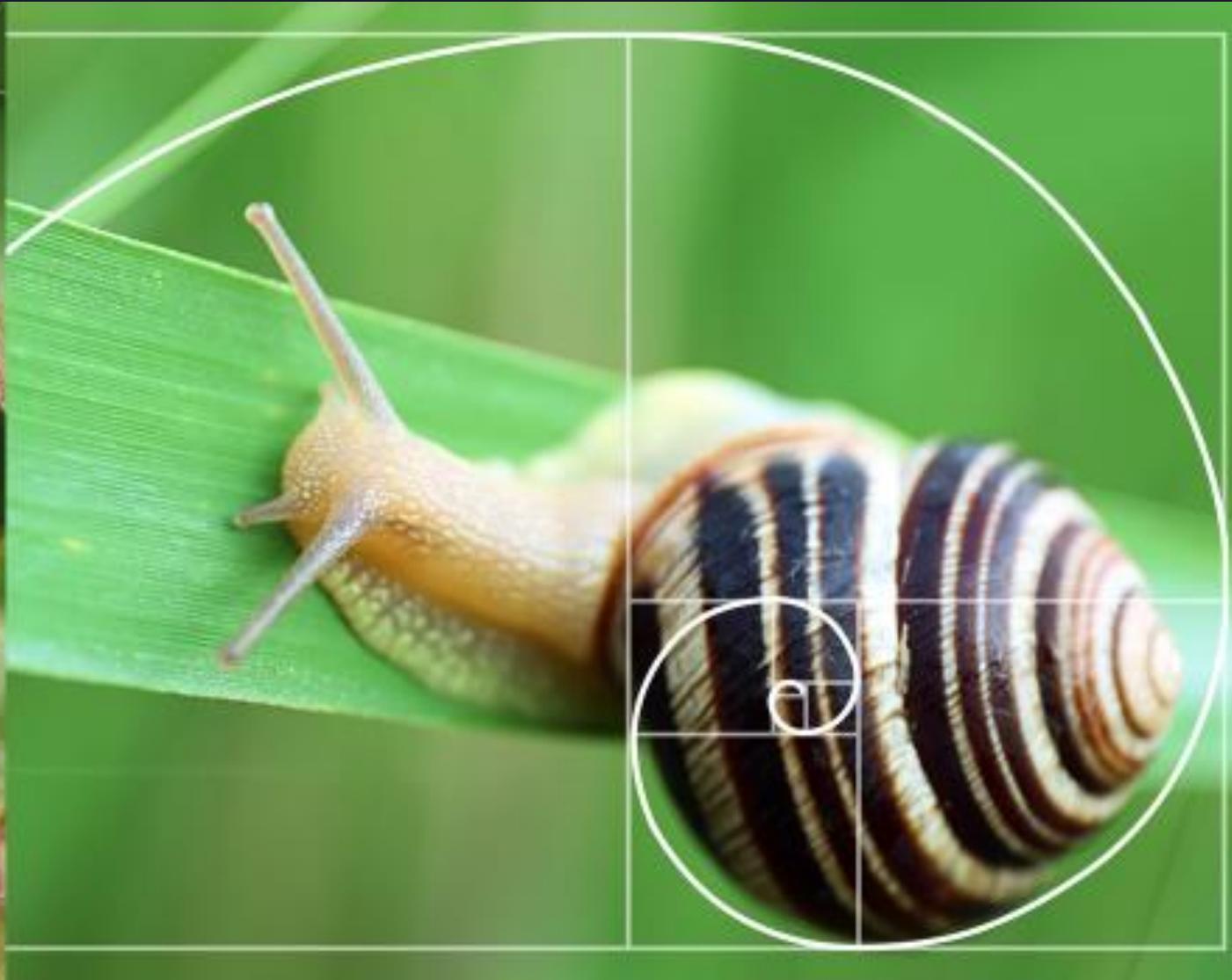


Short 5 min. Break

Now that we have explored the first 10 numbers and shapes in sacred geometry- when we come back I will introduce :

- 1) Spiral Geometries of Nature and the Golden Mean
- 2) Flower of Life – Story of Creation and Holistic Health Community Sanctuary

Flower of Life & Golden Rectangle Spirals in Nature

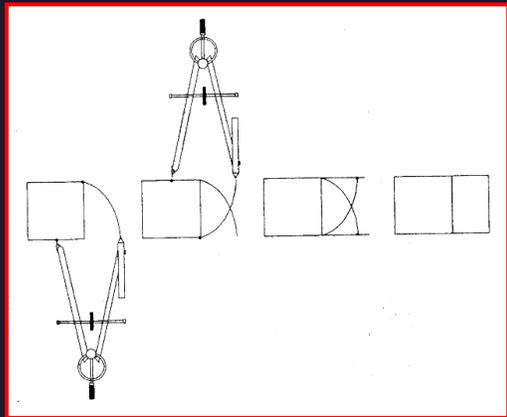
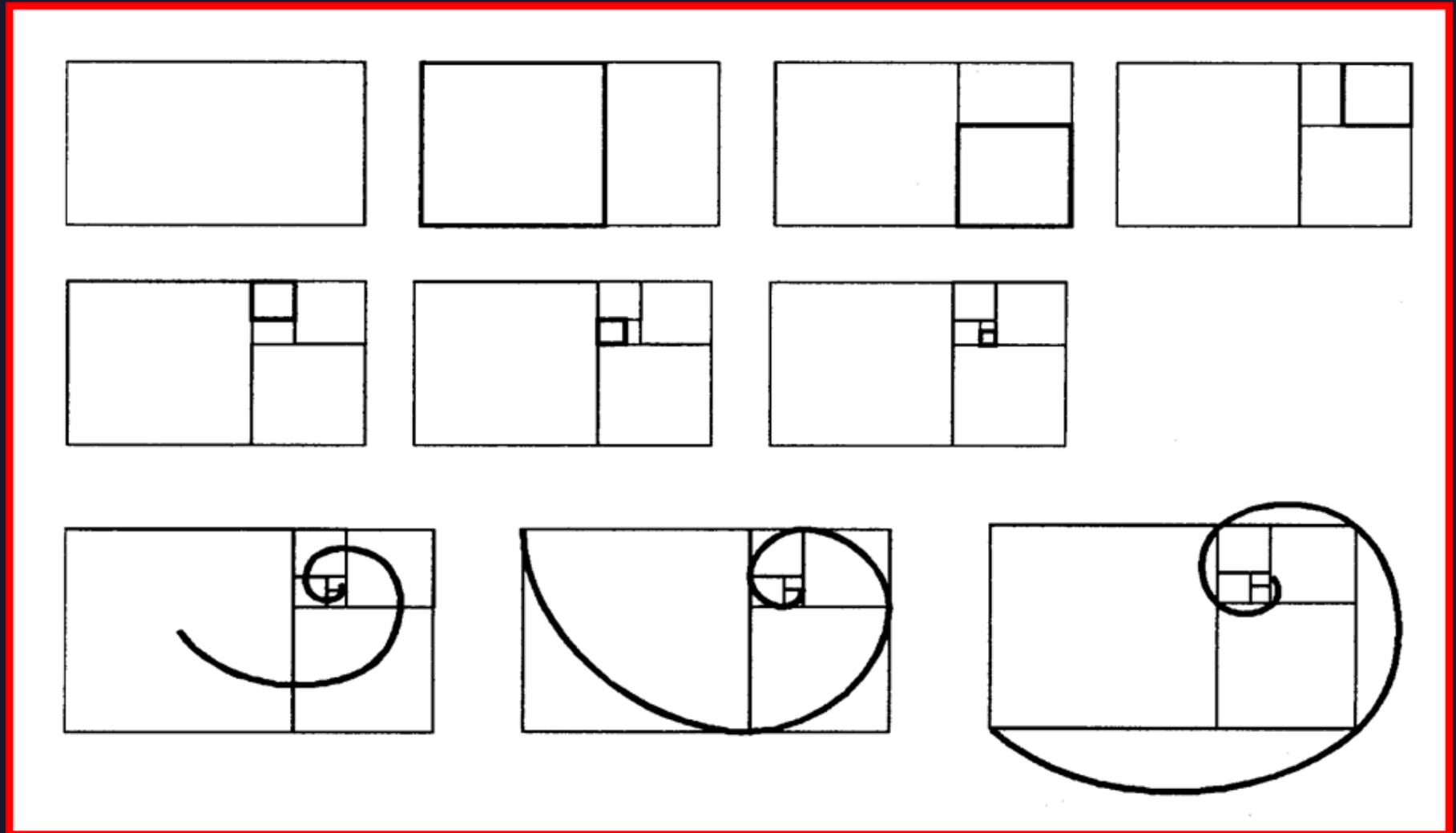


Construct a Golden Rectangle

& Find the sacred Spiral within

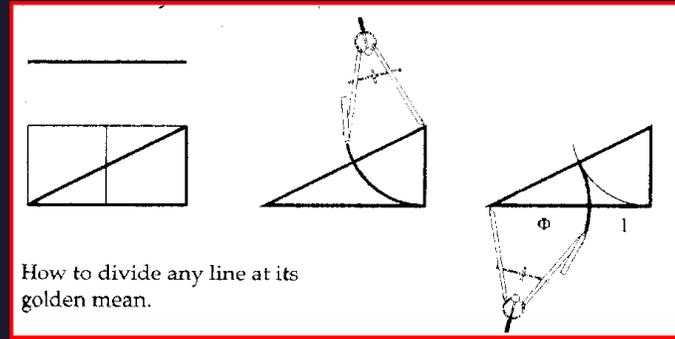
PHI is the Golden Mean
Proportion of 1.618

In this unique relationship
the length of the whole
line is to the large part
in the same ratio that the
large part is to the small
part....Creating Harmonic
Proportions



PHI = Golden Ratio Proportion

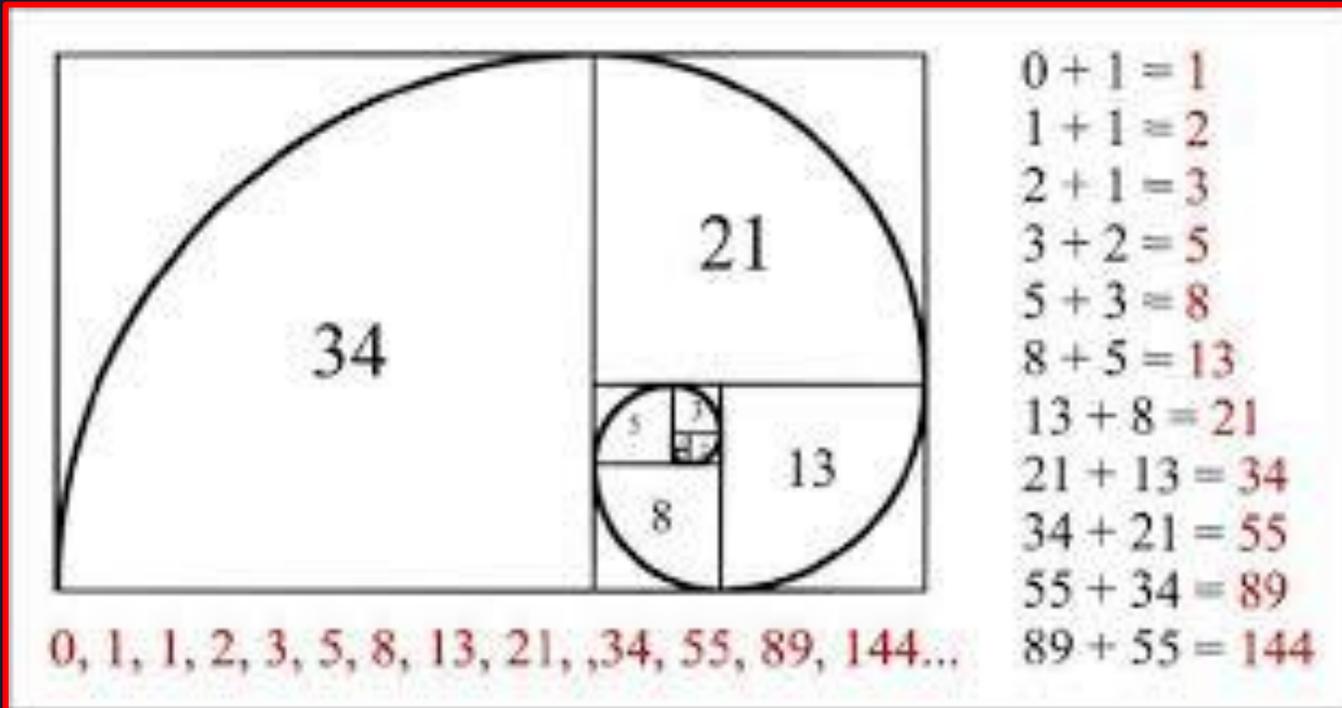
The Golden Mean or Golden Ratio is the only way to divide a line so that the whole and the parts simultaneously relate to each other in the same way.....



How to divide any line at its golden mean.

Credit: Michael S Schneider, Beginners Guide to Constructing the Universe

THE GOLDEN RATIO

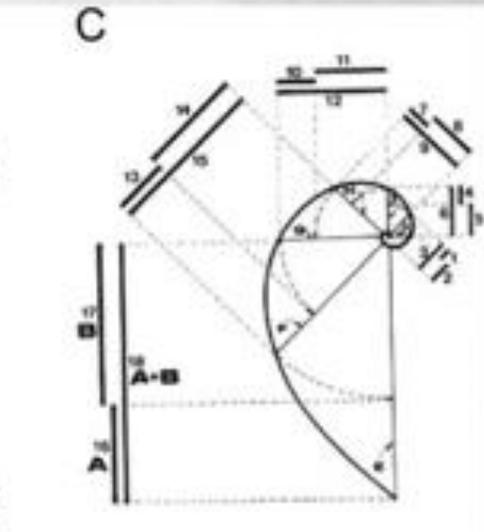
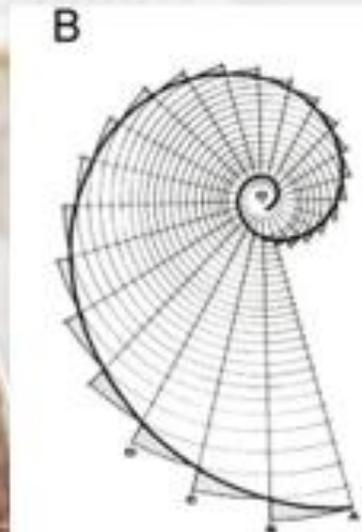
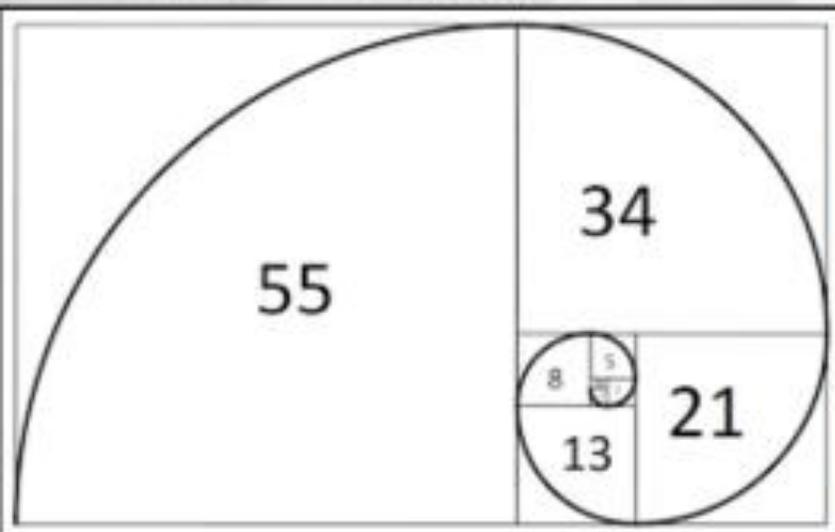
$$\frac{a+b}{a} = \frac{a}{b} = \Phi$$


The golden ratio is about 1.618, and represented by the Greek letter phi, Φ

The ratios of sequential Fibonacci numbers (2/1, 3/2, 5/3, etc.) approach the golden ratio.

In fact, the higher the Fibonacci numbers, the closer their relationship is to 1.618.

- THE SPIRAL IS ONE OF THE OLDEST POWERFUL AND SPIRITUAL SYMBOLS
- IT CONNECTS US TO NATURE, EARTH, GALAXY AND OUR LIFE FORCE
- IT REPRESENTS GOD/GODDESS, LIFE, ENERGY & OUR EVOLVING JOURNEY



FIBONACCI SPIRAL GEOMETRY

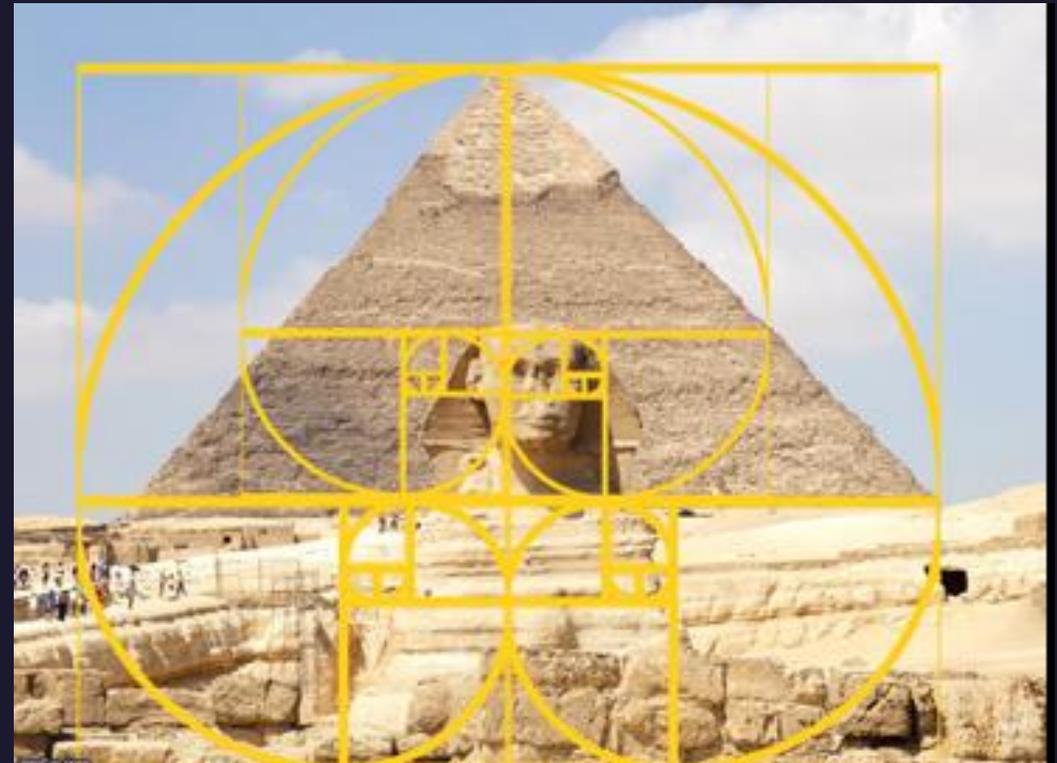
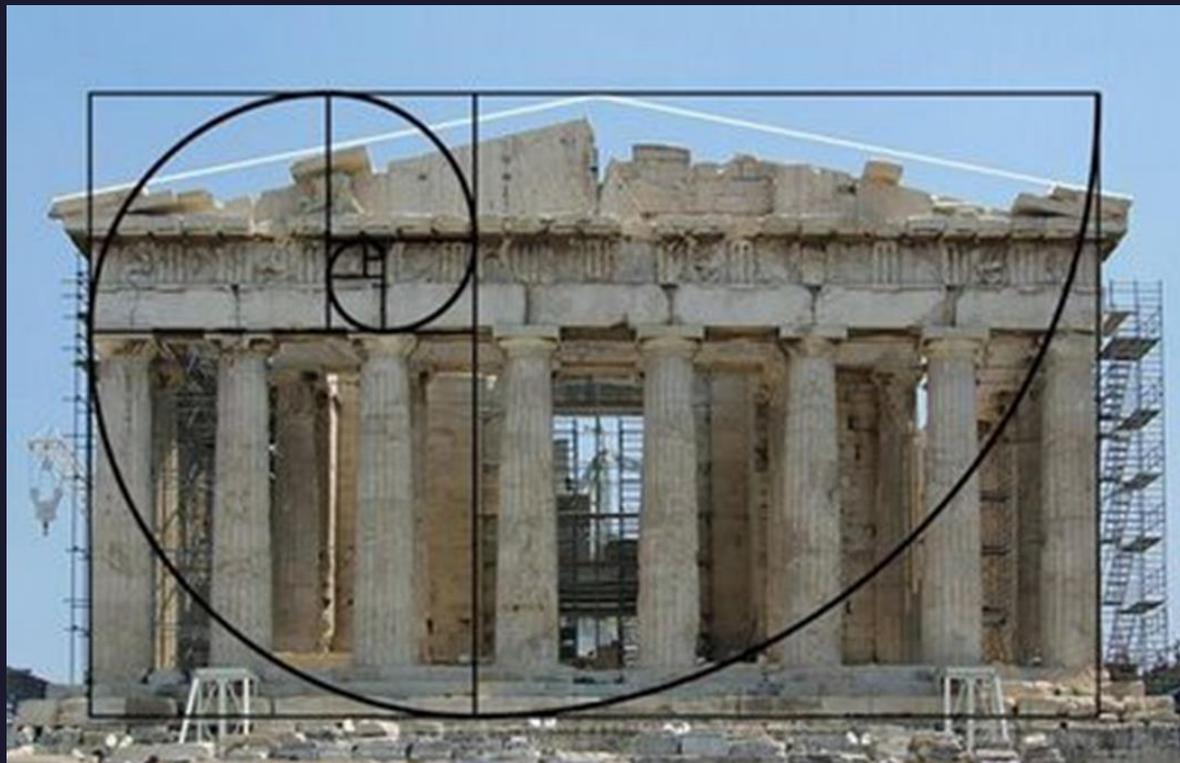
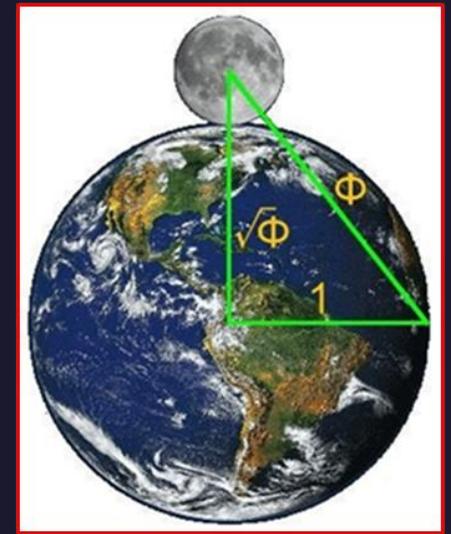
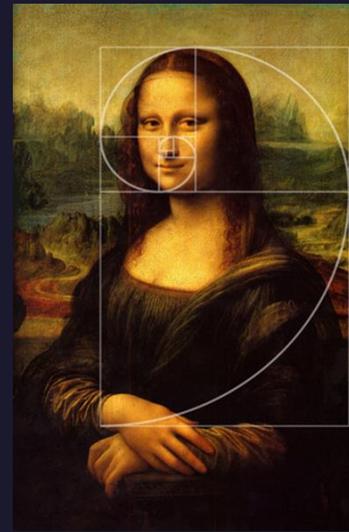
SPIRAL GEOMETRY in NATURE

It is no surprise that the origin of geometry springs forth from the laws of the physical nature of the universe and is embodied in the environment all around us. It is so consistent and mind blowing that it happens at every scale.



Golden Ratio and PHI

The Golden Ratio= “PHI = 1.618” the golden number since ancient times has been used to achieve harmony and balance in everything from geometry to architecture, from painting to music, and the nature of all creation.





Source: dyscario.com



Source: azahner.com



Source: prweb.com



Source: look.com.ua



Source: newsteelconstruction.com



Source: archdaily.com



Source: realtor.com



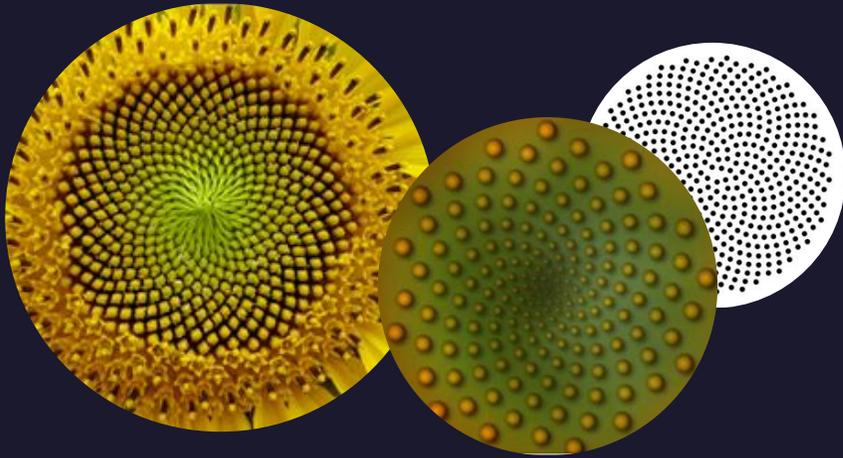
Source: trendir.com



SPIRAL BUILDINGS

SPIRAL BUILDING PRECEDENTS

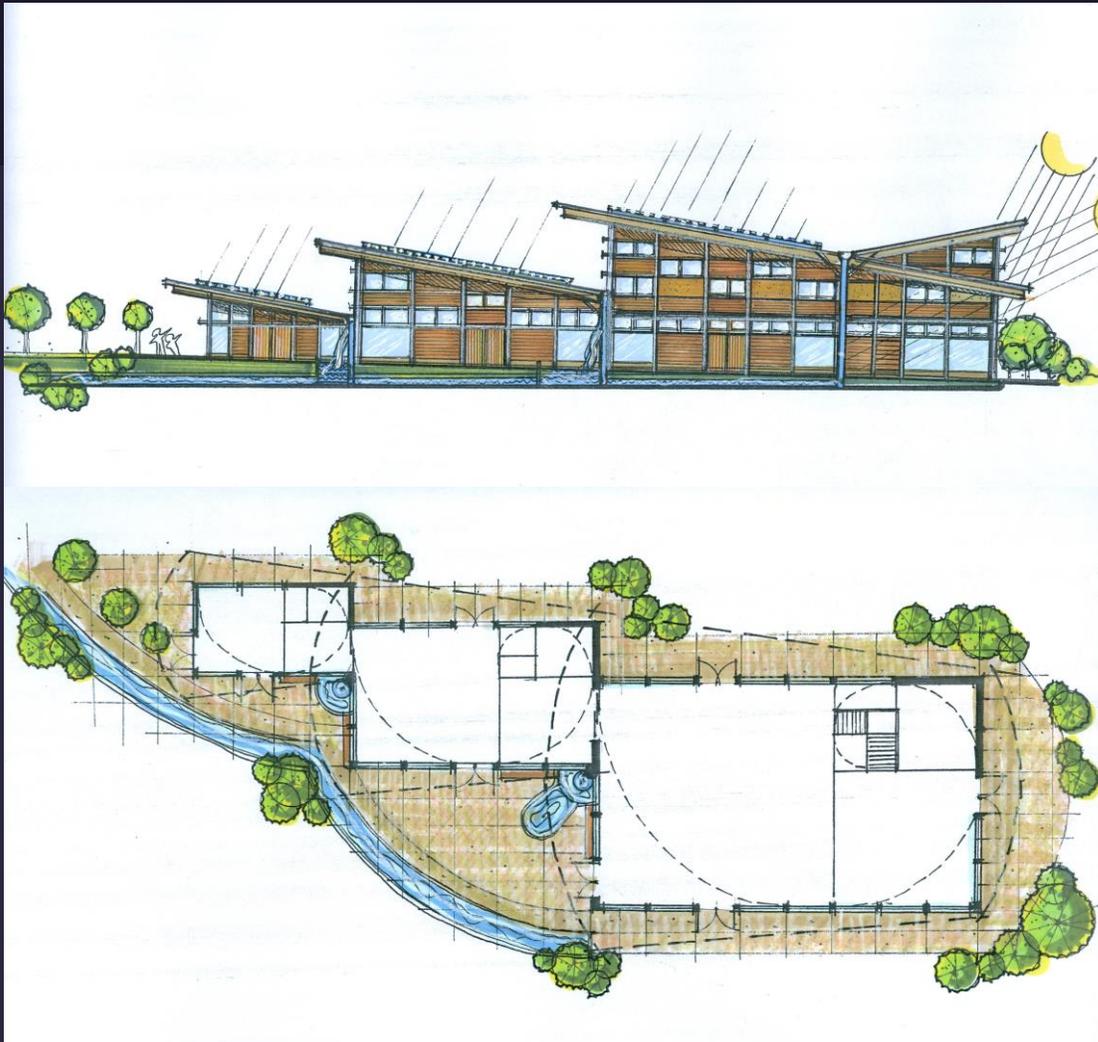
Sunflower Spiral Mandala Campus Plan



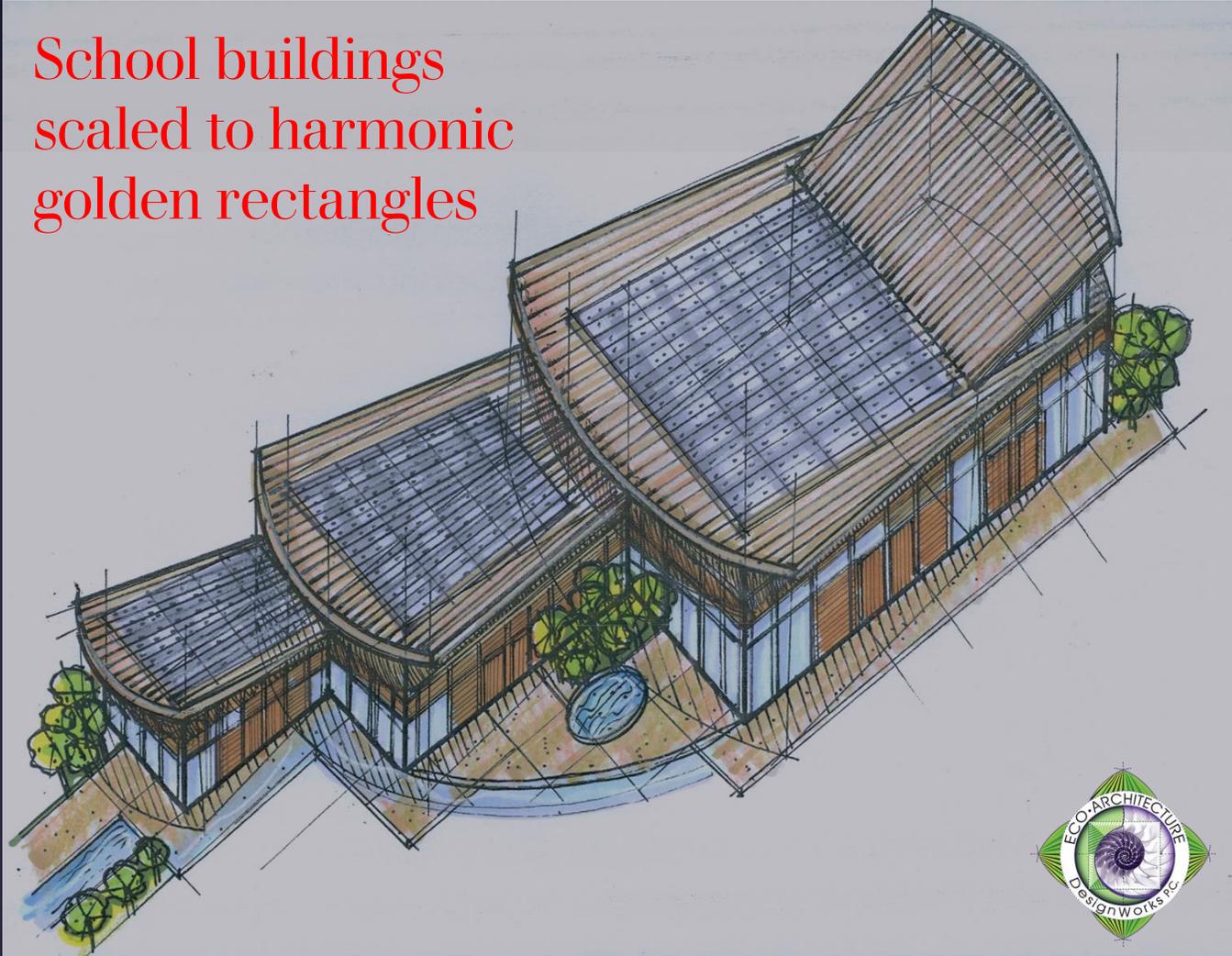
- | | | | |
|---|---------------------------------------|----|--|
| 1 | 1. Visitors and Administration Center | 7 | 7. Neuro Education Center |
| 2 | 2. Food and Health Center | 8 | 8. Arts, Culture and Media Center |
| 3 | 3. Guidance and Residential Center | 9 | 9. Research Center |
| 4 | 4. Healthcare and Residential Center | 10 | 10. Equestrian Center |
| 5 | 5. Supervision and Residential Center | 11 | 11. Sustainability Center |
| 6 | 6. Athletic Center | 12 | 12. Amphitheatre with Spiritual Center |



Golden Rectangles- *Mandala Healing Academy*

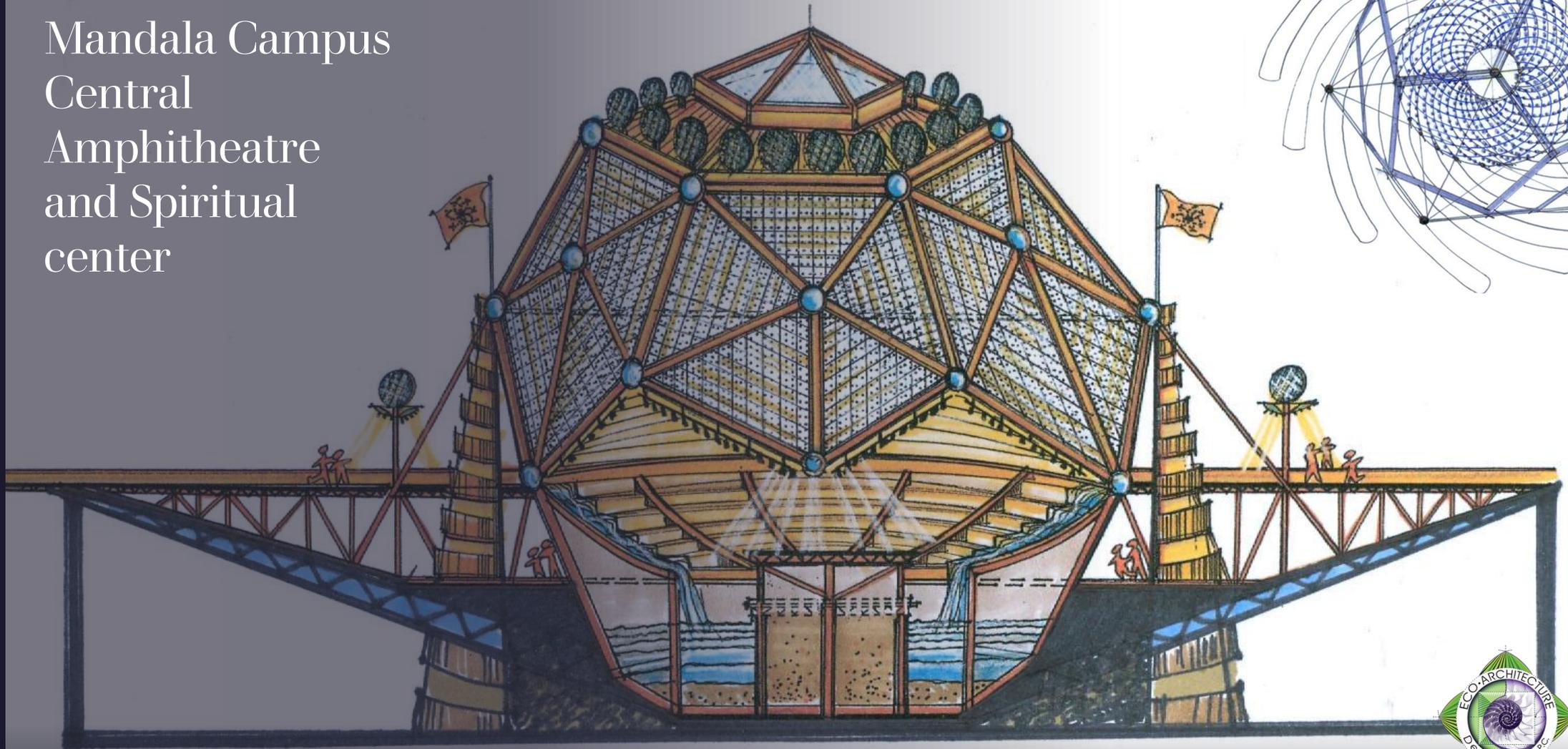


School buildings
scaled to harmonic
golden rectangles

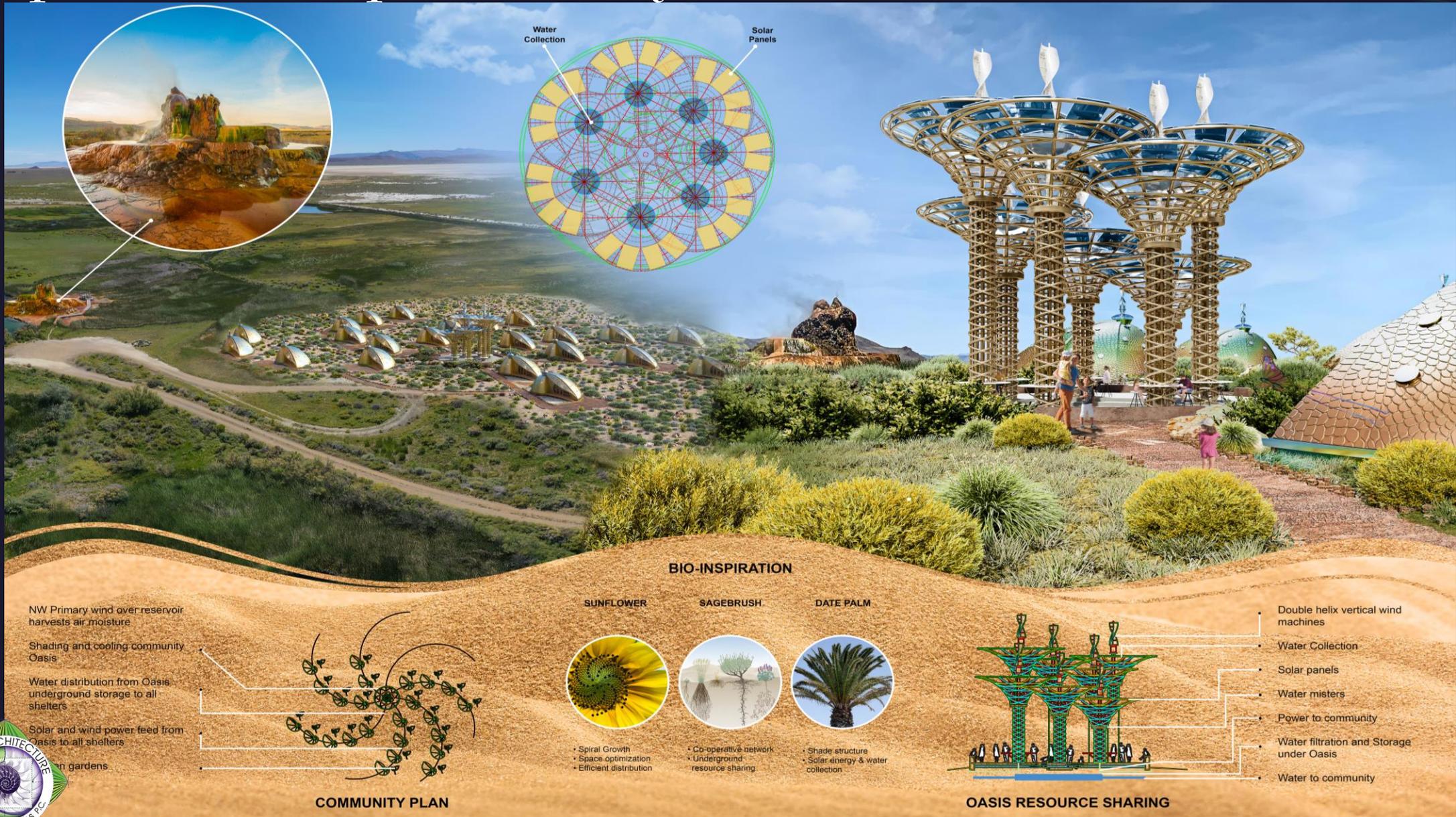


Dodecahedron – 12-sided building

Mandala Campus
Central
Amphitheatre
and Spiritual
center



Spiral Masterplan for Fly Ranch - Black Rock Desert, Nevada



NW Primary wind over reservoir harvests air moisture

Shading and cooling community Oasis

Water distribution from Oasis underground storage to all shelters

Solar and wind power feed from Oasis to all shelters

Community gardens

COMMUNITY PLAN

BIO-INSPIRATION

SUNFLOWER



- Spiral Growth
- Space optimization
- Efficient distribution

SAGEBRUSH



- Co-operative network
- Underground resource sharing

DATE PALM



- Shade structure
- Solar energy & water collection

OASIS RESOURCE SHARING

- Double helix vertical wind machines
- Water Collection
- Solar panels
- Water misters
- Power to community
- Water filtration and Storage under Oasis
- Water to community

Spiral & Biomimicry Inspired

Off-Grid Desert Shelter

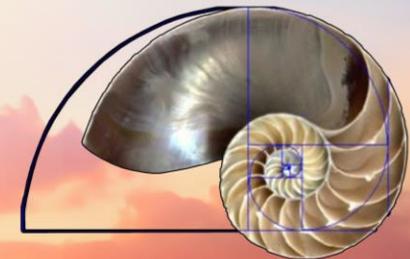
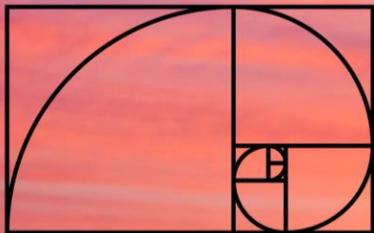


Spiral Shelter for Fly Ranch - Black Rock Desert, Nevada



Design Credit: Welton, Wipplinger, McNulty - Emerge Shelter Team

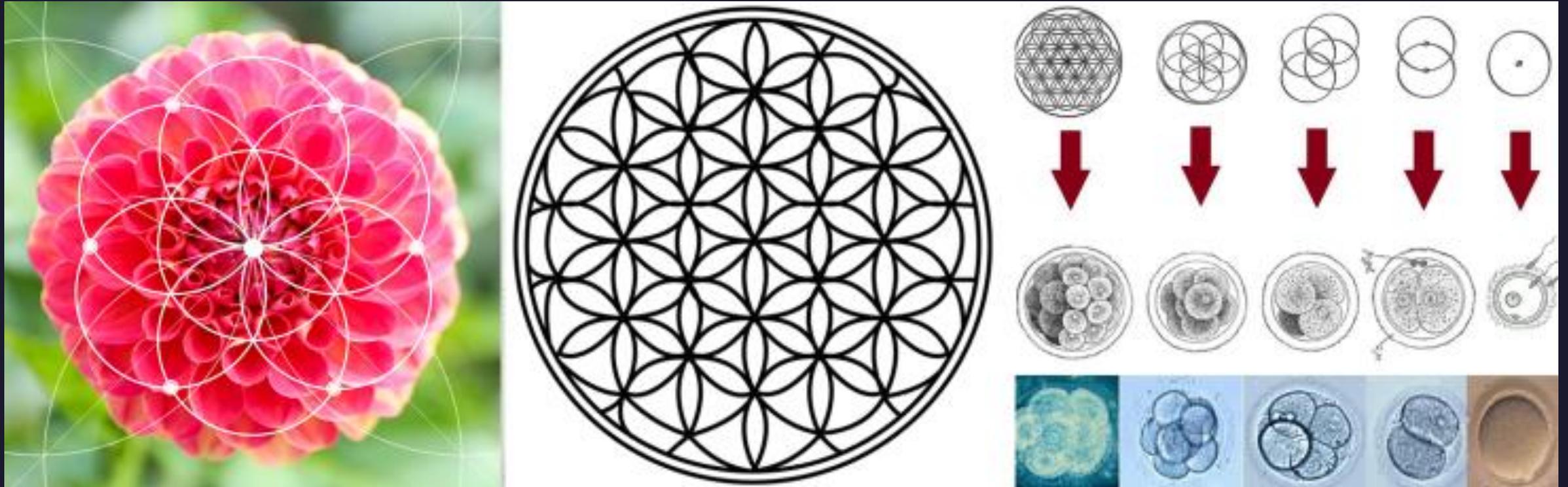
Golden Mean Spiral Interior- Black Rock Desert , Nevada



Design Credit: Welton, Wipplinger, McNulty - Emerge Shelter Team

The Flower of Life Geometry

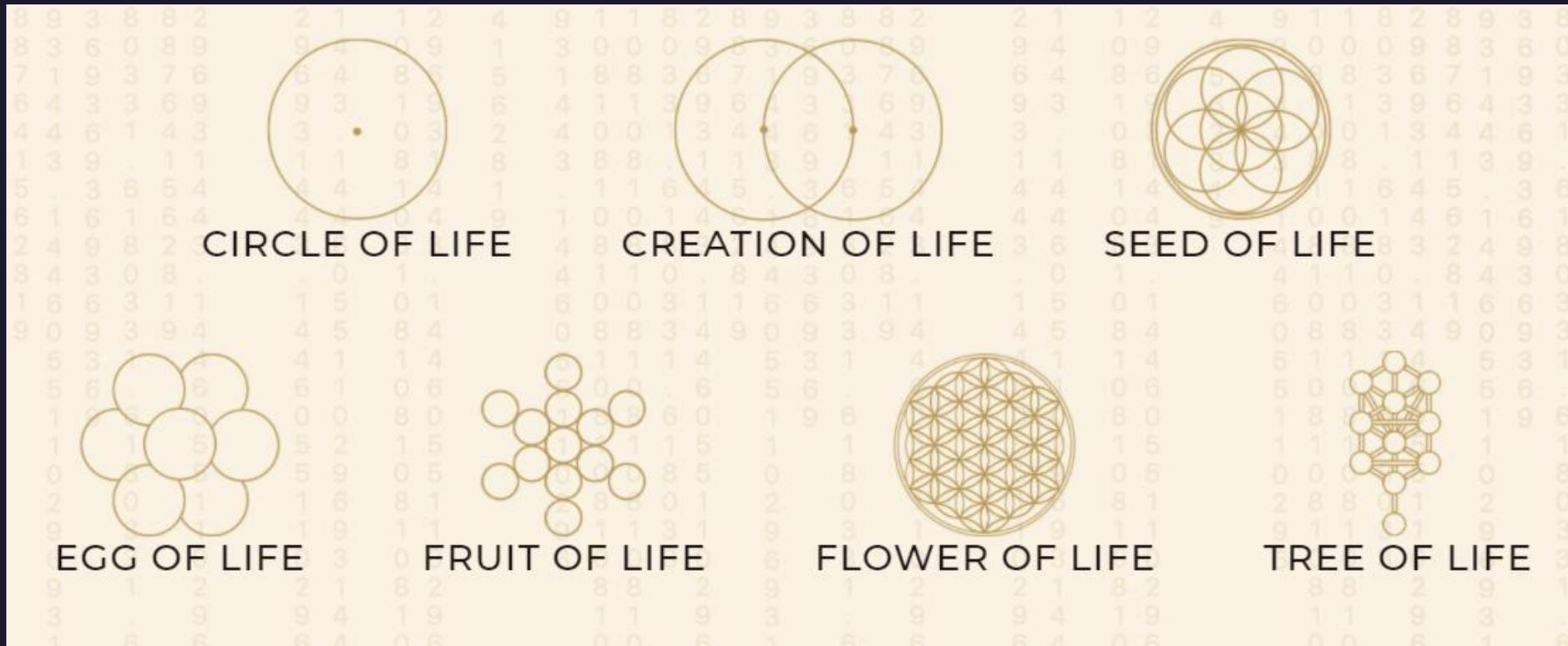
Symbolizes Creation, Unity and Infinite Possibilities



Flower of Life is a series of overlapping circles that build infinitely outward forming a flower like grid similar to the single cell diatoms that form the blueprint of life where all geometry is formed.

The Story of Life- in geometric terms

Generation of the Five Platonic Solids



Flower of Life in Antiquity

1. Scotland
 2. Israel
 3. China
 4. Turkey
 5. Egypt
 6. India
 7. Germany
 8. Bulgaria
 9. Sweden
 10. France
 11. Czech
 12. Greece
- and at least 14 other places

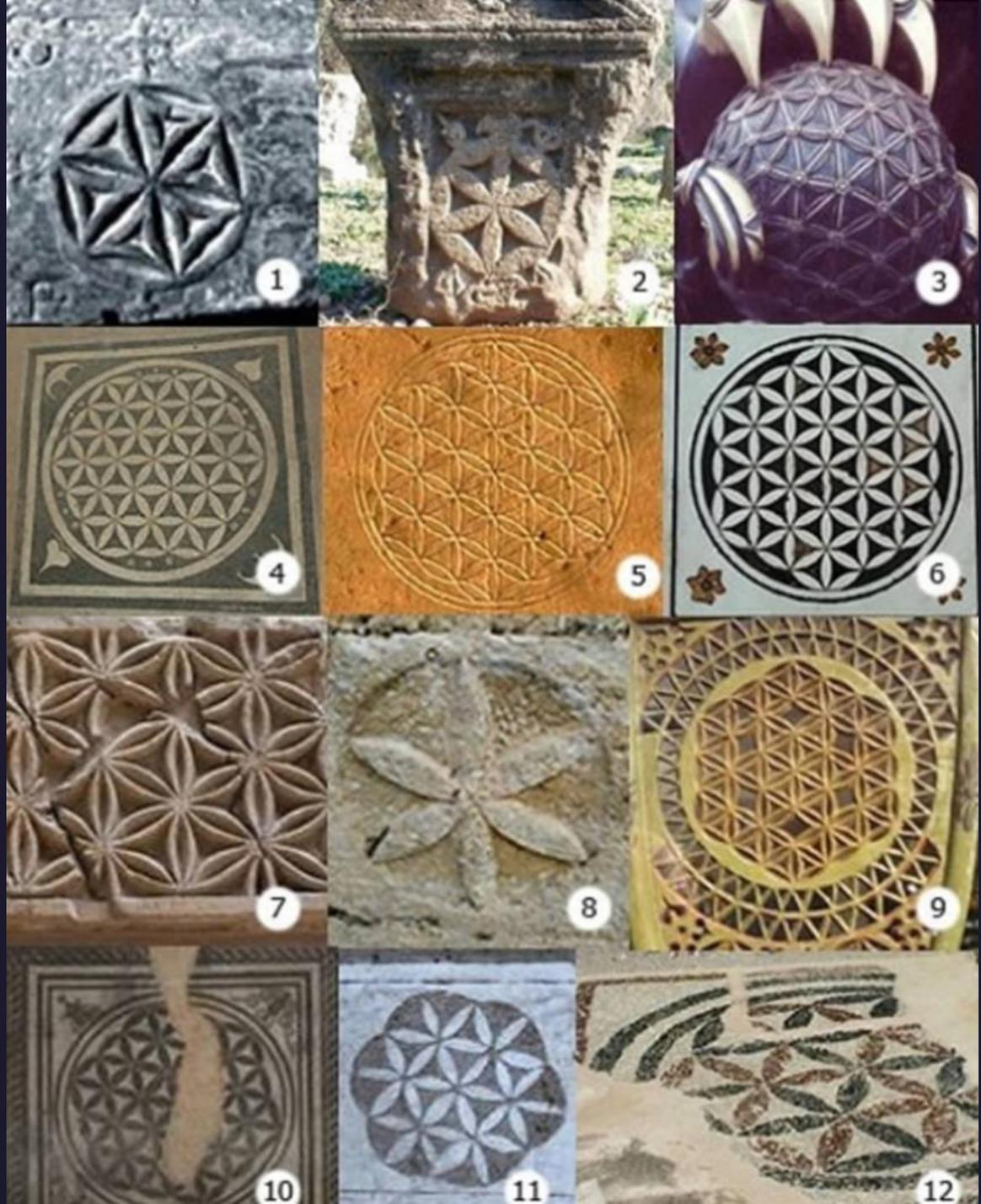


Image: Flower Of Life Locations (by unknown)

Source: Jain108academy.com



Source: wayfair.com/decor



Source: 4sooarc.com



Alex Garland, seattle.curbed.com



Source: flower-of-life.net



Source: daysoutguide.co.uk



Sourcerecuperando.com/en



Source: Steve Alexander/temporarytemples.co.uk



Source: Swapnil Deshpandey, unplash.com



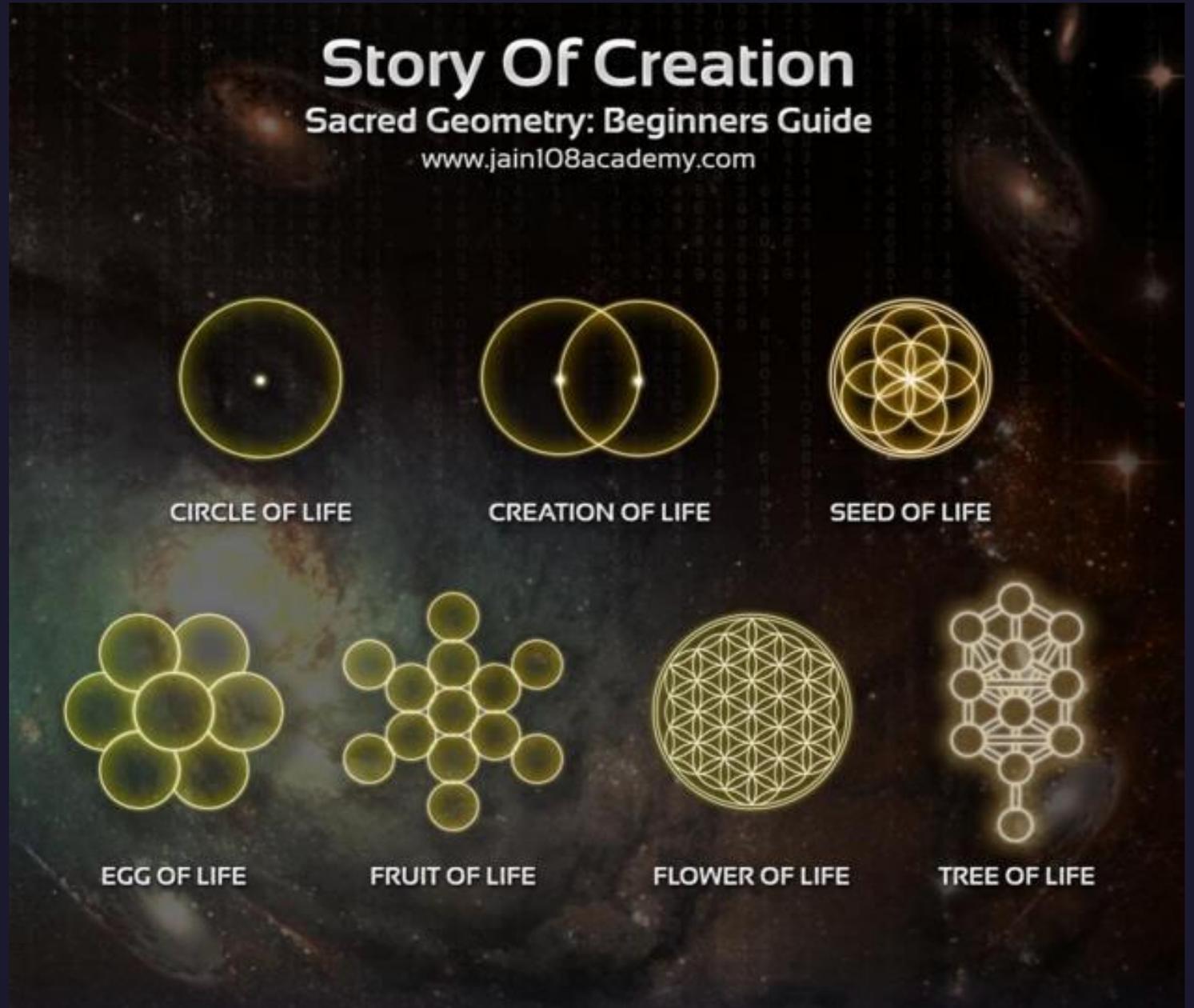
FLOWER OF LIFE

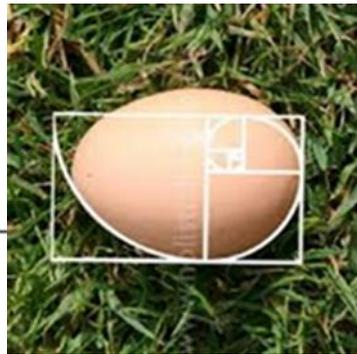
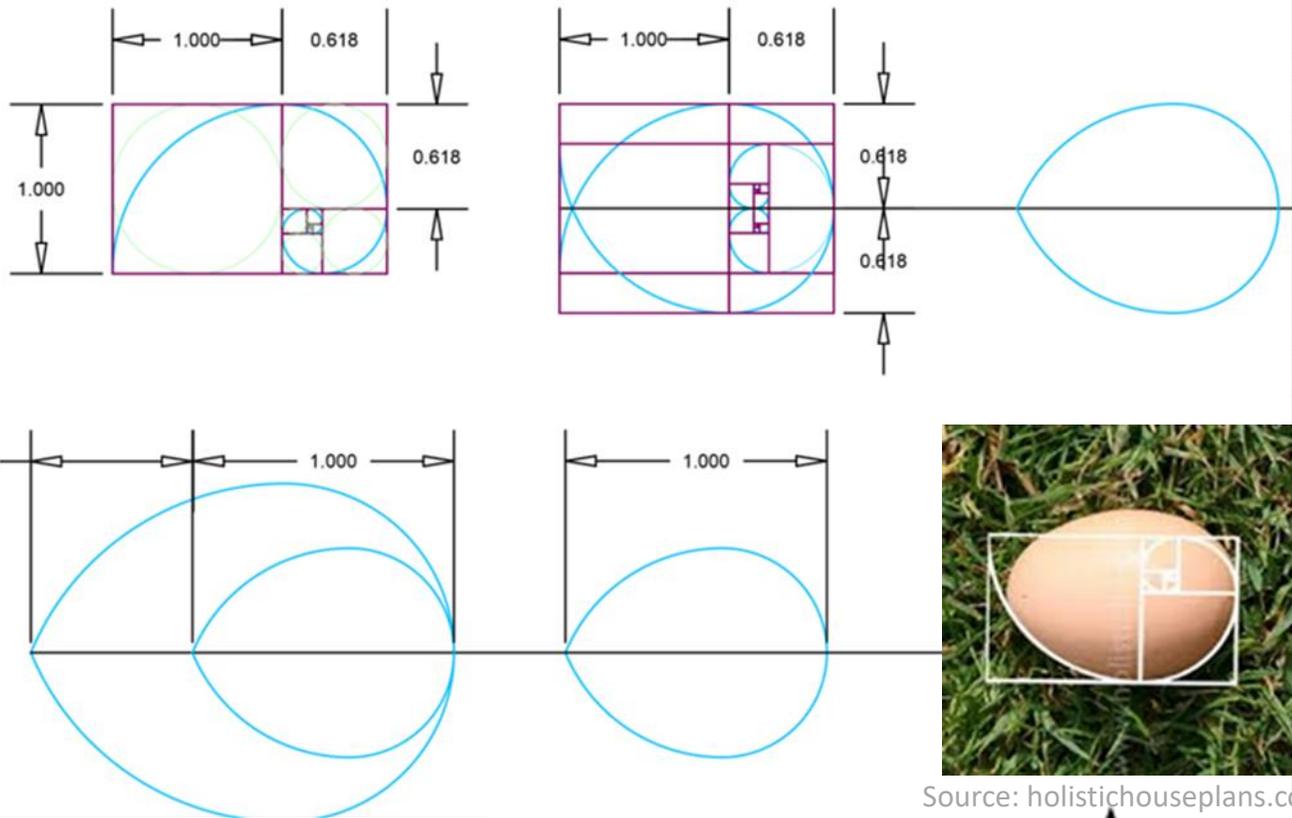
BUILDING PRECEDENTS



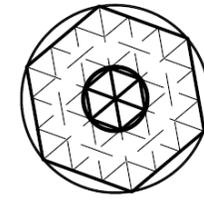
Story of Creation of the Holistic Health Center Sanctuary Design

Credits: For more detailed and advanced knowledge of Sacred Geometry, I recommend my teacher and colleague Jain 108 @www.jain108academy.com

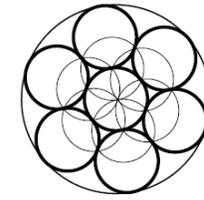




Source: holistichouseplans.com

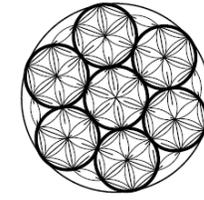


**GLASS DOME ●
CEILING
WITH DODECAHEDRON
CRYSTAL SUSPENDED
BELOW
(TO BE DESIGNED)**



**SANCTUARY GEOMETRY
FLOWER OF LIFE**

**SEED OF LIFE
7 TREATMENT SPACES
SYMBOLIZING SEVEN
DAYS OF CREATION**

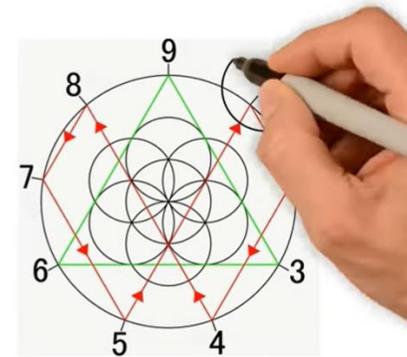
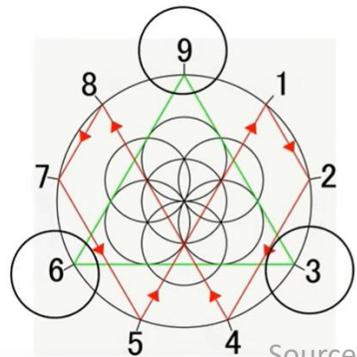
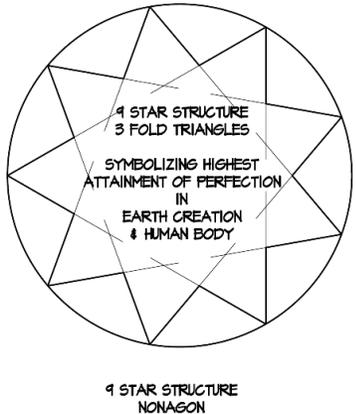


**FLOWER OF LIFE
FLOOR PATTERN**

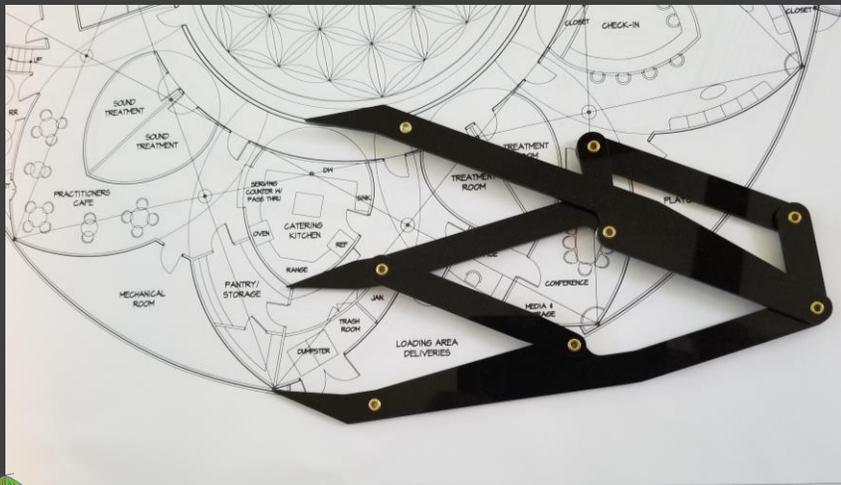
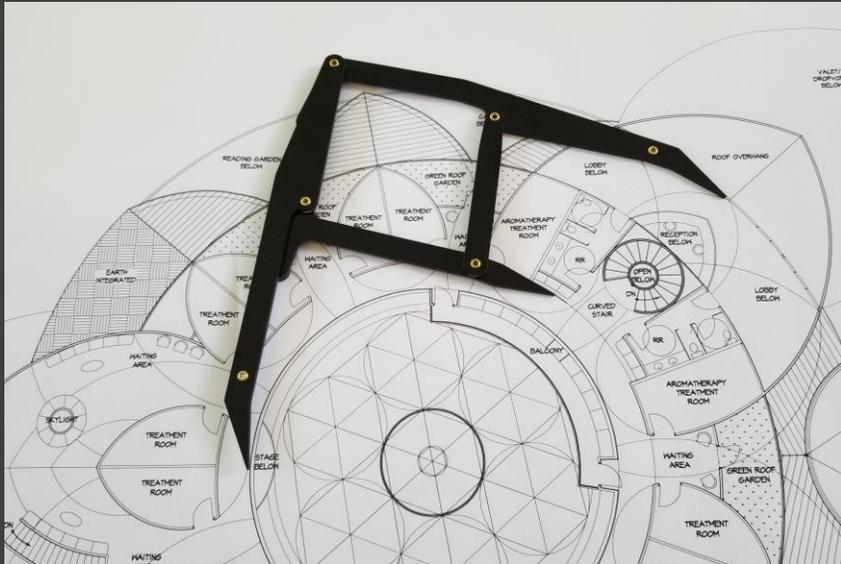
**Sacred Geometry
Conceptual
Construction**



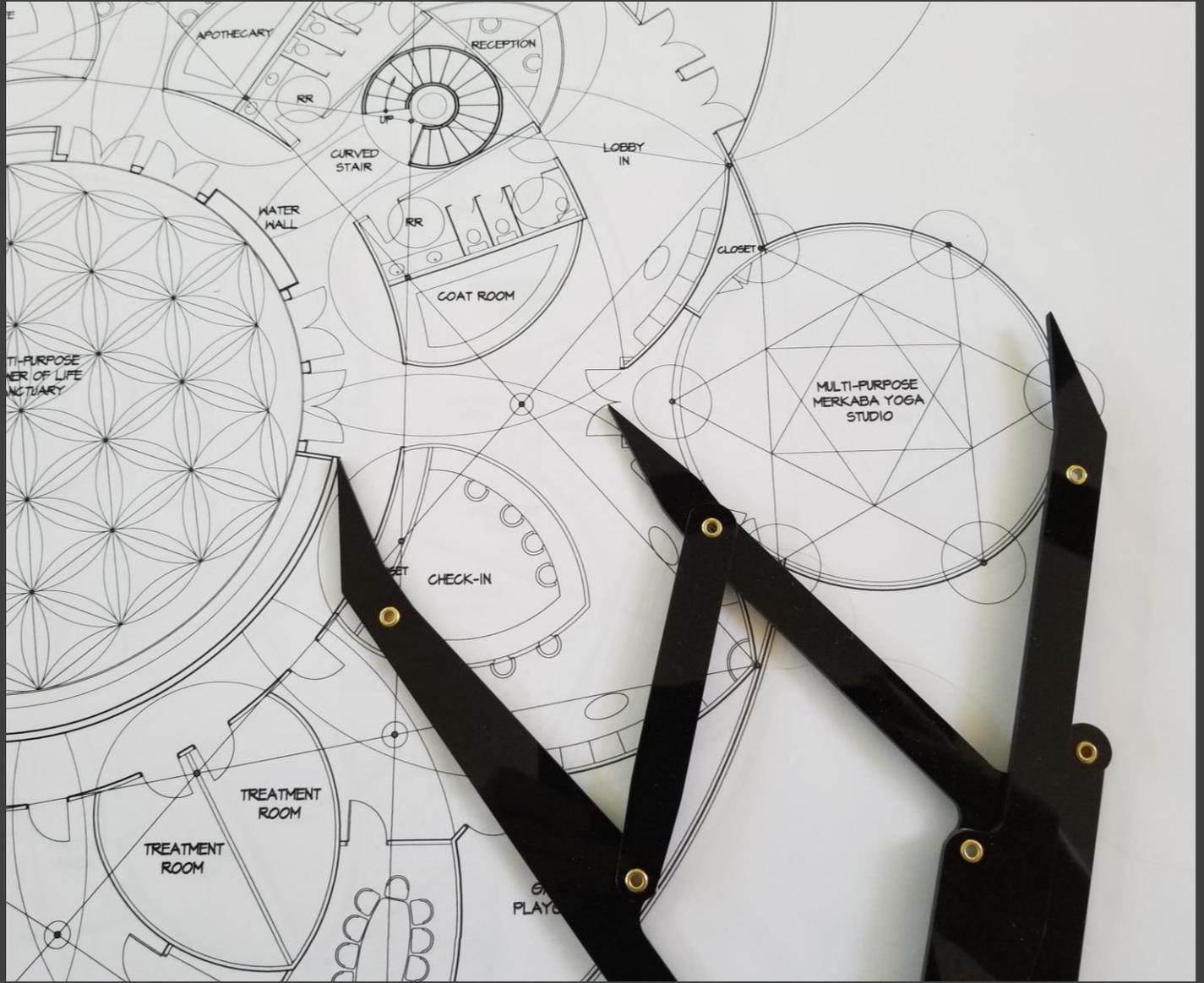
Credit: Janus Welton



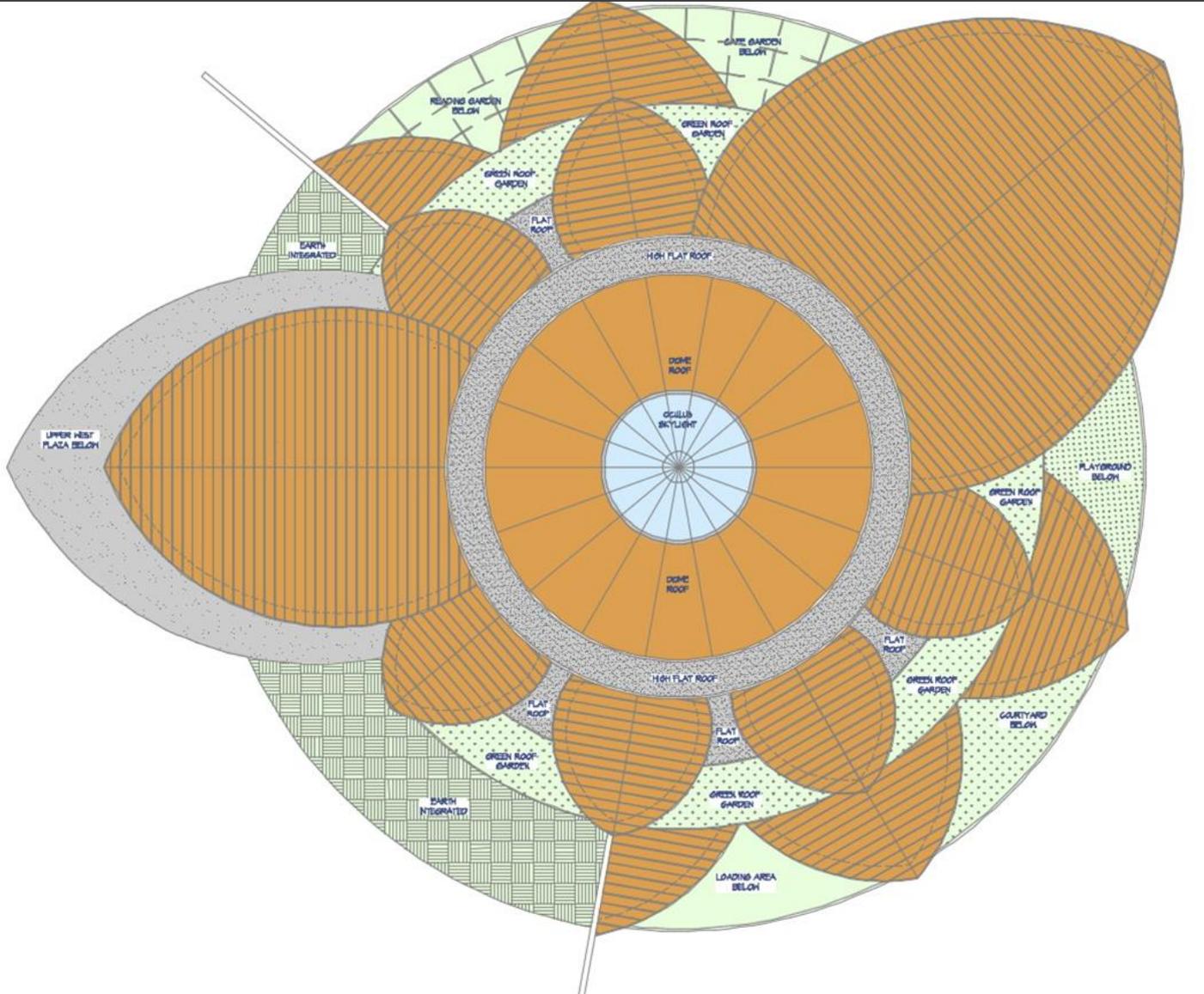
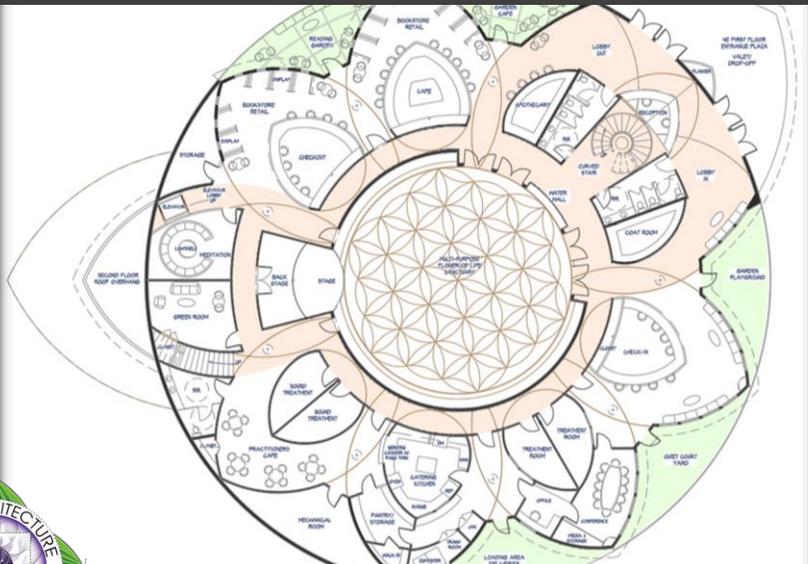
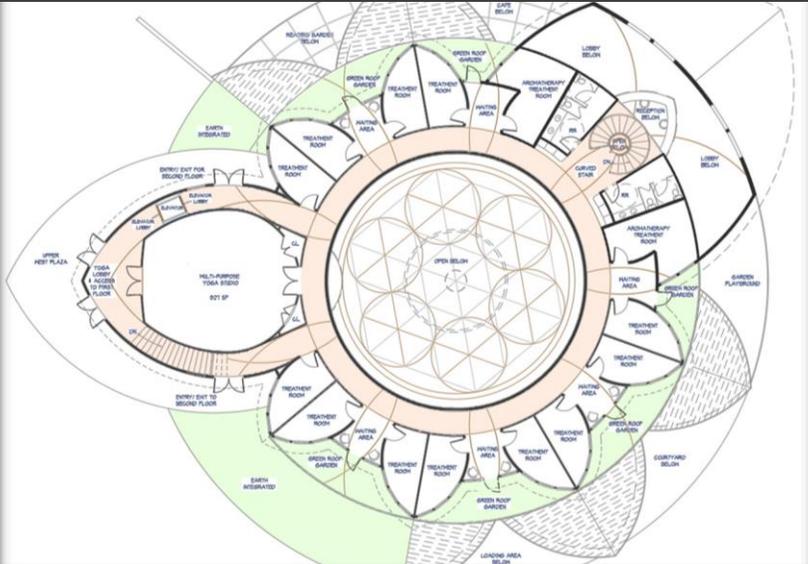
Source: [Trevor Punchline /youtube.com](https://www.youtube.com/user/TrevorPunchline)



SANCTUARY- FIRST FLOOR PLAN
PRELIMINARY CAD LAYOUT

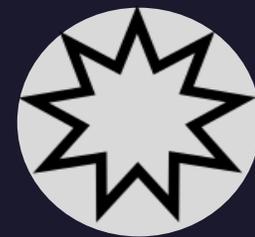


Credit: Janus Welton



Credit: Janus Welton

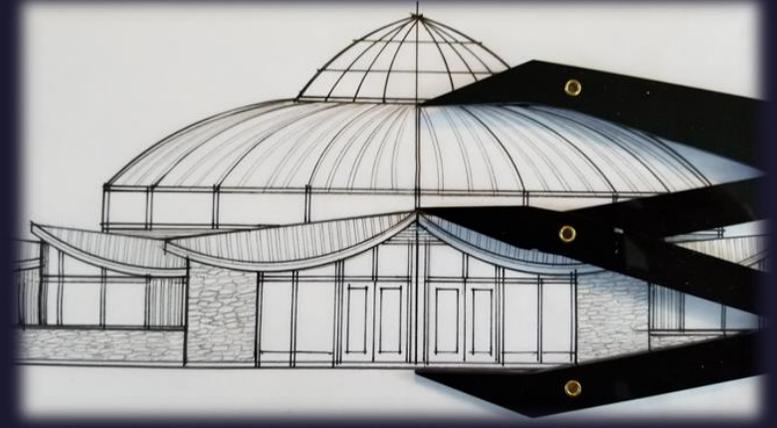
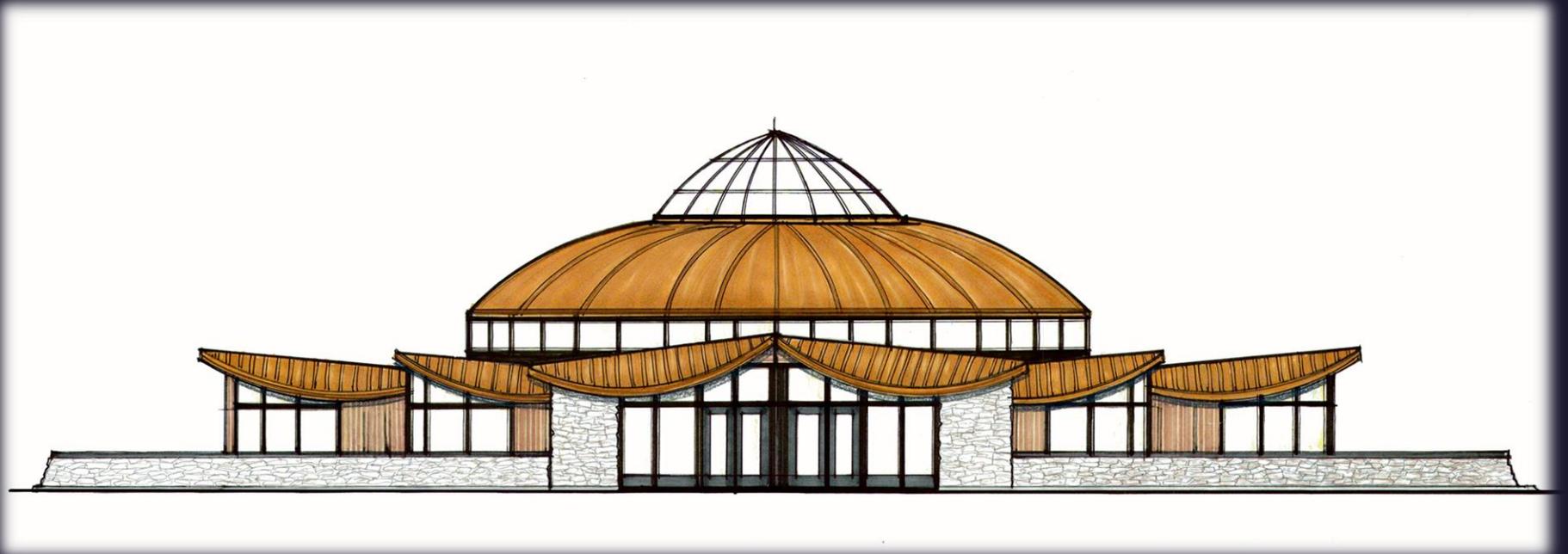
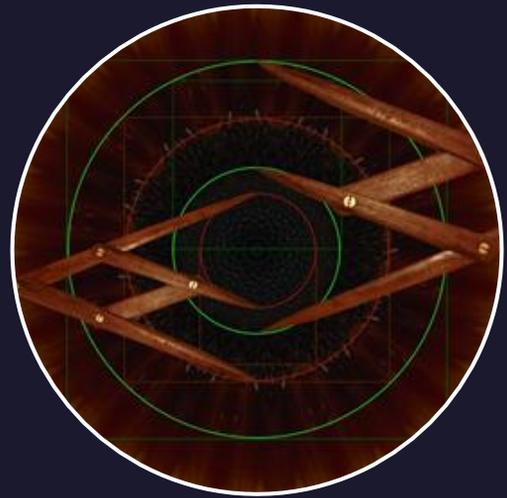
Nine Stars and Nine Petals in the Holistic Healing Sanctuary



Design Credit: Janus Welton

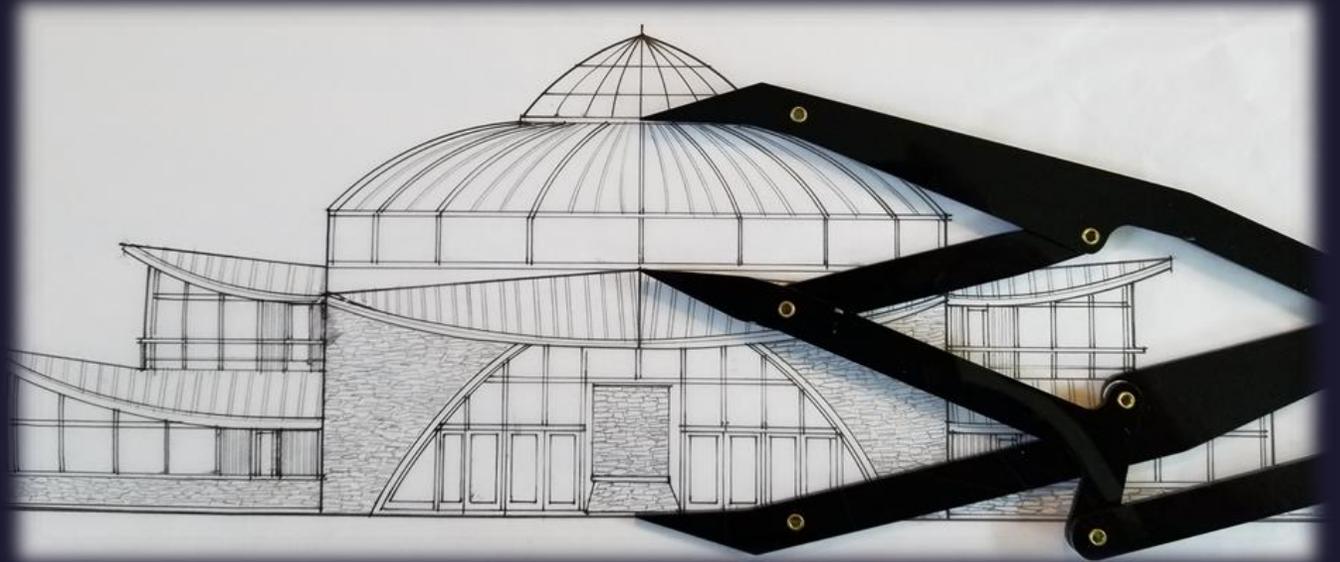
Rendering: Arch. Hazim Alaa

Sanctuary: Golden Mean and Fibonacci Proportions

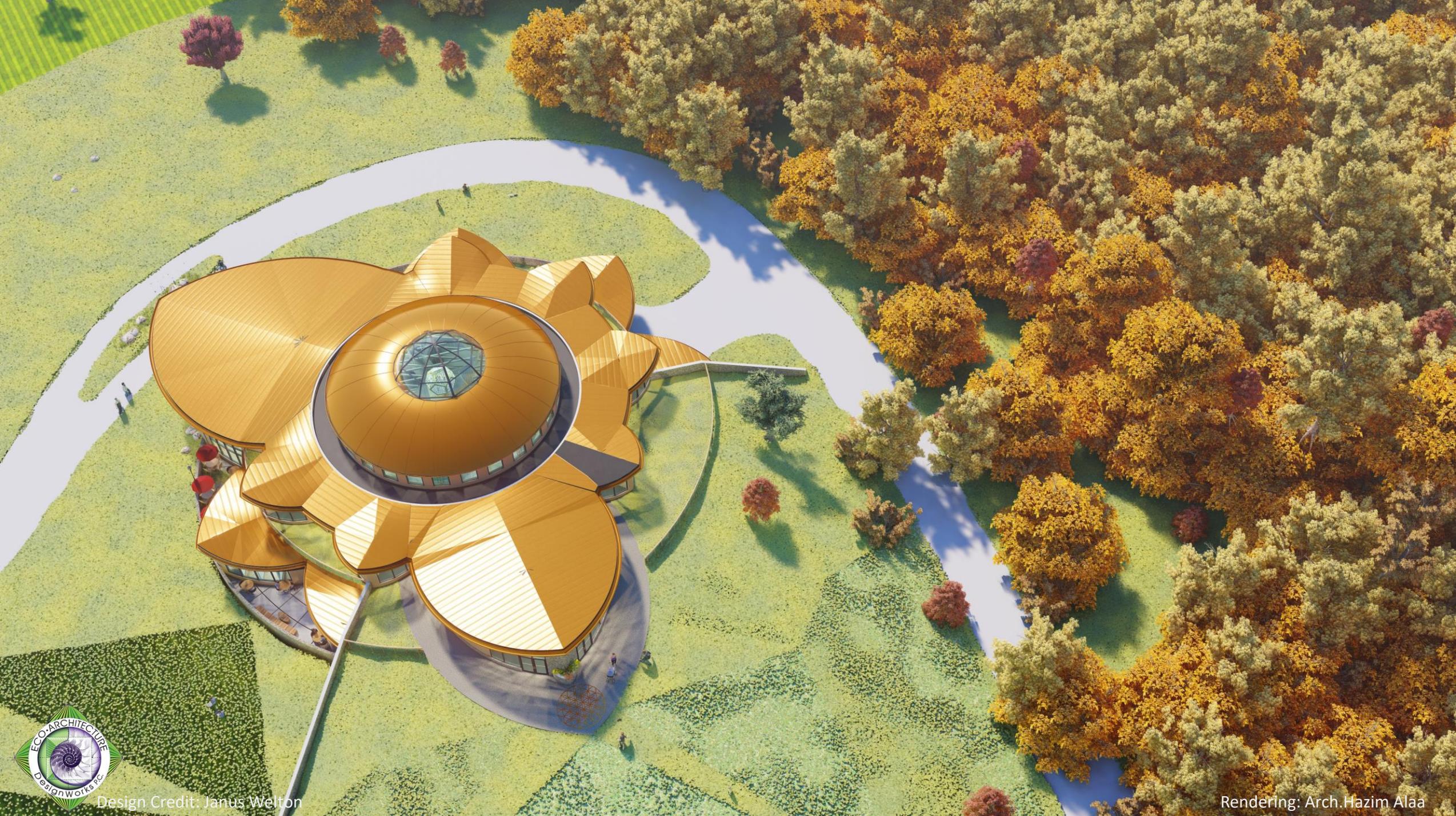


Credit: Janus Welton

Sanctuary: Golden Mean and Fibonacci Proportions



Credit: Janus Welton



Design Credit: Janus Welton

Rendering: Arch. Hazim Alaa



Design Credit: Janus Welton

Rendering: Arch.HazimAlaa



Design Credit: Janus Welton

Rendering: Arch. Hazim Alaa



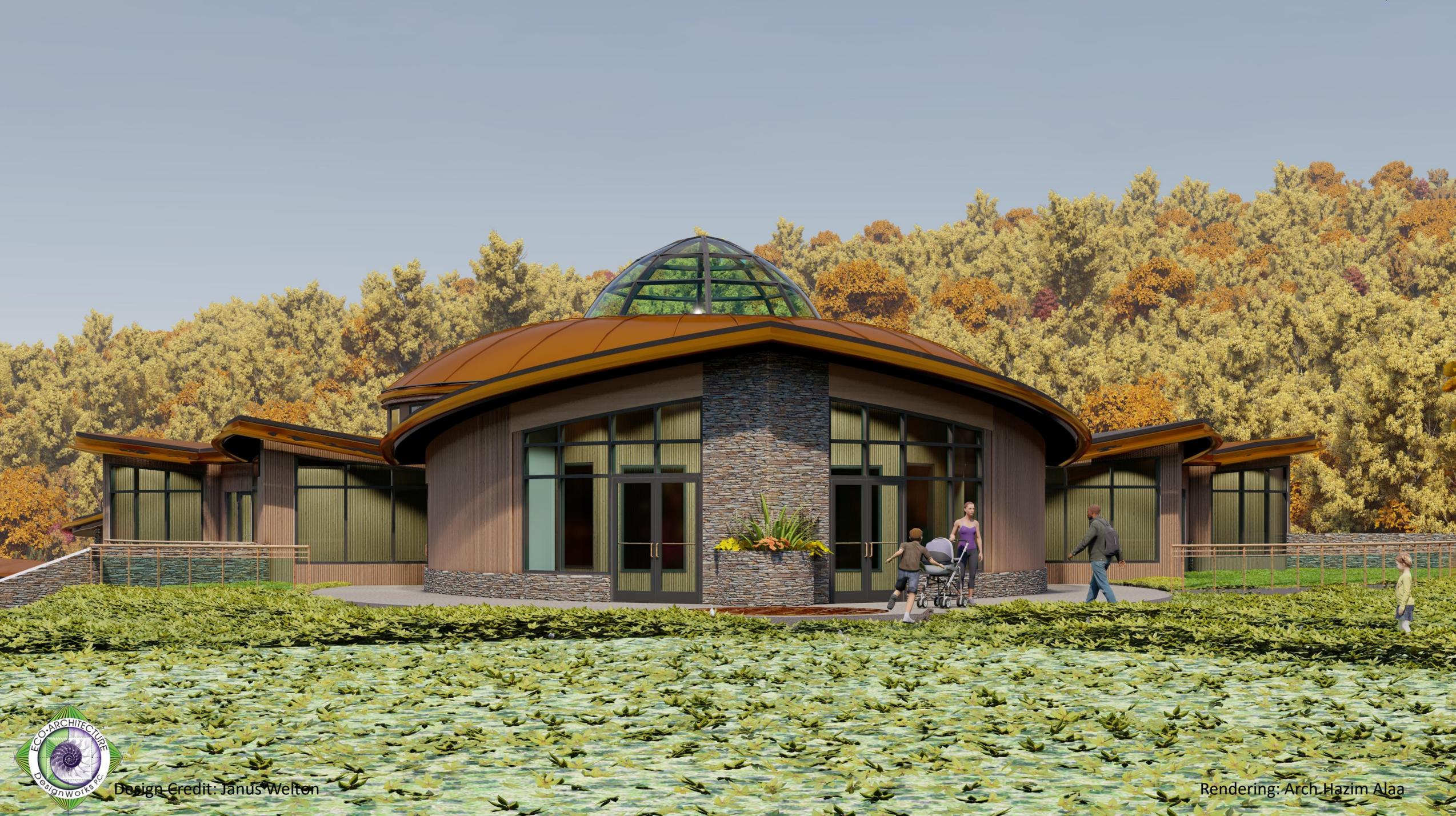
Design Credit: Janus Welton

Rendering: Arch. Hazim Alaa



Design Credit: Janus Welton

Rendering: Arch. Hazim Alaa



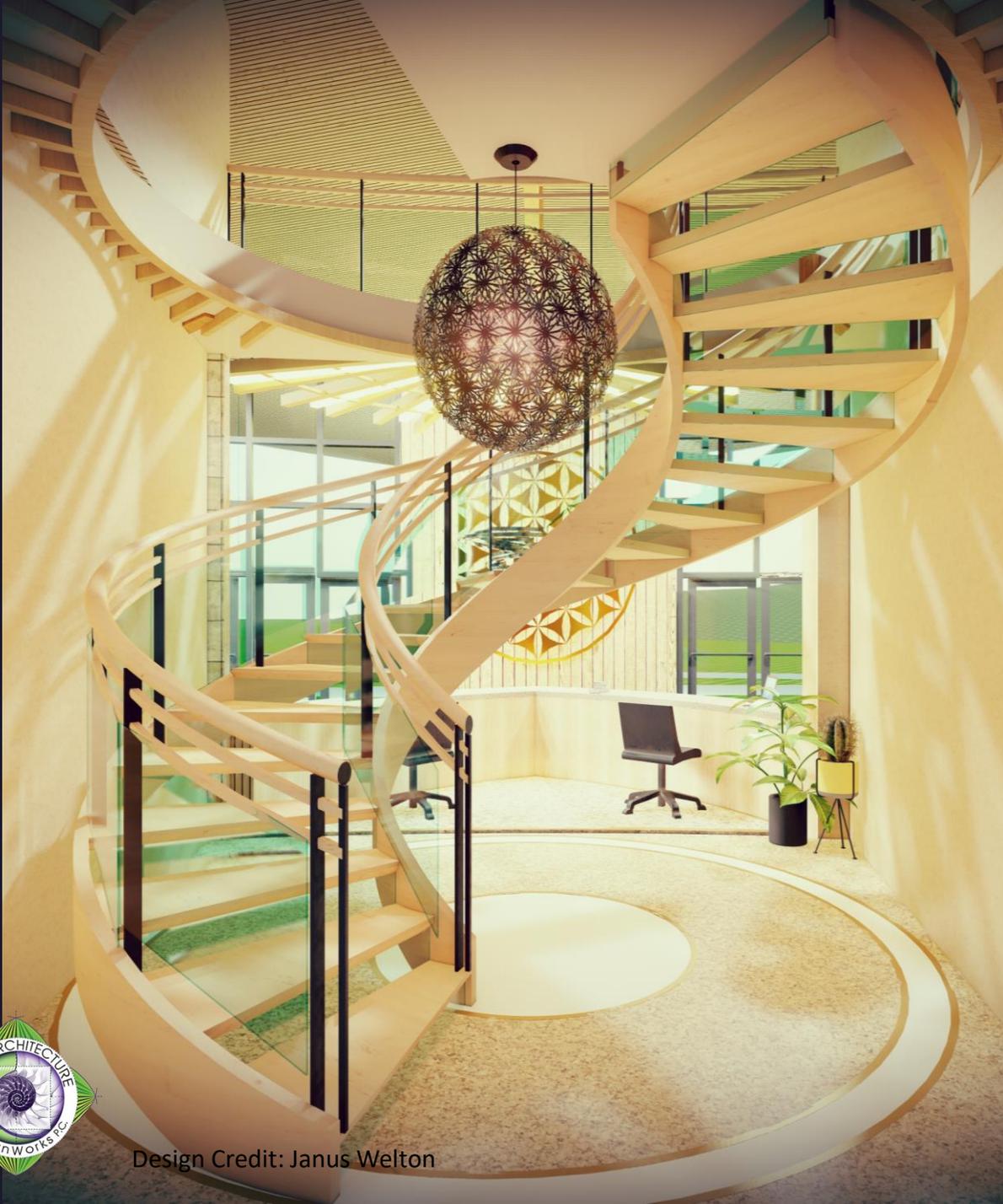
Design Credit: Janus Welton

Rendering: Arch. Hazim Alaa

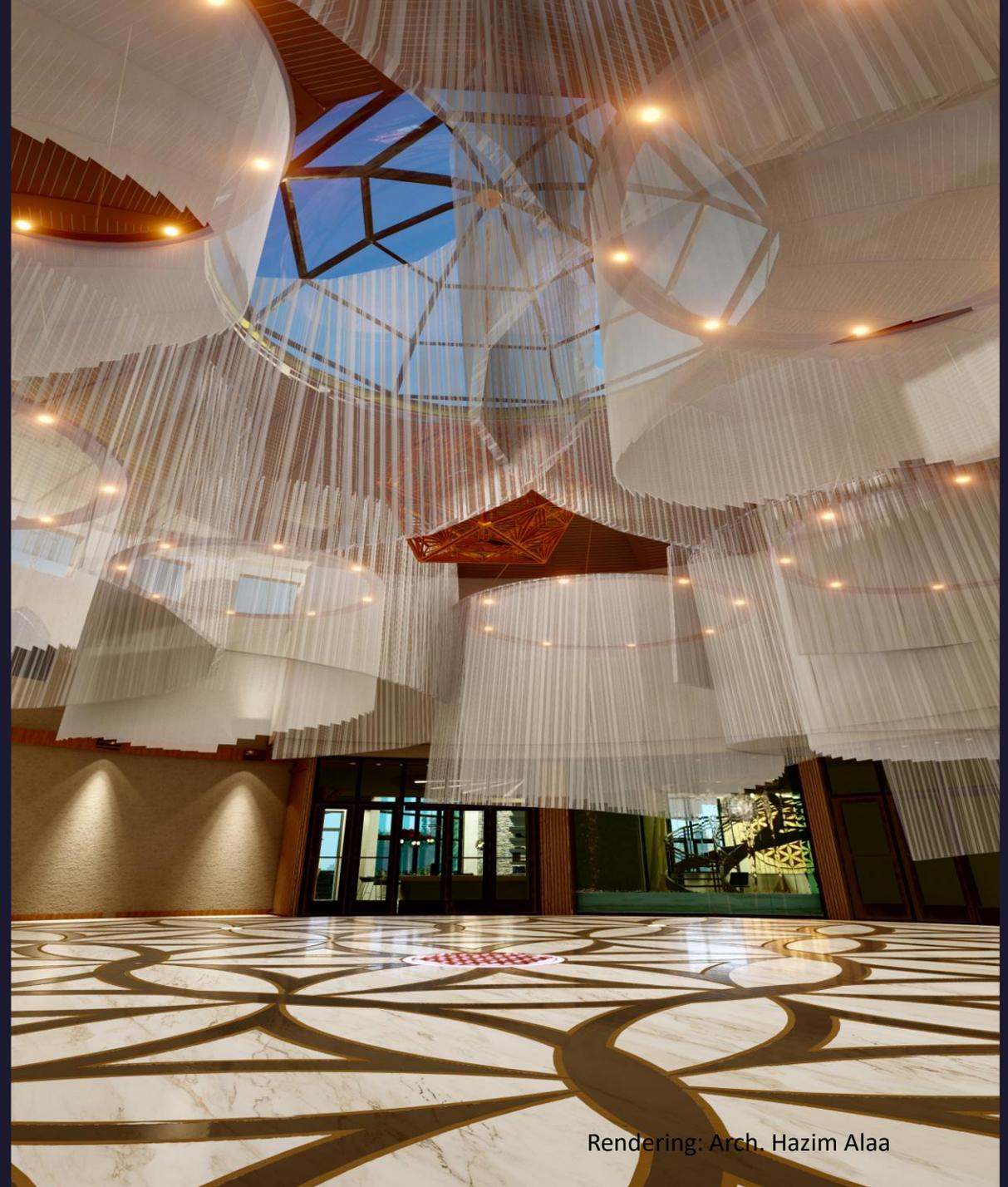


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Design Credit: Janus Welton



Rendering: Arch. Hazim Alaa





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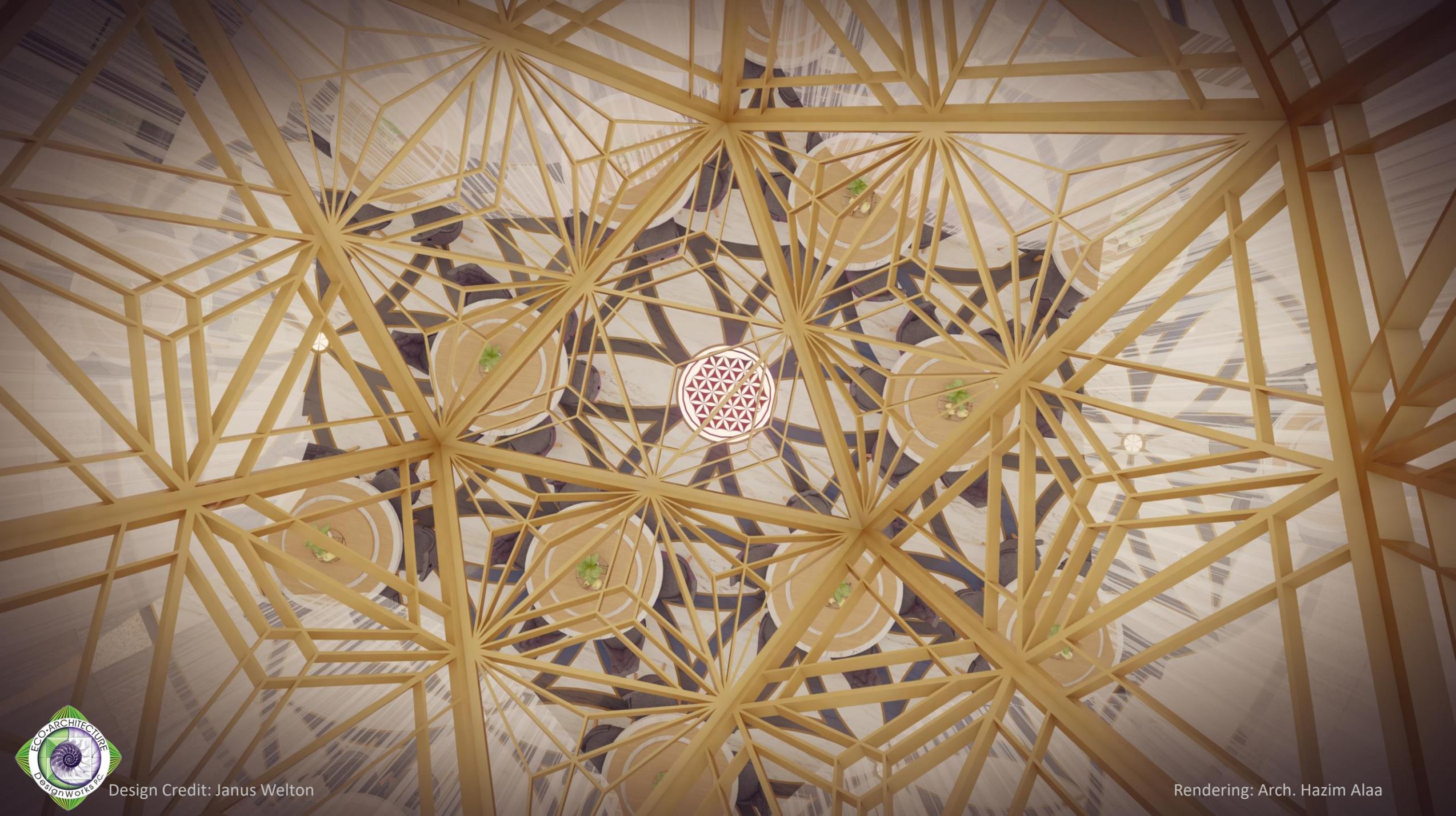
Design Credit: Janus Welton

Rendering: Arch. Hazim Alaa



Design Credit: Janus Welton

Rendering: Arch. Hazim Alaa



Design Credit: Janus Welton

Rendering: Arch. Hazim Alaa

Summary

With your new appreciation of numbers and how sacred geometry shapes nature, our buildings and everything else in our universe.....

I invite you to go outside and experience sacred geometry in nature for yourself and discover its pervasive beauty!

sacred geometry

biomimicry

Poster design credit: Janus Welton

EXPERIENCE
NATURE
THROUGH A NEW
LENS

#biomimicry

GO OUTSIDE!



Photo: Share4laugh.blogspot.in

Credits and References

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Biomimicry Specialist | Biomimicry NYC

Thank You

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