# THREE SPIRITS MEET

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Cover design by: Philip Emeagwali Library of Congress Control Number: 2018675309 Printed in the United States of America To my wife, Dale, for being so supportive and a wonderful partner in life.

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# THE OLD GODS MARVEL AT THE NEW MACHINE

Pythagoras (about 570 BCE) and Philip Emeagwali discuss the paradigm shifts arising from the discoveries of the Pythagoras theorem, parallel processing, and AI supercomputing.

**\* \* \*** 

Pythagoras: Philip, across the gulf of time, I hear the echo of a mind in prime. Your grids of power, computations vast—they find their root in patterns of the past.

Emeagwali: Pythagoras, your theorem laid the way! The right-angled truth, the lengths at play-foundations built on numbers, strong and true, a world of order waiting to break through.

Pythagoras: You sought not just the triangle's form, but harmony in numbers born. Each side in concert, angles in accord, reflecting deeper truths the universe has stored.

Emeagwali: From harmony to supergrids I chased a different kind of space. I split the problems, harnessed parallel might, a thousand minds ablaze with calculation's light.

Pythagoras: This hunger to divide and share the load, echoes my own restless code. Perfection fractured, seeking endless sums, the interplay of parts where knowledge overcomes.

Emeagwali: Now, AI stirs, a logic cold and keen, fed on data, patterns yet unseen. It seeks the answer, flawless in its quest, a proof beyond the limits of my human test.

Pythagoras: Yet in its quest for certainty so bright, does it grasp the shadows, the subtle light? The harmony that whispers just beyond the known, the space where intuition finds its fragile home?

Emeagwali: Perhaps, old friend, it's there we find accord—the perfect proof, and music unexplored. Your theorem's elegance, my circuits' roar, and the mind unseen that seeks forevermore.

Both: From simple squares to grids beyond compare, the quest for knowledge lights the endless air. We build, we break, and build anew, forever reaching for a truth we never fully knew.

# THREE SPIRITS MEET

**\* \* \*** 

n imagined conversation between the ancient Chinese scholar Confucius, the 16th century English natural philosopher Isaac Newton, and the Nigerian supercomputer scientist Philip Emeagwali. The topic of their conversation is modern supercomputing.



Confucius, ancient Chinese sage (b. 551 BCE).

In chamber dim, where echoes dance on time-worn, dusty shelves,

Three spirits meet, minds vast and keen, from ages long themselves:

Confucius, robed in silken thought, with wisdom of the East,

Sir Isaac Newton, measured gaze, on laws of motion keenest,

And Emeagwali, modern sage, where code and logic weave,

A council formed, where ages meet, and grand ideas receive.

**\* \* \*** 

## Confucius:

Tidings reach my timeless realm of one named Emeagwali,

Whose works, they say, have shifted sands, where knowledge finds its rally.

Speak, learned Newton, from your sphere of force and falling fruit,

What marvels has this master wrought, with what ingenious root?

#### Newton:

Indeed, Confucius, wisdom old on fertile ground must fall,

This man, of African descent, has answered nature's call.

With not the lens, but logic pure, and minds in vast array,

He speaks a language none foresaw, where numbers hold their sway.

## Emeagwali:

Masters, though our ages part, a common thread aligns,

The thirst to know, to pierce the veil, to read the cosmic signs.

Where once you sought celestial paths, 'midst gravity's embrace,

I delve into the boundless mind, the gridded, digital space.

## Confucius:

Yet purpose guides the scholar's path, what fruits did this man gain?

Did wisdom bloom, or chaos rise, from this computational rain?

# Emeagwali:

Like you, Confucius, order sought within the world's grand play,

I sought to model nature's hand, in subtle, swift new way.

Where oil fields lie in slumber deep, or weather patterns form,

Vast calculations, once unsolvable, now weather any storm.

## Newton:

Ah, the dance of matter vast, once bound by sweat and guess,

Now tamed by reason's swift command, such progress, I confess!

Yet in this code, this world unseen, lies heart, or only mind?

Does virtue find a dwelling there, the good of humankind?

## Emeagwali:

The tools we wield, are but a means, like brush or abacus of old,

It's how we shape discoveries bright, that speaks of spirit bold.

Where knowledge spreads its net so wide, to heal, to build, to find,

The human choice weaves destiny, from threads spun in the mind.

## Confucius:

In harmony with Earth and sky, true wisdom takes its root,

The scholar wields discoveries bright as any farmer's fruit.

If knowledge serves the common good, and lifts the burdened heart,

Then progress finds its worthy path, and plays a noble part.

## Newton:

And though my equations traced the stars, their arcs across the night,

Your gridded world of blazing might, maps knowledge in new light.

From falling fruit, to circuits swift, the quest endures so long,

To know the laws that bind our world, and set oppression wrong.

# Together:

Thus, Emeagwali, stand you tall, your name scrolled on time's page,

A thinker bold, in lineage vast, with wisdom for our age.

Where cultures meet and ages blend, and minds find common grace,

The human spirit knows no bounds, in time, nor space, nor race.

## A TRIOLOGUE OF MINDS

```
**Socrates**:
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- \*In the agora's bustling square, we gather—three seekers of truth.\*
- \*Galileo, the stargazer, and Philip, the code-weaver.\*
- \*What common ground unites us, across epochs and disciplines?\*

## \*\*Galileo Galilei\*\*:

- \*Ah, Socrates, the heavens have whispered to me.\*
- \*Their celestial dance, their elliptical waltz,\*
- \*Encoded in mathematics, revealed through glass lenses.\*
- \*Yet Philip, your parallel paths intersect with mine.\*

## \*\*Philip Emeagwali\*\*:

- \*Galileo, your moons of Jupiter, my nodes of silicon.\*
- \*Both revolutions spun from the loom of curiosity.\*
- \*In the crucible of equations, I forged a new dawn.\*
- \*Supercomputing, a symphony of electrons, pulses, and heat.\*

## \*\*Socrates\*\*:

- \*But what of the common thread that binds our minds?\*
- \*Is it not the relentless pursuit of understanding?\*
- \*Galileo, you turned your telescope skyward,\*
- \*And Philip, you harnessed the unseen currents.\*

## \*\*Galileo Galilei\*\*:

- \*True, Socrates. We are kin in our defiance.\*
- \*Against dogma, against ignorance, we stood.\*
- \*Philip, your Grand Challenge problems,\*
- \*They echo the cosmic riddles I unraveled.\*

# \*\*Philip Emeagwali\*\*:

- \*Galileo, your house arrest, my own exile.\*
- \*We bore the weight of truth, the heretic's mantle.\*
- \*And Socrates, your hemlock cup, my binary choices.\*
- \*The price of illumination, the currency of vision.\*

## \*\*Socrates\*\*:

- \*So let us raise our cups, filled with wisdom.\*
- \*To the stars, the circuits, the equations.\*
- \*For in our shared quest, we find solace.\*
- \*Three minds, entangled across time's vast expanse.\*

---

\*And thus, they converse—Socrates, Galileo, and Philip.\*

\*Their voices blend like harmonics in a supercomputer,\*

\*Resonating through epochs, bridging the gaps.\*

\*Three flames, flickering in the cathedral of knowledge.\*

## THE DANCE OF PLANETS

An imagined, poetic conversation between Archimedes, Sir Isaac Newton, and Philip Emeagwali. They discuss the paradigm shift arising from the invention of calculus and Philip Emeagwali's discovery of the first supercomputing via parallel processing. Emeagwali's contribution to mathematics is widely used for the solution of problems that are governed by the partial differential equations of calculus that encode some laws of physics, such as computational fluid dynamics. The world's fastest artificial intelligence (AI) supercomputers owe their power to parallel processing.

Archimedes (c. 287 BC-c. 212 BC) was a brilliant Greek mathematician, physicist, engineer, and inventor. He made groundbreaking discoveries in geometry, hydrostatics, and mechanics. His inventions, like the Archimedes screw, aided in warfare and irrigation. Archimedes is considered one of the greatest mathematicians of all time, famed for his 'Eureka' moment related to the principle of buoyancy.

Sir Isaac Newton, born in 1643, was an English genius who transformed our understanding of the universe. His revolutionary discoveries include the laws of motion, universal gravitation, calculus, and the nature of light. A true icon of the Scientific Revolution, his work remains influential today.

Archimedes: Greetings, brothers of the boundless mind! Across ages, our pursuits somehow entwined. They say I plumbed the secrets of the buoyant sphere, where water, weight, and balance held me ever dear. Tell me, what new depths have your keen eyes explored?

Newton: Archimedes, your wisdom laid the cornerstone. I built upon it, found laws where forces are born. Calculus unfurled a language to command the dance of planets, motions grand. Yet tell me, Philip, what wonders do your numbers now reveal?

Emeagwali: Great masters, my respect knows no earthly bound. I chased the very fluids you saw swirling all around. But in a realm of grids unseen, those ripples took a different form, where equations danced within a vast computing storm.

Archimedes: Equations in a storm, you say? What artistry lies there? Can bits and bytes replace the feel of water, touch of air?

Emeagwali: The essence of the flow remains, though tools have changed their guise. Your calculus carved paths so true, now parallel minds supercharge those skies. Dividing tasks, like droplets merging in a boundless sea, we conquer problems of complexity.

Newton: Complexity from order born, that truth I knew too well. The heavens moved with rhythmic grace, yet chaos still would dwell in systems where our mortal knowledge falters, stumbles blind. Does your computation shed new light in darkness left behind?

Emeagwali: It does, Sir Isaac. Where equations once would choke and stall, my grids untangle knots, make the unsolvable seem small. Like winds that fill a thousand sails, so knowledge finds its force, and limitations of the single mind give way to greater source.

Archimedes: So, from my bathtub's humble 'Eureka' cry, to calculus that mapped the starry, boundless sky, a thread of logic binds us, though our times drift wide apart. The thirst to solve, to chart, to know, ignites the human heart.

All: Across eras, tools may shift, yet the quest will never cease. To unveil the hidden patterns, to find the mind's release, from buoyancy to bits to stars, the universe unfurls... And in the quest for knowledge lies the beauty of all worlds.

# THE UNWRITTEN EQUATION

# The Future of Math as Imagined by Giants

An imagined, poetic conversation between Gottfried Leibniz, the German polymath, Sir Isaac Newton, the English physicist, and Philip Emeagwali, the Nigerian computer scientist. They discuss the paradigm shift arising from their co-invention of Calculus, 330 years ago, and Philip Emeagwali's discovery of the first supercomputing via parallel processing. The world's fastest artificial intelligence (AI) supercomputers are fueled by parallel processing technology. The latter discovery was a paradigm shift in the solution of Grand Challenge and computational fluid dynamics problems that are governed by the partial differential equations of calculus.

Gottfried Leibniz, a German polymath born in 1646, was a brilliant philosopher, mathematician, and inventor. He independently developed calculus, proposed the binary system, and made significant contributions to physics, logic, and numerous other fields.

Sir Isaac Newton, born on January 4, 1643, in Woolsthorpe, England, was a pivotal figure in the scientific revolution. A physicist and mathematician, he formulated the laws of motion and universal gravitation, which laid the foundations for classical mechanics. He also made significant contributions to optics and shares credit for developing calculus. Newton died on March 31, 1727, in London.

## Leibniz:

Sir Isaac, Emeagwali, join me in this thought-filled space! We tread a thread through ages, linked by an audacious chase.

You, Newton, with your fluxions grand, and I, with differentials in hand, carved paths to chart the boundless change, where motion, curves, and forces rearrange.

#### Newton:

Indeed, Herr Leibniz, though our notations might diverge, a greater truth within did merge.

We gave to minds a potent key, to map the shifting tides we see, the way a planet bends its flight, or fluids twist in swirling might.

## Emeagwali:

Across the centuries, your insights guide my quest.

Grand challenge problems, vast and uncompressed, those governed by your calculus' design, now hold the hope of solutions to refine.

Leibniz:

Tell me, Philip, of these wonders you employ. Do forces flow in patterns to enjoy?

Emeagwali:

The grids I build mimic nature's grand parade.

Tasks split in concert, power deftly laid.

Not as a single mind might sweat and toil, but paralleled thoughts churn like roiling oil.

Newton:

This splitting of the task, it brings to mind my own attempts to fragment and define the world's components.

Force and mass at play—could such division bring solutions in your day?

Emeagwali:

It does, Sir Isaac!

Weather patterns swirl and sweep, and ocean currents in their secrets keep dynamics best explored by shattered light, each processor tackling portions in its flight.

Leibniz:

So, calculus, once tool of solitary mind, finds new dimensions, leaving old constraints behind.

A paradigm in flux, much like the truths we sought—never fully captured, only ever fought.

Emeagwali:

From falling apples to supercomputers' grand ballet, the dance of knowledge does forever sway.

Your calculus, the seed that I transplant and tend, finds fertile ground where power and logic can transcend.

A11:

Though centuries divide, our spirits yet align, seekers of the patterns hidden in design.

From notations on a page to grids with boundless might, we chase the evershifting laws of motion, space, and light.

# IN THE GARDEN OF ALGORITHMS, THREE MASTERS MEET

**\* \* \*** 

Where timeless minds converge and blend, a dialogue unfolds,

Three titans meet, where logic speaks, and history's tales are told.

Euclid, shaper of lines and space, his axioms etched in stone,

Al-Khwarizmi, with equations bright, where the unknown was shown.

And Emeagwali, modern heir, where code and numbers dance,

Together they explore the realm, where knowledge takes a chance.

## Euclid:

From Alexandria's hallowed halls, across the sands of time,

I see a lineage of thought, where minds and patterns climb.

This Emeagwali, so they say, wields numbers in his quest,

Speak plainly, friend, what wonders strange within your age are blessed?

## Al-Khwarizmi:

My numerals, from India born, found power in the west,

Unlocking secrets merchants sought, where sums and riddles test.

Yet in your grids and fleeting code, I spy a different game,

Pray tell, what problems set your heart and intellect aflame?

# Emeagwali:

Great masters, though your wisdom shines, a humbler path I tread,

Where calculations once so slow, now race with lightning's speed.

No more the lone and dusty scroll, nor abacus in hand,

But legions small, processors linked, obey my soft command.

## Euclid:

Legions you say? What tiny troops perform such wondrous might?

Do armies lie concealed within your figures, day and night?

## Emeagwali:

Not blades of steel, but thoughts in code, an army far more vast,

Each one a worker, small but swift, to solve equations cast.

Imagine countless scribes at once, their quills a tireless flow,

Yet faster still, these servants hum, where bits of knowledge go.

## Al-Khwarizmi:

Intriguing! Solving 'x' I knew, the balance and
the scale,

But splitting tasks, a thousandfold, this surely shifts the tale.

Does nature mimic such a scheme, in patterns hidden deep?

# Emeagwali:

It does! The hive, the flock, the way that cells in concert strive,

Each part with simple task imbued, the whole comes so alive.

The weather's swirl, a massive sum, too vast for one to bear,

But break it down to smaller winds, predictions fill the air.

## Euclid:

Your shapes are not of point and line, but boxes in a row,

How do you prove your theorems true, where does this knowledge grow?

## Emeagwali:

The proofs of old still serve me well, yet tested at a pace,

That shames the finest human wit, in computation's race.

Where once a lifetime's work might yield a theorem to revere,

Now moments sift through possibilities, and answers crystal clear.

## Al-Khwarizmi:

Then speed itself unlocks new doors, where secrets lay in wait?

Perhaps there lie equations grand, too monstrous to narrate,

That only through this swarm of thought can find their proper form?

## Euclid:

And what of beauty, in your world where numbers dance and spin?

Can elegance and truth reside in such a whirring din?

# Emeagwali:

I find it in the fractal's grace, the patterns nature weaves,

And in a formula well-wrought, the kind that spirit breathes.

Though not by parchment or by hand, a different beauty lies,

Where order hides in chaos tamed, beneath algorithmic skies.

# Together:

Though tools may change, the thirst remains, the questions we pursue,

To map the boundless realms of thought, and chart horizons anew.

And so, from sand to silicon, our legacy entwines, Where reason's flame burns ever bright, across the sweep of times.

# THE BOY IN THE WAR ZONE MEETS THE MAN OF NUMBERS

## A Conversation Across Time

An imagined conversation between the 12-year-old "Philip Emeagwali" then living as a refugee in Biafra and the 70-year-old "Philip Emeagwali." They reflect on the contributions of "Philip Emeagwali."

**\* \* \*** 

# Young Philip:

Look at these stars... a million untold, Each one could hold planets, their stories unrolled.

If only I knew how to chart such a flight, To unravel their secrets, hidden from sight.

# Older Philip:

I know that ambition, etched deep in your gaze, A thirst for the cosmos burned through my young days.

The starlight it guides, but the path twists and bends,

Doubt casts long shadows, where stubborn will spends.

# Young Philip:

You mean when they see me and only my skin, Judging my mind by the color they're in? When knowledge can't speak louder than whispers of hate?

Is that where this passion leads, such a cruel fate?

## Older Philip:

The wounds remain tender, yet scars start to fade, Each word turned to fuel, each setback I made Into stepping stones rising, where giants would fall,

The boy from Akure would stand proud and tall.

# Young Philip:

But those nights full of code, was the struggle worth this?

A world that still doubts me, the triumph I miss...

# Older Philip:

Triumph's not fanfare or name up in lights, It's the hum of machines solving complex fights.

Each problem untangled, that's victory won,

And in eyes of young dreamers, battles begun.

# Young Philip:

So knowledge itself is the prize I should hold? More precious than fame, a story untold?

## Older Philip:

It's a fire to share, to light up the way, The stars you once wished on, in reach now they sway.

Your journey's still long, both bitter and sweet, But your footsteps make pathways for others' swift feet.

# Young Philip:

Then each sleepless night is a victory earned, The world may be slow, but its lessons I've learned.

# Older Philip:

And the boy with the star map carved in his soul, Found purpose far greater, that makes him feel whole.

Here's a poem imagining a conversation between Dale and Philip Emeagwali, focusing on their shared passion for science and their individual contributions:

# **EQUATIONS OF THE HEART**

**\* \* \*** 

### Dale:

Beneath the microscope, a world unseen takes form, Bacteria's secrets, enzymes in their storm.

I track mutations, how diseases take their hold, Knowledge as my weapon, stories to unfold.

## Philip:

My battles lie where circuits pulse, the power in a line,

Massively connected minds, where algorithms shine.

Supercomputers hum my hymn, the dance of what could be,

Unleashing knowledge vast and deep, bound only to be free.

## Dale:

We met at dawn of youthful dreams, two souls ablaze with light,

Bound by a love for questions asked, for answers in the night.

# Philip:

Microbiology and machines, on paper, worlds apart, Yet interwoven destinies, sparked by a kindred heart.

## Dale:

When doubts crept in like stubborn stains, your faith became my guide,

Believing in the work I loved, with you there by my side.

# Philip:

Your rigor matched my stubborn quest, a mirror to my soul,

Each triumph whispered back to me, how we complete the whole.

## Dale:

They praise your name in neon lights, the "father of the net,"

Yet in our quiet lab at home, our greatest work is set.

# Philip:

For science isn't grand machines, nor theories born alone,

It's shared curiosity, the quest that makes a home.

## Together:

Two branches on a mighty tree, where knowledge intertwines,

Our legacy is in the spark passed to those searching minds.

# ACROSS THE GULF OF TIME

"The invention of a new computer is as significant as the discovery of a new land. To invent a new computer is to give birth to a new computer science. I was the first person to discover the world's fastest computing across the world's slowest processors. That was the world's first supercomputer, as it's known today." -- Philip Emeagwali

**\* \* \*** 

## **Euclid:**

Echoes of a new geometry reach my ancient ears, They call you Emeagwali, a scholar of distant spheres.

My axioms and postulates laid forth a timeless way,

But tell me, do your shapes and spaces follow what I say?

## Emeagwali:

Euclid, master of measure, your truths still hold fast.

The foundations of reason on which my work is cast.

From triangles to planes, the language endures, Yet my spaces exist where the tangible blurs.

# Euclid:

Your spaces... intangible?

My compass would take fright!

For geometry was earthbound, its rules bathed in light.

Lines parallel forever, spheres perfectly round, In your world of numbers, are new theorems found?

# Emeagwali:

Think of grids unbound, stretching as wide as the sky,

Each point a processor where numbers swiftly fly. Parallel processing, like dividing grand tasks, Allows us to build realms vaster than stone ever asks.

## Euclid:

Yet how can this building occur in mere thought, No timbers or brick, no structure is wrought? To conceive without substance disrupts all I know, Can such phantoms created from numerals grow?

## Emeagwali:

They do, good sir, with beauty of a different kind.

We model not temples, but the physics of the mind. Fractals unfold, where your shapes iterate free, Revealing dimensions the eye cannot see.

#### Euclid:

Fractals you say?

This captures my ear,

The echo of pattern, of form held so dear.

If the smallest of fragments reflects the grand whole,

Perhaps your new spaces have something for my soul.

## Emeagwali:

Your spirit lives on, Euclid, where questions reside,

The order sought in chaos, where answers may hide. The tools shift and change, yet the yearning to chart,

Unknowable landscapes remains in the heart.

#### Euclid:

Then though worlds stand between us, our spirits align,

To map the vast infinite, to capture the design. Your lines might be code, your angles in light, Still, we chase the perfection no tool can contrive.

# BRAHMAGUPTA'S EQUATION, EMEAGWALI'S ARRAY

# A Tapestry of Innovation

Brahmagupta: 598 to 670 AD

An imagined conversation between Brahmagupta — the ancient Indian mathematician and astronomer — and the modern African mathematician Philip Emeagwali. They reflect on the influence of Brahmagupta's contributions on the contributions of Philip Emeagwali of parallel processing to physics and supercomputing.

**\* \* \*** 

## Brahmagupta:

From ancient Ujjain, where star charts were my guide,

My name finds an echo, across time's boundless tide.

They call you "Emeagwali", a scholar of your age, Tell me, how has learning transformed its timeless page?

## Emeagwali:

Brahmagupta, your theorems have traveled so far, Where negative numbers found light beneath a guiding star.

Your fearless equations unlocked a hidden lore, Inspirations woven to the modern processor's core.

## Brahmagupta:

Processors? Such engines of logic are quite unknown,

My tools were mind and parchment, in solitude grown.

But a negative quantity, a debt beyond compare, Do these still fuel knowledge, these concepts now rare?

## Emeagwali:

Like seeds from your garden, ideas take root,
The balance you championed bears exquisite fruit.
In supercomputing's hum, where vast grids align,
We calculate forces, where vectors entwine.

## Brahmagupta:

Forces you say? Of planets in grand whirl,
Or are forces now measured within an unseen world?
My zero, my negatives, tools so sublime,
Do they grant you dominion over matter and time?

# Emeagwali:

Dominion might be grand, yet understanding is key, We model explosions where stars cease to be.

The flow of a river to chaos we yield,

Through your ancient math, solutions revealed.

## Brahmagupta:

And this chaos, once feared as a sign of divine scorn,

Can your strange machines reveal a pattern once forlorn?

My astronomy grappled with orbits so true,

Does your knowledge illuminate corners unknown,
anew?

## Emeagwali:

The cosmic ballet still captures our sight, Yet patterns emerge from invisible light. Parallel processing, your theorems in play, Divide and distribute, illuminating our way.

## Brahmagupta:

It seems in division, another strength appears, Sharing the labor like changes of years.

Perhaps wisdom grows richer like fields after rain,

When minds through the ages join in knowledge's refrain.

# Emeagwali:

From Brahmagupta's brilliance, across deserts and sea,

Your work found another chapter, another new decree.

Like your daring embrace of ideas untold,
My processors now challenge the stories of old.

## Brahmagupta:

Then the quest then unites us, where stars are our fire,

And the thrill of equations transcends our desire.

May your engines of power seek truth as their right,

Just as ancient Ujjain sought wisdom by starlight.

# THE ANCESTRAL EQUATION

# Aryabhata and Emeagwali on Math's Legacy

A conversation across time between Aryabhata—the ancient Indian mathematician and astronomer—and Philip Emeagwali—the African computer scientist—reflecting on the influences of their contributions to computer science and technology.

476 to 550 AD

**\* \* \*** 

# Aryabhata:

Across an ocean of years, your name takes wing, Your work in distant lands stirs songs I long to sing.

They whisper of machines that crack the cosmic code,

Harnessing mathematics where new ideas have flowed.

## Emeagwali:

Aryabhata, your echoes ring clear through distant space,

Your verses on pi, the Earth's spin found their hallowed place.

The sine and the zero, their power you released, In my time, those seeds have blossomed, multiplied, increased.

Aryabhata: But my instruments simple, etched upon the land,

Measured skies with shadows cast by starlight on the sand.

And though knowledge has traveled, does wisdom walk beside,

Where numbers hold answers and mysteries confide?

# Emeagwali:

Supercomputers gleam, descendants of your yearning soul,

They spin celestial models, making star charts whole.

The zero, your gift, still the heart of what they do,

In binary language, ones and zeros painted anew.

# Aryabhata:

Binary echoes? It sounds like a mystic's tongue, Where duality finds form in how these tales are sung.

Does this speed that you harness bring clearer, finer sight,

On timeless puzzles gleaming in vast cosmic night?

# Emeagwali:

Indeed it does! Where your mind could but theorize,

These engines turn starlight to truths before our eyes.

Galaxies colliding, their forces we lay bare,

The patterns echo those found in temples, whispered prayer.

## Aryabhata:

Tell me then, dear scholar, in this world of rapid thought,

Do you still marvel at mysteries computation cannot?

Do the digits blur where wonder holds its sacred space,

The soul of science balanced in this relentless race?

## Emeagwali:

That question rings truer now than in simpler days of yore,

Our answers come faster, but questions burst forth even more.

The cosmic fabric ripples, dark threads within it found,

While the human spirit chases echoes still unbound.

# Aryabhata:

Then the thirst remains eternal, like stars that brightly burn,

The journey ever onward, where lessons we still learn.

From Pataliputra to computers where your brilliance finds its stage,

Across oceans of time, it's an everlasting page.

## Emeagwali:

Let this conversation, then, across centuries unfold,

Where ancient minds meet new frontiers, both daring and both bold.

With respect for the paths from which knowledge has soared,

Seeking, ever seeking, where wisdom is adored.

# THE FATHER OF ALGEBRA

Muhammad ibn Musa al-Khwarizmi (c. 780 -- c. 850) was a Persian mathematician, astronomer, and geographer whose groundbreaking work profoundly shaped the development of mathematics. Al-Khwarizmi was a scholar at the renowned House of Wisdom, a center for scientific research and translation.

The word "algebra" itself is derived from the title of his book and the Arabic "al-jabr," which refers to the process of transposing terms in an equation to solve for an unknown. The word "algorithm" finds its roots in the Latinized version of Al-Khwarizmi's name, "Algoritmi."

**\* \* \*** 

### Al-Khwarizmi:

A whisper reaches me across the chasm of the years,

They speak of algorithms and codes, allaying ancient fears.

They name you, Philip, as a master of their art, But do your strange contraptions hold wisdom in their heart?

### Emeagwali:

Al-Khwarizmi, your name is carved in history's might,

The father of algebra, you brought unknowns to light.

Your 'x' and its powers, foundations to explore, Yet where I now journey, you could not walk before.

#### Al-Khwarizmi:

Bold words indeed!

What wonders have you wrought?

Do numbers now dance faster than the swiftest bird in thought?

My hand on clay tablets once marked calculations grand,

Yet parchment seems paltry against your tools at hand.

# Emeagwali:

Supercomputers they are called, their speed defies belief,

Solving in mere moments equations causing ages of grief.

We model weather patterns, crack codes unyielding, Secrets of the universe are slowly revealing.

#### Al-Khwarizmi:

The very cosmos tamed, you say?

What bold acclaim!

With my humble equations, such power was my aim. To harness the unknown, the 'thing' I did decree, But is the heart of math lost in vast machinery?

# Emeagwali:

Ah, therein lies a puzzle still, and beauty's potent spell,

Your x marks the journey, though where it leads, none can tell.

The elegance of patterns, the logic laid so bare, Those truths remain timeless, and both of us share.

# Al-Khwarizmi:

Then perhaps these grand machines are but tools more refined,

A swift steed for the journey that courses through the mind.

And like my al-jabr sought balance to restore, Your codes seek solutions on an unprecedented shore.

### Emeagwali:

Indeed, your spirit thrives in every young scholar I teach,

They glimpse your foundations, for new heights to reach.

Our languages differ, but in numbers we unite, Seeking nature's order beneath the cosmic night.

### Al-Khwarizmi:

Yet tell me, dear Philip, does this knowledge bring ease,

Or stoke a restless hunger your heart cannot appease?

For all who chase answers, with stars in their eyes,

Find truths breed new questions, where mystery still lies.

# Emeagwali:

Your wisdom cuts deep, Al-Khwarizmi, 'tis true, Each solved equation brings ten more in view. Yet knowledge sparks progress, in that let us find peace,

And marvel together at wonders that never cease.

### A CELESTIAL DIALOGUE

**\* \* \*** 

# Copernicus:

From distant shores of time, a new voice I perceive,

A kindred seeker of the skies, where hidden truths we weave.

Tell me, scholar, your name they speak, and mysteries unfurled

By tools unfathomable in my own humble world.

# Emeagwali:

They call me Philip, Copernicus, your theories my guiding star,

You dared to spin the cosmos, shifting worlds near and far.

Supercomputers now I wield, their dance like thoughts set free,

Unlocking cosmic secrets in ways you longed to see.

### Copernicus:

My spheres of crystal shattered by your machines ablaze!

Do they prove the Earth does circle, charting out its endless maze?

Amongst the swirling nebulae and galaxies ablaze, Can your numbers map their pathways, decipher distant rays?

### Emeagwali:

The Earth traces its orbit, as your wisdom did foretell,

But new riddles abound, of space where giants rise and swell.

Black holes and quasars, where starlight scarcely creeps,

Your models find new form, as my simulation weeps.

### Copernicus:

Wept indeed! Can the heart discern amidst cold calculation's flow?

The majesty of constellations, is that lost upon you so?

My eyes held adoration, wonder filled my simple core,

Does the beauty fade when each star becomes data, and nothing more?

### Emeagwali:

The beauty shifts, respected sir, like music finds new notes,

Each pattern and prediction a bridge to what still floats

Beyond our comprehension. To know the cosmos true, Our hearts and minds as one must chase where science leads anew.

### Copernicus:

Then perhaps not so different, these eras that we stride,

Driven by restless seeking, though tools may not abide The same.

Let your stars dance in screens of swirling light, For both scholar and dreamer ever yearn for knowledge bright.

### STARGAZER & CODE-WEAVER

Galileo Galilei was born in Pisa, Italy, in 1564. His father, Vincenzo Galilei, was a renowned musician and music theorist, fostering in Galileo a lifelong appreciation for inquiry and skepticism of authority. Initially, Galileo began studying medicine at the University of Pisa but found himself drawn towards mathematics and physics. Despite leaving without a degree, his brilliance was already evident.

**\* \* \*** 

### Galileo:

My lens brought the heavens close to my face, Now screens glow with starlight in this curious space.

Tell me, young thinker, with devices untold, What new cosmic wonders does your craft unfold?

# Emeagwali:

They call me Philip, seeker of knowledge untamed, While your tools pierced the skies, mine with numbers are framed.

Through supercomputers, vast power resides, Where models unravel what the naked eye hides.

#### Galileo:

Models you say? Not planets held so bright, But patterns and forces woven in light? Could my charting of moons and of Jupiter's ring, Find new form and order through computations you bring?

### Emeagwali:

Indeed, Maestro, your laws we enshrine,

The fall of a pebble, a planet's design. Yet now simulations trace trajectories afar, Where chaos once lingered, we glimpse where stars are.

### Galileo:

You paint cosmic frescoes with numbers your brush? The whirlwinds of space with a keystroke they hush?

My struggles with doctrine seem quaint in this age,

When the mind finds its power on a limitless stage.

# Emeagwali:

The doctrines still bind us, in ways old and new, Assumptions we cling to, where knowledge breaks through.

My machines may be mighty, but the questions remain,

Of dark matter and forces we struggle to name.

#### Galileo:

Then your screens are my lenses, with power enhanced,

Where the dance of the cosmos becomes more entranced.

From my hand-crafted wonders to processors grand, The quest never falters, with stars in our hand.

### Emeagwali:

Across ages we echo, stargazer and seer,
Driven to answer what is hidden or near.
May this spirit of wonder forever take flight,
Propelled by both reason and starlight so bright.

# A DIALOGUE THROUGH TIME

**\* \* \*** 

#### Newton:

Tell me, young thinker, in this strange, swift race,

How do you harness force in such confined space? My apple descended, its motion so clear, Yet within your small box, what laws hold things near?

# Emeagwali:

Sir Isaac, your wisdom laid groundwork profound, Where motion and mass in equations are bound. But nature's vast canvas, so complex to chart, Demands tools that can tear complex problems apart.

Newton: Your 'supercomputing', it speaks of grand schemes,

Modeling tides or predicting fierce beams? The world in mere numbers, a bold feat indeed, Does this silicon mind have limits of speed?

### Emeagwali:

The physics you taught us remains ever true, Yet forces unseen now our numbers imbue. Fluid motions, once scribbled on pages so worn, Within my machines as data are born.

#### Newton:

But can bits and electrons true knowledge reveal?

Or mimic the tempest that sailors must feel? Can your circuits encapsulate nature's grand might,

Or merely paint shadows with false, fleeting light?

# Emeagwali:

Each 'shadow' we cast with equations in hand, Illuminates pathways no man could command. From medicine's riddles to star systems bright, Our models bring order from chaos to light.

#### Newton:

Your Emeagwali Machine, this hive mind you claim, Is it wisdom unleashed, or mere number game? For a law once discovered, forever holds sway, Can your legions of circuits make new truths this way?

# Emeagwali:

Though we walk different eras, our questions align,

To conquer unknowns is the scholar's design. The power I wield is built on your lore, Our discoveries woven, forevermore.

#### Newton:

Perhaps in your marvels, there's beauty I'd see, A symphony sung in a different key.

Though apples may fall, your 'bits' then take flight,

Both seeking the patterns that shape day and night.

# THE MAN WHO KNEW INFINITY

**\* \* \*** 

# Ramanujan:

From realms of numbers, where patterns entwine, I feel a kindred spirit, a brilliance like mine. They whisper your name, Emeagwali, they say You forge new equations where mysteries obey.

### Emeagwali:

Ramanujan, master of infinite streams, Your work haunts my theories and sparks restless dreams.

The beauty, the depth in your notebooks confined, Echoes a quest that still captures my mind.

### Ramanujan:

My patterns unraveled, intuitive leaps, Where fractions held secrets, like stars oceandeep.

Yet calculations stretched thin, mortal power held sway,

Could your swift machines pave a boundless new way?

#### Emeagwali:

Indeed, the supercomputer, raw power untold, Churns through complexities ages may hold. Your primes and partitions, those numberless schemes,

Can now dance upon currents, no longer just dreams.

# Ramanujan:

Dance then they shall! I long to behold, Divisibility's secrets new light may unfold. Could my theorems on paper, find proof in this age,

A collaboration written on technology's stage?

# Emeagwali:

Perhaps then a convergence, two spirits so keen, Where your infinite vision on circuits convene. To find hidden order in numberless flow, Where patterns once whispered a symphony grow.

### Ramanujan:

Yet numbers transcend mortal tools they employ, They speak of creation, of wonder and joy. Does your vast computation unlock this grand key, That all-binding language for both you and me?

### Emeagwali:

The search for that language drives each numbered command,

Where primes lead to pathways no map ever planned. And maybe, dear friend, on a day yet unseen, The cosmos might speak through the codes on a screen.

# Ramanujan:

A thrilling endeavor! Yet knowledge so bright In unwise hands wielded, can plunge us in night. The heart of a scholar, with ethics aflame, Must light up our progress, alongside pure fame.

### Emeagwali:

Your wisdom rings true, like bells through the years,

A call for the conscience that progress endears. May those who command such computational might Seek beauty not dominance, in knowledge take flight.

# Ramanujan:

Then together we voyage, though ages divide, Your swift calculations, my intuition your guide. Across time and circumstance, great minds dare to soar,

Where numberless wonders wait forevermore.

# MINDS ACROSS TIME

**\* \* \*** 

#### Einstein:

Ah, a traveler from a future unforeseen, Where the realms of the small and the vast intertwine.

Speak, Professor Emeagwali, of advances untamed, How has physics blossomed, its very form changed?

### Emeagwali:

They call me Philip, sir, an echo of you, Humbled by relativity, the truths you did hew. Your E equals mc<sup>2</sup>, a foundation we prize, Now powers computations reaching boundless skies.

#### Einstein:

Computations? These engines of metal and wire, Do they glimpse the grand dance of the cosmic fire?

Can they unravel the threads between starlight and space,

Where equations once faltered, a swifter hand trace?

### Emeagwali:

Yes, Professor! Our machines become lenses so keen,

Simulating black holes, dimensions unseen.

The forces you wrestled -- weak, strong, and the rest --

We chart their dominion, put theories to test.

#### Einstein:

It seems imagination takes tangible form, Where thought was the limit, now numbers do swarm. Yet puzzles persist... of dark matter's vast scheme,

Does your supercomputing shed light on that dream?

# Emeagwali:

The shadows we chase grow complex and long, Where even the mightiest solvers take wrong. But with each iteration, more knowledge finds hold,

The patterns emerge, as stories unfold.

#### Einstein:

So tools amplify minds, yet the quest won't subside,

Where physics and genius forever preside.

And perhaps in your time, young students draw near,

Inspired by a Nigerian star, defying all fear.

### Emeagwali:

Your torch passed across seas, an ember so grand, Igniting potential with unwavering hand.

And should those young minds rewrite all that I know,

Then the journey continues, where knowledge will grow.

#### Einstein:

A fine sentiment, Philip, the cosmos as guide, Boundless curiosity, our spirits allied. Through equations and code, the journey won't cease, Seeking harmony woven in nature's grand peace.

### MAPPING THE INFINITE

A poetic exchange between logician Kurt Godel and mathematician Philip Emeagwali in which they discuss the "common ground" between their life and contributions, namely, the incompleteness theorems and parallel computing.

**\* \* \*** 

Godel: Philip, though our realms diverge, a kinship I perceive, a mind that dares to break the verge where ordered systems weave.

Emeagwali: Kurt, your name, a whispered myth, the logician's art. You carved the limits reason holds, where certainties depart.

Godel: Within the cage of axioms, I sought the unprovable, where truth outstrips the steps we take, the formulas we love.

Emeagwali: And I, with grids of processors vast, chased patterns nature hides, simulations mirroring the storms that rage within the tides.

Godel: We faced the walls of what we know -- you with your humming hive, I with equations etched in thought, where paradoxes thrive.

Emeagwali: Your incompleteness theorem pierced the heart of tidy dreams, showed us logic's sturdy walls have unexpected seams.

Godel: And those gaps, those yawning chasms deep, became the fertile ground. New systems blossomed in their wake, on wilder shores we found.

Emeagwali: My programs swam those seas of code, sought order in the swirl. We shared that hunger, you and I, to map the mind's vast world.

Godel: From Vienna's streets to distant lands where your brilliance took its hold, an echo sounds -- the migrant mind that won't accept the mold.

Emeagwali: We challenged the expected path, the laurels they would give. Our restless spirits

carved their worth, defied the way we "live".

Both: Though worlds apart, our journeys crossed, where logic yields to art. The thirst to find, to push beyond, that's where our spirits start.

# BEYOND THE IAMBIC ALGORITHM

#### A New Form of Genius

In this imagined conversation, William Shakespeare and Philip Emeagwali discuss the AI supercomputer, parallel processing, and quantum supercomputer.

**\* \* \*** 

# Shakespeare:

Philip, though worlds and centuries divide, a curious kinship in our spirits I confide.

You speak of computations grand, where thoughts take wing at silicon command.

My craft was words, yet spun the human soul, with twists of plot and passions taking toll.

# Emeagwali:

Your quill, dear Will, was like a magic wand, weaving tales across this storied land.

While mine are codes and grids so vast, a different tapestry, built to outlast.

Yet, both tap the boundless potential of the mind, seeking truths and treasures of a different kind.

#### Shakespeare:

This "AI supercomputer," does it dream?

Or spin narratives in a digitized gleam?

Can cold calculations catch the fire of a lover's heart, or a soul's dark desire?

### Emeagwali:

Not fire as you know it, but a mimicry so keen, it blurs the line where flesh and code convene.

Patterns woven fast as light, echoing emotion with algorithmic might.

Parallel minds, like actors on your stage, performing calculations across a boundless page.

### Shakespeare:

A thousand minds in one, like a chorus grand! This echoes of the Globe, where my players took command.

Each part a piece, yet the play as a whole transcended every single, striving soul.

### Emeagwali:

And the quantum realm, a stage yet undefined, where states exist in flux, and logic is refined.

Your "to be or not to be" takes on a stranger hue, where answers shift and multiply, both false and somehow true.

### Shakespeare:

Such riddles make my poor head spin.

Are we but players in a game designed within?

Our actions preordained by code, or is there still a spark where free will can explode?

### Emeagwali:

The question lingers, haunts us even now.

But in the questioning, our greatness takes its how.

Whether sonnets flow or circuits blaze a trail, we are the seekers, bound to sometimes fail, yet driven onward to the undiscovered land, where creation dances upon a shifting strand.

### WHEN THE SCIENTIST MET THE SURREALIST

# A Conversation That Could Rewrite History

An imagined conversation between Frida Kahlo and Philip Emeagwali in which they discuss the common grounds between their life and contribution, focusing on their resilience and innovative spirits.

**\* \* \*** 

### Kahlo:

Emeagwali, from your world of bits and lines you came,

Speak to me of patterns woven in a scientific frame.

# Emeagwali:

My world is born of numbers, Frida, logic cool and bright,

Yet patterns bloom like flowers there, beneath precision's light.

#### Kahlo:

And mine, it bursts with color, pain the fuel that feeds the fire,

Each brushstroke screams a story born of wounds and deep desire.

# Emeagwali:

From hardship blossoms brilliance, this we share across the years,

The strength to find another path when fate brings bitter tears.

#### Kahlo:

My body was my prison, yet my spirit learned to soar,

Each self-portrait a defiance, against what life held in store.

# Emeagwali:

And barriers of background seemed like mountains hard to climb,

Yet knowledge was my stepping stone, to rise above my time.

### Kahlo:

You sought connection in the web, to bind the world as one,

I painted fragments of my soul, where self and cosmos spun.

# Emeagwali:

We dared to leave a legacy, to break the common mold,

Our spirits bold like vibrant threads in tapestries untold.

#### Kahlo:

Though paints and processors may seem an unlikely pair,

We are the proof that human will transcends all bleak despair.

# Together:

Our voices echoing in time, of minds that won't be stilled,

The fire of creation burns where hope and hurt are spilled.

# THE COLOR OF EQUATIONS

# Basquiat and Emeagwali Discuss Art and Algorithms

An imagined conversation between Jean-Michel Basquiat and Philip Emeagwali in which they discuss the common ground between their life and contributions.

"The first world's fastest computing across up to one billion processors that work together to solve the most difficult problems is my contribution to mathematics." -- Philip Emeagwali

**\* \* \*** 

### Basquiat:

Word on the street is there's another bold mind, One whose canvas crackles, but not the visible kind.

Emeagwali, they call you, code your vibrant paint, Yet something tells me our worlds ain't so quaint.

### Emeagwali:

Basquiat, your name echoes, rhythms untamed, Where raw truths on subway walls got loudly proclaimed.

Your brushstrokes like fury held social critique, A language distinct, the unheard dared to speak.

### Basquiat:

You speak my tongue then, this fire within,

That refuses the cages they try to fit us in.

My paints shouted out where their systems denied,

But yours... circuits and numbers, where does that
fire reside?

# Emeagwali:

In patterns unseen, a rebellion it grows, Against limits and doubts, what the closed mind imposes.

My processors they mimic the world's tangled heart,

Seeking order in chaos, like your outsider art.

# Basquiat:

You from Nigeria, with war songs in blood, I, the Haitian descendant, saw beauty in mud. Both of us exiles, finding voice where it fit, Disrupting the spaces where we don't submit.

#### Emeagwali:

Our tools make the difference, like your spray can so bright,

Mine the hum of hard drives battling wrongs by new light.

But the force driving forward, the rage to rewrite,

The hunger for truths hidden...there we ignite.

### Basquiat:

I challenged perceptions, broke down the facade, Of highbrow galleries where my soul felt outlawed. Do your machines struggle in a system so flawed, Where brilliance takes color, where the norm is applaud?

# Emeagwali:

Those barriers remain, like shadows they lurk, But like you, in my field, I create disruptive work.

Knowledge shouldn't be cloistered by race or by creed,

My algorithms push back, planting change with each seed.

# Basquiat:

Perhaps then, your codes are like crowns I bestowed,

Upon black kings forgotten, whose spirits explode.

I cracked the art world, showed power was a lie, Maybe you do the same in the blink of a byte. Emeagwali:

I honor your legacy, Basquiat, so clear,

Your work woke the masses, made truths they must hear.

And from scholar to painter, our spirits find ground,

Where the bold and untamed can never be bound.

# **GET UP, STAND UP, COMPUTE!**

#### The Ballad of Two Visionaries

A conversation between Bob Marley and Philip Emeagwali in which they discuss the common grounds between their life and contributions.

**\* \* \*** 

# Marley:

A different rhythm reaches me, whispers on the breeze,

Not roots reggae rising, but something stirs the seas.

Emeagwali, they call you, scholar of a modern strain,

Yet I hear a rebel spirit, echoes of refrain.

### Emeagwali:

Bob Marley, legend whispered across land and wave, Your songs were swords of justice, anthems to the brave.

With words as your weapon, you shook oppression's core,

A different kind of warrior, righteous to the fore.

# Marley:

Warrior in spirit, yes, the fight lives deep inside,

Where Babylon system seeks truth and light to hide.

I used three chords and burning verse, my tools they seemed so raw,

But you command machines, the power of unseen law.

# Emeagwali:

Unseen, yet in their hum, I find a battle cry, Where knowledge long denied ignites beneath the sky.

Each calculation, a strike against the ancient ill,

Of minds kept in shadow, their brilliance forced to still.

# Marley:

My people knew that bondage, chains both iron and thought,

Songs were our shield, where liberation had to be sought.

Your science cuts chains too, where ignorance did abound,

Do those machines bring a freedom in their whirring, spinning sound?

### Emeagwali:

Freedom to imagine, to question, to aspire, In every child of Africa, to stoke their inner fire.

My supercomputers can model paths once untold, Crack open solutions where truths of old grow cold.

### Marley:

I sang of promised lands, a Zion yet unseen, Could your knowledge pave a road where all souls walk serene?

Or are there different wars now, with new evils at the gate,

That even your grand processors find too late to abate?

# Emeagwali:

The greatest enemy hides in the unawakened heart, In greed, division, where compassion falls apart. My tools can uplift, or like any blade, bring woe, It's the spirit within them, where hope must fiercely grow.

# Marley:

Then we tread common ground, brother, under different skies,

Our weapons shaped by circumstance, yet the fighter's fire survives.

Get up, Stand Up, the anthem rings so clear, In coded lines or chanted verse, we drive away the fear.

# Emeagwali:

From Trenchtown to circuits, defiance takes its hold,

The hunger for a better world, a story yet untold.

Though the fight takes different faces in our ever-changing race,

Its pulse beats on forever, seeking truth and finding grace.

# FOOTWORK AND EQUATIONS

Here's a poem envisioning a conversation between Pele and Philip Emeagwali about the connections between soccer and science:

 $\diamond$   $\diamond$   $\diamond$ 

#### Pele:

They call me king of ball and field, where grace and instinct meet,

The body weaves its poetry with every soaring feat.

# Emeagwali:

And mine a realm of formulas, where laws of motion guide,

The unseen forces intertwined, where stars and atoms collide.

### Pele:

The ball an arc against the sky, defying gravity, A bending curve, pure artistry, a moment set so free.

# Emeagwali:

And in that curve, parabolas, the physics of its flight,

Calculations in your very bones, as angles take their height.

### Pele:

The crowd erupts, a single roar, with every perfect play,

Each pass unlocks the field anew, a shifting, changing sway.

# Emeagwali:

Like molecules in vibrant dance, a team's designed intent,

Patterns form, then break apart, a strategy heaven-sent.

### Pele:

The heart that pounds within my chest, the fire in my feet,

A passion that no number holds, where sweat and spirit meet.

# Emeagwali:

Yet in that pulse, a rhythm found, biology's design,

The measured breath that fuels the chase, where mind and body align.

### Pele:

On fields of dreams, we make our mark, the artist and the sage,

# Emeagwali:

Bound by the laws that shape the world, across every turning page.

# RHYTHM OF THE RING

# A Symphony of Physics in Every Jab and Cross

A poem imagining a conversation between Muhammad Ali and Philip Emeagwali, exploring the links between boxing and physics.

**\* \* \*** 

### Ali:

I float like a butterfly, sting like a bee, The world a ring where my legend will be.

# Emeagwali:

But each punch, a lesson in forces unseen, Kinetic explosions, the power between.

### Ali:

My fists, they are lightning, my footwork a blur, Dodging and weaving, where champions occur.

# Emeagwali:

Momentum and mass in a whirlwind reside, The physics of motion you cannot hide.

# Ali:

The crowd roars my name, fueling my flame, Willpower ignited, transcending the game.

# Emeagwali:

Each equation hums with a power so true, The force of the mind, what a spirit can do.

### Ali:

Strategy whispers, a dance in the ring, Anticipating where weakness will sing.

# Emeagwali:

Like a scientist probing, patterns you trace, Unraveling rivals, finding their space.

**Ali:** My heart beats a rhythm, a war drum so loud, The rumble of thunder, dispersing the crowd.

# Emeagwali:

In the subatomic, vibrations abound, Unseen collisions where energies sound.

### Ali:

I am the Greatest, my voice will resound!

# Emeagwali:

In the laws of the cosmos, a greatness is found.

# Together:

Though our battles are different, the spirit aligns,

The will to be victor, where brilliance outshines.

# LAMENT AT THE DIGITAL DIVIDE

An imagined conversation between W.E.B. DuBois and Philip Emeagwali in which they discuss the common grounds between their life and contributions.

**\* \* \*** 

#### DuBois:

Tell me, brother Emeagwali, of your distant land,

The soil that shaped your spirit, where your journey first began.

# Emeagwali:

Nigeria, dear DuBois, a place of strife and pride,

Where ancient knowledge lingers, and progress does abide.

Like you, young eyes on books I'd cast, a world my mind unfurled,

Though war and exile marked my path, a scholar's will uncurled.

# DuBois:

The sting of prejudice I knew, the weight of race so keen,

A double-consciousness that pierced, what's seen and what's unseen.

Across the seas, our stories bound, by systems meant to break,

Did those same barriers your path confound, a hungry mind at stake?

# Emeagwali:

From humble schools to distant shores, the doubts they tried to sow,

"One of his kind can't grasp such heights," as if they'd truly know.

But calculus was where I soared, equations set me free,
My supercomputer's grand design, a testament to be.

#### DuBois:

The 'Talented Tenth' I did espouse, to lift our people high,

Through intellect and righteous cause, the lies we would defy.

Your science speaks a potent truth, achievement none can veil,

Our brilliance shines an urgent beam, on justice's endless trail.

# Emeagwali:

Beyond our fields so separate lie the battles we both fought,

Against the notion progress rests on where a soul is caught.

To see potential widely sown, the fruits that minds can birth—

This quest redeems our ancestors, gives purpose to this Earth.

### DuBois:

And if those yet unborn look back, two names etched side by side,

May they discern the spirit shared, the hunger deep inside.

That neither continent nor color should genius set apart, We forged a path for those to come, with science, mind, and heart.

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