
Phi in the Sky

Author : Meiliken

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I'm sorry for the delay in my posts. I've been working all week on the follow up article to the 10 Utterances and it's such a crucial topic that spans 5 Torah portions that it's taking longer than anticipated.

Meanwhile, one of you had asked me for some deeper math--everyone else can take a deep breath. I've only seen a glimpse of the complexity of the math behind the Torah, but it was enough to know that with our gematria cipher connections, square roots, sums of integers, factorials, and with our simple formulas we are only cruising the surface. The truth would make an MIT professor blush.

One bit I will share today partially covers the amazing mathematic constant Phi. The understanding about this marvelous primordial constant will help explain why G-d based His divine plan and calendar around the numbers 5778, 666, and 18.

As readers of *There's Nothing Random About the Universe* know, besides Pi, there is another primordial mathematical constant that also came into being at the exact moment of Creation and that is Phi (1.61803399...). The Greeks called it the golden mean because it governs all the spiraling growth in the universe, from the petals on a flower and the branches of a tree, to our DNA and the arms of the Milky Way.

Just like Pi, which mathematically bends a straight line into a circle regardless of its size, so too does Phi dictate the proportions and the angles in which a natural spiral grows. Phi is considered golden for another reason; everything that's built using the phi proportion (1.61803399 : 1) is said to be in perfect harmony visually, spatially, and spiritually, and this resonates with our senses and sensibilities.

The thing about Phi that makes it so special and significant for us is that it's based on unity, the number One (1) as in "He and His Name are One" and "G-d is One" and "One Soul." All other numbers are constructed by dividing 1 into segments of equal or disproportionate length. The Phi division is always proportionate and always reflects the original unity (1).

We'll get into what phi looks like in a moment, but we'd like to illustrate Phi's connection to unity first, and since the phi proportion formula $\text{Phi} = 1 + 1/\text{Phi}$ can be expanded recursively to obtain a continuous fraction of 1's, we get :

$$\text{Phi} = [1;1,1,1,\dots] = 1 + 1/(1+1/(1+1/(1+\dots)))$$

and also its reciprocal:

$$\text{Phi}^{-1} = [0;1,1,1,\dots] = 0 + 1/(1+1/(1+1/(1+\dots)))$$

Moreover, since the phi proportion can also be written as the equation $\text{Phi}^2 = 1 + \text{Phi}$ we likewise get the continuous square root unity (1) formula:

$$\text{Phi} = \sqrt{1 + \sqrt{1 + \sqrt{1 + \sqrt{1 + \dots}}}}$$

That said, we should also note that Phi can be equally constructed with the square root of **5**, pretty appropriate considering G-d gave us the **5** Books of Moses.

Now, Phi, as a number, is an irrational constant whose digits go on and on infinitely, and thus dividing or multiplying by it should only infrequently give us a whole number. Well, actually, it never can, but if we set our criteria as the rounding off of the resultant numbers at three or more decimal places (i.e. 2207.0001) then we should come up a relatively small, yet still sizeable set of numbers, given that we're considering all the known whole numbers in the universe.

Now, **Phi** has a very special property and that is that when we square it (multiply it by itself) it is really the same as adding a 1 to the number, which is what was expressed in the formulas above, but what it means is that **1.61803399 squared = 2.61803399**. And the same holds true when we take the inverse of Phi, or **1/Phi**, which is **1/1.61803399**, and get **.61803399**, which is precisely **Phi-1**.

This special property is what actually gives Phi the ability to form spiraling effects on numbers, matter, and on energy. But be that as it may, any irrational constant, including Phi, when multiplied by itself or any other non-whole number for that matter will give another irrational number, and thus give us the same unlikelihood of getting a whole number rounded off to 3 decimal places.

Now, we said all this preamble because there is one number that is not only part of that short set of numbers wholly divisible by phi (**1.61803399+**) to 3 decimal places, but its equally so by **Phi²** and by **1/Phi**. Moreover, it's also part of an even smaller set that's also wholly divisible to the same extent by **Phi³** and also by **(Phi²+1)**, **(Phi-1)**, **(Phi-1)²**, and **(Phi-1)³**, and also **(Phi-2)**, and also **(Phi-3)** and by **(Phi²-4)** and **(Phi³-4)²** too.

Even given an infinite set of numbers to work with, the resultant set of numbers that can do this is getting quite limited and most of them if they exist, are only multiples of **5778**, yes **5778**, as in the surface temperature of the Sun, **5778 K** and the year the tzaddikim have given us for the *geula* (final redemption) and the coming of the *Moshiach*, the Messiah.

That a number even exists which can be evenly divided by several different endless irrational constants is mind boggling, but that relatively miniscule set **dwindles down to just a single number** when we further apply the criteria of dividing it by **Phi⁻¹**, by **Phi⁻²**, **Phi⁻³**, by **(Phi⁻² +1)**, and **(Phi⁻⁶ +1)** and by the square root of **5** as well, or in mathematical notation **?5**.

The next series of minor revelations may shed some light though on the process by which **5778** became so unique. When we divide **5778** by **Phi** raised to the power of **15**, or **Phi¹⁵**, it equates to approximately **4.24**, which is the numerical value of *Mashiach Ben David*, the Messiah, Son of David.

And then when we divide **5778** by **Phi** raised to the power of **16** we get **5778/Phi¹⁶ = 2.61803399 = Phi²**. And then when we divide **5778** by **Phi** raised to the power of **17** we get **5778/Phi¹⁷ = 1.61803399 = Phi**. And finally, when we divide **5778** by **Phi** raised to the power of **18** we get **1**, or written as an equation **5778/ Phi¹⁸ = 1.000000....**

$$5778/ \text{Phi}^{18} = 1.000000....$$

in other words

$$\text{Phi}^{18} = 5778$$

So it all boils down to **Phi¹⁸ = 5778** and **the square root of 18 = 4.242640**, the numerical value of *Mashiach Ben David*..

The number **18**, the numerical value of *chai*, life, is of course **18 = 6 + 6 +6** and there exists a social trigonometric relationship between **Phi** and **666** such that:

$$-\text{Phi}/2 = \sin 666^\circ = \cos(6 \times 6 \times 6^\circ)$$

and thus

$$-\text{Phi} = \sin 666^\circ + \cos(6 \times 6 \times 6^\circ)$$

Like I said, it gets pretty complicated underneath the codes. And for those that may question further there assumptions/beliefs that the *Mashiach* is supposed to arrive in the year **6000**, ponder this:

$$360^\circ/\text{phi} \approx 222.5^\circ$$

and

$$6000 - 222 = 5778$$

360 degrees is a full circle, once again unity and oneness.

Yes, *Mashiach* may come in late **5777** and the *geula* in **5778**. Please do not get hung up on that. The point is that G-d has a plan and we have hope, and need to work to be part of that plan to convert our hopes into reality, the reality of the tree-of-life.

B"H, very soon, we'll bring you the sequel to the 10 Utterances and even more of G-d's divine

intentions will be revealed for us to learn and grow from.