

Sacred Geometry

"The universe cannot be read until we have learned the language and become familiar with the characters in which it is written, a mathematical language in which the letters are circles, triangles, and other geometrical figures, without which it is impossible to understand a single word." Galileo. He also said more simply, "Mathematics is the alphabet by which God has written the universe".

A concept to keep in mind through-out this presentation is that curved lines are considered feminine, and straight lines masculine. You find these two woven together in countless ways through-out. Also sacred geometry has the unique property of satisfying the left and right brain, both rational and beautiful at the same time.

The story begins with a void, no light, no matter; nothing. Creation "was without form and void, and darkness was upon the face of the deep". You could also say this was *before* the beginning. Was there consciousness? A very good question that can't be answered. An incredibly amazing consciousness exists now, as you will soon see.

Next, came the "Spark of Life". Supposedly this is how creation existed prior to the big bang. All the stars, planets, and other materials and energies were compacted into one point as big as the period at the end of this sentence. It must have been very heavy and energetic! This is "bindu" is also the goal of "single pointed awareness" meditation.

Things start to get complicated when the single point separates into two and we get the concept of duality. Should the second point spin around the first in a contained circumference we get the "Circle of Life," and the equation Pi, which is the ratio of a circle's circumference to its diameter. There is even a national observance of Pi day March fourteenth as it approximates the number as 3/14 (also Albert Einstein's birthday!).

Pi is amazing by itself as a mathematical constant approximately equal to 3.14159. It is an "irrational number," as its decimal representation never ends or settles into a permanent repeating pattern. Pi is also a "transcendental number" (not the root of any nonzero polynomial having rational coefficients, but you knew that, right?).

The earliest written approximations were found in Babylon dated 1900–1600 BC and are within 1 percent of the true value. Because its definition relates to the circle, Pi is found in many formulas in trigonometry and geometry, especially those concerning circles, ellipses, or spheres. The ubiquitous nature of Pi makes it one of the most widely known mathematical constants, both inside and outside the scientific community.

Although not a physical constant, Pi appears routinely in equations describing fundamental principles of the universe. It turns up in equations that describe subatomic particles, cosmology, number theory, statistics, light, fractals, thermo- dynamics, mechanics, and electromagnetism properties that have no obvious relation to circles.

Next is the "Lense of Life," the Vesica Piscis (first image next page) which is formed from two intersecting circles of the same diameter, where the center of each circle is on the circumference of the opposite circle. Its design is one of the simplest forms of sacred geometry. It has been depicted around the world at sacred sites, and has been the subject of mystical speculation through-out history. Perhaps the first occurrences of the Vesica Piscis, was among the Pythagoreans, who considered it a holy figure (the five pointed star was their secret symbol).

Starting from the Vesica Piscis we can now birth the first simple polygon, the triangle, for If we draw a straight line horizontally across the center, then straight lines from the ends to the top and bottom it creates two perfect triangles which are simple polygons: a plane figure bounded by straight lines in a closed loop or circuit. A square follows, then pentagon, hexagon, heptagon, and octagon as sides are added.

All polygons are congruent, equilateral, and equiangular, as all the faces, angles (vertices), and edges are the same. They are also cyclic as all corners will touch the boundaries of a circle ("nesting"). Similarly a circle will nest inside all polygons and touch it's inner sides evenly. Stars are self intersecting polygons and nest in circles and polygons. The five pointed star (pentagram) nests in the pentagon, and so on. Nesting circles inside polygons and polygons inside circles is also how Archimedes calculated Pi very accurately around 250 B.C, so accurately it held for 1,000 years. Also note: an octahedron spinning on its axes creates a sphere.

Next is the "Tripod of Life" (or "Borromean rings" - second image), formed from a third circle being added to the Vesica Piscis, where the third circle's center point is placed at the intersection of the first two circles' circumferences. The tripod, a triquetra, symbolizes the Christian Holy Trinity and other sacred entities (wiki flower of life for more info). Again, obviously we have the triangle. This also makes three Vesica Piscis at its center.

Next is four circles (image three0, with the "Eye of Life," at its center. Now we aren't just looking at God, God is looking back! In ancient Egypt this is known as the Eye of Horus, and in the bible as the Eye of God or Providence. The Buddha is also known as the Eye of the World. This one might be a bit of a stretch as the pupil is lens shaped like reptiles (and cats), but why not? Reptiles came before mammals.

Next comes the "Torus of Life," (image four) an infinite number of circles arranged in a circular fashion like a doughnut or bagel. I find this very interesting as a large torus in space is what likely causes black holes and white fountains as matter, energy, and light are sucked into the center (appearing as a black hole) and spewed out the other side as a white fountain. This energetic occurrence is natural as energy causes spherical objects like planets to spiral by means of electrical energy (a homopolar motor), and the basis of electromagnetic technology.

Next is the "Seed of Life" (image five) formed by seven circles placed with six fold symmetry forming a pattern of circles and lenses which act as a basic component of the Flower of Life. The germ of life is at its center. The outer circles may or may not be drawn, but their inner circumference is shown in the lenses of the flower.

If we turn these circles into spheres it is the "Egg of Life" or "Embryo of Life," (image six) as all life reaches this phase within hours of its initial cell division. Within the egg of life is the cube (four sided polygon), tetrahedron (four triangle 3D figure), and the star tetrahedron (two intersecting tetrahedrons that looks like the six pointed star of David when spun).

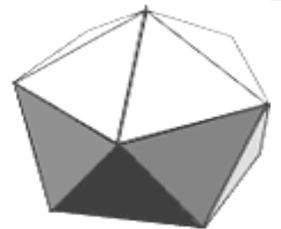
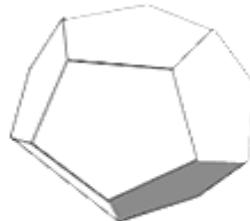
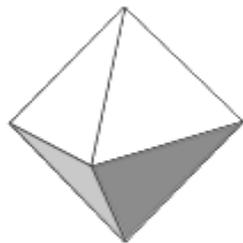
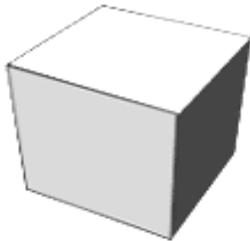
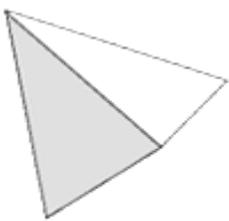
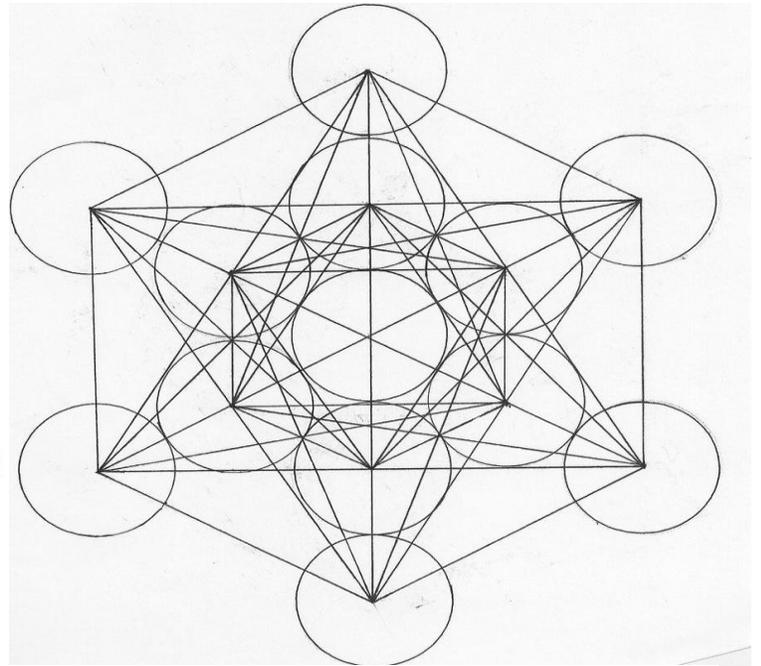
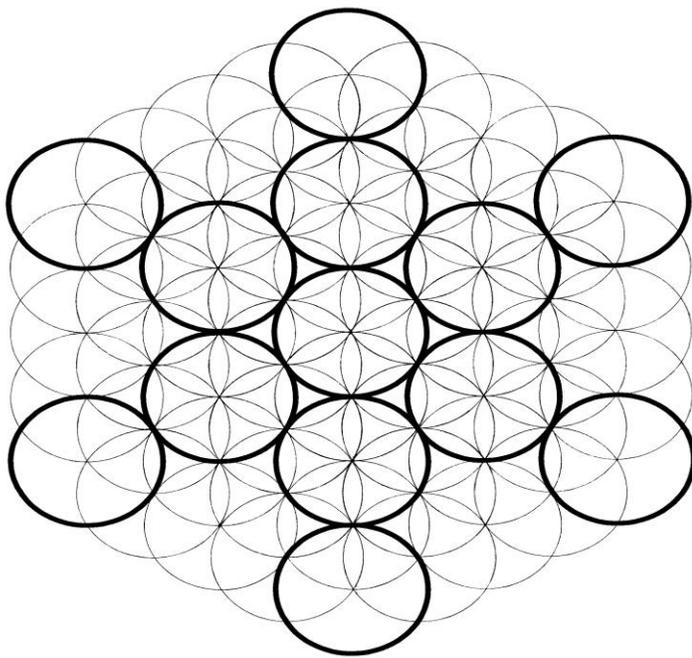
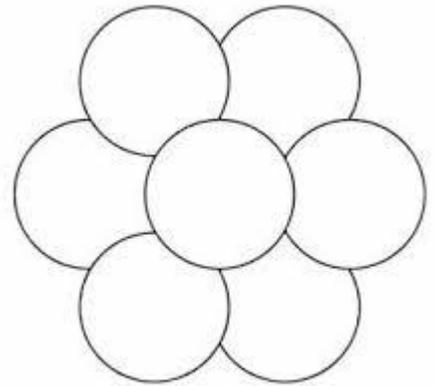
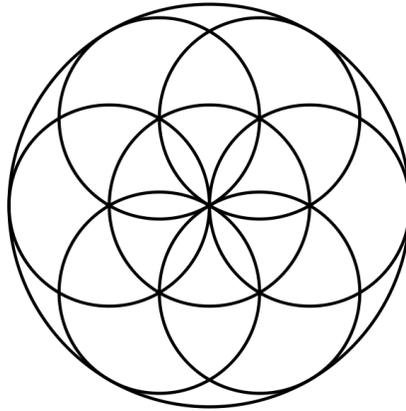
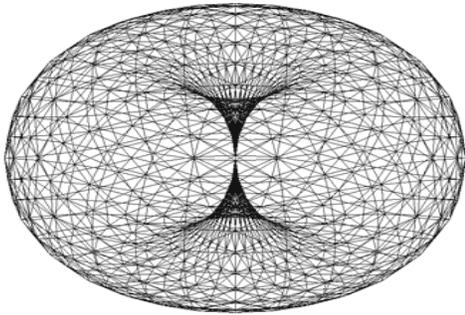
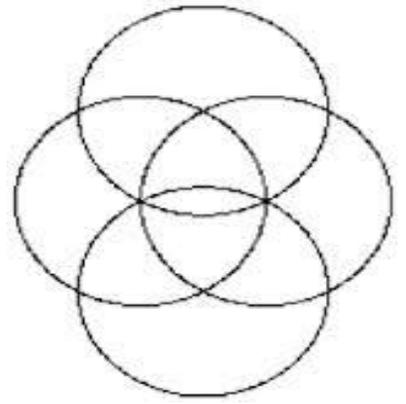
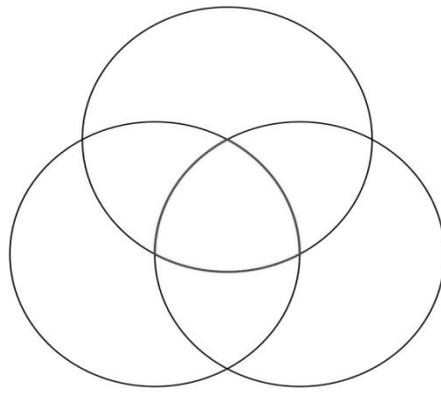
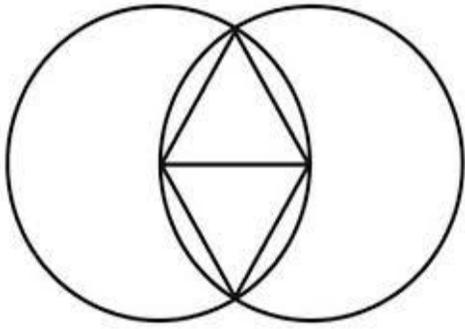
Next is the "Flower of Life" (image seven) composed of thirteen whole circles, one in the center, six circling that, and six more extending off the others. It was first seen in approximately 645 BC in Assyria and later in the temple of Osiris. Many associate the flower of life with symbols and decorative motifs from cultures throughout history. This figure seems to carry a certain magic as the seven and thirteen circles fit perfectly (try it with coins!).

Next is the "Fruit of Life" composed of the same thirteen circles (image eight) containing the geometric basis of Metatron's Cube (Metatron is the scribe of God in the Bible, Osiris in ancient Egypt) because as each circle's center is connected to each others center with a single line, a total of seventy-eight lines are created, forming a type of cube which brings forth all of the Platonic solids, and is said to be the blueprint of the universe containing the basis for the design of every atom, molecular structure, life form, and everything in existence (per Wikipedia).

FYI: The five platonic solids (shown on the next page below) are the three dimensional polygons of the tetrahedron (four triangles), the octahedron (eight triangles), the cube, also called the hexahedron (six squares), the dodecahedron (ten pentagons) and the icosahedron (twenty triangles). The last two don't fit the pattern of Metatron's Cube as a two dimensional image, but if the circles are replaced with spheres with lines across the center of all the spheres, the image is completed and both the dodecahedron and the icosahedron emerge.

Platonic solids also have amazing nesting properties, as a tetrahedron nests inside a sphere and inside itself with each point touching the center of each outer polygon. The same goes for an octahedron inside a hexahedron (cube), a dodecahedron inside an icosahedrons, and a star tetrahedron in an octahedron. A stellated octahedron (a dual tetrahedron of twelve triangles) nests in a circle and a cube. Beyond the five Platonic solids are thirteen Archimedean solids, and ninety two Johnson solids. Look those images up if you want to really stretch your mind!

Leonardo da Vinci studied the Flower of Life's form and its mathematical properties. He drew the flower of life itself, as well as various components such as the seed of life. He also drew geometric figures representing shapes such as the platonic solids, a sphere, and a torus, and also used the golden ratio of phi in his artwork; all of which may be derived from the Flower of Life design. More on phi in the next section on Fibonacci.



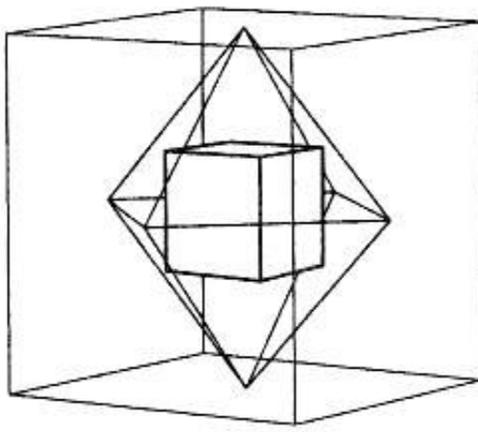
Tetrahedron

Cube

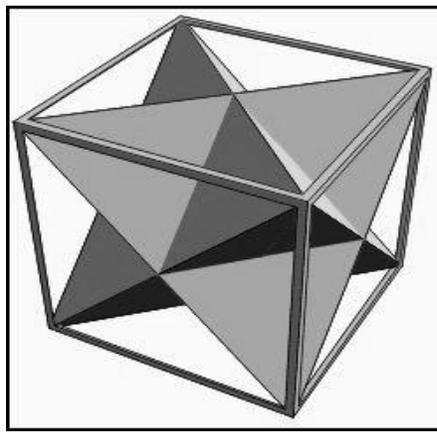
Octahedron

Dodecahedron

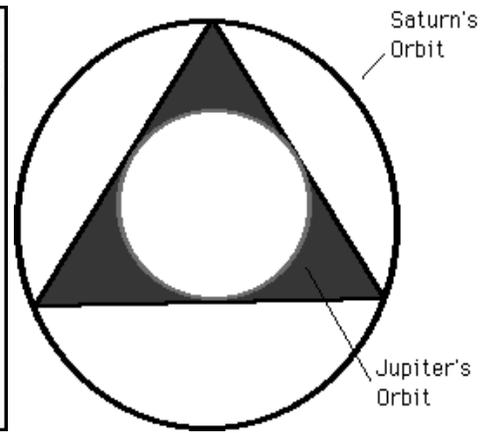
Icosahedron



Nesting



Stellated Octahedron



(Unrelated-just thought it was cool!)

Fibonacci & Phi

"Since creation, invisible (and visible!) attributes of eternal power and divinity have been able to be perceived and understood in what God has made" Romans 1:20. "Everything is arranged according to number and mathematical shape" Pythagoras. A concept to keep in mind through-out this presentation is that curved lines are considered feminine, and straight lines masculine. You will find these two woven together in countless ways through-out. The feminine births the masculine. Sacred geometry also has the unique property of satisfying the left and right brain at the same time, both rational and beautiful at the same time.

Eight hundred years ago there was a brilliant Italian mathematician named Leonardo Fibonacci that struck gold in mathematics and geometry. He is best known for popularizing the Hindu (commonly called Arabic) numerical system (1,2,3,4,etc) over the Greek numerals (I, V, X, etc.). He also noticed the way plants would spiral and sprout leaves and branches to maintain balance. This branching system is found in trees, the bronchi of lungs, and many other places in nature, as it is the most efficient way of fitting the most branches into a small area while maintaining balance. This sequence also applies to rabbit and bee breeding but that's another story.

The number series plays out by adding two numbers sequentially starting at zero, then one, and so forth: 0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, 144, etc. These are the "Golden Numbers" of the Fibonacci sequence, or the "Golden Sequence". These numbers are found through-out nature, even measuring the structure of human genes (twenty one by thirty four angstroms). These numbers actually date back to Pingla in India in 200 B.C. and appear in the pyramid at Cheops and the Temple of Karnak, but Fibonacci is credited with bringing them westward.

If you divide any two pairs of Fibonacci numbers it approximates 1.618 especially after the first thirteen pairs. This number is known as the "Golden Mean or Golden Ratio". Phi is also an irrational number, as its decimal representation never ends or settles into a permanent repeating pattern. Phi (like Pi) is also a transcendental number. This number shows up in a multitude of places as you will see in many of the Sacred Geometry videos or websites. Some of these videos focus specifically on the golden ratio as the mark of beauty in human physiology.

If you make a rectangle from the golden mean you get the "Golden Rectangle" that creates a figure that is pleasing to the and eye found in great number in the Parthenon, Taj Mahal, cathedral of Notradame, and many other buildings and structures through-out ancient and modern times. According to the Bible the golden mean also approximately measures the ark of the covenant, Moses' alter, and the ark of the great flood story. if you put an oval inside the golden rectangle you have a "Golden Oval" that mirrors the orbits of many stars and planets.

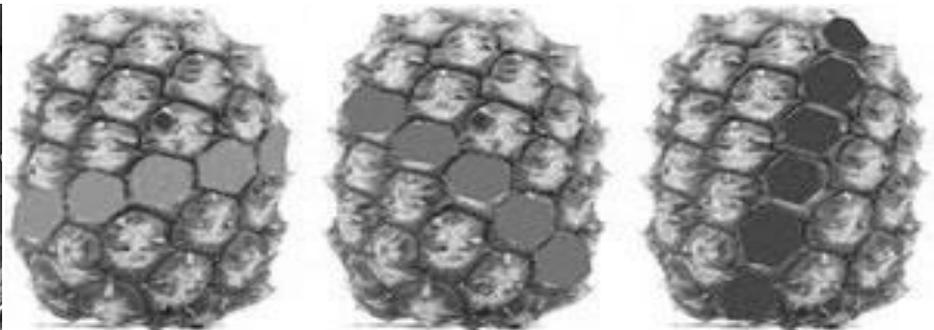
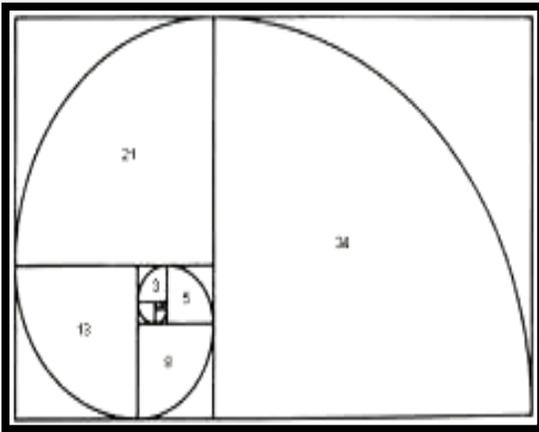
The next step in this adventure is to create boxes to match the number sequence starting at one, then one again, then two, three, five, eight, and so on. If you add a circular arc swinging from the inner point of the first box and spiraling out to touch the outer corners of each box you have the "Golden Spiral". This spiral and number sequence is found in the spiraling of shells, snails, ferns, sea horse tails, the human ear and it's cochlea, waves, tornados, hurricanes, planets, and galaxies.

The golden spiral also show up in the seed structure of sunflowers, pine cones and many other plants as it is the most efficient method of fitting the most seeds into a small space. This is also true for fruitlets of a pineapple, and the flowering of artichoke. The numbers and spiral also appear in the petals of many, many flowers. For example;

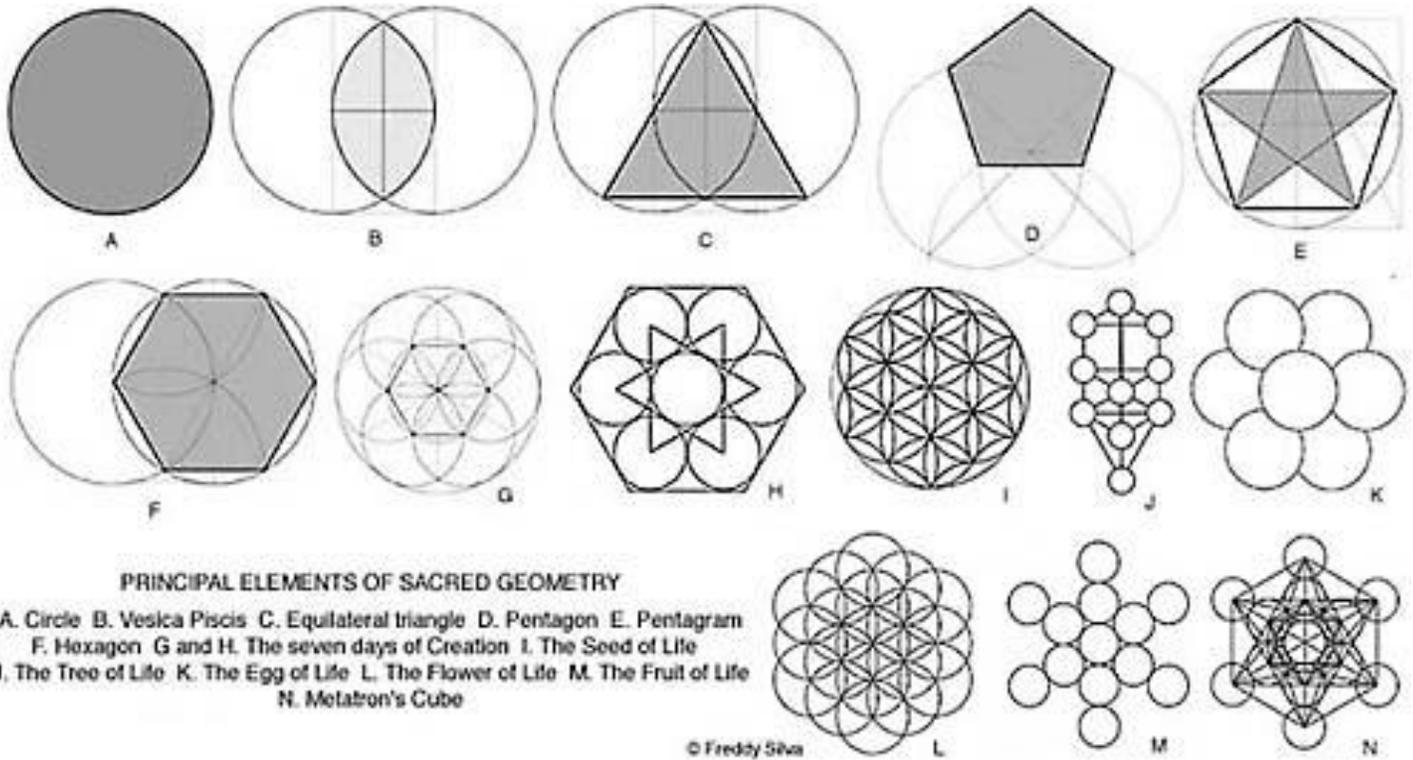
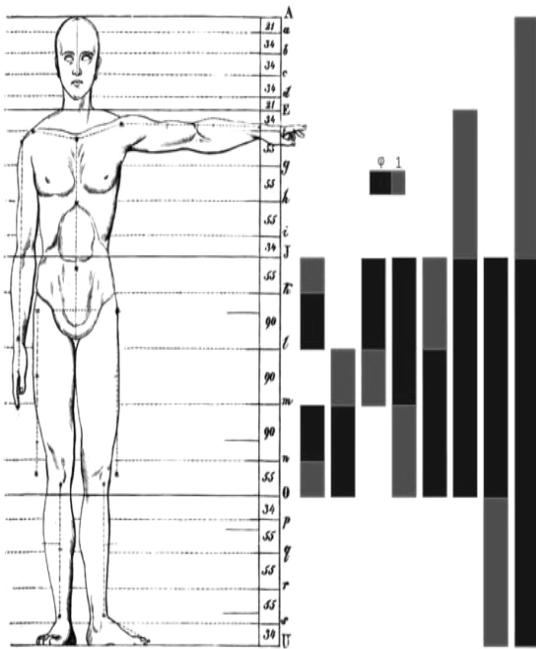
sunflowers petal with thirty three, fifty five, or eighty nine petals, all Fibonacci numbers. This is also found very obviously in the horns of a ram and the nautilus shell, as it allows balance to be maintained automatically as each grows larger.

The amazing story of sacred geometry is really way too big and visual to explain completely here but there are many, many interesting websites and videos (YouTubes etc.) to explore. I have links to my favorites on my website CowboyDharma.com. under sacred geometry. My favorite is the twenty eight minute YouTube "Donald Duck in Mathemagicland", as it is very interesting, fun, and comprehensive, and especially surprising for a cartoon.

I hope you have and will find a bit more blessing, holiness, divinity, and sacredness in your world through sacred geometry. I have always seen the hand of God at work in nature, and infinitely more so now. Check out the videos and websites, ruminates on them, tell your friends, and have fun!



Similarity 3 spirals in the pineapple, which are adjacent numbers in the fibonacci series 5 8 13



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