Earth/matriX
SCIENCE IN ANCIENT ARTWORK

# The Bi-Gravitational Solar System: Center-Point and Barycenter

Charles William Johnson

## ***The Barycenter of the Sun-Jupiter Solar System***

Scientists today affirm that the barycenter of the Sun-Jupiter solar system is said to be **1.068 solar radii.** I wrote an essay entitled, *"The Great Pyramid's Hidden Constant"*. In that essay, I found a dimensionless number **1068.849849** pertaining to the diagonal line of the Great Pyramid if its side measurement is 755.7909764 feet.

The radius of the Sun is given to be approximately in rounded-off figures 696000 kilometers or 432000 miles.

696000 times 1.068 = **743328** kilometers is where the barycenter of the Sun:Jupiter solar system lies away from the center of the Sun. If we employ the figures given today, which are said to be exact (by NIST), for the speed of light in kilometers and then miles, the following obtains.

299792.458 / 186282 = **1.60934743** a conversion factor between kilometers and miles

432000 x 1.60934743 = *695238.0899*

696000 / 1.60934743 = *432473.4281*

Either way, it is noticeable that the figures often given for the diameter/radius of the Sun in kilometers (696000) and miles (432000) do not correspond to one another exactly i.e., as of the conversion factor used in measurements for the speed of light. The barycenter for our solar system is given as 1.068, the point of gravity of *our* solar system. For some other solar system the proportion of 1.068 would change however, as in all likelihood it would be arranged distinctly.

## ***The Solar Radii in the Great Pyramid of Giza: 1.068849849***

The diagonal line of the Great Pyramid of Giza is 1068.849849 feet, which may reflect a fractal number for the exact proportion of the barycenter for our solar system. This would mean that the Great Pyramid might have been constructed with the purpose of registering the barycenter proportion of the solar system. Given the fact that the ancient Egyptians were said to have worshipped the Sun, such an idea may not seem unlikely. The problem consists of knowing how the ancients knew such a datum.

*The official figure of measurement for the sides of the Great Pyramid of Giza is cited at 755.79 feet, although each of the four sides shows a slight variation from one another.*

## ***The Square Root of Two and the Side Measurement of the Great Pyramid: 755.7909764***

The theoretical manner in which to develop these measurements concerns the square root of 2 and the natural relationships of a square.

1068.849849 / **square root of 2** = 755.7909764 rounded off

These figures for the measurements of a square would correspond to here on Earth or on any other planetary body throughout the Universe. These numbers are constant and dimensionless. However, they do reflect the dimensions of the Great Pyramid.

The significant manner to know that the ancient Kemi employed these figures in the design of the Great Pyramid comes from the next step in the operation.

The square root of 2 equals: 1.414213562. Now, divide this number by two:

1.414213562 / 2 = **.707106781**

Or, look at this from another angle, the reciprocal of two:

1 / 1.414213562 = **.707106781**

Imagine that, two math procedures with the same result. Other numbers offer fractal expressions, as in the square root of ten, with a non-correspondence between the two results:

3.16227766 / 2 = **1.58113883**

1 / 3.16227766 = **.316227766**

Yet, the square root of ten is significant because of the second fractal procedure equivalency ( 3.1622776 : .316227766).

***That aside, while you are reading these computations, keep in mind that the*** 1.068 proportion ***exists in the specific case of matter-energy as a proportion of the center of gravity for our Sun-Jupiter solar system, as 1.068 solar radii.***

## ***The Height of the Great Pyramid: 481.5 and/or 481.42857142***

Now, do the improbable and the unthinkable, subtract the **fractal** value (707.106781 and not .707106781) of the reciprocal of the square root of two from the side measurement of the great pyramid:

755.7909764 minus 707.106781 fractal = **48.6841954**

If we employ the 1.068 figure offered by today's scientists, the following obtains:

1.068 / square root of 2 = **.755190042**

fractal 755.190042 minus 707.106781 fractal = **480.83261**

These figures immediately call to mind the **height** of the Great Pyramid, which is often cited as theoretically having been **481.5** feet to the top of the Great Pyramid. The top of the pyramid no longer exists and only a projection can be offered. No one knows exactly how high the original pyramid actually stood. If we reverse engineer the math, the following measurement for the side of the Great Pyramid obtains:

707.106781 + 48.15 = **755.256781** adjusted side measurement

further, 755.256781 times the square root of 2 = 1068.094383

The gravity constant is often given as 6.67529, but more recently has been determined to be around 6.6742. Now, consider halving the 1.068 constant:

1.068 / 2 = .534, .267, .1335, .06675

1.068849849 / 2 = .534424924 halves down to .066803115

1.068094383 / 2 = .534047191 halves down to .066755898

Adjustments may be made to approximate the gravity constant. Or, simply reverse engineer the number:

6.6742 doubles to 13.3484, 26.6968, 53.3936, **106.7872**

106.7872 / square root of 2 = **75.50995326**, and so on.

Now, what is the reciprocal of 1.068?

1 / 1.068 = **.936**329588

1 / 1.06809468485 = .**936**2468485

That suggests an historically significant number of the Maya. The Maya long period is 1872000 days. Half that is 936000; if we employ the Maya

long-count period fractal number (936) to derive the solar radii, the following obtains:

1 / 936 = **1.068376068**

1.068376068 / square root of 2 = **755.4559628** *an adjusted* side measurement for the Great Pyramid.

## ***The Angle of Inclination of the Great Pyramid***

The angle of inclination of the Great Pyramid is generally cited to be **51.5 degrees**, although again, there is doubt in this regard as well, as the casing covering of the Great Pyramid's walls has been destroyed. The exact measurement has been rendered practically impossible. Yet, theoretically, again it may be feasible to project the measurement of the height of the Great Pyramid based upon the solar radii value.

One must simply take the height of the Great Pyramid and multiply it by the solar radii number, now to be taken in its fractal expression, **.1068**:

481.5 times .1068 fractal = **51.4242** **[360 / 7 = 51.42857142]**

51.42857142 / .1068 = 481.540931

Once again, adjustments may be made accordingly:
481.5 x .1068849849 = 51.46512023

## ***The Procedure in Summary to Compute the Measurements of the Grea Pyramid of Giza Based on the Barycenter of the Solar System: 1.068 Solar Radii***

**The solar radii 1.068 divided by the square root of 2 equals the side measurement of the Great Pyramid:**

1.068 / √2 = **.755190042** **[755.79 feet side measurement]**

**The side measurement of the Great Pyramid minus the fractal square root expression of the number 2 equals the height of the Great Pyramid:**

.755190042 - .707106781 = **.048083261** **[481.5 feet height]**

**The height of the Great Pyramid times the solar radii for the barycenter of the Sun-Jupiter solar system equals the angle of inclination of the Great Pyramid:**

.048083261 x 1.068 = **.051353923** **[51.5 degrees inclination]**

Undoubtedly, adjustments may be made for each of these figures in order to approximate the procedure in the Great Pyramid and its numbers, but this would require another essay. For now, I wish to emphasize the procedure behind the design of the Great Pyramid as of the barycenter of the Sun-Jupiter solar system and the constant **1.068 solar radii** figure.

The point to recognize is the variability of the barycenter. When each planet is considered in relation to the Sun, as of their mutual center of gravity (the corresponding barycenter), the theoretical value given for each is distinct and as follows:

***Barycenters for Each Planet in Relation to the Sun***

| *Planet* | *Barycenter in Solar Radii* |
|---|---|
| Mercury | 0.000 |
| Venus | 0.000 |
| Earth | 0.001 |
| Mars | 0.000 |
| **Jupiter** | **1.068** |
| Saturn | 0.586 |
| Uranus | 0.180 |
| Neptune | 0.335 |
| Pluto | 0.000 |

The maximum distance of the Sun to the barycenter is **2.169** solar radii, while the minimum distance is theoretically **0.033**, derived from the sum/subtraction of the previous data.

From the data commonly offered, one may understand the variability of the distance of the Sun from the other planets through the interplay of the

masses and gravity pull of the nine planets upon the Sun, and vice versa. Obviously, the numerical rendering of the barycenter is a purely theoretical exercise based upon the concept of a centerpoint of gravity between two objects with definite and commensurable mass. To illustrate the difficulty of the procedure of measurement, however, just imagine the interplay of the nine planets with their respective moons (meaning their masses and gravity forces) in a given moment in relation to the Sun (and to the mass and pull of the comets, and possibly asteroids), etc. The very concept of measuring or fixing in space a particular centerpoint between any two arbitrarily selected points (much less for all objects of mass with gravity force in the solar system) becomes mind-boggling to say the least.

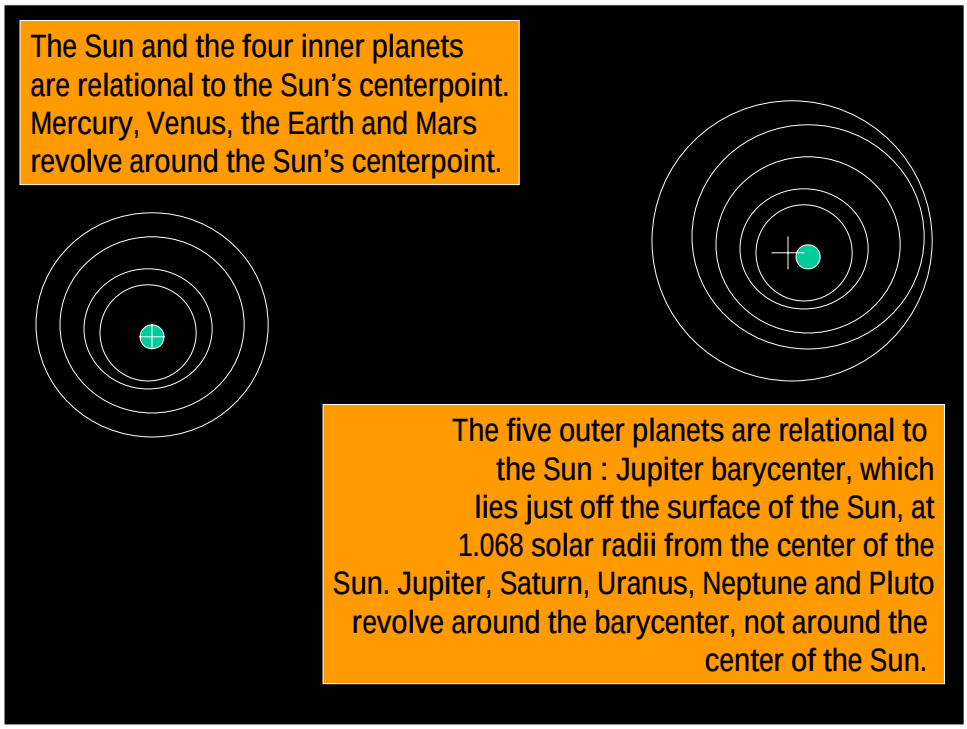
The concept, then, of the barycenter is entirely dynamic, as dynamic and difficult to imagine as the complete movement of the entire solar system (obviously, within the Universe, the gravitational tug-of-war of the solar system with the other bodies of mass in the galaxy and beyond).

So, naturally, when one speaks about the barycenter the realization must exist that we are speaking about a theoretical point in space, that nonetheless exists, yet possibly not to the degree of the numerical decimal places shown in the previous list.

In spite of the disclaimers to the practical aspects of the barycenter, if one considers the theoretical abstraction of the Sun moving around a particular point in space in its myriad movements with the planets within its system, it is interesting to note the possible significance of the computations offered by scientists today. This is the object of study in this essay. The solar system then appears to be divided into two main sets of planetary bodies, each revolving around a distinct centerpoint. The four inner planets (Mercury, Venus, Earth, Mars) revolve around the centerpoint of the Sun. Yet, each planet theoretically enjoys a barycenter relationship with the Sun were it possible to isolate each of the four pairs of massive bodies: Sun:Mercury (.000); Sun:Venus (.000); Sun:Earth (.001); and, Sun:Mars (.000).

The second group of planets concerns the five outer planets, whose barycenter measurements are more readily achieved theoretically. Again, each planet enjoys a barycenter relationship with the Sun were it possible to isolate each of the five pairs of massive bodies: Sun:Jupiter (1.068);

Sun:Saturn (.586); Sun:Uranus (.180); Sun:Neptune (.335); and, Sun:Pluto (.000). *[**Note**: my drawings are not to scale, but simply suggestive.]*




Obviously, any of the numerical expressions for a corresponding barycenter are entirely theoretically abstracted, as it is impossible, practically speaking, to isolate any two massive bodies in the solar system, as they all exist in unison with one another. The isolation then is purely theoretical, and the theoretically posited numerical expression is a still-shot of two moving bodies of mass which do not reflect that numerical expression for all coordinate points between themselves. The numerical expressions, then, may be taken as an average or mean expression. The fact that the orbits of these bodies are ellipses and in fact travel along spiraling lines, not actual revolutions, accounts for the varying numerical expression at every eventpoint of the measurement between two bodies. A measurement among three or more bodies becomes even more variable, nearly impossible to express by a fixed number.

Still, no matter how desperate the theoretical situation of measurement may appear once the various movements of the different planetary bodies and the Sun are taken into consideration, something may be said for the fact that the Sun:Jupiter barycenter yields the number of **1.068** solar radii. Given the fact that the size of Jupiter is visibly determinant in its relationship to the

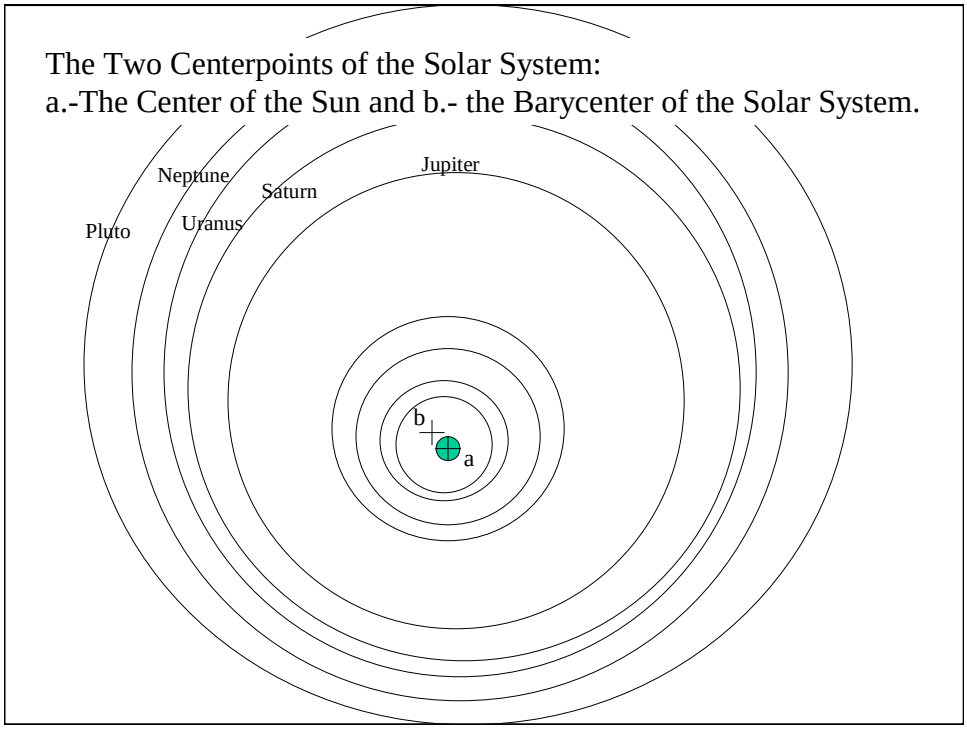
Sun, one may emphasize the barycenter expression between the Sun and the planet Jupiter. This becomes visible in the numerical expressions offered for the extreme expressions of the moment at which the Sun is most distant from the barycenter and the closest to the barycenter of the solar system as defined by scientists today.

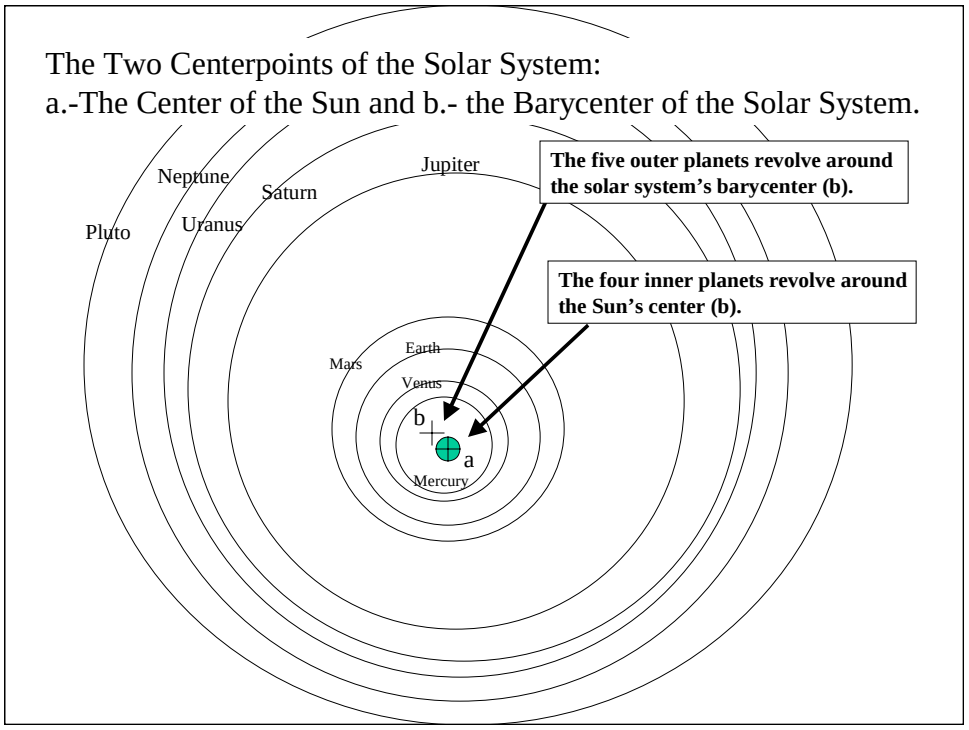
The two extreme measurements involve the numerical expressions for the barycenter of **2.169** solar radii and **0.033** solar radii, for the farthest and closest distance of the Sun respectively to the barycenter of the solar system. The determinant aspect of the planet Jupiter can be observed in the numbers:

2.169 – 0.033 = **2.136**
2.136 / 2 = **1.068**

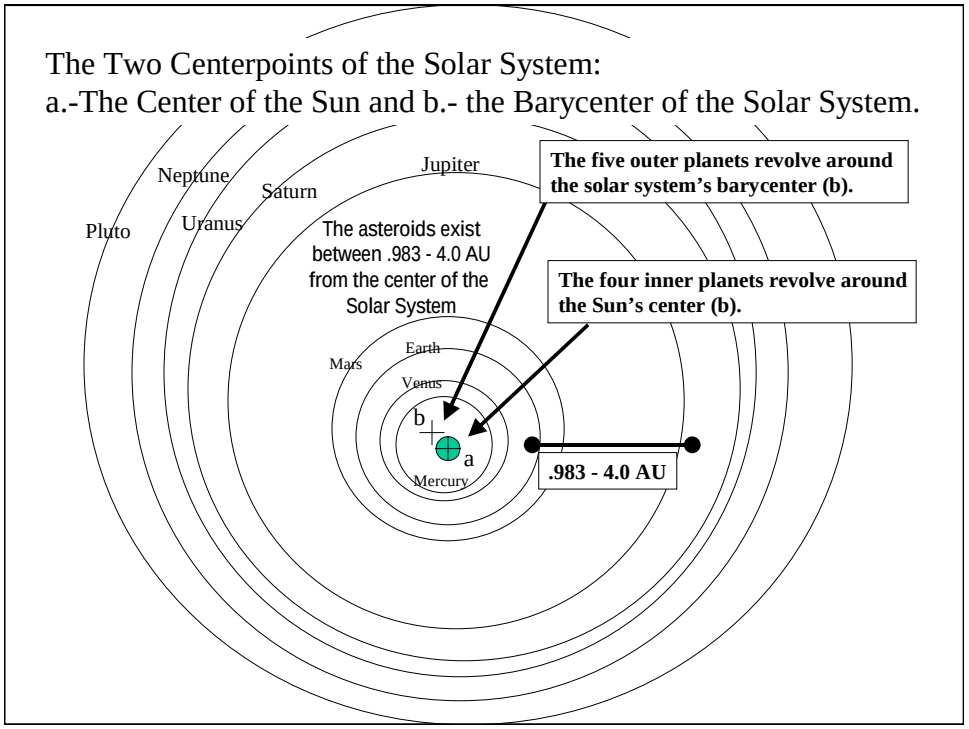
The extreme distance between the computed barycenters is precisely that of twice the Sun:Jupiter barycenter.

The two sets of movements entail the four inner planets moving around the centerpoint of the Sun. While, the five outer planets revolve around the barycenter of the solar system.

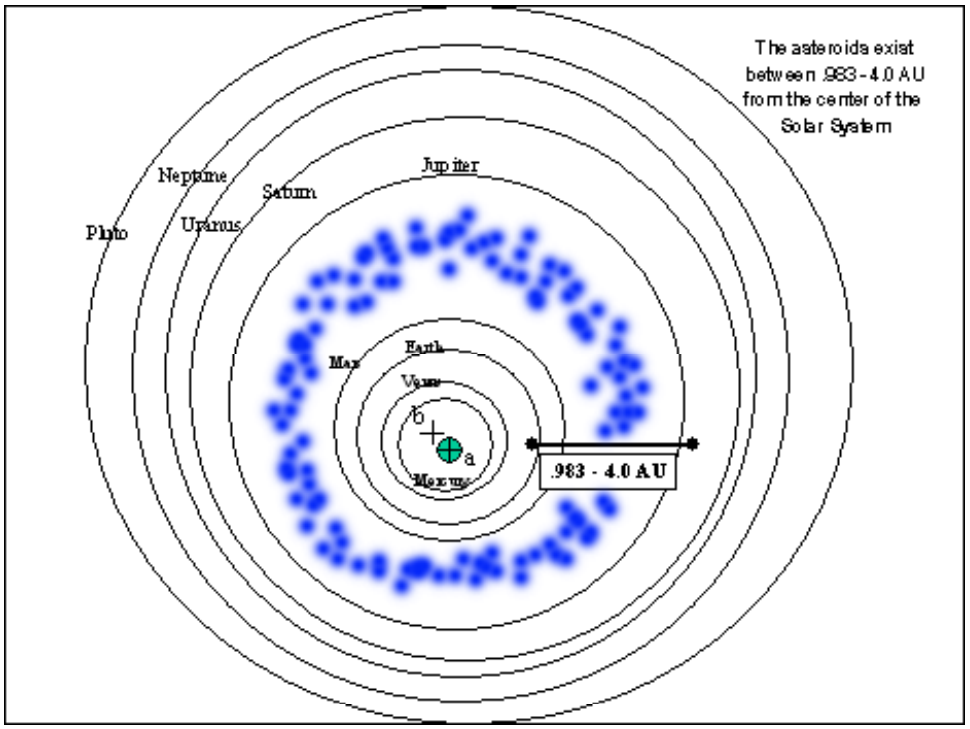





In between these two groups with their respective movements, there are thousands upon thousands of **minor planets**, within the space between the two major groups of planets. These are the asteroids; the asteroid belt is divided into different sub-groups. Here, I consider them as a singular event.



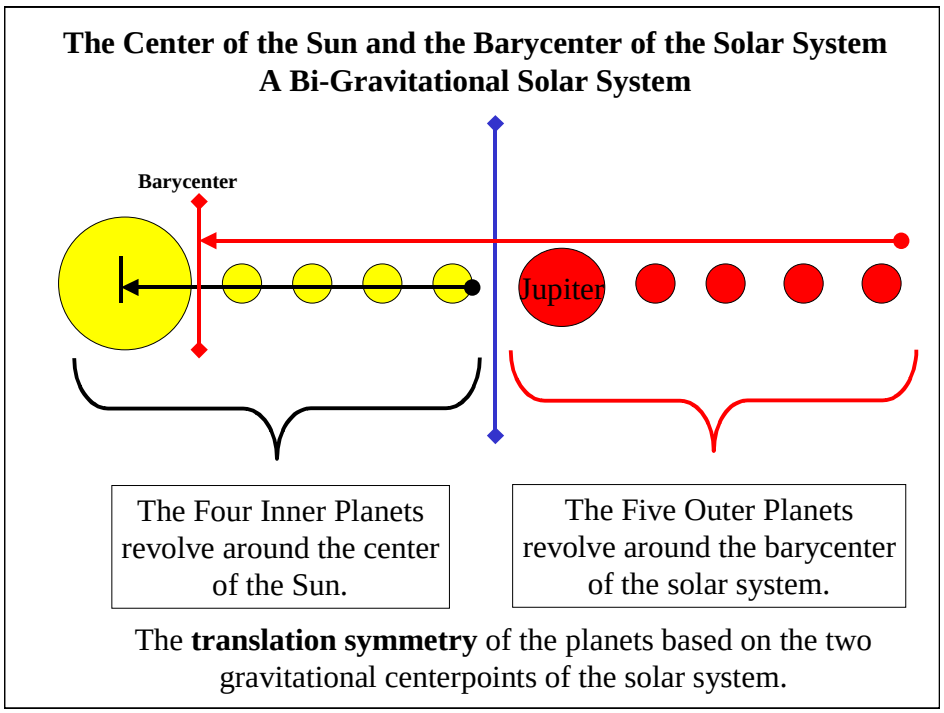
The two groups of major planets (5:4 ratio) could possibly be conceived of as creating an area of no-man's-land, where the asteroids are held in check within the space between them. Some might think of this area as having been unstable at the beginning of the existence of the solar system, forming a pressure area where a tenth planet may have existed and was torn apart by the gravitational tug-of-war between the two sets of planets. Conceptually, that is an appealing idea, once the two different kinds of movement are recognized between the two groups. Yet, the existence of the asteroid belt and its sub-divisions offer some kind of balancing weight for the entire system, otherwise their existence would be superfluous and would have all jettisoned out into deep space. Consider this, the absence of the asteroid belts would surely change the composition of the solar system and hence affect the gravitational tug-of-war among the planets. Who knows what that would bring in terms of differential barycenters.

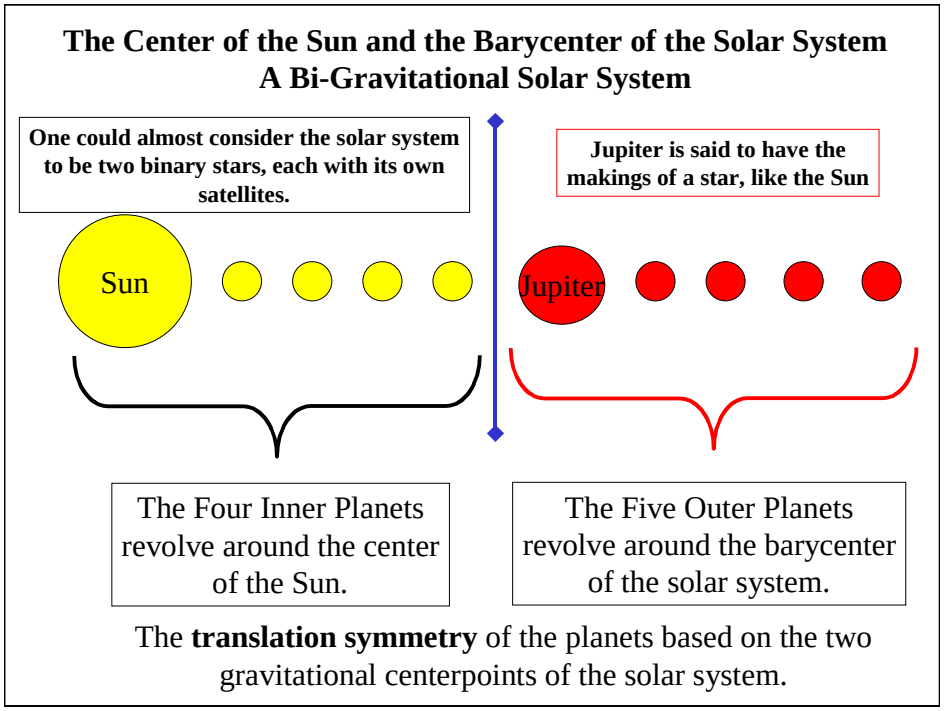



By visualizing the two sets of planets, the inner and outer planets, it is possible to conceive of different kinds of symmetrical views of the solar system, from distinct perspectives. The following slide reflects a view of the solar system, whereby one group of revolutionary movement is visualized as of the other. Since scientists consider the planet Jupiter to have star-like

characteristics the **translation symmetry** view is possible in the manner shown.

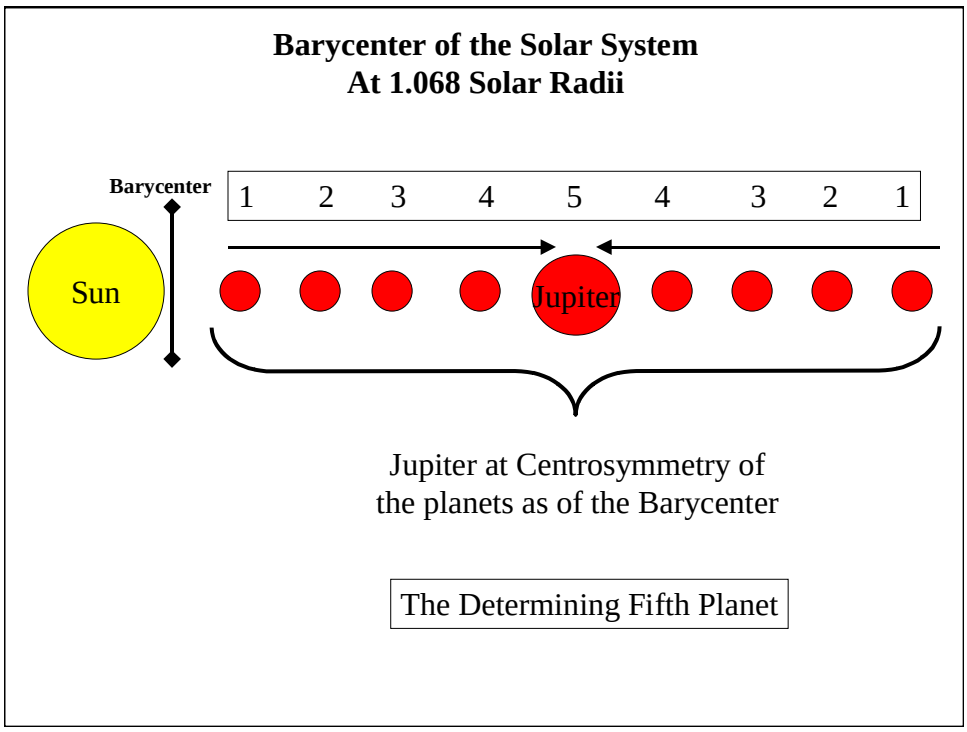
**Sun** : Mercury : Venus : Earth : Mars | **Jupiter** : Saturn : Uranus : Neptune : Pluto



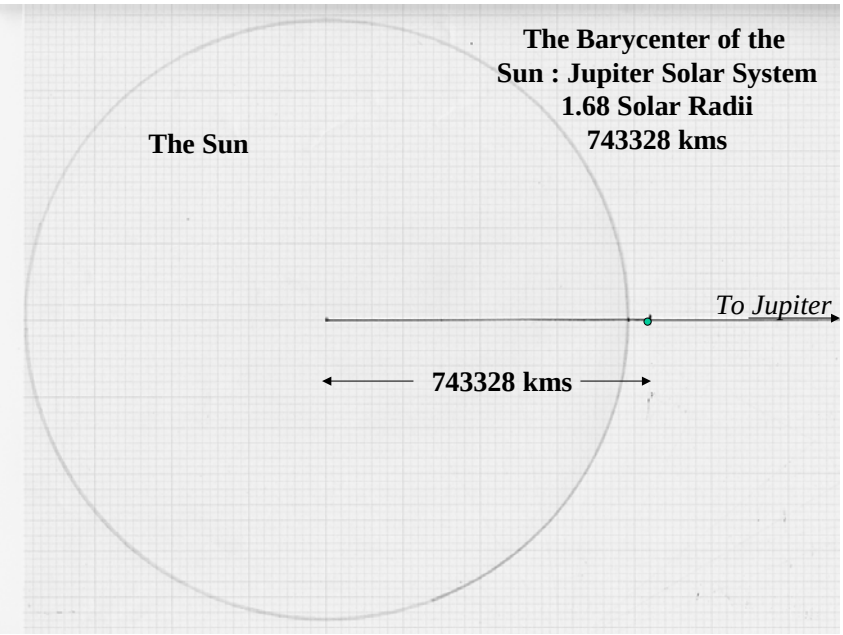



It is as though a solar system existed within a solar system, conceptually speaking of course. It were as though one could conceive of the Sun : Jupiter relationship as that of a binary star system, each star (big star, little star) with its own set of planetary bodies. On the other hand, a distinct conceptual view may be taken as of other considerations. If the characteristic of Jupiter being an incipient star is downplayed, then one would view the solar system as a **centro-symmetrical** system, as shown in the following illustration, with Jupiter at the center of all the planets.

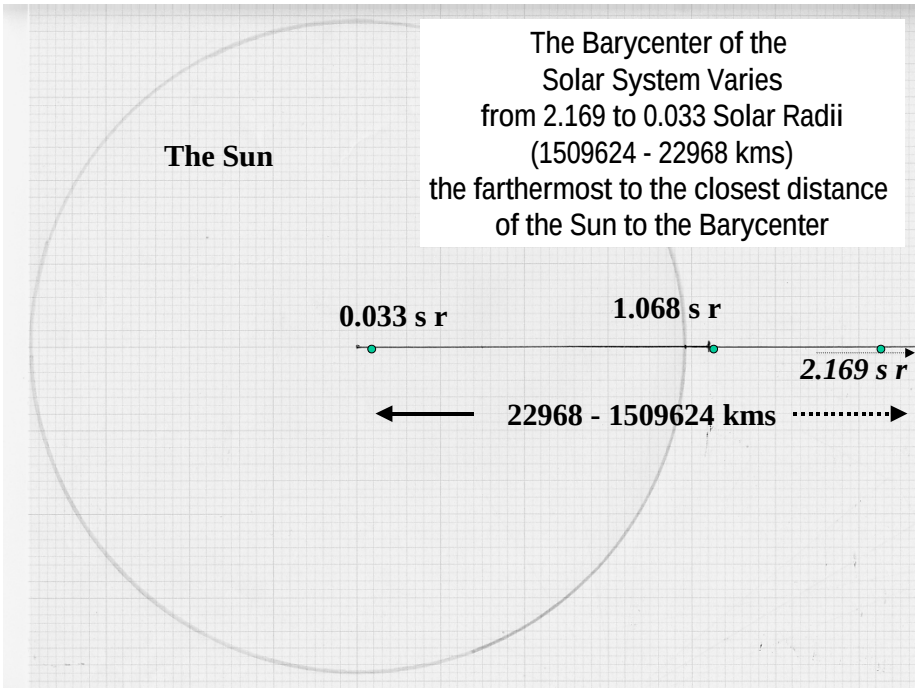
Sun | Mercury : Venus : Earth : Mars : **Jupiter** : Saturn : Uranus : Neptune : Pluto |




As mentioned earlier, the Sun : Jupiter solar system reflects a barycenter of **1.068** solar radii by the computations of today's scientists. The 1.068 measurement of 696000 kilometers is thus 743328 kilometers distance from the center of the Sun to the barycenter of the solar system. The next illustration conceptualizes a still-shot of what the relationship may look like in a scalar view. Obviously the barycenter at this measurement is very near the surface of the Sun, explained by the Sun's enormous mass weighed against the mass of Jupiter.

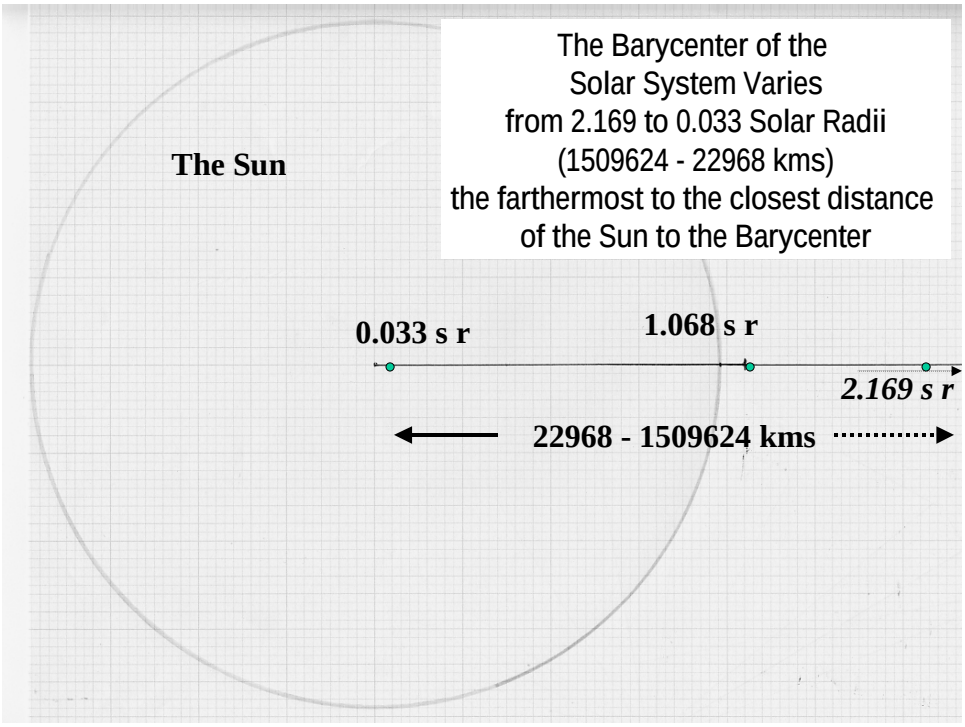



The variation of the distance of the Sun to the barycenter runs from .033 solar radii to 2.169 solar radii, when one considers the entire solar system of nine planets, and not just the Sun : Jupiter. Now, even though the **2.169** number and the **.033** number appear to be unrelated to the **1.068** solar radii for the barycenter of the solar system, they in fact are. Consider, 2.169 minus .033 equals **2.136.** Ergo: **2.136 / 2 = 1.068.** The difference 2.136 is precisely double the 1.068 constant.



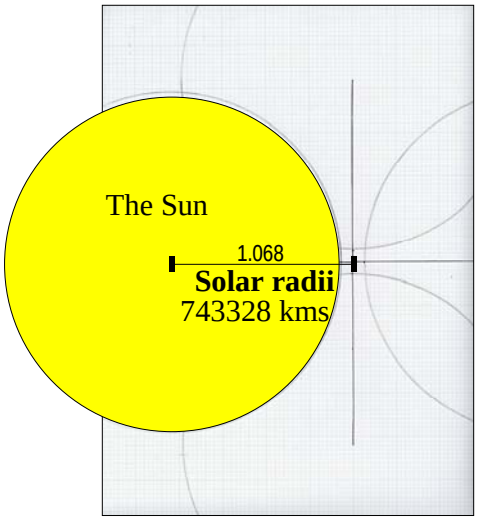
So, whether one considers the barycenter of the Sun : Jupiter system or that of the entire solar system, the 1.068 constant number makes its appearance, alone or as a multiple of itself.

If we consider the space around which the Sun revolves on its variable orbital path, the significant numerical expression appears to be that of **1.36**. I have been emphasizing this particular number as significant for the existence of matter-energy as we know it on Earth. In fact, I have written essays entitled ***"The Earth's Matrix: 1.36"***, as well as a manuscript on the thermodynamic temperature scale that illustrates the significance of 1.366 to said scale. Divide the boiling point of water (373.15 degrees Celsius) by the freezing point of water (273.15 $^{o}$C) yields the proportion: **1.366**099213. Now, as I study the concept of the barycenter of the solar system, I find that this similar/same proportion it to be found at the very center of the solar system in distinct expressions.



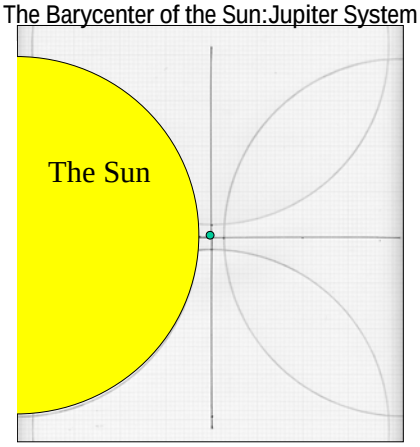

It is yet to be determined how the different levels of analysis that yield a similar proportion in the existence of matter-energy are related. But, in my mind, given the fact that all of spacetime is related, I am not surprised to be finding the presence of a proportion in terms throughout distinct aspects of matter-energy. The test appears to be in knowing how these different levels

relate to one another, i.e, the center of the solar system and the thermodynamic temparature scale.

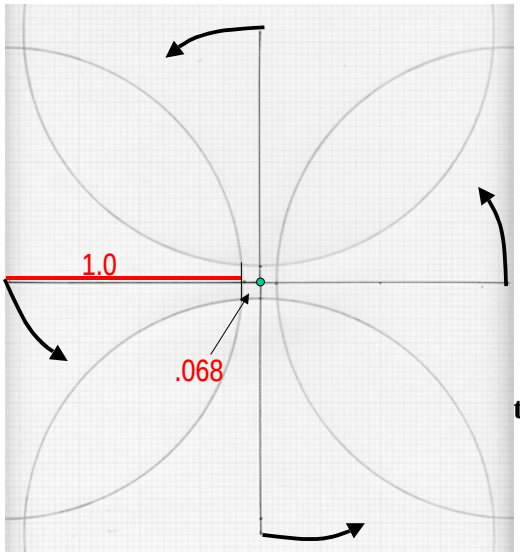



**Radius of the Sun 696000 kms**
**1.068 x 696000 = 743328 kms**

The Barycenter of the Sun:Jupiter System

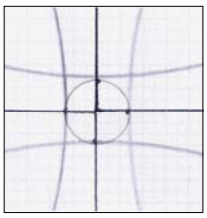



By drawing four positional views of the Sun revolving around the barycenter of the solar system itself, the central space may be analyzed whereby it consists of the .068 mantissa doubled, which signifies 1.36 (**2 x .068 = .136**).

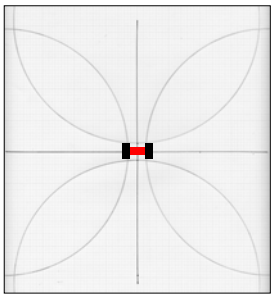



**The Sun's radius is 1.0**
**the distance from the outer edge of the Sun to the barycenter is .068 solar radii.**

**Four views of the Sun as it revolves around the barycenter of the Sun:Jupiter solar system. The Sun rotates on its own axis as it revolves around the barycenter of the system, creating a space that reflects an imaginary circle drawn by the circumference of the Sun**



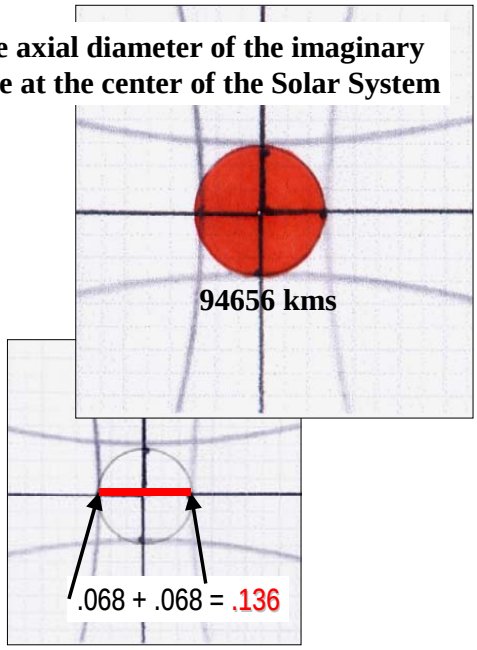
Variations aside for the moment, the axial diameter of the center of the solar system traces out a measurement of proportion based on a relationship of **1.36**, as stated earlier. And, one may contemplate this significant relationship with a similar **1.366** proportion between the freezing point of water to the boiling point of water: 373.15 / 273.15 = **1.366099213**.

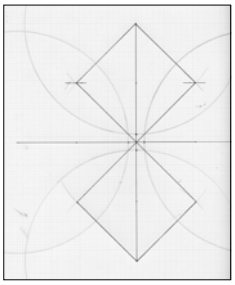


The axial diameter of the center of the solar system is:

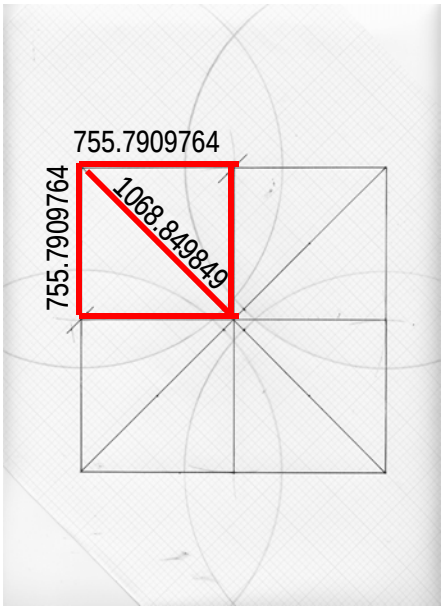
.068 + .068 = .136

**.136 x 696000 = 94656 kms**



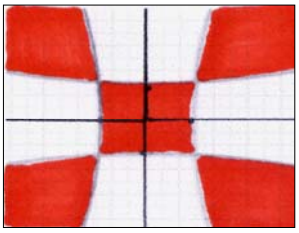



By connecting the lines at right angles, there appear four views of the base of the Great Pyramid of Giza, with side measurements of **755.7909764** feet and with a diagonal measurement of **1068.849849** feet

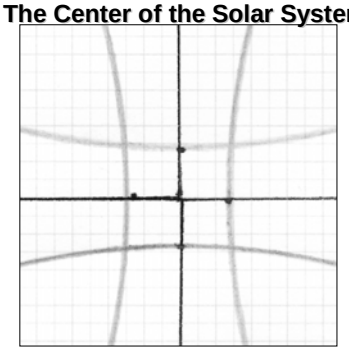


A particular significant point is to visualize the center of the solar system and the geometrical form traced by the movement of the Sun revolving around the barycenter on its spiraling path throughout the galaxy. One can imagine the attainment of the conceptual symbol for the quincunx in ancient artwork.

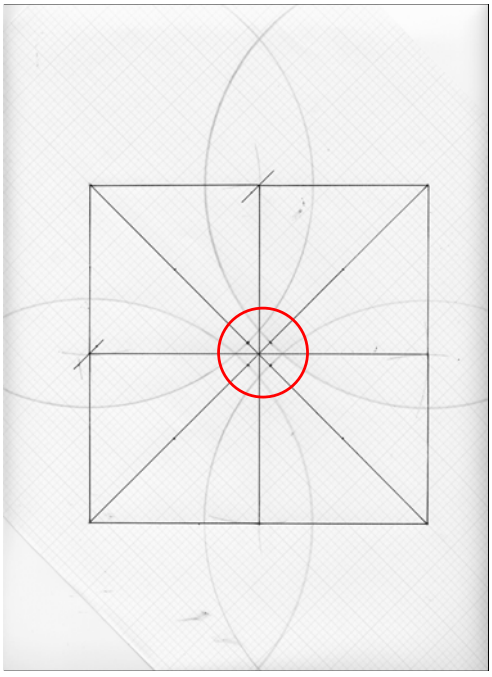
**The Ancient Quinqunx**



**The Center of the Solar System**

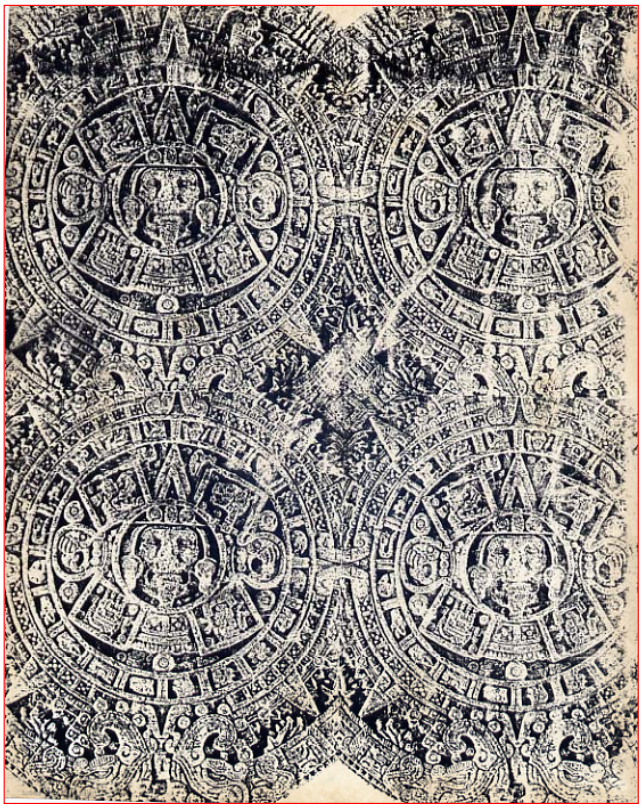


Beyond belief is the similarity in the symbolic design of a hummingbird at the center of four images of the Aztec Calendar and the center of the solar system, as illustrated in the next slide.



**The Hummingbird in the Aztec Calendar**

**The central figure of the hummingbird resembles the center of the solar system.**



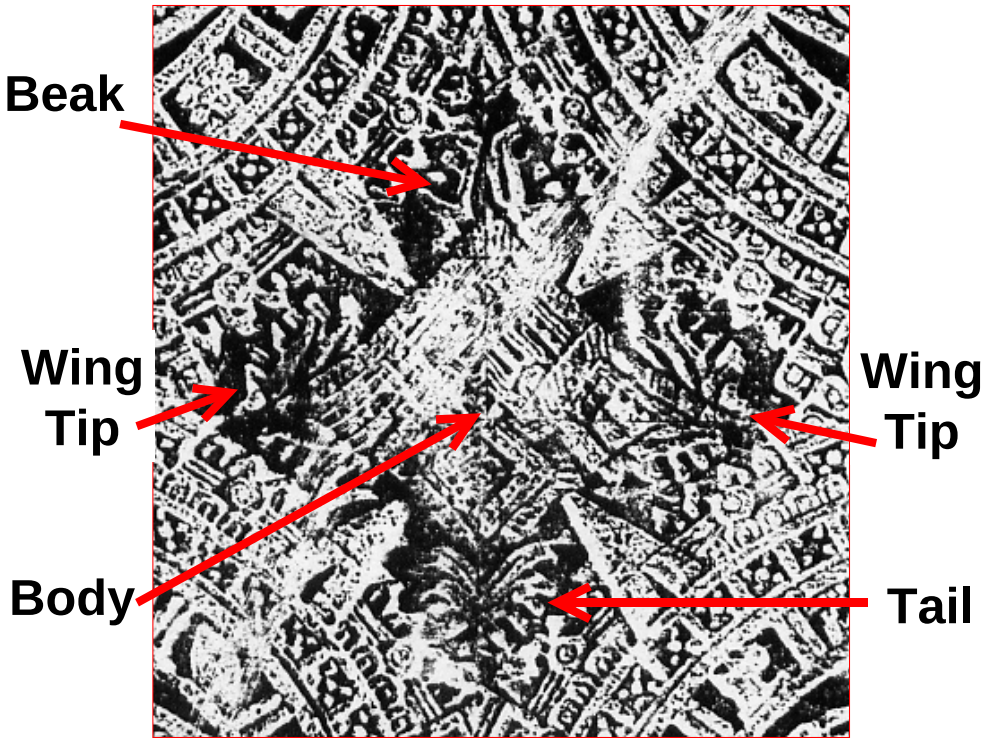
The previous slide shows a detail of the four suns, the four cardinal directions, and the hummingbird at the center. This visual concept represents part of the Aztec mythology about Huitzilipochtli, the hummingbird Aztec God flying at the center of the four directions. It also concerns the plight of an Aztec warrior once he has died. In the slide, one may view the four pointed symbols surrounding the hummingbird, along with the beak of the hummingbird itself that represent the planet Venus in ancient symbols. The diamond-shaped square at the center of the design, the hummingbird's body, signifies the center of the Universe, more appropriately now, the center of the solar system.

At this stage of my research, I can only imagine the possible relationships to follow, if the center of the Aztec Calendar, symbolizes in this manner the center of the solar system. Such a symbolic representation in the ancient artwork would require knowledge about the barycenter of the solar system, a kind and degree of scientific knowledge that many scholars are unwilling to grant to the ancients. In that case, were we to deny any cognitive achievement to the ancients, then one has to rely upon the concept

of random chance, that the ancients simply got lucky in their designs and just happened to have portrayed the center of the solar system in their designs by happenstance.

In my mind, acceding the possibility of the ancients having developed knowledge about the solar system and the Universe seems more probable than the improbable thesis that holds the coincidence of design has occurred by chance. Yet, for many scholars to accept such an idea would represent an enormous concession to the ancients, who are generally viewed as having been *primitive* peoples, with little or no scientific knowledge. To recognize a high degree of knowledge on the part of the ancients, by some scholars today, would create havoc for some concepts employed in today's world --- such as the concept of *progress*, or the *evolutionary* pace of history. Some scholars would have to re-examine their pre-conceived notions about reality, something not viable to many at this time in history.

***Selected Design Elements in the Hummingbird***




The question remains, in my mind, as to how the ancients were able to devise so much knowledge specifically about the solar system, and more generally about the Universe. The recognition of the coincidence of design

elements in Nature and in ancient artwork does not represent an end to the story, but rather the beginning of a cognitive journey yet to unfold.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