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Gooey Ducks and Naked Physicists

Part VIII
(ToE) Jam: A Theory of Everything…Piece of Cake!

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Abstract: An allegory of modern science.

Part VIII

Wow! A search for truth in mathematics? This sounds like a job for…SUPERMAN!
So what in the world am I doing here? Hmm…I'll have to dig deep for this one.

I've heard it said that six out of seven dwarfs are not Happy.

Let's see: There's Dopey, Sleepy, Grumpy, Sneezy, Bashful, Doc, and Happy.
Yep, six out of the seven aren't Happy. It's an indisputable, verifiable fact. It's the truth!

So, even in the realm of fantasy and imaginings, it's possible to have truth in mathematics.
I think I'll call this the "Snow White proof." Ha,ha. ☺

I wonder if I can draw a parallel between the case of the happy dwarf and theories of physics?

Maybe I can apply the "Snow White proof" to theoretical physics and come up with the "Pinocchio Factor," where the truth of mathematics is as plain as the nose on your face!

Aah! The "Pinocchio Factor"–separating mathematical theory and imagination from mathematical fact–I like it!

But there's the rub–infinity, calculus, and unproven concepts of squaring are wound tight as a Gordian's knot. How do I untangle that? Hmm…I could try the "Alexandrian solution."

Yeah, I'll just take a whack at it.

I'll start with infinity. Infinity encompasses everything. It is what it is.

If I look out at the stars at night, or at the sea shells I see lying on the beach at Golden Gardens Park, I can see the natural world has a math of infinity built right in.

And it seems only natural to investigate the universe with its own math.
"The Math of the Universe," sure has a nice ring to it.

I wonder, in "the math of the universe," if there's an equation for truth.
Imagine, being able to sync science with nature and develop a math to decipher creation itself.
Yeah, who wouldn't want to find the key that cracks God's code of creation and opens the door to the truth of the universe.

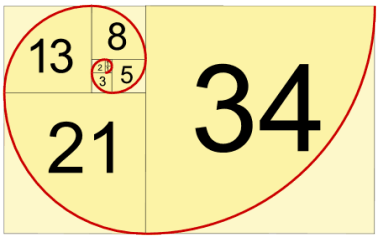
So I don't think infinity itself is the problem.
Infinity seems to be a truth.

So, if there's truth in infinity, what about calculus?
Calculus references all its equations–for rates of change, slopes, curves, waves, vectors, cycles, functions, volumes and areas–to the right-angle axis, the square corner, and the square.

Now there's a picture! Theoretical physics–bumping and thumping down the road on the clunky, square wheels of the calculus contraption…kerthunk, kerthunk, kerghee, kerthunk!

But does the universe run on square wheels, or is it just our mathematics that does?

I must admit, though, in the "square wheels" of calculus, I do see a true philosophical basis of mathematics: there's truth of number, the square (the perpendicular right angle), of line, and infinity. So calculus does rest "squarely" on four elemental pillars of mathematics.



But applying a square measuring cup to a "round" universe?
With its infinite resolution and irresolution between the square and the curve–the ability to find exact points along a curve, but the inability to exactly resolve curves in terms of areas and volumes of squares and cubes–calculus is a mathematics of perfect imperfection.
With round wheels on one side and square on the other, it's a perpetual argument between the circle and the square that never resolves!

Aha! So there's the beauty and truth of this mathematical square beast!
Calculus is philosophy dressed up as math! Of course! The epitome of math *would* be a math of philosophy. It's an intellectual ideal–a place to ponder, to question, to search for truth; a mathematical forum for debate and Socratic dialectic. How about that…I could spin the top and rename it. Should it be "Calaculus," "Calosophy," "Calculosophy," or "Philoculus?"

Yeah. Tailor-made for philosophy, imagination, and theory, calculus is just what the doctor ordered! It's the perfect mathematical mind bender–the infinite question mark!

Hmm…infinite, deliberate non-resolution that creates its own mathematical infinity of calculation: eternal calculating, questions but no answers. Calculus reminds me of that quote by Maya Angelou (or was it Joan Walsh Anglund):

> *A bird doesn't sing because it has an answer, it sings because it has a song.*

So I guess calculus' true song is the song of infinity.

Calculus, the mathematical song of infinity:

A way to calculate infinitely but never actually calculate infinity.

Wow! I can see where an everyday, ordinary, commonplace, unexciting, mundane math like 1 + 1 = 2 just can't compare!
There's truth in it, but in two steps you've got the answer and it's done; it's over!

But calculus? With its potential for eternal non-resolution–like trying to resolve pi–
the fun goes on forever!

And that's not even the best part! With infinite possibilities, no limits but the ones we impose upon ourselves, and no burdens or constraints to produce an absolute answer, with calculus it's possible to arrive at no definite answer whatsoever!

So that's what makes calculus what it is!
A math that has the potential for no answer has the potential to arrive at an answer or theory for everything!

Aha! A mathematical exercise in calculating infinitely toward something or nothing,
an answer with no answer, an answer or theory for everything and nothing?
I get it! Calculus isn't just a math philosophy. It goes way beyond that.
It's "transcendental" math! Ahh…or should I say "Om…"

Wow! Did I just catch a fleeting glimmer of the truth?
All this time calculus was just contemplating the destiny of the cricket?

Hmm…Here's something I can sink my intellectual teeth into! A math that engages the true potential of the intellect–the infinite–an open door to what you're searching for!

But can I really relate the quest for intellectual freedom and the search for truth to calculus?
I've heard it said that the truth will set you free…
but does the truth lie in mathematical irresolution or does it reside in resolution?

Yeah, trying to solve the mysteries of the universe with a math that won't resolve?
That's deep! Perhaps it's all too esoteric for me. Maybe calculus is like Blake's:

> *The road of excess leads to the palace of wisdom…You never know what is enough until you know what is more than enough.*

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Hmm…caught between the fires of desire and delusion?
Calculus: the eternal search for the line between not enough and too much?

Reminds me of my ongoing dilemma with Eva's chocolate cake: Is one piece enough?
Would two be too much? I'm never really certain.
All I know for sure is that three's probably too many.

Wouldn't it be nice to have a way to have an answer for everything?
I've heard that theoretical physics is searching for a theory of everything.
An answer for everything, a theory for everything…

I had to look it up on Wikipedia. *The theory of everything*:

> *A single, all-encompassing, coherent theoretical framework of physics that fully explains and links together all physical aspects of the universe.*

Wow! If I squint my eyes hard enough, kinda looks like a definition of calculus to me!

I have to look at that again!
A theoretical framework of physics that…links together all physical aspects of the universe?
Yeah, that's gotta be calculus!

Well this is embarrassing! How awkward! Now I know how a dog must feel after chasing its tail, when it stops and realizes *it already has a tail*!
Here I was trying to understand everything, and I didn't even understand what I was doing!

Of course! Theoretical physics uses mathematics to express its theories, so naturally the underlying theory that connects all theories of physics is math!
So theoretical physics doesn't have to search for a theory of everything; it already has one!
Wow! It always amazes me how simple the truth can be!
The end can be found in the method, and the method is math!

Did I just feel the scientific universe shift? Holy cow! The theory of everything is just mathematics? Well, I guess that's that! What a relief! No need to go further! Call in the dogs!

THE SEARCH HAS ENDED! THE HOLY GRAIL OF THEORETICAL PHYSICS IS DISCOVERED!
THE MYSTERIOUS THEORY OF EVERYTHING?
ALL ALONG IT WAS THE MATH!

Wow! This is exciting! I can't even think straight! Stop the presses! Roll the presses?

Man, what a headline that would be! What a scoop! I can see it all now! ☺

GUMSHOE GUMPTION!
SEATTLE SLEUTH SOLVES MYSTERY OF THE UNIVERSE!

Key to the universe wins Joe Average (and his girl Friday) key to the city, trip to the moon, and the pièce de résistance…season tickets to the Mariners' games!

Three cheers for hot dogs, baseball, Mom, and apple pie!
Good old-fashioned American ingenuity does it again!

I guess it's true what they say. Anything's possible with imagination!
But, *a theory of everything*? Now who's dreaming?

Seriously, I can't even imagine it! Having a theory to link together and explain *everything*–everything on the earth and in the universe? My mind can't even take it in. Infinity pales in comparison! It's mind blowing!

If I were talking about religion, it'd be a piece of cake, no problem!
God is the connection of everything and St. Peter holds the keys to heaven…no sweat!

But searching for a key to only the physical aspects of the universe–for the specifics of how God ties it all together, for that union of our physical existence and the essence of creation? Wow! That's a bit tougher! That borders on scientific Nirvana!

A theory of everything?
Now I can see where all the talk of a God particle comes from!
What is the basic building block of creation? What does tie it all together?
Is it animal, vegetable, mineral, particle or energy? Or is it just an equation?
Imagine, finding an equation for all God's creation–for all the mountains, oceans, mid-summer's evenings, scrambled eggs, raspberry jam, and chocolate bars.

Hmm…an equation for creation! I wonder if there is such a thing?
I don't know. All I know for certain is that science uses math to link together and try to explain everything in the universe. So maybe math is the key! At least it's a place to start.

A math theory of everything? Can't go wrong there…or can you?