## Are All Those Numbers In Our Solar System Just A Coincidence?



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Numbers are just as important a part of this universe and the way it operates, as is space, time, energy, etc. When Robin and his brother Richard Heath ${ }^{1}$ studied our solar system, they discovered a myriad of numerical relations between the planets, which are difficult to dismiss as mere coincidences, and which is also the reason why John Martineau in his study of the spiral movements of our planets decided to entitle his book A Little Book of Coincidence, ${ }^{2}$ a kind of parodied title, which brings into question the very notion of "coincidence" (see opening paragraphs of his Chapter One). ${ }^{3}$ Nevertheless, the simple facts these authors present are overlooked in today's astronomy. This current paper is in essence a summary of their findings, to which I have added some of my own analysis. To get the full scope, I strongly recommend that you read all the three books mentioned above.

## A Look at Our Solar System

Brothers Robin and Richard Heath, and John Martineau ${ }^{4}$, among many earlier observers as far back as several millennia ago, are saying that at the basis of our universe is a numerical structure, which is now largely ignored by the scientific community. As Martineau so eloquently says in the Introduction to his A Little Book of Coincidence:
"Meanwhile, our closest planetary neighbors are making the most exquisite patterns around us, in space and in time, and no scientist has yet explained why. Is it all just a coincidence or do the patterns perhaps explain the scientists...."5

In this chapter we can hopefully revive the feeling of awe and mystery which our distant ancestors felt and which I also felt when walking with my father on the road than ran through the village of Noordwolde in the Netherlands where I lived for 11 years as a youth at night and seeing the myriads of stars in the night sky and consequently asking him many deep philosophical and religious questions about the universe, the meaning of life and God. Somehow, the night sky conjures up these kinds of ponderings. Similar sentiments are shared among astronauts, who wander off into space and see the earth from a good distance and start to wonder.

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## Our Moon

Can there possibly be an origin to the numerical structure of our universe? Let's just analyze a few numbers from our celestial skies. Take, for example, the sidereal period of the Moon: 27.32 days. ${ }^{6}$


- As illustrated above, to make one full orbit around the Earth, the Moon takes 27.32 days. This is the sidereal month of 28 practical days, and realigns the Moon in relation to the stars. The synodic month, i.e., the period of full Moon to full Moon, or Lunation period (realignment to the Sun's position) is around 29.53 days, and our Julian calendar is based and adjusted, in an awkward but somewhat workable way, on and to this 30-day practical period.
- Robin Heath repeats the proposition, made by others before, of a calendar year based on 13 months of 28 days, whereby every year is a leap year (one could make New Year's Day a special day counted outside the $28 \times 13=364$ days), and add another holiday every 4 years.
In the Unification tradition, January 1 is celebrated as God's Day, as the first day of the year is offered to and dedicated to God.
- The reciprocal value of this lunar sidereal period of $27.32=0.000366$.., which contains the number of practical days it takes for the Moon and the Earth to go around the Sun.
- Thus, $1 \div 365.242$ (Sun) $=0.0027379$ (Moon), which translated into days is 3 minutes and 56 seconds, the actual difference between solar and sidereal days, while $1 \div$ Moon (27.322..) $=$ $0.0366 .$. , which translated into days is 52 minutes, the actual difference between lunar and solar days. Robin Heaths adds the comment: "It is fun to ask an astronomer why."7

[^1]- The ratio of the size of the Earth to the size of the Moon is approximately 11 to 3 , and $11 \div 3$ $=3.66 \ldots$, while $3 \div 11=0.2727 \ldots$, very similar numbers to 2732. . and $366 \ldots$.
- The Moon controls the movement of water around the Earth, ebb and flow. When water is consequently set as the standard for measuring temperature, Absolute Zero, the temperature at which all atomic movement comes to an absolute halt, is $-273.2^{\circ} \mathrm{C} .{ }^{8}$
- According to the experiments of Gay-Lussac, when a gas is either heated or cooled by 1 degree Centigrade, it expands or contracts respectively by $1 / 273.2$ of its previous volume.
- All medical students are required to memorize that a pregnancy (read: life developing in water) is calculated on the basis of a 10 -sidereal month period of 273 days from conception to birth. The popular notion of 9 "regular" months actually results in $30.5 \times 9=274.5$ days, which is 2 practical days more.
- A woman's menstrual cycle is 27.32 days, or 28 practical days.
- The acceleration ratio of the Moon in its path around the Earth is measured as $0.273 \times \mathrm{cm} / \mathrm{s}^{2}$. In fact, the acceleration of the Earth and the Moon behave reciprocally as the squares of the radii of the orbits of the Earth and the Moon.
- The average rotation period of a sunspot is 27.32 days.
- As is shown in the figure below, when the Moon is placed on top of the Earth, and a dotted circle is drawn from the center of the Earth through the center of the Moon, the perimeter of the square around the Earth and this circle are one and the same! It also reveals how the Moon and the Earth have resolved the puzzle of the squaring of the circle (or the circling of the square, if you wish). ${ }^{9}$ The Earth : Moon (11:3) proportion is also invoked by our two planetary neighbors, Venus and Mars. The closest : farthest distance ratio that each experiences of the other is $3: 11$ ( $99.9 \%$ ), which is as we saw, between the Moon and the Earth, 2727... and 3666.... ${ }^{10}$

[^2]

- Outlined in greater detail below, when the formula for discovering nearly identical digits in reciprocal relationships in numbers (the best example being $\sqrt{ } 10$ and $1 / \sqrt{ } 10$ ), for the number 366 and 2732, by this formula results in these two reciprocals: 0.00273222 .. and 366.00273222.. This last number, even when the number of zeroes is increased, does not alter the reciprocal, as $1 / 366$ will always remain 2732.
- Based on the Earth's and Moon's "squaring of the circle", let us therefore look at the relationship between a circle and a square. The ratio of the difference between them is $(4-\pi)$ $\div \pi=0.2732$.. (and vice versa is 3.65 ..).
- Also $4 \div \pi=1 / \pi \times 4=1.273239544735162686151$..
- While playing with my calculator, I discovered that when the odd numbers 1-3-5-7-9, as one number 13579, are divided by the even numbers 2-4-6-8 as one number 2468, four times, the result is 3660051 .. with a reciprocal of 2732202 .. (both results simplified to 6 figures with the decimal point omitted).
- The number 2732 minus its mirror image 2372 equals 360 , the number of degrees in a circle.
- The numbers 37 and 333667 are the factors of the number 12345679 , which are the first digits of an eternal repeat of the reciprocal of $81(=0.012345679 \ldots)$, which are discussed at length in my book The Secret World of Numbers. Remember that 81 is also the number of the total of stable chemical elements. Common logic tells us that in between 37 and 333667 lays 3367 , which behaves in a very similar fashion, as $37 \times 3=111,3367 \times 3=10101$ and $333667 \times 3=1001001$. When the reciprocals of these numbers are added together, the result is the surprising 2732:

| $1 / 37=$ | $0.027027027027027 \ldots$ |
| :--- | :--- |
| $1 / 3367=$ | $0.000297000297000 \ldots$ |
| $1 / 333667=$ | $0.000002997000002997 \ldots$ |
| Total $=$ | $0.0273270243240303210 \ldots$ |
|  | Whose reciprocal in turn $=$ <br> $36.59381234277 .$. |

- The number $100-81$ delivers 19 , and $19 \div 81=$ $0.2345679012345679012345679012345679 \ldots$ The current axis tilt of the earth is 23.45 degrees.
- The number of full Moons in a year fall somewhere between 12 and 13. If a circle is drawn with diameter 13, and a pentagram (star) is drawn inside of it, its arms will have a length of 12.364.., which is the number of full Moons per year ( $99.95 \%$ ).
- A more accurate way of finding this value is by drawing a Pythagorean triangle with sides 5, 12 and 13 , whereby the 5 -side is divided into two sections with a ratio of $2: 3$. The line created this creates a smaller triangle with longest side 12.369..(99.999\%).

- Three years of earthly time equals around 37 lunations, thus each year is about $121 / 3$ lunations. This is accurate to 3.09 days in three years. A more accurate measurement is 99 lunations in 8 years (accurate to $1 / 5$ days) or 235 lunations in 19 years (accurate to 2 hours).
- The Moon has also the following numbers:
- 18 years = the Saros eclipse cycle.
- 18.618 years $=$ revolution of Moon nodes.
- 19 years $=$ the Moon's Metonic cycle.
- The eclipse year $=18.618 \times 18.618$ days, which is 18.618 days short of
- Solar year.
- There are 19 eclipse years in a Saros.
- 12 full Moons $=18.618 \times 19$ days.
- The Solar year $=18.618 \times 19.618$ days $=365.242$ days.
- 13 full Moons = $18.618 \times 20.618$ days, and thsiu 13 full Moons are
- 18.618 days beyond the Solar year.
- Keep in mind that $p h i=1.61803399$


## Other Planets in Our Solar System

- Richard Heath discovered that in 25 Jupiter Synodic periods of 398.88 days (= 9972 days), there are 27.321 Practical Earth years. Thus, the same length of time can be expressed as the product of two different numbers: $25 \times 398.88$ days $=27.321 \times 365$ days $=9972$ days. To top it off, there are 365 lunar orbital periods within this period of 25 Jupiter synods, to an accuracy of $99.996 \%$.
- Saturn takes around 10747 days to go around the Sun. Divided by Earth Years counted in days, the result is: $10747 \div 365.25=29.42$, which is very close to $29.53(99.8 \%$ accurate).
- Saturn's radius is the circumference of Mars's orbit (99.9\%) and its circumference the diameter of Neptune's orbit (99.9\%).
- For Saturn to return to the same point in the night sky it takes 29 Practical Years of 365 days and in that time Saturn will have made almost exactly 28 loops. Thus 28 retrograde loops in 29 years. The retrograde loop repeats every 378 days.
- Saturn's movement is slow and is only 13 degrees per year, and the 378 days Synodic year of Saturn is 13 days longer than the Practical year of 365 days.
- The time between the loops is thus 29 divided by 28 Practical Years, and therefore a Practical Year is itself $28 / 29$ of Father Time's Synodic period of 378 days. Also remember that $28 \times 378$ days $=10584$ days; and $29 \times 365$ days $=10585$ days.
- The Earth's Moon moves in a day by the same angular distance that Saturn moves during a year.
- Uranus' outermost ring has a diameter twice the size of that of Uranus itself. Neptune's innermost ring is $2 / 3^{\text {rd }}$ the size of its outermost. Neptune's orbital period is twice that of Uranus, and Uranus's is $2 / 3$ that of Pluto.
- Uranus and Neptune dance around each other to create a beautiful shape, as shown below. Every 4300 years Neptune and Uranus both experience a perfect division of the zodiac into 25 kisses. The tiny planet Chiron, orbiting between Saturn and Uranus, also measures out a perfect 25 around Uranus.

- When 4 is added to the series ( 0 ), $3,6,12,24,48,96,192$, and 384 (attained by doubling each number) to make $4,7,10,16,28,52,100,196$ and 388 , these new numbers, with Earth at 10 units, fit the planetary orbital radii quite well, except that they leave out Neptune. The formula predicts a missing planets between Mars and Jupiter, but Giuseppi

Piazzi discovered Ceres on January 1, 1801, the largest of the asteroids the asteroid belt, fits the missing spot in the correct orbit. ${ }^{11}$

- Furthermore, the orbits of certain planets also produce simple ratios, like Jupiter to Saturn is $2: 5(99.3 \%)$, while Uranus, Neptune and Pluto have a 1:2:3 ratio of periods, whereby Uranus' and Neptune's add to form Pluto's. ${ }^{12}$
- When a planet in its orbit come closest to another planet, it is called a kiss by Martineau. The Earth kisses Mars three times for every four Venus kisses.
- When three circles are placed next to each other in triangular fashion so that they all touch each other, the orbits of the first two planets hide in this design: if Mercury's mean orbit passes through the centers of the three circles, then Venus's encloses the figure (99.9\% accurate).

- When a pentagram and pentagon are drawn inside a circle, and when the smallest sections of the pentagram's arms are set at value 1 , the other two remaining sections have a value of 1.618.. or $\varphi$ (phi). The outside lines of the pentagon will have value 2.618.., or $1+\varphi$ (see figure below). It also happens that $\varphi^{2}=2.618 .$. and $1 / \varphi+1=\varphi$. Also, the sum of the values of the pentagram's arm $=1.618+1.618+1=$ 4.236.., and divided by $2.618 . .=1.618$ or $p h i$ once again. ${ }^{13}$

[^3]

- Every 584 days, Venus kisses Earth as it passes closest between us and the Sun. each time one these kisses occur, the Sun, Venus and Earth line up two-fifths of a circle farther around the starry zodiacal circle, so that pentagram of connections is drawn. As seen from Earth, Venus circles around the Sun and draw an astonishing pattern over exactly 8 years (99.9\%) or 134 Venusian years (99.9\%). Venus produces small loops when it seems to retrograde, as seen from Earth. We have just seen part of the Fibonacci series: 5, 8 and 13. The periods of Earth and Venus, by the way, are
 also closely related as $\varphi: 1$ ( $99.6 \%$ ).
- The illustration below shows Venus' perigee (closest point) and apogee (farthest point) defined by two pentagrams. The body of space drawn around the other is sized 1: $\varphi^{4}$ (99.9\%).

- With the Sun in the center, we can look at the orbits of Earth and Venus and observe that Venus moves faster than the Earth, because Venus completes a complete orbit when

Earth has only finished just over a half orbit. When Martineau drew lines between these orbital points every few days, a figure started to form. Keep also in mind that since Venus rotates much slower around her own axis, and in the opposite direction from most rotations in the solar system, each and every time it kisses the Earth, it does so with the same face of Venus facing Earth. During the eight years between kisses, Venus will have spun 12 times in 13 of her years. The figure below illustrates this amazing lotus flower beauty:


- It takes the same number of years for Saturn to go around the Sun as it takes our Moon to go around the Earth (99.8\%).
- All planets kiss and Martineau has spent lots of effort to map out the many relationships between planets. Shown below left is a small sampling of these, while below right is shown a small sampling from a book about Harmonographs, figures drawn by a harmonograph which records the vibrations caused by different musical pitches:


The Square, the Circle, 2732, and $\pi$
It might be useful to explore the relationship between circles and squares we discovered between the Moon and Earth above, a little further, as the difference between them also holds the numbers 2732, 365 and 366.


In the three illustrations above, I have indicated how to turn a circle into a square. I have thus "squared the circle" and the diameter of the circle is the same as half the side of the square. When the radius of the circle is set at 1 , the area of the circle on the left above is $\pi$ or 3.14159.. One fourth of that area, as I moved four of these circle segments in order to create the inverted diamond is $\pi \div 4=0.785398163$.. The reciprocal of that number is 1.273239545 .., which is 1 above 0.273239545 ..

The inner diamond area in the far right figure above must therefore be the entire area of the square minus the area of the circle, or: $4-\pi=0.858407346$.. One fourth ( $1 / 4$ ) portion of this equals 0.214601837 .. The reciprocal of this number is $4.65972366 \ldots$, and when diminished by 1 , turns into 3.65972366 .., and has a reciprocal of 0.273239545 .. (which matches the last number in the above paragraph).

Let's call the circle A and the inverted circle, shaped like a rounded diamond, B ; thus, $\mathrm{A} \div \mathrm{B}=$ 3.659792366.. Its reciprocal $=0.273239545 .$. , and thus $\mathrm{B} \div \mathrm{A}=0.273239545$.. with a reciprocal of 3.659792366 . If $I$ round off the $A \div B$ equation and ignore the decimal points, the result is 366. If I round off the $\mathrm{B} \div \mathrm{A}$ equation and ignore the decimal points, the result is 2732 . Thus, the circle and the square are in direct relationship to each other, and hold the numbers of the Moon and the Sun in relationship to the Earth.

There is another way of looking at this:

$$
\begin{aligned}
& (4-\pi) \div \pi=0.273239544735162686151070106 . .=M \\
& M+1=1.2732395447351626861510701069801 . .=B \\
& B \div 4=0.3183098861837906715377675267450 . .=Q \\
& 1 \div Q=3.1415926535897932384626433832795 . .=\pi
\end{aligned}
$$

Thus: $\frac{1}{\left(\frac{4-\pi}{\pi}+1\right) \div 4}=\pi$

The size of each corner, after the circle has been deducted, is $0.21460183660255169038433915 .$. , with a reciprocal of 4.6597923663254876944787072 .. The last number interests me, because if I deduct 1 from it, I get 3.659792366 .., which we already saw above.

The reciprocal of $\pi$ is 0.3183098861837906715377675267 .., and when multiplied by four, yields 1.273239544735162686151 .., and when 1 is deducted from it, yields $0.273239544735162686151 .$. , with a reciprocal of $3.659792366325487694 . .$, which is exactly the same as the leftovers of the square minus one circle, and then reciprocated, as we saw above.

Thus:
$\frac{1}{\frac{4-\pi}{4}}-1=\frac{1}{\left(\frac{1}{\pi} \times 4\right)-1}=3.65979236 . .=\frac{1}{2732395447 . .}$
$\pi$ and $\sqrt{ } 2$

discovered by François Viète in 1593 is most revealing:

In the tunnel vision created by the illustration at left, circles and squares interact with each other, via $\pi$ and $\sqrt{ } 2$. It's easy to see how this works. If one of the circles has a radius of 1 , then the square around it has a side of 2, and the radius of the next circle, which is twice as large as the previous one, will
be $\sqrt{1^{2}+1^{2}}=\sqrt{2}$.
Thus, a mutually dependent relationship exists between $\pi$ and $\sqrt{2}$; they are co-dependent to keep this expansion (or contraction) going on forever. Keep in mind that $(\pi+\sqrt{ } 2) \times 6=27.33483 .$. , with a reciprocal of 0.03658335 .., very closely related to our earlier 2732 and 366. In this light the formula

$$
\frac{\sqrt{2}}{2} \times \frac{\sqrt{2+\sqrt{2}}}{2} \times \frac{\sqrt{2+\sqrt{2+\sqrt{2}}}}{2} \times \text { etc. }=\frac{2}{\pi}
$$

Also, triangles enclosed by circle, then enclosed by a larger triangle, enclosed by a larger circle, etc., also each double in size.

## The Moon, the Sun and the Solstices

Allow me one more diversion into the world of astronomy, this time dealing solely with our Earth, Sun and Moon. Is it a coincidence that the Moon and the Sun from the Earth's point of view are one and the same size? If you didn't know better, or lived in the pre-scientific age, you would probably think that they are indeed the same size and at almost the same distance from Earth! This is especially visible during a total solar eclipse whereby the Moon "covers up" the Sun in its entirety every 19 years. The first time people were watching this phenomenon probably filled them with fear of the two bodies colliding with each other with calamitous "end of the earth" results!

Robin Heath is his little book, Sun, Moon and Earth has enlightened his readers with more startling insights about the Moon and the Sun copying each other. We all know that the Sun's zenith during the Spring and Fall Equinox is the same. When one records the locations on the horizon of the setting Sun during the Equinoxes, and those during the Midsummer and the Midwinter, one will notice that the full Moon will set in exactly the same Equinoxal location,
thus mirroring the Sun's movements, that is: left and right are reversed or mirror-imaged, and the Moon does so half a year apart from the Sun. This is nothing short of startling. It's best illustrated by the two graphics (day and night) below from Heath's book.


Amazingly, the Moon more or less copies the entire annual range of rises and falls of the Sun in a year. ${ }^{14}$ The Moon is brightest and highest in midwinter, copying the motions of the Sun, which is highest and brightest in the summer, 6 months later. They thus mirror each other 6 month apart. Yin and Yang in motion? We will come back to the very notion of "mirrors" as aspects of the dual characteristics of the created universe in our analysis of fundamental numbers and number mirrors.

## The "Breath" of the Moon

Robin Heath explains that "the monthly extreme northerly and southerly risings and settings of the Moon gently "breathe" in and out either side of the Sun's extreme solsticial positions, taking one nodal period to complete the "breath." This greatly alters the possible maximum rising and setting positions of the Moon each month with respect to the solsticial positions of the Sun.

As seen from the Earth's horizon:


The tetrad shape of this figure, as shown below, formed by two lines intersecting perpendicularly at the center of the Earth but with their fluctuations widening at the outer circle, is of great interest to me. There are thus eight of such limiting "lunstice" positions, four for risings and four for settings (see figure below)." 15

[^4]As "seen" thus away from the Earth:


It is interesting to note that Dr. Plichta's Prime Number Cross and the symbol of the Unification movement have near-identical shapes:


This is one the reasons why we need to pay attention to the Sun, Earth and Moon. My hunch is that the movements of the Sun and Moon, not only follow a Predetermined Intelligently Designed Plan, but also are also governed by a Prime Number structure.

## Final Observations

In brief, we saw that:

- The Moon and Sun have the same size from our human perspective.
- The Moon's sidereal month of 27.32 days is reflected in the time it takes the Earth to go around the sun, via its reciprocal of $365+$ days.
- The Moon and Sun mirror copy each others paths 6 months apart, and we observed other copying as well.
- The 4-fold pattern is the sky looks like the Prime Number Cross, the logo of the Unification Movement, and the fundamental structure of the number 10, as explained in my book The Secret World of Numbers.
- The number 2732 is reflected in such known phenomena as pregnancies, expansion of gas, Absolute Zero, and in other astronomical facts.
- All planets in our solar system make beautiful patterns in the sky as observed from Earth, with Venus making the most astounding figure of them all: a lotus flower of awe inspiring beauty!

It would be easy to fill many more pages with myriads of examples of the many other numeric correlations and startling "coincidences" in just our solar system. One just has to read the highly recommendable books by the brothers Heath and Martineau for further elucidation (see bibliography).

Thus, recent number-based studies of our solar system pose a serious challenge to stringent adherents of the by chance theory of evolution. While evolutionary theory is difficult to justify from a mathematical probability perspective, the precision by which our Solar System functions goes well beyond what any Swiss watchmaker could ever hope for. Scientists conclude repeatedly that if the earth rotated just a fraction of a percent faster or slower, or would be just a fraction closer or further away from the sun, or would rotate at a slightly different speed, and if the Moon were positioned differently or rotate and go around the earth at a slightly different speed, life on earth would not be possible. It is extremely well balanced.

As Martineau was quoted above as saying: "Is it all just a coincidence or do the patterns perhaps explain the scientists...."

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[^0]:    ${ }^{1}$ See Bibliography.
    ${ }^{2}$ Ibid.
    ${ }^{3}$ A recent newspaper article focused on Dean L. Overman, author of A Case Against Accident and Self-Organization and is quoted to have said that "It appears that there is a cosmic mathematician behind all this [the universe]." The articles also quotes Robert Kaita of Princeton University: "How a mathematical description can describe the physical world is a fundamental mystery" and he ponders that whether without a mathematical basis for the universe, the universe can exist at all ("Math, Naturally: Scientists research a world of patterns," The Washington Times, August 11, 2005, Section B, pages B1 and B4).
    ${ }_{5}^{4}$ See bibliography.
    ${ }^{5}$ John Martineau, A Little Book of Coincidence, p. 1.

[^1]:    ${ }^{6}$ The information below has, in large part, been culled from the writings of the brothers Heath, and from Martineau and Plichta, and has been augmented by my own findings.
    ${ }^{7}$ Heath, Sun, Moon \& Earth, p. 18.

[^2]:    ${ }^{8}$ The number is Plichta's. Scholars are not in total agreement of the exact value.
    ${ }^{9}$ By the way, the triangle drawn has the same ratio dimensions as the Great Pyramid of Egypt, built in 2480 B.C.
    ${ }^{10}$ The moon's diameter in miles is $1080 \div 3=360$ (like $360^{\circ}$ ). The Earth's diameter $3960 \div 11=360$ as well. Also, $1080=23 \times 33 \times 5$ and $3960=23 \times 33 \times 5 \times 11$; while their sum of $5040=24 \times 32 \times 5 \times 7$; and $5040 \div 3960$ can be broken down (by dividing each number by 720 ) to: $7 \div 5.5=1.272727 \ldots$. The mathematical expression $11!=$ 39916800 and divided by $3960=10800$, which $=2 \times 5040$ (or $10 \times 1080$ ) (or $27 \times 22 \times 102$ ); and 7! $=5040$. The ratio between the large circle ("that squared the circle") and the earth's own circle is (using the 7:5.5 ratio) $153.93804 \div 95.0331777=0.617346939$. This number, when multiplied by 2 renders 1.234693878 , which is very close to $1.2345679012345679 \ldots$ ( 99.989 accurate). The ratio between the smaller and the larger circle is: 1.61983471. If the circle and the square as indicated above had the same perimeter (they don't; it's off by a very small percentage), then $\pi$ could be calculated as being $3.142857152857 \ldots$ The formula would be: $(44 \div 7) \div 2=$ $3.142857 \ldots$, which is the popular but incorrect way of calculating pi. The problem between the approximate $\pi$ and the real $\pi$ is that the radius of 5040 has to be around 5042.02859 to be eligible to produce a perfect $\pi$ ! It is $0.999597 \%$ accurate.

[^3]:    ${ }^{11}$ Martineau, p. 16.
    ${ }^{12}$ It is most regrettable that the recent decision to declassify Pluto as a planet, solely based on its size, was made without truly understanding its numeric harmony and function as part of our solar system.
    ${ }^{13}$ As is well-known, $\varphi$ is also hidden in the Fibonacci series, and the higher the division of two consecutive sums of the series, the closer it is to the real value of $\varphi$. Also, consider the phi aspects of the finger, the egg, another aspect of a pentagon and the human body:

[^4]:    ${ }^{14}$ Robin Heath explains that the Moon rises highest in the sky each month when it is found near Betelgeuse, in Orion. Its most northerly risings and settings occur then. At extreme altitudes above 60 degrees a midwinter full Moon may become circumpolar and not set for a few days. The most southerly risings and settings occur when the Moon is found near Antares, in Scorpio. At extreme latitudes, for example in Finland or northern Canada, the full Moon may not be visible during midsummer, especially above the Arctic Circle, where the Sun becomes circumpolar.
    ${ }^{15}$ Robin Heath, op. cit.

