

MATHEMATICAL PROOF THAT ALL OPPOSITES ARE “MARRIED” TO EACH OTHER, 2 AS 1
By Jonathan Deutsch

ABSTRACT

There is only one strength of gravity, not two, so Newton’s gravitational constant, G , MUST equal the gravitational-structure constant, Gm_{proton}^2/hc . This totally new equation yields another new equation, $6.6728674 \times 10^{-8} \text{ cm}^3/\text{gm sec}^2 = .9397908 \times 10^{-39}$. Solving this latter equation yields two solutions: [$m_{\text{proton}} = \text{de Broglie } \lambda_{\text{proton}} = t_{\text{proton}} = 1$]; and [$m_{\text{proton}} = 1; \lambda_{\text{proton}} = -1; t_{\text{proton}} = \sqrt{-1}$]. We notice the preponderance of the number 1; $1 = 1/1 = 100\% = \text{wholeness}$.

We can set up a generalized equation, $G = Gm^2/hc$, for ALL m , not just for m_{proton} . Shockingly, it too is solved only by: 1)[$m = \lambda = t = 1$]; and 2) [$m = 1; \lambda = -1; t = \sqrt{-1}$], for all m , λ and t in each case. Again, we notice the preponderance of the number 1 in nature - - wholeness.

Examining 1), we will derive three new equations: $t=c$; $h=t$; and $\lambda=E$. Respectively, these mean that time is really the speed of light; the quantum of action is time; and wavelength or distance (space) is energy. We also will derive $E=m$ - - Einstein’s mass-energy equivalence. Examining 2), we will also derive three new equations: $t=c$, $h = -t$; and $\lambda=E$. The quantum of action is thus a unit of backwards and/or forwards time. We will derive $E = -m$ in case 2).

Since $E=m$ AND $E = -m$, $-m=m$, or $-1=1$. $-1=1$ implies that $-n=n$, n being any real number, positive or negative. We recall that all of nature can be represented by pure numbers - - i.e., by numbers without units. Therefore, at the deepest level of reality, $-x=x$ for all x . In words: all opposites of any kind in the entire universe are ultimately “married” to each other, 2 as 1. Even life and death are really the same one thing. Thus, the conclusions of our previous paper, “Duality or Unity in Quantum Mechanics?”, have now been proven.

MATHEMATICAL PROOF THAT ALL OPPOSITES ARE “MARRIED” TO EACH OTHER, 2 AS 1

We start with a quote from “Theories of Everything” by John D. Barrow: “The strength of gravity is determined by Newton’s gravitational constant [G], and from this quantity we can determine...[a] pure number [- - the gravitational-structure constant, Gm_{proton}^2/hc , where m_{proton} is the mass of the proton; h is the quantum of action; and c is the speed of light.] ...Its smallness is telling us that [the force of gravity is extremely

weak]..."¹ In short, physics posits TWO strengths of gravity - - G and Gm_{proton}^2/hc . But nature has ONLY ONE strength of gravity. Therefore, G MUST EQUAL Gm_{proton}^2/hc . This is, to the best of the author's knowledge, a completely new realization, a completely new equation.

$[G = Gm_{\text{proton}}^2/hc]$ yields $[6.6728674 \times 10^{-8} \text{cm}^3/\text{gmsec}^2 = .9397908 \times 10^{-39}]$, where cm =centimeter, gm =gram and sec =second (time). This latter new equation allows us to SOLVE - - find a pure-number value for - - cm , gm and sec - - i.e., for all of reality, since everything is composed of distance (cm) and/or mass (gm) and/or time (sec). Factually: $m_{\text{proton}} = 1.6726216 \times 10^{-24} \text{gm}$; ; λ_{proton} - - the de Broglie wavelength of the proton - - = $h/m_{\text{proton}}c = 1.3214098 \times 10^{-13} \text{cm}$; and $t_{\text{proton}} = \lambda_{\text{proton}}/c = 4.4077486 \times 10^{-24} \text{sec}$. The key realization is the following : WE CAN NOW QUANTIZE SPACE, MASS AND TIME. This has never been done before, and allows for a very natural quantum gravity.

Solving $[6.6728674 \times 10^{-8} \text{cm}^3/\text{gmsec}^2 = .9397908 \times 10^{-39}]$ yields: $\text{cm} = +$ or $- .7567675 \times 10^{13}$; $\text{gm} = 5.9786385 \times 10^{23}$; and $\text{sec} = 2.2687319 \times 10^{23} t_{\text{protons}}$. There are TWO OVERALL solutions, and only two, that work: $[m_{\text{proton}} = \lambda_{\text{proton}} = t_{\text{proton}} = 1]$; and $[m_{\text{proton}} = 1; \lambda_{\text{proton}} = -1;$ and $t_{\text{proton}} = \sqrt{-1}]$. Notice the preponderance of the number 1. $1 = 1/1 = 100\% = \text{wholeness}$.

But what's REALLY shocking is that we can generalize $[G = Gm_{\text{proton}}^2/hc]$ and solve the equation $G = Gm^2/hc$ FOR ANY AND ALL m . The shock: no matter what mass we choose, $[G = Gm^2/hc]$ ONLY IF THE SAME TWO CONDITIONS ARE MET: 1) $[m = \lambda = t = 1]$ for all m , λ and t ; and 2) $[m = 1; \lambda = -1;$ and $t = \sqrt{-1}]$ for all m , λ and t . In short, 1) and 2) are each universally-applicable equations, with the same preponderance of the number 1, signifying wholeness in nature.

What do 1) and 2) mean in words? At the very least, all masses in the universe have, at the deepest level of reality, the same one value; all de Broglie wavelengths have the same one value; and all time intervals have the same one value. Incredible? Not really. It should not be at all surprising that all "different" masses are ultimately identical; that's the only possible logical explanation for why all "different" masses fall due to gravity at exactly the same rate. This fact was discovered centuries ago by Galileo, but is still not appreciated for what it is really telling us.

We examine 1) first: $[m = \lambda = t = 1]$ for all m , λ and t . Follow the math: $c = \lambda/t = 1/1 = 1 = t$, implying that $t = c$; time is really the speed of light - - not surprising given Einstein's realization of the deep interconnection between the two. But now we finally know what time really is: time is the speed of light, the speed at which the universe works.

¹ Barrow, John D. Theories of Everything - - The Quest for Ultimate Explanation, Clarendon Press, Oxford (1991), p.91

Next: $h=mc\lambda=(1)(t)(1)=t$: the quantum of action is really time . Then: $E=h/t=t/t=1= \lambda$, implying that $\lambda=E$ - - meaning that wavelength or distance (space) is energy. This too should not be at all surprising, since quantum physics teaches us that space is ALWAYS AND EVERYWHERE filled with energy. Next: separate from $E=1$, $mc^2=(1)(1)^2 = 1$. Thus, we have PROVEN that $E=mc^2$ for all E and for all m. Finally: $E=mc^2=m(1)^2 =m(1)=m$, implying that $E=m$ - - Einstein's equivalence of mass and energy, similarly proven here.

We continue on and examine 2): [$m=1$; $\lambda= -1$; and $t=\sqrt{-1}$] for all m, λ and t. Follow the math: $c=\lambda/t= -1/\sqrt{-1}= \sqrt{-1}=t$; t still equals c; time is still the speed of light, the speed at which the universe works. Next: $h=mc\lambda=(1)(t)(-1)= -t= -\sqrt{-1}$ — meaning that the quantum of action is really BACKWARDS time, or the speed of light travelling back TOWARDS its source ($-c$). Finally: $E=h/t= -\sqrt{-1}/\sqrt{-1}= \lambda$, implying that $\lambda=E$ - - meaning that space is still energy. So, except for backwards vs. forwards time, 1) and 2) yield identical results.

However, in 1), $E=m$, whereas in 2), $E=mc^2=m(\sqrt{-1})^2=m(-1)= -m$ - - i.e., $E= -m$. Since $E=m$ AND $E= -m$, $-m$ MUST, at the deepest level of reality, equal m. We see that we are nearing paydirt now. For $-m=m$ means that $-1=1$. -1 is "married" to 1; supposed opposites are now proven to be identical mathematically.

Since $-1=1$, $-n=n$, where n is any real number, positive or negative. Recall that we have proven earlier in this paper that EVERYTHING IN THE UNIVERSE CAN BE REPRESENTED BY PURE NUMBERS - - i.e., by numbers without units. Therefore, $-n=n$ leads to the concluding realization that: $-x=x$ FOR ANY AND ALL x OF ANY KIND IN THE UNIVERSE. In words: we have just proven that all opposites in the universe are indeed "married" to each other, 2 as 1. Each pair of opposites is, at the deepest level of reality, the same one thing. Even backwards time is our normal forwards time. Even physical death is physical life. Therefore, the conclusions of the author's previous paper, "Duality or Unity in Quantum Mechanics?", have been rigorously mathematically proven.

Any comments or questions should be sent to spqrwin@outlook.com. All will be answered promptly,

REFERENCES

1. Barrow, John D., Theories of Everything - - The Quest for Ultimate Explanation, Clarendon Press, Oxford (1991), p.91

,

BIBLIOGRAPHY AND SUGGESTED READINGS

- 1) Barrow, John D., Theories of Everything - - The Quest for Ultimate Explanation, Clarendon Press, Oxford (1991)

rr