

My Quest for an Internet

In this, the 37th installment of our weekly series at emeagwali.com, we present Part 13 of Philip Emeagwali's lecture on "Art and Technology." This article was transcribed from his lecture delivered in Geneva, Switzerland on April 26, 2010.

Technology is Art:

I Am an Artist

by [Philip Emeagwali](http://emeagwali.com)

emeagwali.com

The lecture [video](#) is posted at emeagwali.com.

The governor (of Delta State, Nigeria) asked:

"How do we build a greater Delta State through technological innovation?"

I came across the answer

in 1963 sitting on the verandah of our house along Gbenoba Road, Agbor, Midwest Region.



I was silently reciting a quotation on the masthead of the newspaper called the *West African Pilot*. It read:

"Show the light and the people will find the way."

Because I was nine years old, I did not understand the deep meaning of those wise words. I now understand "the light" as a metaphor for knowledge,

and “showing the light” to mean increasing the intellectual capital, the sum of human knowledge possessed by 6.6 billion men, women, and children.

We find "the way" when we've brought to fruition our dream of eradicating poverty, discovering the cure for AIDS, and inventing the internet for email communication. Even the elusive Niger-Delta peace will flourish with increased intellectual capital.

My achievement as a technological innovator lay in concretizing the abstract by connecting it with people to highlight discoveries that transcended equations and numbers.

It's like making an invisible sculpture visible so that people can appreciate it and be inspired by it.

When Michelangelo, was asked to reveal the secret to his genius, he replied:

"The angel is caught inside the stone. I simply carve out everything that isn't the angel."

The prefix "techno" was borrowed from Greek where it meant "art." The technologist is also an artist, like Michelangelo.

I saw an angel inside my supercomputer and programmed until I set it free.

I saw 65,000 sub-computers inside my supercomputer and programmed until it became an internet.

So I am also an artist.

My art was in getting my supercomputer to talk back to me as an internet.

The painter expresses himself in images. The musician expresses himself in sounds. The poet expresses himself in words.

As a physicist, I express myself in the laws of motion. As a mathematician, I express myself by jiggling abstract symbols. As a programmer, I express myself by inventing techniques for feeding big numbers to a supercomputer that is part computer and part internet which hosts 65,000 sub-computers.

So I am also an artist that is as psychedelic as the painter; as dreamy as the poet; and as subservient as the musician.

My art was not in the laws of motion that I encoded nor in memorizing the definitions, facts, formulas, theorems, and algorithms.

My art and innovation was in how I infused new meanings into the formula $F=ma$ or Force equals Mass times Acceleration as well as jiggling my 24 million equations, a world record in 1989, - each restating $F=ma$ - from the blackboard to the motherboard and cobbling together an explanation that

made sense to those initiated into the priesthood of mathematics.

My art was in getting my supercomputer which is part computer and part internet to talk back to me. I saw the angel shaped like an internet inside my supercomputer and programmed until I set it free.

I set an internet free by ignoring one million pathways that wasn't needed. I used only sixteen pathways along sixteen directions

because freedom without direction leads to chaos.

Limiting myself to sixteen pathways empowered me to harness all of the two-to-power-16, or 65,536, sub-computers on my own terms.

That technological innovation and creativity was pure computing and communicating with a graceful elegance and sophistication that scintillates along sixteen-dimensions to transcend a supercomputer and an internet.

My supercomputer's power emanated from limiting its freedom; from letting go of a million pathways; from the knowledge that sometimes less is more. The fewer pathways I had, the freer I, its programmer, became to harness the power of its sub-computers. I saw an internet inside my supercomputer and programmed until I set it free.

The Eureka moment for the technological innovator is when the unknown became knowledge. I turned

the supercomputer into an internet. And the Internet became the magical metamorphosis of the supercomputer, transforming the first supercomputer that was a computer into the reinvented supercomputer that is part computer and part internet.

As it's programmer, as a great-grand-son of the twin cities of Onitsha and Asaba, and as a son of the River Niger, the young mermaid, half-human, half fish, going through the phases of womanhood became my metaphor for the reinvented supercomputer powered by 65,000 sub-computers.

I saw this mermaid transform from a little mermaid - half-computer, half-internet - to a sea queen - a planet-sized internet.

I felt like I was chasing this daughter of the River Niger when the magical metamorphosis occurred at the junction where the Niger flowed into the Atlantic. There the mermaid transformed from human above the waist, fish below to a whale.

I am a dreamer that expanded the story of science to become a part of the story, as well as the witness.

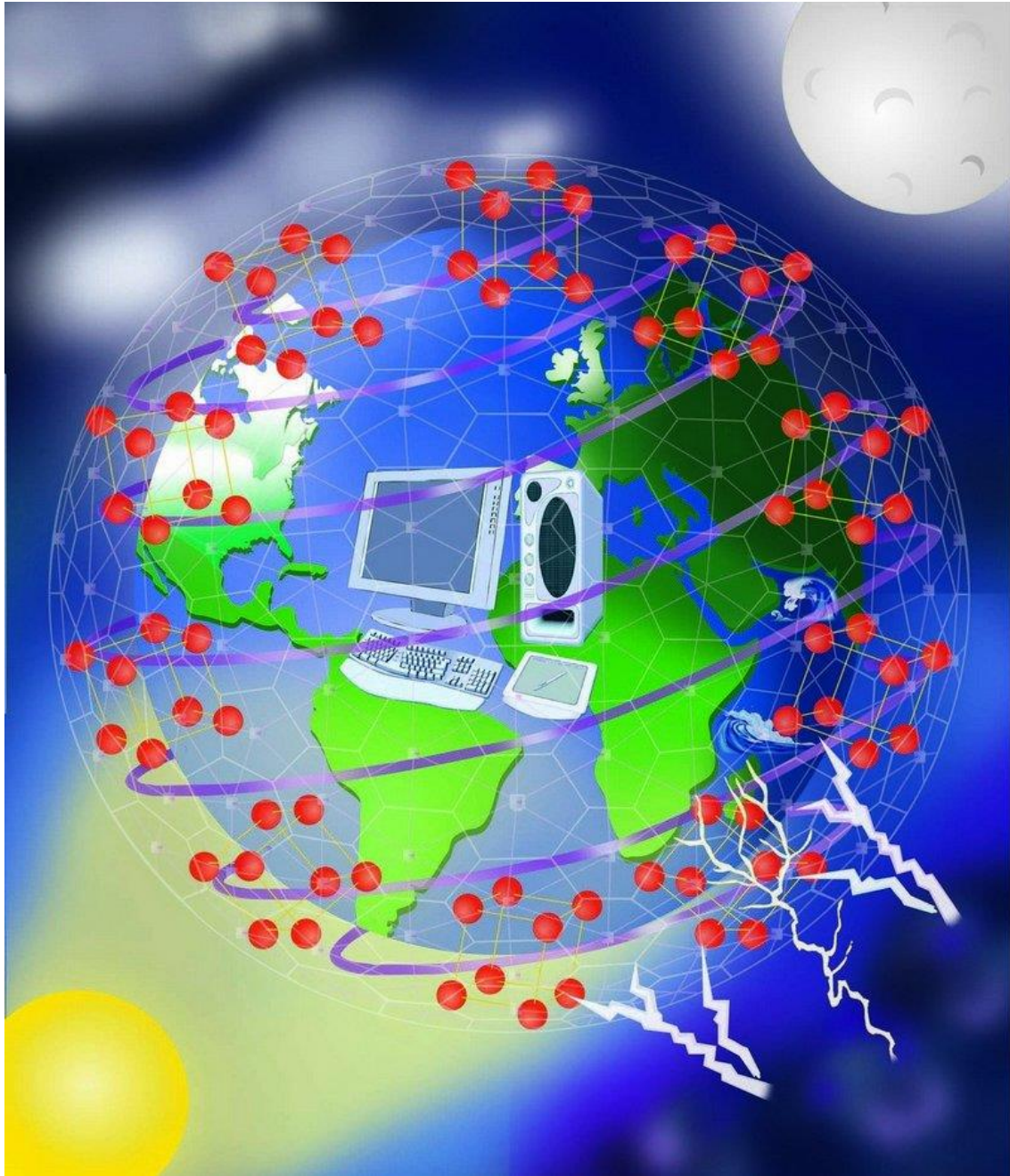
The [video](#) of this speech is posted at emeagwali.com.



Press [CTRL-D](#) to SAVE this page for easy revisit

Press [CTRL-P](#) to PRINT





An artist recreates her reinterpretation of my internet as described in the book "History of the Internet"

Unedited 2006 Guestbook Entries

Date: 12/28/2006, 6:50 pm,
GMT +6

Name: Pastor Victor
Justin <195.166.241.170>

Location: River State

Number: 132

Prof. Philip You have made Africa
Proud

Date: 12/28/2006, 3:52 pm,
GMT +6

Name: Yomi <155.232.250.51>

Location: South Africa

Number: 131

Dear Prof,
There is no accurate word to describe ur achievement but I will simply say that you have made us proud in Africa.
Bravo!

Date: 12/23/2006, 11:50 am,
GMT +6
Name: balamurugan
balusamy <210.212.241.130>
Location: vellore ,india
Number: 130

ya ,It was nice site to hang out,got

inspiration.

Date: 12/22/2006, 9:45 pm,
GMT +6

Name: Ben Chibundu
Njoku <158.21.255.8>

Location: Warri, Nigeria

Number: 129

Prof, Good to hear of your numeruos achievements. When would think it is right to come home, Nigeria and encourage the upcoming ones that stones on dry land can also produre water. I look up to day you will come and give one those your

inspiring lectures.

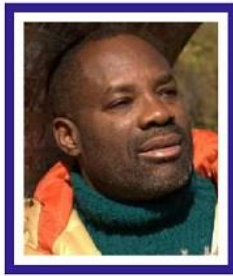
Date: 12/19/2006, 9:58 pm,
GMT +6

Name: philip
chude <81.199.56.130>

Location: ONITSHA, NIGERIA

Number: 128

SIR, u have done Africa
,Nigeria, Anambra state and my
own town Onitsha proud. keep
it on and may the good lord
strenthen ur life.amen and also
am praying to be like you one
day. Thanks to you



Philip
Emeagwali
info@emeagwali.com 202-203-8724