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Gooney Ducks and Naked Physicists

Part I **The Fat One and the Skinny One**

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Abstract: An allegory of modern science.

One

I remember the day the earth stood still.

Awaking to a world astounded.

In all the newspapers, all the headlines! Newsboys in the streets shouting,

“Extra! Extra! Read all about it! RELATIVITY DISPROVEN! Get your P.I. here!”

Looking out across the Sound, through the gentle rain, I leaned back and closed my window on the traffic of Queen Anne. I still couldn't quite believe what I was hearing. I had to go down to the corner and get a paper, to see this for myself.

Relativity disproven?

I couldn't wrap my head around it.

Imagine being privileged to witness the end of a scientific era, the making of history, to what people will only dream of having experienced and write about in history books in the future.

What a time to have lived through—to see relativity rise to become the epitome, the darling of science, and then to be disproven.

But now that the relativistic era is over, I can only wonder, “What comes next?”

Of course, I expect there will be some scientific fallout—horrendous, heated debate, reluctance, a period of huge adjustment and finally, acceptance. I know my head will be full of wild relativistic equations and theories for quite some time. But I guess I will have to try to put all that behind me, let the memories gradually fade, and just thank Einstein for the wonderfully whimsical ride.

But what a ride!

I feel like I just staggered off a roller-coaster—all great, giddy fun, swept up in the adrenaline, the exhilarating highs of anticipation, the screaming descent, and the gut-wrenching lows—but, in the afterglow, I still feel a little disoriented, nauseated, woozy, and sweaty. I find myself happy and sad at the same time—glad that it's over and extremely relieved to get my feet back on the ground, but a ride I wouldn't have missed for the world!

Alas, relativity! How you captivated the world for a century. With a magic carpet of intricately woven theory, you carried science to such delirious heights of fantastic imaginings! Relativity! You soared like a mechanical flying horse, exclaiming,

*Oh! I have slipped the surly bonds of earth,
And danced the skies on laughter-silvered wings;
Sunward I've climbed to join the tumbling mirth of sun-split clouds.¹*

Relativity! A mist, a dream so hard to let go of!

But as I walk downhill toward the pier, toward Elliott (catching the usual glimpses of the ferries, the tugboats, the gulls), I could just kick myself.

If only I had seen this before! I could've been the hero—the world renowned, celebrated, hard-boiled, dogged gumshoe of science who cracked the case! (Face reddens with blushing pride. Yessirree, all in a day's work. Just doin' my job.) Ah, shucks! I coulda had it all!

Relativity disproven? In hindsight, I guess I should have seen this coming. There were plenty of clues, right in front of me!

Like the "Tunnel of CERN," where particles were accelerated to exceed the speed of light yet nothing happened. The light barrier was broken and nothing occurred—no sudden change in the deterioration rate of the accelerated particle, no time running backward or forward, no blinding flash or discharge of electric, blue-white Cherenkov radiation, no "Photonic Boom!" Nothing! Not even a pop!

But maybe proving or disproving relativity was never really the point.

Perhaps, relativity's true contribution to science—its gift to mankind—was being the idea that ignited a revolution of thought.

Think if we hadn't had it! Without this spark and fascination for examining the limits of light, velocity, time, and space, we might never have built rockets to blast off and fly to the moon, never have designed nuclear generators, particle accelerators, computers, or cell phones. Science may have taken an entirely different direction, or simply languished. Who knows? Without the theory of relativity, I might still be sending my mail Pony Express! And if I think of all the science fiction we would have missed out on—Buck Rogers, Flash Gordon, Planet of the Apes, Star Trek, Fireball XL5— I can't imagine a world without the inspiration of relativity!

Two

The rest of the week passed in expectation. But like a can of soda pop that's lost all its fizz, nuthin' really to report.

I used to think the next scientific breakthrough would change everything.

Would arrive with a bang!

Confetti would fly!

There would be streamers of ticker tape, triumphal parades, marching bands, speeches, dignitaries and VIP's from the four corners of the earth, a storm of media, priests, housewives, and children dancing in the streets, overwhelmed with emotion, choked up, shouting, jumping for joy...such a momentous occasion!

But now that "the big event" had actually happened,

...who would have guessed the next big "development" wouldn't be something added to science but something removed!

Something to step away from, grow out of, and tell your grandkids about, and maybe rewrite a few textbooks, but at the end of the day, with relativity disproven and shown to be only imagination expressed as theory, will its disproof change anything?

My feet inevitably carried me to Ivar's. As I sat there (with my customary dinner dates—the pelicans and gulls) absentmindedly munching on fish 'n chips, watching the sun set over Bainbridge Island and the ferries slowly and faithfully transporting their cargo of weary commuters across the Sound, something niggled at the back of my mind.

Relativity—this roaring giant of science—had been just a theory: something that was but something that wasn't.

So, if relativity hadn't really been anything—nothing—why all the hoopla?

Sure, I could understand its allure—walking here on the earth, if someone told of the possibility of walking through the clouds (*of Butterflies and Zebras, and Moonbeams and fairy tales*²), I could see the fascination. But what was relativity all about, anyway? How had this theory been derived? Where did it come from?

Three

With a belly full, but a mind still restless, I made my way back to the office—a seedy, rundown, second-floor walk-up down by the pier. It was one of those old brick monstrosities, a relic, that, like myself, had seen better days. On my desk was a note from my secretary, Eva. My first thought, maybe she'd skipped town with the petty cash and gone to the Bahamas. But no, nothing so exotic—just a reminder that she had gone home for the night and not to forget that tomorrow was payday.

Settling comfortably into my squeaky, old swivel chair, I reached into my pocket, took out a key, and carefully unlocked the bottom desk drawer. Ahhh—a Hershey's chocolate bar, Cracker Jacks, Starburst, Life Savers, gummy bears. Mmmm, time for dessert—which will it be tonight?

Sitting there in the semi-darkness, savoring the evening, with the office walls bathed in the soft glow of the huge neon green and white 7 Up sign outside my window (the bubbles always made me a little thirsty), I looked at my computer...what a marvel.

One touch, one push of a button and...bam! The universe opens up in front of me—fantasies, imaginings, dreams, creativity without limits, endless possibilities breaking the barriers of time and space. Relativity may have held out the promise of changing the world, but the computer actually delivers.

I remember a quote from Genesis:

*If as one people speaking the same language they have begun to do this, then nothing they plan to do will be impossible for them. Come, let us go down and confuse their language so they will not understand each other.*³

I've heard a lot of different languages in my time, but I can't even imagine that day at Babel—tumult, gibberish, mass confusion! In one day, everything changed! And ever since, ideas and knowledge held in captive isolation, with everyone struggling for a means to restore order out of the chaos, to bring ideas back together—to communicate.

And now the computer, the quintessential polyglot, has arrived to save the day! Like Salk's vaccine for polio, the computer promises to be science's answer to the dreaded scourge of babble! With its limitless, worldwide transmission of experiences, ideas, and creativity, as a means of communication common to all, the computer may be the first step in bringing us full circle back to the Tower of Babel—to harmonious, universal communication, world peace, and rampant scientific breakthroughs. Bill Gates awarded the Nobel Peace Prize? Hmm...

Four

I felt like a kid at Christmas, coming down the stairs and seeing that humongous present Santa left that doesn't quite fit under the tree! Wow!

My mind was full of a million different thoughts. Don't even remember how I got home, just that, as I walked, the sweater I had on was not quite enough. Brrr...the cold wind coming off the Bay almost pushed me up the street—traffic lights swinging, garbage rolling by. Glad to get home, I made myself a cup of hot chocolate.

I couldn't stop thinking about computers.

I don't really know much about 'em. I don't look under the hood, or delve into their mysterious internal workings, but Joe, my computer "mechanic" (down at the Cyber Garage), tells me they run on a mathematical basis of the binary.

I try to imagine these two binary characters, the 0 and the 1 (the fat one and the skinny one), deep inside the computer, translating all information into a mathematical virtual reality.

So, the two binary characters are the true unsung heroes of the day!

Together, with the computer, they have done what no one else has been able to do.

In processing all information into a mathematical language, they've created a language common to everyone, a means of universal communication... something people have been searching for since the Tower of Babel!

Hmm...everything translated into one language, the binary?

Step aside, Esperanto! The binary mathematics of the computer has become the modern lingua franca, bridging not only the spoken languages of the world, but also the languages of experience, imagination, science, and creativity! The binary does it all!

I think it was John Locke who said that knowledge is the connection of ideas...I can't think of anything more connected than the computer. What greater potential for knowledge! And all the knowledge connected by mathematics! Wow!

Kaboom! What was that sound?!! That distant rumble? And then that shockwave!

Are the streets exploding? I've heard stories of that happening to the concrete over on Delridge Way.

No...it must be the sound of the computer binary breaking the language barrier!

I'm usually a man of few words but...

Kowabunga! and Boy howdy! Crack out the bubbly, pop the cork, and dodge the fizz!

This calls for a celebration! (I must have a bottle of champagne around here somewhere.)

The biggest scientific breakthrough of the century? No! This could be the biggest scientific breakthrough the world has ever known!

Extra! Extra! Read all about it! THE COMPUTER BREAKS THE LANGUAGE BARRIER!!

Now, there's a headline I'd like to see!

Forget about relativity's promises and the fantasies of H.G. Wells' time travel machine or the steam, bells, and whistles of Oz. Right here in front of us is a mathematical machine that sets humanity free at last!

Like a quiet giant, the computer, with its binary, has changed the world!

Imagine if the computer had never been.

Or, if all the computers were suddenly taken away, the outcry heard around the world!

We'd be back in Babel again, right back to chaos, turmoil, and confusion!

Our common means of communication, our connection, lost!

Almost overnight the entire world has been globally connected by one language (the binary), and all because of this love affair with the computer.

And that's not the half of it. By connecting us to a common worldwide forum of entertainment, education, business, shopping, expressing and sharing of ideas, creating, and imagining—this global melting pot of communication, information, and intellect—the computer has created a common world culture, one that goes beyond politics, borders, and language barriers!

Yahoo! Here is something to write songs about...to shout about, to raise the roof!

This is something unique in the history of the world. Imagine: one world culture!

One global culture that an entire generation has been born into!

With the computer at the forefront, there now exists a means of unified thought—an electronic, mathematical Theory of Everything!

The world—everyone—connected by math!

Five

The next day I called Eva, told her I would be late coming in to the office. I needed some time to think. I climbed in the Chevy and took a drive out toward the Rainier Brewery, across the old wood plank trestle—always a little treacherous and slippery when it frosts, but nothing like Boeing Hill when it snows...what a nightmare!

But no matter where I drove I couldn't get away from that voice in the back of my head—you know the one, the one that keeps you awake at night. Like a bulldog chewing on a bone, my mind kept going over and over the same things—relativity disproven, computers, the binary, the Tower of Babel, one world culture connected by mathematics.

This was a big bone to chew!

I headed home and looked in the fridge...as usual, not much there. So I opened a can of Campbell's tomato soup, made myself a grilled cheese sandwich, and sat down in front of the computer.

I started to type in *relativity*, but then thought to myself, "Maybe I should go back again to where I left off, to where it all started...to God and Babel."

With his regiments of angels and the soul of a poet, God is sure a tough nut to crack. I always wonder, "What's he up to?"

At Babel, though God confused the spoken language, He seems to have left the abstract mathematical language, which we all have in common, untouched, intact.

And as He didn't mess with it, this makes me think that perhaps the mathematical language is indispensable to the basic process of thought.

Is it possible that mathematics is the foundation of the intellect—the a-priori, inner language existing in the mind necessary to process information, to think, create, analyze, and understand? Could mathematics be the language of the brain's function?

My thoughts went into a whirl! This really blew my mind! Could it be that simple? It's as if I could see in big red letters:

MATHEMATICS, THE CONNECTION OF EVERYTHING!!!

Well, maybe not everything, but pretty darn close!

Six

I needed to talk to Eva about this.

But when I finally made it back to the office, she wasn't there.

I couldn't be too disappointed though...on my desk, was a slab of her homemade chocolate "wacky cake"—mmm...my favorite. Next to it, the inevitable note, this time reminding me that her sister was in town and that I had promised to take her out and show her around.

Oh, that's right, I almost forgot...

But no time for that now.

Taking a bite of cake...aah...I sat down at my desk and stared at the computer.

Hmm...*Be fruitful and multiply*⁴ took on a whole new meaning!

If I draw a parallel between the computer and our own intellect, I wonder:

If our brain also runs on a mathematical basis, what kind of basis would that be?

Geometric, numeric, binary, trinary? Or some combination of these?

How would we ever know, or determine that?

And if I think again of Babel, is mathematics the basis of the entire intellect or just of communication?

Pythagoras tried to find the principles of mathematics in all things, in all creation, all life—in astronomy, biology, music, art.

Science also tries to interpret the universe mathematically.

And all those school books full of endless equations—from kindergarten, to junior high, to grad school—there must be some reason behind all this study of mathematics.

Is it just us? Is this simply a desire to reconcile the universe to the mathematics of our brain?

Or does all creation have a mathematical basis? I wonder what Eva would think? With her logical mind, she'd probably say, "Oh that's easy. Either

- A. everything has a mathematical basis,
- B. our brain has a mathematical basis, or
- C. it's both."

This is deep: mathematics of creation or the mind?

I can see this as the beginnings of an entirely new branch of science that opens up new avenues of thought and research, with prestigious sounding names, like Dr. Schaffhausen, heading up new departments over at the university. New degrees would be offered, with an expanded curriculum containing a laundry list of undergraduate courses, such as:

Brainology 101

The Brain's Mathematical Function 102

How the Computer Changed the World: Basics of a One World Culture

The Computer, Culture, and Communication

The Computer as the Collective Conscience

Trickle-down Math: Theory and Effect

The Mathematics of the Mind vs. the Machine

Mathematics: The Language of the Mind and the Soul

Imagine: studying mathematics as the common language of the intellect and communication—as the origin of wisdom, culture, creation, and scientific progress.

Instead of there being so much emphasis on the separate disciplines, from here on out the focus would shift to how all knowledge is interconnected.

This would be a whole new chapter in education and science.

UDub would have a heyday!

I can just see the advertisements at the Student Union Building (on the HUB Video Wall):

“Students!

Welcome to the new world! The dawn of a new scientific frontier has arrived.

Don't miss your chance. Sign up for classes now!

This could be your ticket to the future!”

If I weren't so busy, I'd almost be tempted to sign up myself. Which classes would I choose?

Hmm...maybe I can talk Eva into going for me.

Seven

I looked at the crumbs on my plate. Doggone it, guess I bogarted all the cake.
I should've saved some for later. Oh well, 'bout time to go home anyway.

When I woke the next morning—wow! All the pieces suddenly fell into place. This connection between math, language, and Babel solved a mystery that had plagued me for years!

I remember failing Latin miserably...I couldn't figure out why.
Was it all those declensions? Was it me? Now I realize I wasn't to blame!
The deck was stacked against me!

I was just another communication casualty of Babel!

I think of all the branches of the Indo-European family of languages—how different they are and how, over time, they've only become more diverse.

From the moment God confused our language, none of us stood a chance—the confusion has just continued to spread and get worse!

As I lay watching the raindrops fall on the skylight, I thought about what was spoken at Babel:

*If as one people speaking the same language they have begun to do this, then nothing they plan to do will be impossible for them.*⁵

What a strong statement! Speak the same language and nothing is impossible—
Boy howdy! Here's something to go forward with!

God left us the abstract language of mathematics in common. What do we do with it?
Is the sky the limit?

So far, we've just achieved the "mundane"—only created a common world culture with the binary mathematics of the computer. So what's next?

How do we use this common language of mathematics to do the impossible?

Virtual creation with the computer doesn't seem to have any limits.

I wonder: How big is the leap from virtual creation to real creation?

How do we "kick it up a notch" and step beyond the science of the computer to the pure science of mathematical communication and creation?

Wow! I wish I had the answer.

This blows the door wide open!

With a common language; no barriers, no limits—nothing impossible. Hang on to your hat!
This could break down all the walls of traditional thought.

I remember reading the argument that language is the origin of religion:

*In the beginning was the Word...and the Word was God*⁶

Forget the computer: Here's a connection of language to God—to the origin of creation!

And if the creative strength lies in the creative word, what potential lies in the language of mathematics? Perhaps possibilities that encompass more than I dare imagine.

To have the means to achieve the impossible placed within our grasp...wow!

Where will this newfound knowledge of communication, interconnection, mathematics, and language take us?

Sure, the possibilities are incredible—they boggle the mind. But so do the consequences, limitations, ethics, and morals.

This is knowledge with a lot of responsibility!

Sure wouldn't want to create another Tower of Babel!

God confused one language. He might just confuse another, too.

You never know. Don't want to step on God's toes!

Maybe we just need to knock on heaven's door a little more respectfully this time.

Oh! I almost forgot. I was going to look up relativity...did I ever get sidetracked!

All this stuff about computers, math, creation—all this thinking has made me hungry.

Look at the time; I missed breakfast! Hmm...I think there's still some pizza left in the fridge.

Sources:

1. *The Complete Works of John Magee, The Pilot Poet* (Cheltenham, Gloucestershire: This England Books, March 1989.)
2. *Little Wing*, Jimi Hendrix (AZLyrics.com, 2000-2014)
3. Genesis 11:6-7
4. Genesis 1:28
5. Genesis 11:6
6. John 1:1