

1 Technology is the First Pillar of Progress

Philip Emeagwali



My Quest for an Internet

In this, the 36th installment of our weekly series at emeagwali.com, we present Part 12 of Philip Emeagwali's lecture on "Technology as Key to African Renaissance." This article was transcribed from his lecture delivered in Geneva, Switzerland on April 26, 2010.



Technology is the First Pillar of Progress

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

emeagwali.com

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

How do we build a greater Africa through scientific discovery and technological innovation?

Put broadly: How can we bring our dream of an African renaissance to fruition?

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Philip Smeagwali

My answer is this: Increase Africa's intellectual capital by creating new knowledge that is domesticated and diffused into the society. Known knowledge such as the cell phone and the internet has been domesticated by at least 100 million Africans.

The unknown such as the cure for AIDS needs to be discovered and diffused into the blood streams of 30 million HIV positive Africans.

How much of knowable knowledge do we know? Are we like the sailor that declined to join Christopher Columbus? Are we like the ant that crawled a few inches from the edge of the Sahara Desert and made the brass claim that he's counted all the grains of sand before it?

Put differently, are you an ant at the edge of the frontier of knowledge?

I was the first ant to arrive at the frontier of humanity's knowledge

of the supercomputer that communicates as an internet.

I was the first to program 65,000 sub-computers to compute and communicate uninterrupted and solve a Grand Challenge problem by sending and receiving emails, as an internet.

It was a technological innovation that also required the courage to ignore the naysayers, the discipline to visualize the sub-computers as 65,000 bull's eye, and an intimate understanding of the connections between the physical, the logical, and the digital.

It's the interchange between physics, mathematics, and computing that enriches all three and makes each more alive.

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I tried to balance the three for, in a sense, my code on each of my 65,000 sub-computers is heightened, it's a restatement of the 330-year-old Second Law of Motion that found its voice on my storyboard, my blackboard, and my motherboard.

And to redefine the machine as a computer that is beyond super, the reinvented supercomputer that is part computer and part internet, that computes and communicates at the same time.

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

emeagwali.com   



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Press [CTRL-P](#) to PRINT

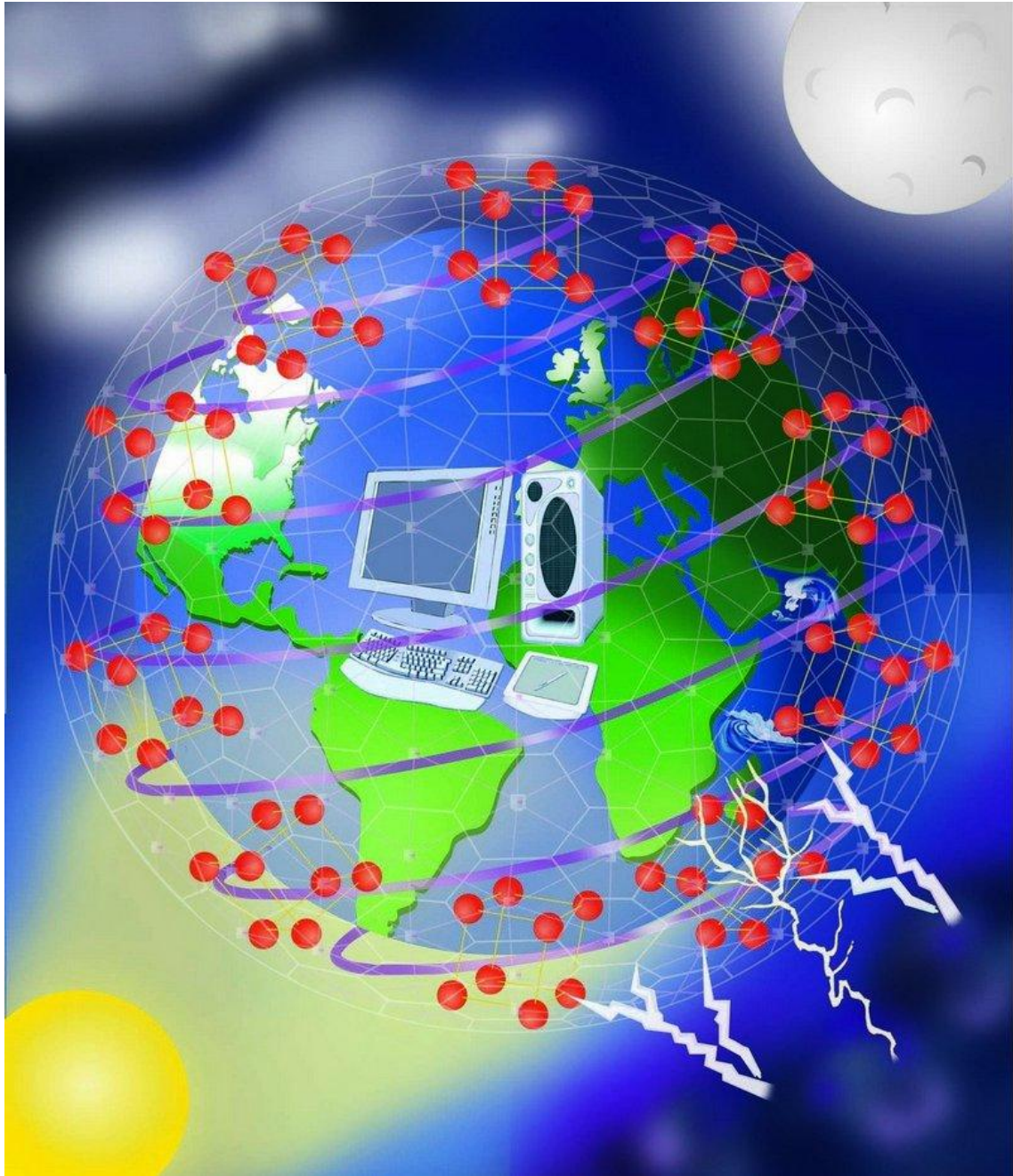
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5 Technology is the First Pillar of Progress

Philip Smeagoli



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

Philip Smeagoli

Your dictionary defined the internet as a network of computers. By definition, my speed records in computation and communication pushed the frontiers of the supercomputer and internet. The new frontier, in turn, redefined my network of network that is deeply nested sixteen times to the sixteenth dimension as connected like an internet. That is, my supercomputer is an internet, and vice-versa. It's an internet outlined by 65,536 sub-computers.

Philip Smeagwali

Date: 3/14/2007, 6:14 pm, GMT +6

Name: ODUNLAMI OLANREWAJU
J. <216.250.221.3>

Location: LAGOS,NIGERIA

Number: 161

I Odunlami Olanrewaju J. as I pursue my educational carrer,technology wise have come to discover a man who instantly became my role model immediately I read is biography. I have heard of this great man before on the radio but I never knew he is an African. Infact an really happy to know that he is a nigerian born in the western part of the country. I on my part have made research works to improve my technological skills and I am determined to take a giant stride in this aspect of my career. Although am still in the university and I know that a day will come when I will enter into the office of these (epitome of

Philip Smeagwali

great inventions) PHILIP EMEAGWALI to interact with him and gain a lot from him also so that I also one day will make africa proud and the world at large, by a greater invention. THAT DAY I WILL BE THE HAPPIEST MAN ON EARTH!!!

Date: 3/12/2007, 3:06 am, GMT +6

Name: Adeleke Akinpelu <82.206.131.2>

Location: Lagos, Nigeria.

Number: 160

This website has been a source of inspiration to me, it propel me in my Information Technology career. Sir, thans for been a source of motivation to youths in Nigeria. May God continue to bless you and give you more inspiration.Amen.

Date: 3/11/2007, 6:19 pm, GMT +6

Name: anani ilugbekha

Philip Smeagwali

jude <41.204.224.10>

Location: Benin,nigeria

Number: 159

your scientific discoveries made me and rest of the world to believe that black race is not left out in the scientific world..many years ago,westerners thought that scientific discoveries and invention were left for them,they thought that black race especially in africa were created to fill an island,your hyperbollic equation which lead to what we all known today as internet threw their negative thought about black man into bemudda triangle.the electronic processor which u programed with a 5 digit number (6500) that Can manipulate 3.1 billion manipulatiiion n a second brought a great recognition to black man and black scientist indeed.Dear prof.,i will like to use this opportunity to give u an idea of

Philip Smeagwali

building a foundation which should be named after u .EMEAGWALI FOUNDATION.The foundation should be helping of gifted and talented children in africa especially in nigeria.there are many gifted and talented children in nigeria..

Date: 3/7/2007, 7:32 pm, GMT +6

Name: Chido Okafor <83.103.77.153>

Location: Warri, Nigeria

Number: 158

I read one of your interesting lectures where you explained your super computer prowess. I would like to know what you are doing to enhance computer technology in Africa

Date: 3/6/2007, 8:29 pm, GMT +6

Name: somuadina Eugene
Ngoka <195.245.109.122>

Philip Smeagwali

Location: lagos Nigeria

Number: 157

your scientific discoveries made me and rest of the world to believe that black race is not left out in the scientific world..many years ago,westerners thought that scientific discoveries and invention were left for them,they thought that black race especially in africa were created to fill an island,your hyperbolic equation which lead to what we all know today as internet threw their negative thought about black man into bemudda triangle.the electronic processor which u programmed with a 5 digit number (6500) that can manipulate 3.1 billion manipulation in a second brought a great recognition to black man and black scientist indeed.Dear prof.,i will like to use this opportunity to give u an idea of building a foundation which should be named after u .EMEAGWALI

Philip Emeagwali

FOUNDATION. The foundation should be helping of gifted and talented children in africa especially in nigeria. there are many gifted and talented children in nigeria..

Date: 3/5/2007, 6:29 pm, GMT +6

Name: Dr Harlem
StMichael <195.195.117.174>

Location: Staffordshire (UK)

Number: 156

Your achievement has been an inspiration to many including me.

With that in mind, i passed your name as one of the greatest black scientist onto one of our training providers to use you as a role model for others as there were no black scientist included. I do hope that others will be able to appreciate and learn from your achievements. Well done and i wish you all the best

Philip Smeagwali

Date: 3/3/2007, 6:23 pm, GMT +6

Name: onyewuchi
Anthony <83.229.13.119>

Location: Lagos

Number: 155

Ride on, my big brother.

Date: 3/3/2007, 7:21 am, GMT +6

Name: ABIOLA
DAUDA <81.199.63.122>

Location: LAGOS NIGERIA

Number: 154

MANY SONS HAVE DONE
BRILLIANTLY WELL BUT YOU
SURPASSED THEM ALL. I DO HOPE
YOUR SPIRITUAL ANTENNA IS AS
SHARP AS YOUR ENVIABLE

Philip Smeagwali

INTELLECTUAL ENDOWMENTS.
DON'T MISS HOME BROTHER! I MEAN
HEAVEN. ALL IS VARNITY WITHOUT
GOD, SAYS SOLOMON. KNOW HIM?
HE IS A GENIUS LIKE YOU.

Date: 3/2/2007, 8:01 pm, GMT +6

Name: Sele <66.178.80.68>

Location: Abuja

Number: 153

No doubt you are one of the rare gems that mother Africa has shown to the world. Your achievements have surpassed that of your contemporaries. I believe that with individuals like you, Africa will, in no distant future get back on track. The brain drain issue is so devastating when you really take an indepth analysis of it. But what can we do?. I think with people like you and a government that is

Philip Smeagwali

responsive to the yearnings and aspirations of Africans, we can really turn things around and create a better world here in Africa that we all will proudly call our own.

Date: 2/26/2007, 8:28 pm, GMT +6

Name: ADEBAYO
FASHOLA <196.3.62.3>

Location: LAGOS , NIGERIA
(adebayofashola@yahoo.co.uk)

Number: 152

I AM AWED, NOT SO MUCH BY YOUR INTERNET INVENTION (THOUGH, THAT'S A FEAT THAT TOWERS ABOVE MOUNT OLYMPUS) AS BY YOUR EXPOSITIONS ON SALIENT ISSUES HAVING TO DO WITH SLAVERY AND HUMANITY IN GENERAL. YOU ARE LIKE A GIANT TREE ROOTED IN AFRICA, BUT WITH

Philip Smeagwali

ASTRONOMICALLY TALL TRUNK
AND WIDESPREAD BOUGH OR
BRANCHES OVERLOOKING THE
AFFAIRS OF THE WORLD. AFRICA IS
INDEED VERY PROUD TO HAVE A
GOD-SON.

Date: 2/25/2007, 7:35 am, GMT +6

Name: Ahaoma Kanu <196.3.62.3>

Location: National daily Newspapers, #29
Emina Crescent, Ikeja Lagos
NIGER

Number: 151

Phillip,

I wonder what a son Africa has produced,
I wonder how the whitemen that flogged
the backs of our forefathers in the
plantations now call you a great mind, I
look at all your achievements and say
hallelujah to Amadiohs for making a

Philip Smeagwali

worthy son like you triumph even at the
soil of the whitemen.

Ibu Onye oga adili mma. Jede ka iji

Date: 2/23/2007, 5:42 am, GMT +6

Name: Belinda Grayson <216.52.113.36>

Location: Manassas, Va

Number: 150

You are a blessing for all African people.
And many others. We are greatfull to have
you! Thank you!! Hope to see you in Va
soon.

Date: 2/22/2007, 1:28 am, GMT +6

Name: Akalu Martins <196.207.0.218>

Location: Lagos, Nigeria

Number: 149

Philip Smeagoli

You are a great man prof. hope to see u home in Nigeria someday. God has been merciful. Take care

Date: 2/21/2007, 3:52 pm, GMT +6

Name: EMEKA
UKAUWA <83.143.14.75>

Location: VIGEO LIMITED, 16 ONNE
ROAD, GRA II, PORT
HARCOURT, NIGERIA

Number: 148

Sir, I am once again proud to say that I studied Mathematics as my first degree, seeing what a great Mathematician like you has achieved

Date: 2/15/2007, 5:11 pm, GMT +6

Name: Sagar <59.95.22.25>

Location: India

Philip Smeagwali

Number: 147

Your achievements are mind boggling! Gr8!!

Date: 2/13/2007, 3:30 pm, GMT +6

Name: IKEAZOR
ANIETO <196.207.129.70>

Location: IMT ENUGU

Number: 146

I READ YOUR BRILLIANT RITE-UP WHICH IS IDEAS ALLEVIATE POVERTY AND NOT MONEY. HOW DO WE AFRICANS CAN IDEAS. NUC BOSS IN NIGERIA SAID THAT NIGERIA LECTURERS ARE SHALLOW-MINDED. CAN YOU IMAGINE SOMETHING LIKE THIS. WE AFRICANS MUST HAVE TO TRY TO LEARN HOW TO PRODUCE TECHNOLOGICAL PRODUCTS NOT

Philip Smeagwali

CONSUMERS. WE DO NOT LEARN
GOOD THINGS HERE IN NIGERIA. WE
DO JUJU AND OTHER FOOLISH
THINGS. THANK U GREAT ONE.

Date: 2/12/2007, 5:07 pm, GMT +6

Name: Nwosu Ejikeme P <193.93.96.222>

Location: Nigeria

Number: 145

You continue to be an inspirational source
and place of solace to me. Ride on.

Date: 2/9/2007, 4:36 pm, GMT +6

Name: GBAJI PHILIP
EFUMA <212.100.65.5>

Location: 44 ODUDUWA STREET
AJEGUNLE APAPA LAGOS
NIGERIA

Number: 144

Philip Smeagwali

Dear prof. Philip i am so proud of you becos u have made us proud even d whole ndigbo, massobians. thanks.

from J.M.J PRONVINCE.

Date: 2/7/2007, 5:58 pm, GMT +6

Name: Richard Gathogo <82.206.143.51>

Location: Nairobi, KENYA

Number: 143

Your struggle and success is an inspiration unto me. May God bless you for sharing this. Surely everything is possible.

Date: 2/6/2007, 1:22 am, GMT +6

Name: Mose W. King <208.63.244.116>

Location: Savannah, Georgia, U.S.A.

Number: 142

Philip Smeagwali

Hello Phillip,

I am an African American male. What I have read about you so far has inspired me to read on and research even more great men and women of African descent. I thank you for reaching out to educate the world, and promote positive change and inspire those who need to see one of their own achieve, in spite of the obstacles that may stand in their way. I, too, have been inspired to learn more, do more and teach more to others about the blessings and gifts that our people have already contributed to this world. I've always tried to convey to others, especially African Americans I encounter, the potential that we all possess and dreams we can bring into fruition through faith in our abilities; the determination in our hearts and persevering toward that worthwhile dream. May God bless you and your work in educating others and achieving your

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dreams.

Date: 2/2/2007, 5:45 am, GMT +6

Name: VERO AUGSTAN
IKEUWAEZUOKE
STANISLAUS <196.3.62.3>

Location: OVOKO TOWN NSUKKA ,
ENUGU STATE NIGERIA

Number: 141

THANK GOD FOR GIVING THE BLACK PEOPLE A HERO, WHAT AGAIN DO WE NEED? TO KNOW THAT WE CAN BE ALL WE WANT TO BE THAT WOULD BE MORE THAN WHAT YOU HAVE ACHIVED FOR THE BLACK RACE. IT NEVER COMES EASY WE KNOW SO (IME, DARU,) well done thanks man.-

Date: 1/22/2007, 11:18 pm, GMT +6

Philip Smeagwali

Name: sunday onye <81.199.63.113>

Number: 140

obasango our president has envited chines
army to destroy our area please help to
contact amerrica govt for help

Date: 1/22/2007, 3:41 pm, GMT +6

Name: Peter McChris +234 806 377
6692 <81.199.56.130>

Location: Onitsha, Nigeria

Number: 139

May God bless you and keep you always
and lift the light of his countenance upon
you to make you to know Him. In Jesus'
Name Amen

Date: 1/19/2007, 5:05 pm, GMT +6

Philip Smeagwali

Name: Isaiah chibuike
godwin <81.199.63.113>

Location: Jalingo Taraba State

Number: 138

I love what ur doing to save ur people from bondage .Keep it up un til Freedom is achieved.

Date: 1/16/2007, 1:57 pm, GMT +6

Name: BABATUNDE RIDWAN
AYINDE <195.166.244.66>

Location: Lagos Nigeria

Number: 137

Winner are too busy to be sad,too positive to be doubtful,to optimistic to be fearful,and too determined to be defeated.You are a winner anyday and

Philip Smeagwali

anytime.Prof.Thanks

Date: 1/15/2007, 6:52 pm, GMT +6

Name: Onyeka
Blessing <193.219.205.123>

Location: Lagos

Number: 136

I just want to congratulate you on your success. I love people of great minds like yours. Keep it up and may God be with you as you do so. Hope to meet you some day.

Date: 1/9/2007, 10:07 pm, GMT +6

Name: CHIKA <209.94.192.194>

Location: Trinidad

Number: 135

TRUE son of Biafra and Africa.Keep up

Philip Smeagwali

the fight.

Date: 1/5/2007, 8:39 pm, GMT +6

Name: philip chude <81.199.56.130>

Location: onitsha

Number: 134

sir, i thank the lord for effort he have given to you to think out something like this, which can promote our country Nigeria, even africa and your home town onitsha too.may god keep on direct you in his own way that u may understand and our country on top.amen

Date: 1/5/2007, 4:02 pm, GMT +6

Name: Adegbenga
Onasanya <62.56.133.19>

Location: KAduna,Nigeria

Number: 133

Philip Smeagwali

I dislike praising people but i simply want to remind you of one thing you have demonstrated consciously or otherwise and that is you have helped in the rebirth of Africa in the new economic,geo-political and multipolar world.

Since you have created a new vision for the emancipation of africa,the like of you,Chief Leostan Ekeh and other Africa in Dispora must as a matter of urgency and desperation help reshaped the destiny of Africa to emerge as one of the world leaders