THE TWELVE STAR EGYPTIAN SPHERE THAT GENERATED THE GREAT PYRAMID AND THE PLATONIC SOLIDS

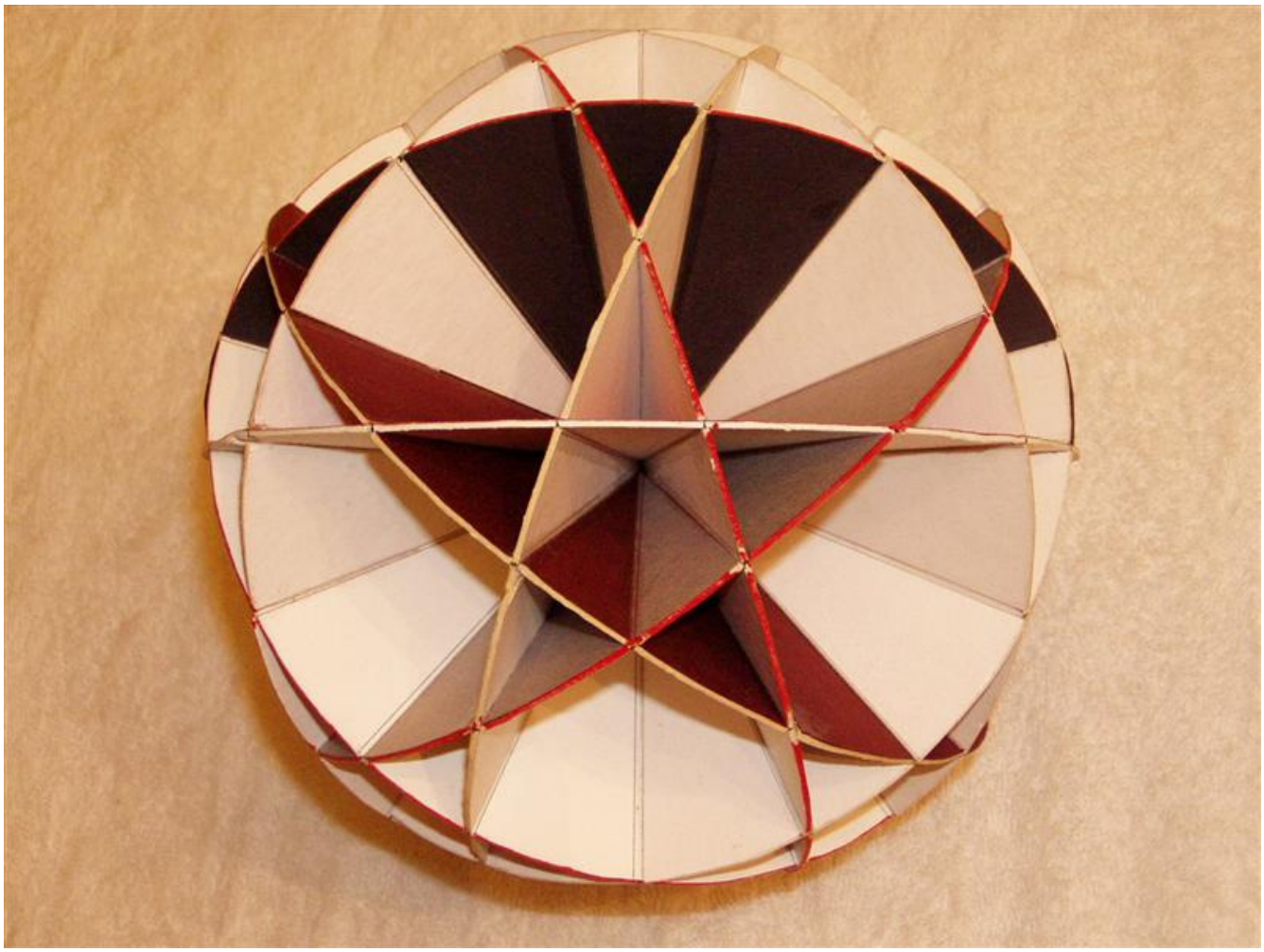
by Pierre Beaudry

"The history of astronomy is an essential part of the history of the human mind." Jean Sylvain Bailly

THE SHADOW OF A DOUBT

Over 50 centuries ago, it was the Egyptians, not the Greeks, who invented and built the Five Platonic Solids. This can now be proven with no more than a shadow of a doubt. In the present pedagogical, we shall demonstrate that not only did the ancient Egyptians construct the five Platonic Solids, at about 3,000 BC, but that those Platonic Solids were in fact, derivative parts of the same Twelve Star Egyptian Sphere, (Figure 1) otherwise known as the Pythagorean Sphere, which served primarily as an astronomical normalizing instrument, and as a blueprint for the construction of the Great Pyramid of Gizeh. In other words, we shall finally resolve the enigma of the Great Pyramid by showing that it could not have been built without an explicit knowledge of the astronomical spherics that generated the five regular solids.

Figure 1



THE INTENTION OF NORMALIZING

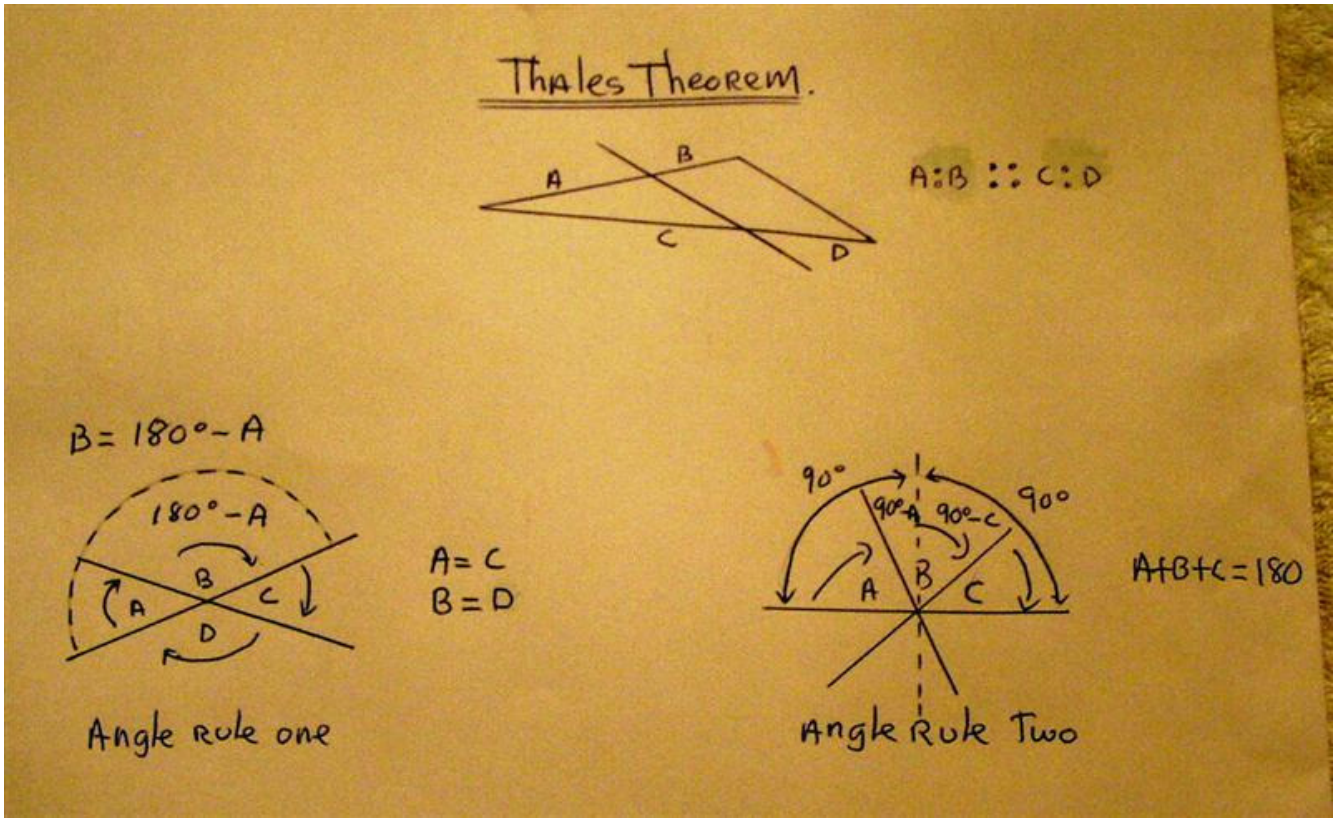
The first thing that Egyptian pyramid builders did, in attempting to replicate the canopy of the heavens, was to normalize angular measurements, with respect to the changing position of the stars in the canopy of the heavenly sphere. As Lyndon LaRouche put it, recently: ": what the Greek conception of the spherics was from the Egyptians. You're looking at the universe as a sphere. You don't know what its diameter is: you just know it's very large, and you're trying to interpret things, not by measuring intervals, but measuring angles. And you're looking at angular changes, and your looking at trying to

normalize your relationship, as an observer on a rotating earth, to a planet." Such was the intention of the pyramid builders in their founding moment of astronomy. The Egyptians knew they could not accomplish that task by simply establishing an equal division of the sphere. They had to determine a norm by which constant change could be measured. From that intention, the construction of equal partitioning of a sphere gave interesting results, but it did not give them a sense of normalizing and closure over what is constantly changing. So, they partitioned their sphere in such a way that the yearly cycles of the heavens were made to correspond to angular rotations of a circle based on 360 degrees. The divisions of the circle became the angular reflexions of yearly cycle of 360 days. That provided closure between the calendar and physical geometry of astronomy. This inadequacy function, however, between geometry and reality was expressed in such a way that, 360 Egyptian days were considered human days, while the additional five and 1/4 days, for a total of 365 and 1/4 days a year, represented additional "holy days" as gifts from God.

INSIDE AND OUTSIDE

Although the equal partitioning of the sphere was absolutely necessary, not only for astronomical purposes, but also as a means of building the sphere itself and the pyramid observatory, the Egyptians were attempting to mix equal partioning with constant change. This was very difficult to do, since all of the movements of the heavens are irregular, including the slow movement of the fixed stars. So, the very physical construction of a sphere required both equal and unequal partitioning. They derived angular proportionality by what was later to become known as the Thales Theorem (Figure 2), that is,{when a line crosses a triangle, and its direction is parallel to one of the three sides, the other two sides are divided proportionately}. From this theorem of proportionality, two geometric constructive rules were established. The first stated that when two lines cross each other, the opposite angles are equal. The other stated that when three lines cross each other, at the same point, their three angles are equal to two 90 degree angles, or form an angle of 180 degrees.

Figure 2



However, there was an even greater difficulty to be surmounted. The construction of the required sphere could not be done except from the epistemological phase space of a Riemannian type of complex domain. That is to say, the geometer-architect had to locate himself both inside and outside of the sphere he was building. That is not a comfortable position for any person to be in. Like God, he had to be both inside and outside of the universe. He had to be self-conscious of being outside of the experiment at the same time that he was at the center of the scientific experiment he was designing. In fact, that thought-object was the most important component of that Egyptian discovery.

RE-CREATING THE HEAVENS

Although the Egyptians had constructed different spheres of three, four, and six great circles, the sphere they required was made up of ten great circles, which divided each other into golden sections of the divine proportion, and projected all of their angular sections from its center, outwardly, to form a completely close-packed surface of twelve pentagonal stars. As we shall see, in a moment, the only way to project such a spherical surface onto the sphere of the heavens was from the angular measurement of the Great Pyramid of Gizeh. This represented the act of man re-creating the heavens, in imitation of God, the creator of the universe. The canopy of the heavens was, thus, divided into a twelve-part zodiac, whose spherical blazonry inscribed a great celestial dodecahedron, as Plato later acknowledged in his {Timaeus}. This was a most beautiful sight to see. The close-packing of stars displayed on the ceiling of the Pyramid Text Chamber, located at Sakkara, confirms that this was a projection of the sphere of the heavens reflecting the principle of proportionality between God's work and man's work.

PARTITIONING OF THE CIRCLE

The ten circles divided each other into six angular partitions, each of which was assigned 60 degrees, and each 60-degree angle was, in turn, divided into three parts, two parts of 22 degrees and one part of 16 degrees. This partitioning provided the angular measurements for the spherical golden section of divine proportion generating twelve starred pentagons projected onto the surface on the entire sphere. The complete partitioning of circles was done by alternating 2 partitions of 22 degrees, and one of 16 degrees, all of which formed the unequal divisions of each of the ten circles; that is, [6 x 44] + [6 x 16] = 360 degrees.

DECLINATION OF A PLANET

Being descendents of the people of the seas, the Egyptians knew that spherical measurements, which are non-linear measurements, had to apply to their celestial calculations of the spherical surface. We know, from Herodotus and others, that very early on, going back at least 40 thousand years, before the pyramids were built, the people of the sea were able to navigate by angular measurements, and that the distances of the sea routes were given in spherical degree units, from a Zenith function. In fact, Astronavigaters were able to translate 60 nautical miles into one degree of a great circle.

The 10-circle sphere had another advantage. Angular triangulation, taken from the pole and from the zenith, was essential in order to determine the declination of a planet, and the Thales Theorem of proportionality provided that capability. Though the declination, [or right ascension], of a planet such as Venus or Mercury cannot be obtained by meridian observations, and the declination [or right ascension] of an outer planet, such as Mars, Jupiter, and Saturn, could only be established at night, another means of calculation was required. The people of the seas had devised a celestial triangulation, which was based and modeled on navigation; that is, they devised a triangulation of great circles intersecting coastal ports with the North Pole on the spherical surface of the seas. If a sailor was lost at see, he could easily discover his position by an angular triangulation of two stars. Today, such triangulation can be readily reconstituted from a list of latitudes and longitudes of ports that can be found at the end of any good Atlas.

DIVINE PROPORTIONALITY

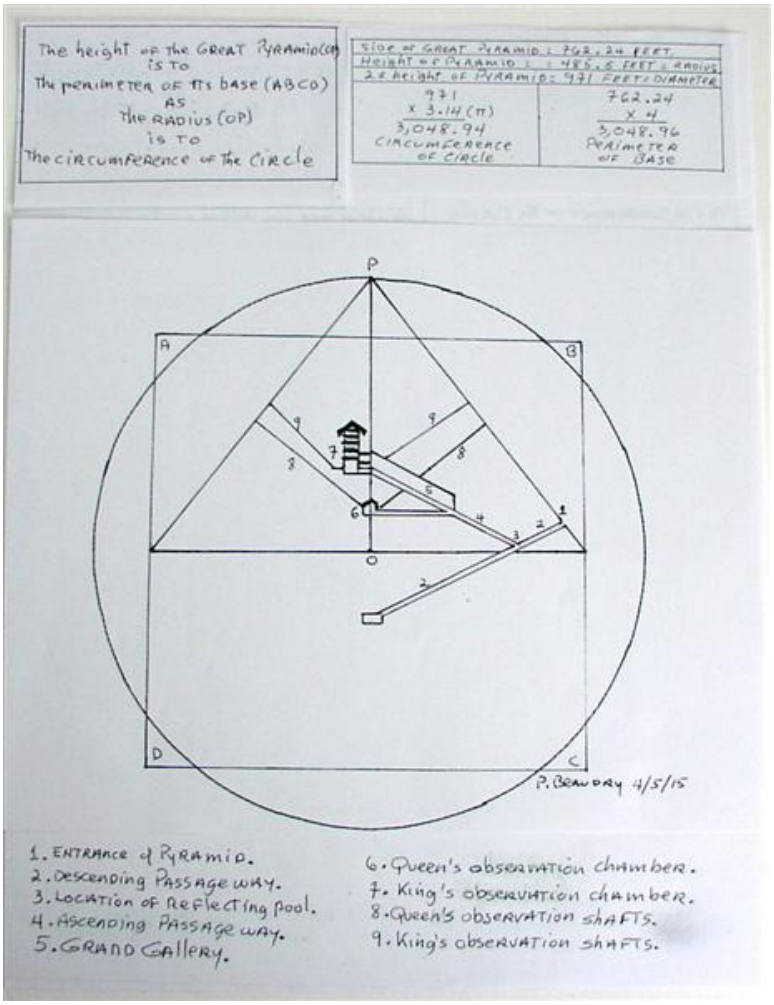
What the pyramid builders had discovered, in the process of constructing spherics, was not only the physical principle that would provide them with an instrument that established astronomical proportionality between God and man, but that such a {proportionality principle}, which should properly be called the {Imhotep principle}, after the architect-geometer of the first Egyptian pyramid of Sakkara, could only be expressed by means of angular measurements upon which both science and religion would be based. This represented the ancient principle of balance and reciprocity, also known as the principle of Ma'at.

According to a report given to Herodotus by an Egyptian priest, in {The History, 2.124.}, Pharaoh Khufu, and his architect-geometer, had shut down the idol worshiping centers of Egypt altogether, banned the satanic practice of sacrifice, and eliminated slavery. In fact, Khufu's building of the Great Pyramid was accompanied with waging a real political revolution against the cult of the Magi. I will show, in a future pedagogical, that the pyramids were not built by slave labor, but by lever machines based on the princple of Ma'at, otherwise known as the {Shadoof principle}. The Pharaoh waged an all out war against the sophistry of the Satan worshiping cults that were thriving on a false difference between belief and knowledge. This evil was very similar to the Mithra cult practices that freemasons have perpetrated throughout history, and that the Martinist Synarchists are practicing today. However, the geometric evidence developed in the spherical pedagogy, which was necessary for the construction of the Great Pyramid, shows that a true belief in God and true creative human cognition could not be separated.

SQUARING THE CIRCLE

In the process of working out their sundry calculations, the Egyptian pyramid builders discovered that their spherical composition had received from God, a very special attribution. They were given the gift of seeing through a glass darkly, the ability to prove by shadow. The divine proportionality principle, which had been implanted into their minds, like a compass, had been also inscribed within the very architecture plan of the Great Pyramid apex angle, whose shadow was cast from the crucial division of this 10-circle sphere. The attribution of this incommensurable proportionality was understood as a paradox between non-linearity and linearity. The paradox was formulated in the following manner: {The height of the pyramid must be to the perimeter of its square base as a radius equal to the same height is to the circumference of its circle.} Historically speaking, this is how the principle of divine proportion was first established as the paradox of Squaring the Circle. From that historical moment, no less than 50 centuries ago, this paradox of the Great Pyramid became the most important gift of cognitive discovery in all of human civilization, and became known as the cognitive function of shadow projection onto the irregular and dimly lit wall of Plato's Cave. [Figure 3. Squaring the Circle]

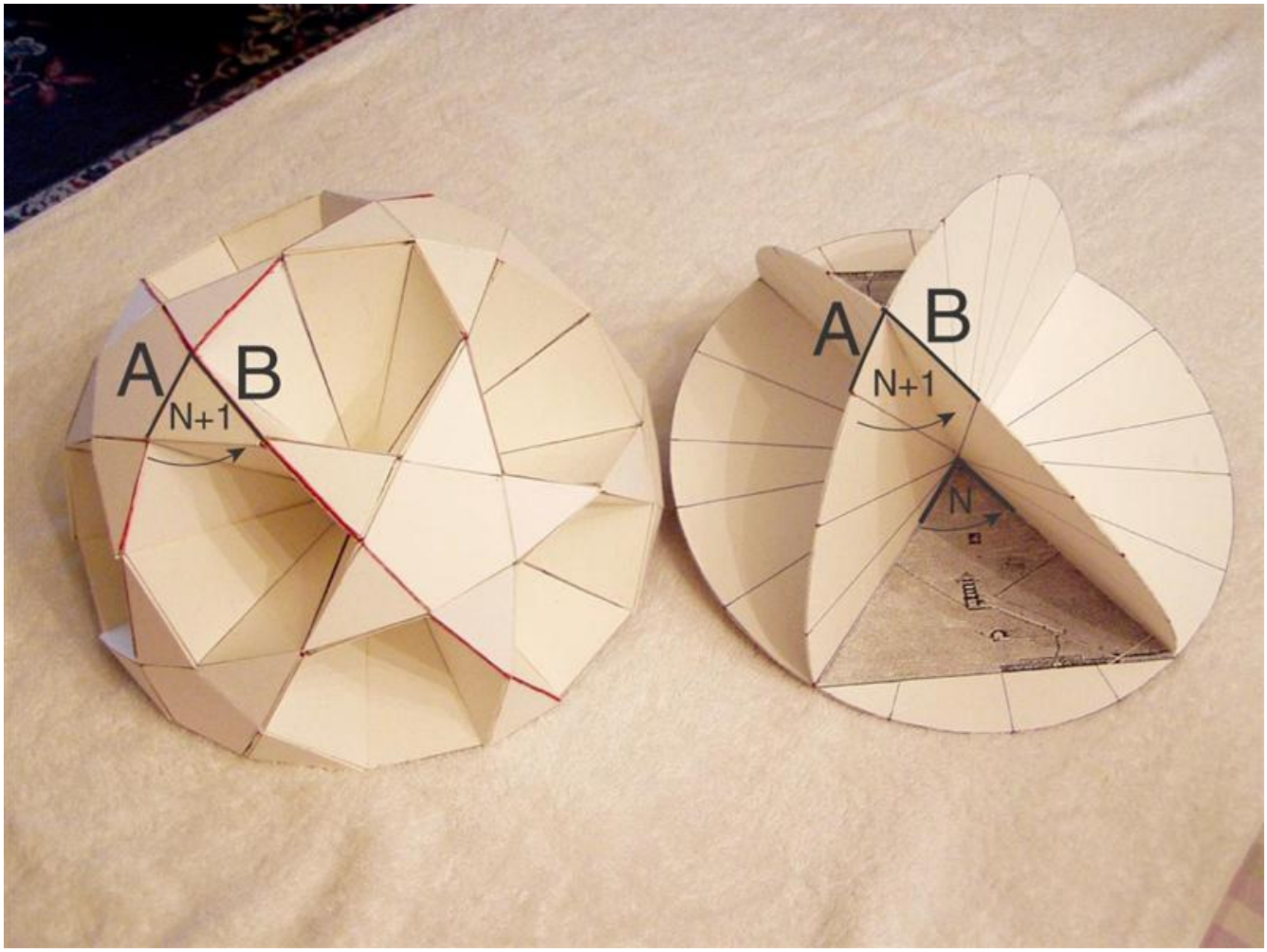
Figure 3



THE PROOF BY SHADOW

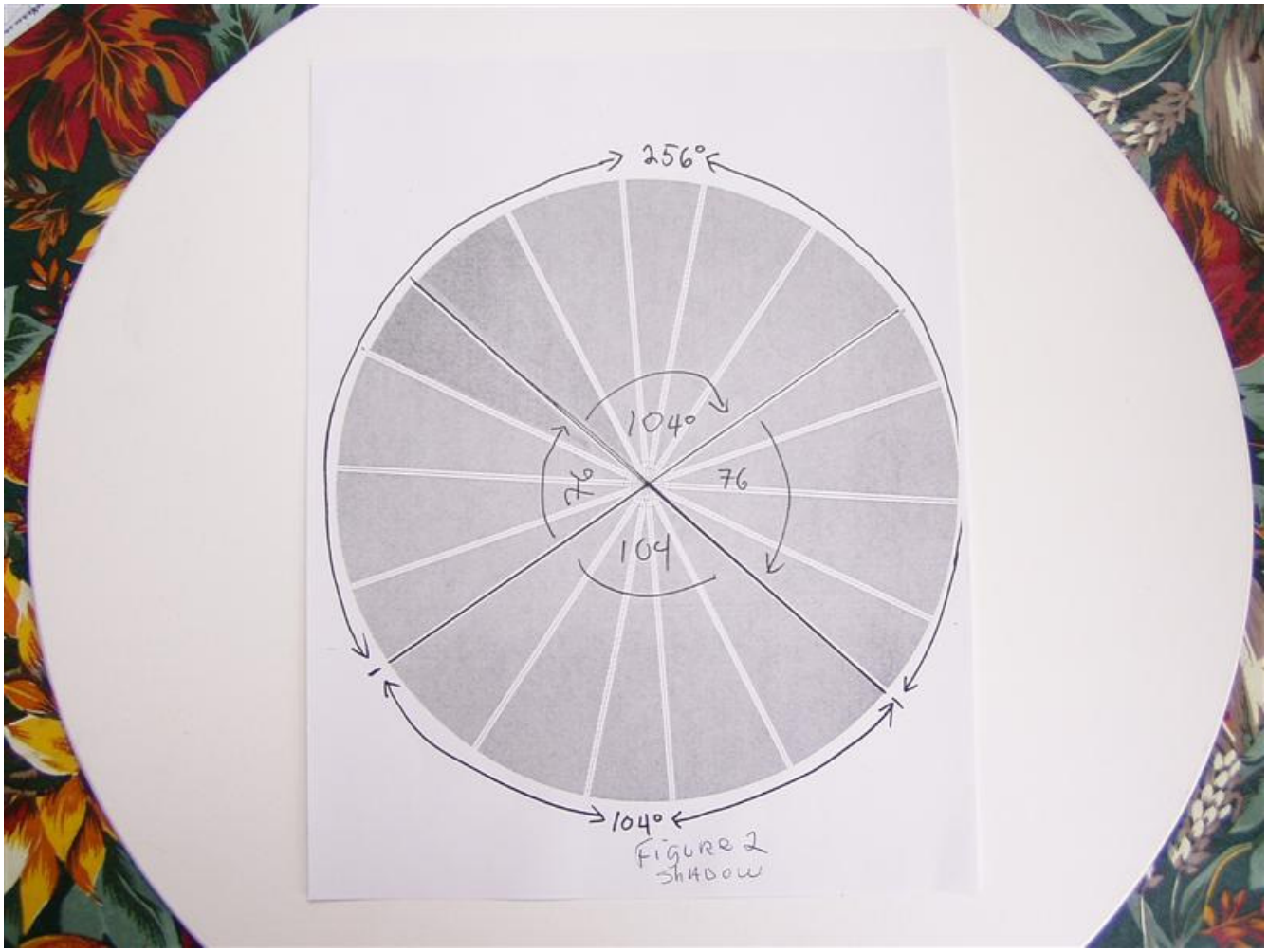
The shadow of the Great Pyramid's apex, N, established at 76 degrees, comes from the angle of projection onto the plane, which cuts through the sphere at the equator. This is what Figure 4 shows with the projection of angle N + 1 between side A of the spherical pentagon and the side B of the star extention. In other words, if you were to project a light source from outside of the ten-circle sphere onto the curved edges of one of its spherical starred-pentagons, the shadow angle formed by the side of the pentagon and and its starred extension would project, onto the center plane of the sphere, not a curved angle, but the apex angle of the Great Pyramid at 76 degrees, a change of manifold, from N to N + 1. Thus, the principle of proportionality bridges the incommensurable gap between the sphere and the polyhedron, between God and man, as through a glass darkly.

Figure 4



From that elementary projection, the pyramid builders then established the meridian cross-section of the Great Pyramid with the angular apex measurement of 76 degrees, and located it at 30 degrees latitude north, in Egypt. The meridian great circle of the sphere was divided into four angular segments forming two Great Pyramid apex angles of 76 degrees each, and two neighboring-angles of 104 degrees each. The apex angle of 76 degrees and the pyramid base angle of 52 degrees, which is half of 104 degrees, show that the cross-section of the great Pyramid is rotated all around the circle. The multiple mapping of this cross-section onto the circle is for the purpose of pedagogical illustration only. [Figure 5. The Great Pyramid partitioning of the Great Circle.]

Figure 5



So, by fitting three great circles together into angles of 76 and 104 degrees, that is, a base equatorial circle and two other great circles of similar divisions, each of the ten circles will reflect the cross-section of the Great Pyramid, throughout its angular measurements. The different illustrations of Figure 5 should be used as a guide for the reader to construct his own Twelve-Star Egyptian Sphere and polyhedron. Thus, by partitioning the circles into all of the marked angles, which must all be drawn with great care and precision on both sides of each circle, the surface angles of the starred pentagons are set into position, and the entire 10-circle sphere can be constructed into a twelve-star spherical matrix, a Platonic Solid Planisphere. [Figure 6. Four different views of the Twelve Star Egyptian Sphere and Twelve Star Egyptian Polyhedron.] It is recommended to construct half of a sphere at a time.

Figure 6a

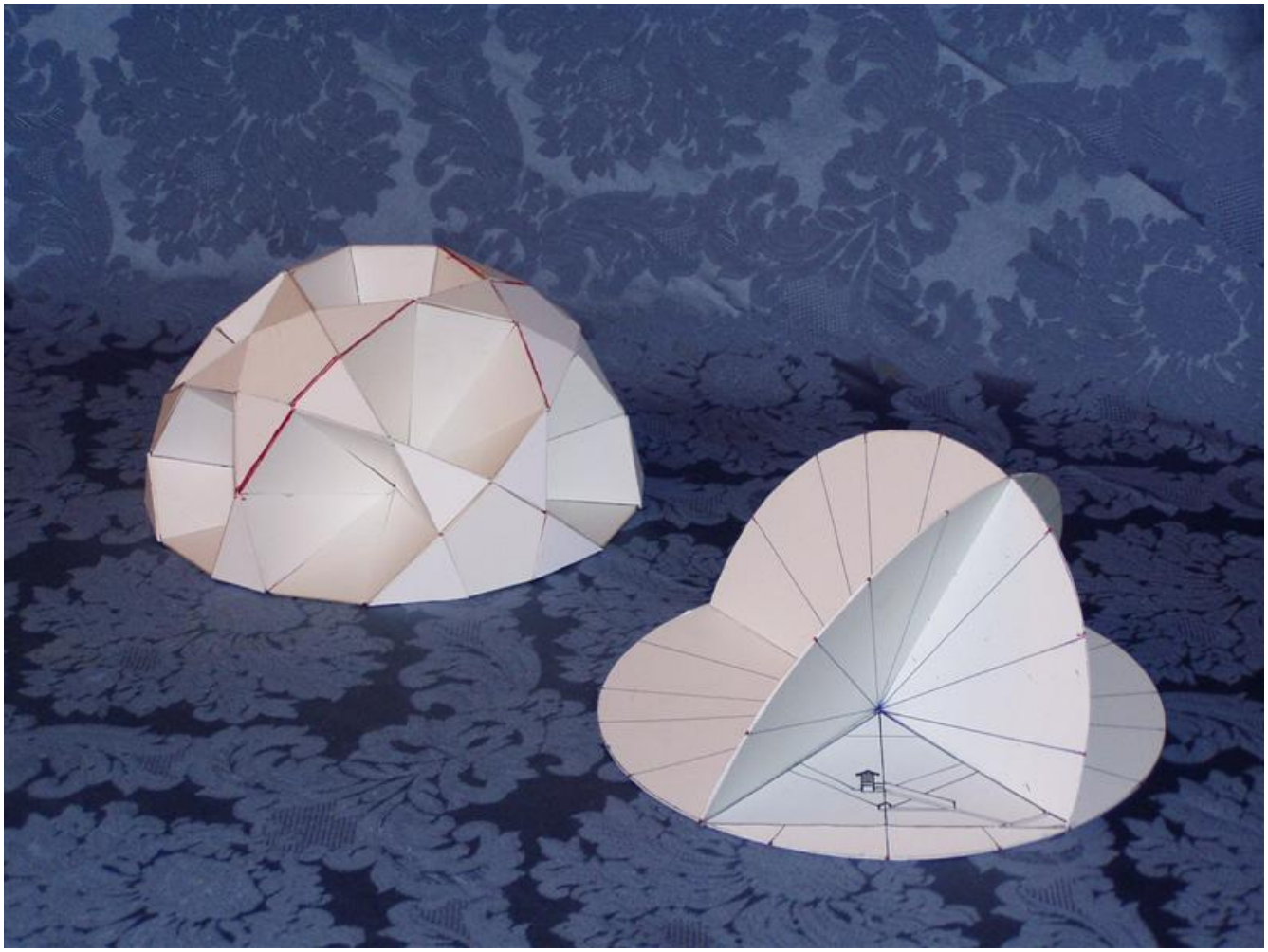


Figure 6b

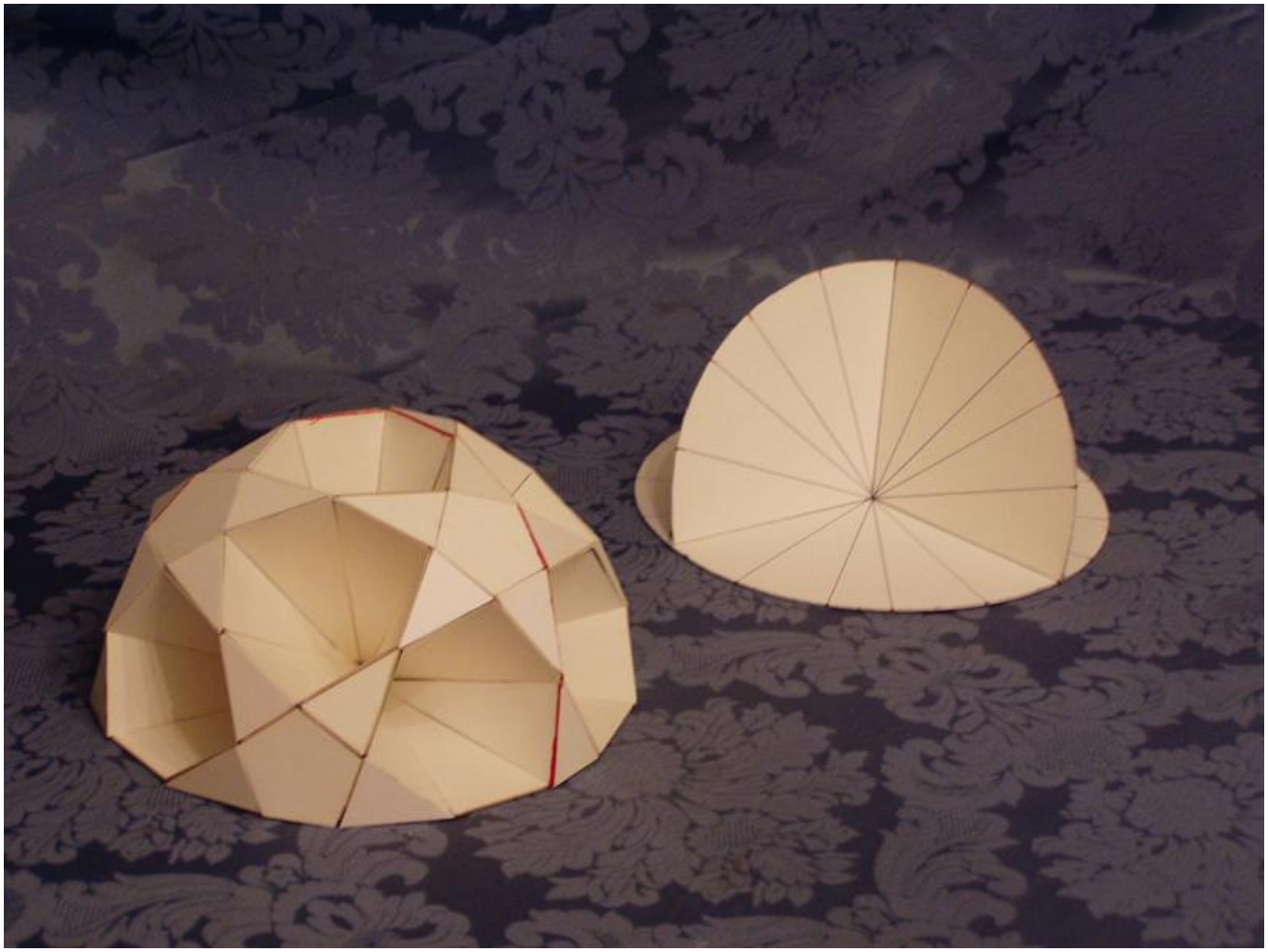


Figure 6c

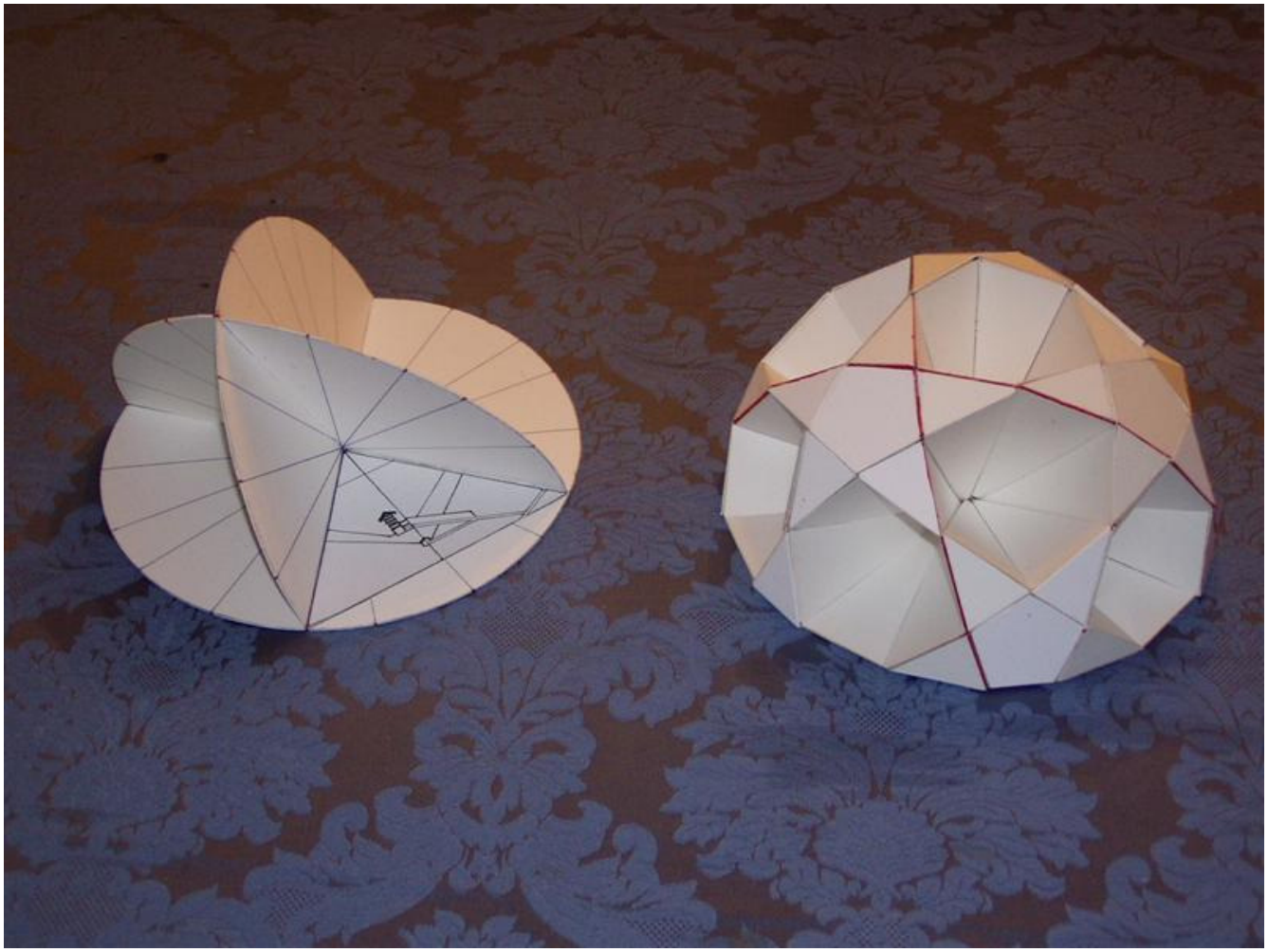
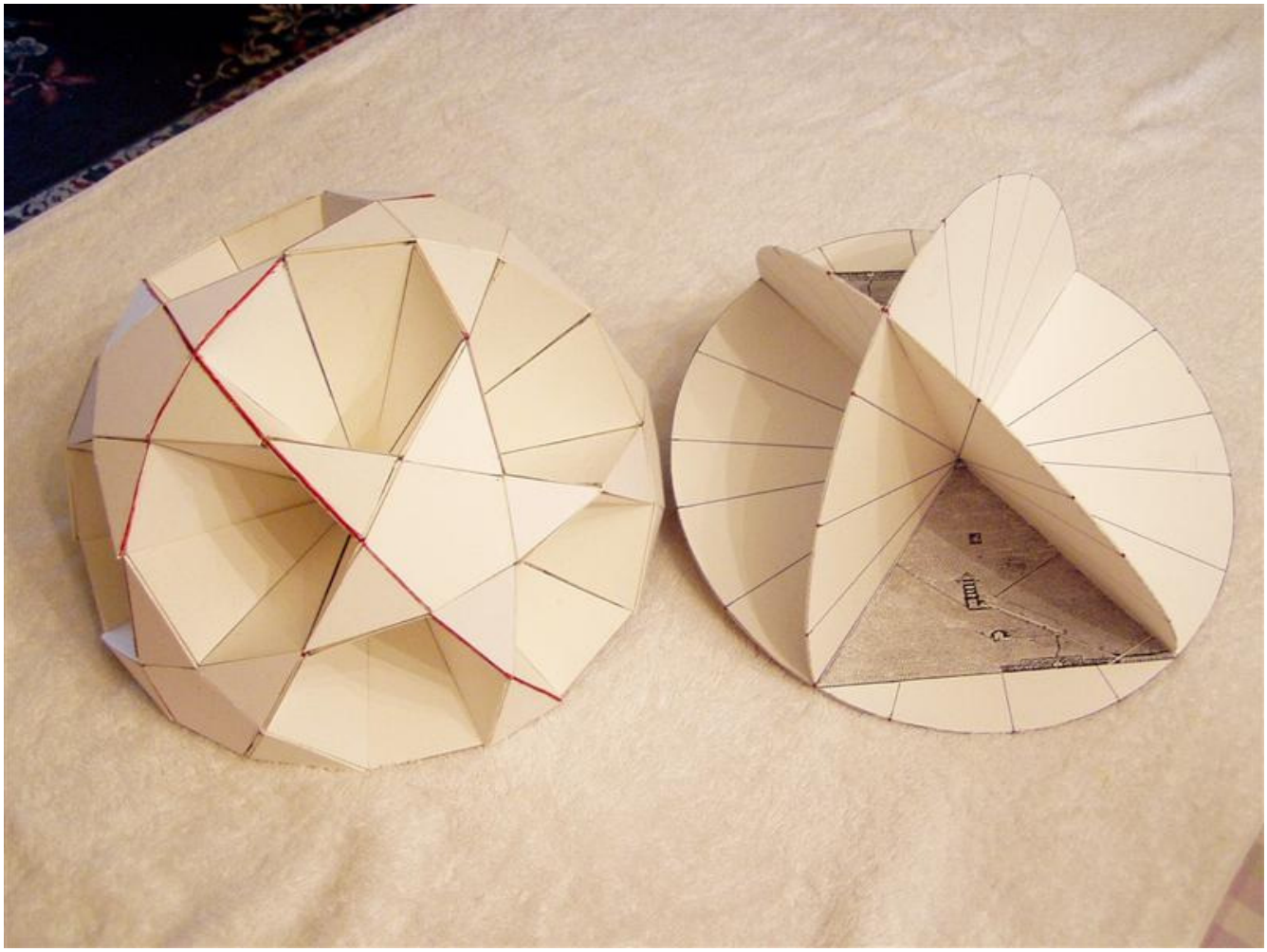


Figure 6d

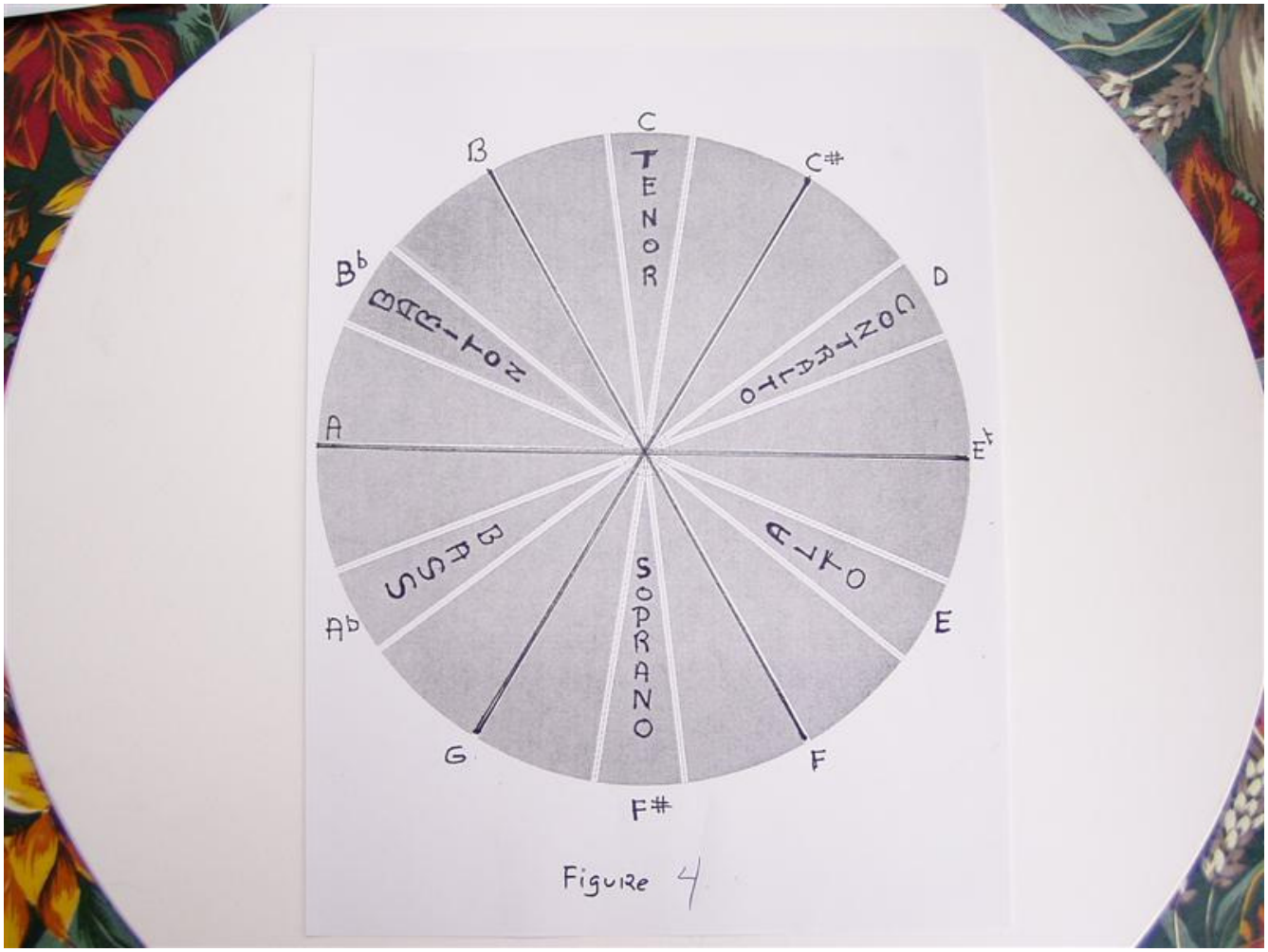


THE BIRTH OF THE PLATONIC SOLIDS

Since the partitioning of a 4-circle sphere into six equal parts is known to generate the Cube, the Octahedron, and the Tetrahedron, the characteristic shape of the Cuboctasphere can be traced on the surface of that 10-circle Egyptian Sphere. However, the Dodecahedron and the Icosahedron, which are generated by the partitioning of a 6-circle sphere into 10 equal parts, are nowhere to be found in the Egyptian Sphere. But, if the 6-circle sphere is added to the 10-circle sphere, the two last Platonic Solids can be integrated. When a set of six great circles partitioning each other into ten equal parts is inserted within the angles of the hexagonal intervals of the twelve stars of the 10-circle sphere, then, the new sphere has a total of sixteen great circles, and generates, simultaneously, the Great Pyramid, the Twelve-Star Egyptian Sphere, the Twelve Star Egyptian Solid, the Cuboctasphere, and the Icosidodecasphere, all integrated into a single sphere. Lucas Pacioli and Leonardo Da Vinci demonstrated that the golden section was a projection of the spherical hexagon and decagon onto the plane. Thus, the spherical mixture of ten-sidedness and of six-sidedness reflected the spherical origin of the golden section in Ancient Egypt.

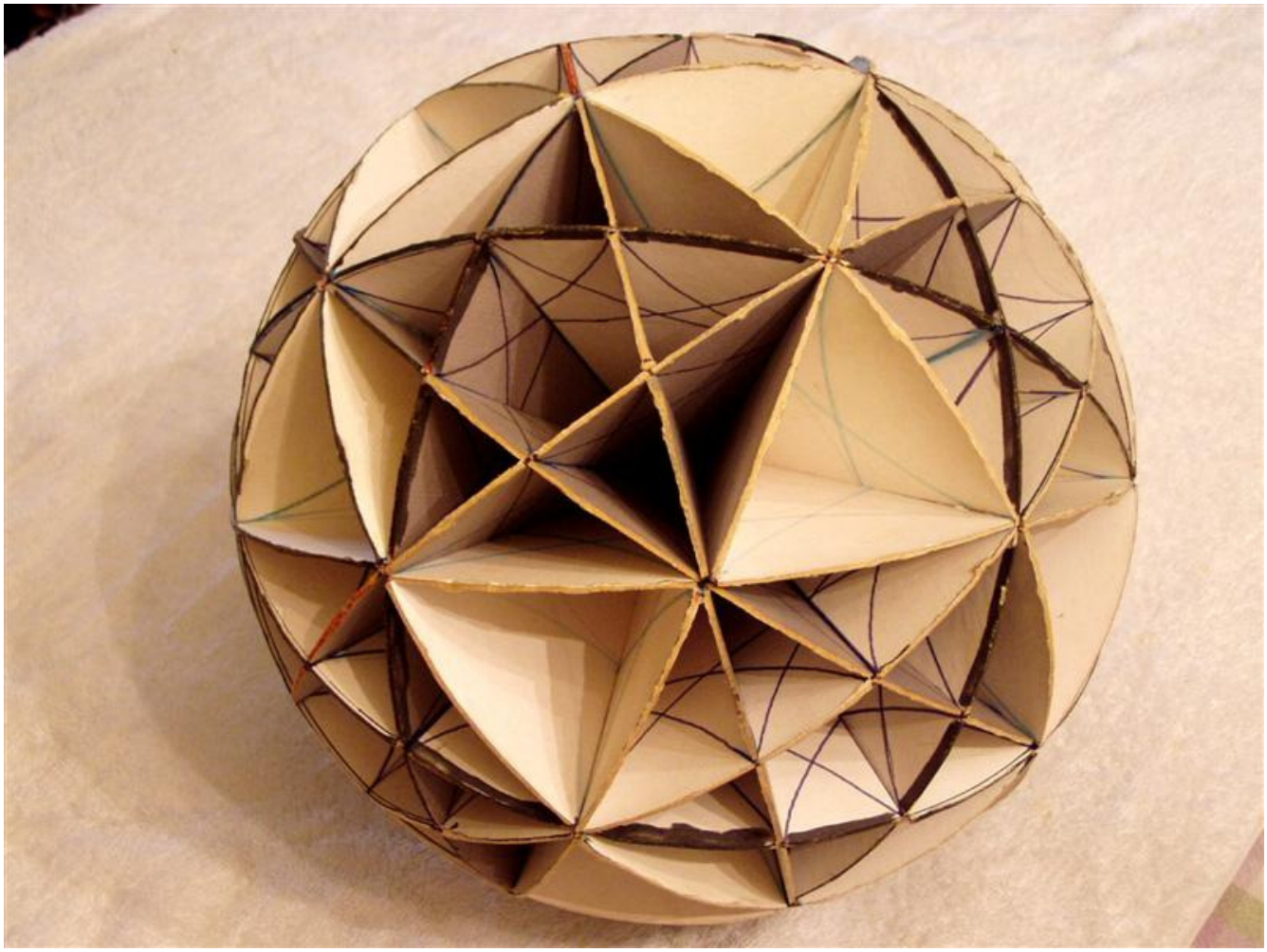
This integral 16-circle sphere also pertains to the musical system based on C-256. Since the solar system itself was based on the same natural tuning system, as Kepler demonstrated from his own reference to the spherics of Pythagoras, it was only fitting that the Egyptians, who were the teachers of the Greeks, incorporated the same idea of the harmony of the spheres, within the construction of the Great Pyramid. It is not difficult to imagine that the astronomical data, which had been gathered from the Meridian Great Gallery of the Great Pyramid, 5,000 years ago, could easily have been monitored with a chiming water-clock device that corresponded to the twelve-tone series of our musical system, since this Egyptian Integral Chora Sphere, in fact, can be shown to be geometrically apportioned in accordance with the passing tones of the six human voices. [Figure 7. Division of the great circle according to the six human voice register shifts.]

Figure 7



[Figure 8. The 16-circle Integral Chora Sphere.]

Figure 8



PERPLEXITY OF THE RIEMANNIAN PHASE SPACE

All in all, this is very perplexing. But, what was most perplexing of all, in this whole process of discovery, was the fact that the solution to the paradox of the Great Pyramid could not be found inside of the pyramid itself. The irony is that it could only be discovered in the angular measurements of the sphere, that is, from the Riemannian domain. This is like the principle of the non-living, which can only be discovered from the higher manifold of the living. Similarly, when you look for the source of this paradox, inside of the sphere, you discover the shadows of the regular solids, and when you attempt to explain the presence of those Platonic Solids, in that ambiguous shadow form, you discover that their appearance can only be explained from the principle that produced the Great Pyramid, which is what established the paradox in the first place. In other words, the very unfolding elaboration of the ten-circle sphere makes it impossible for the Egyptians not to have known, and built, the five regular solids, because that sphere was their birth receptacle, their generative phase space, that Plato called {Chora}. And, without that sphere, the Great Pyramid itself could not have been built at all. Thus, the perplexity dissipates when this paradox is resolved, not before. This means that the Great Pyramid of Egypt, and the Five Platonic Solids, are all historically bounded together and can never be separated from their common generative principle, which resides outside of them; and, the cement that bonds them together is the paradox of Squaring the Circle. That should make everyone laugh and be happy.

THROUGH A GLASS DARKLY

This proves, within the shadow of a doubt, that the Egyptian builders of the Great Pyramid were the first geometer-astronomers to have conceived and constructed, by angular measurements alone, the Five Platonic Solids, and in this capacity, have served as midwives to the Greeks in matters of pedagogy and science. Thus, the Great pyramid of Gizeh has projected, during more than 50 centuries of history, its universal shadow over Greek civilization, and over all human beings, past, present, and future. Could there be any greater gift to mankind than to reproduce this discovery, as if through a glass darkly? This is your heritage. Are you going to pass it on to the next generations?