

Let Us Talk About Africa

December 2004 Edition

*Collected Speeches
with Commentary
by Philip Emeagwali*



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This book-in-progress will be updated monthly.

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Let Us Talk About Africa

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with Commentary by
Philip Emeagwali*

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COVER PHOTO: Keynote speech, fundraising banquet of Jamaica Medical Foundation. Hilton Hotel, Kingston, Jamaica. March 24, 2001

Comment: Excerpted from a televised speech delivered by Bill Clinton (as president) on August 26, 2000. © **The White House**

One of Our Great Minds

by **Bill Clinton**

“One of the great minds of the Information Age is a Nigerian American named Philip Emeagwali.

He had to leave school because his parents couldn't pay the fees. He lived in a refugee camp during your civil war. He won a scholarship to university and went on to invent a formula that lets computers make 3.1 billion calculations per second. (Applause.)

Some people call him
the Bill Gates of Africa.
(*Laughter and applause.*)

But what I want to say
to you is there is
another Philip Emeagwali
-- or hundreds of them --
or thousands of them
-- growing up in Nigeria today.

I thought about it
when I was driving in
from the airport and
then driving around
to my appointments,
looking into the face
of children.

You never know
what potential

is in their mind and
in their heart;
what imagination they have;
what they have already
thought of and
dreamed of
that may be locked in
because they don't have
the means to take it out.

That's really what education is.
It's our responsibility
to make sure
all your children
have the chance
to live their dreams
so that
you don't miss
the benefit

of their contributions and
neither does the rest of the world.”



Comment: Bill Clinton walking towards the National Assembly of Nigeria with his daughter, Chelsea, in Abuja, Nigeria August 26, 2000 to deliver speech in which he extolled Philip Emeagwali as “one of the great minds of the Information Age.”

Where is Africa Going Wrong?

Ideas, Not Money, Alleviate Poverty

by Philip Emeagwali

emeagwali.com

Keynote speech by famed supercomputer pioneer
[University of Alberta, Canada, September 23, 2006]

I once believed that *capital* was another word for money, the accumulated wealth of a country or its people. Surely, I thought, wealth is determined by the money or property in one's possession. Then I saw a Deutsche Bank advertisement in the *Wall Street Journal* that proclaimed: "Ideas are capital. The rest is just money."

I was struck by the simplicity of such an eloquent and forceful idea. I started imagining what such power meant for Africa. The potential for progress and poverty alleviation in Africa relies on capital generated from the power within our minds, not from our ability to pick minerals from the ground or seek debt relief and foreign assistance.

If ideas are capital, why is Africa investing more on things than on information, and more on the military

than on education? Suddenly, I realized what this idea could mean for Africa. If the pen is mightier than the sword, why does a general earn more than the work of a hundred writers combined? If ideas are indeed capital, then Africa should stem its brain drain and promote the African Renaissance, which will lead to the rebirth of the continent. After all, a renaissance is a rebirth of ideas. And knowledge and ideas are the engines that drive economic growth.

When African men and women of ideas, who will give birth to new ideas, have fled to Europe and the United States, then the so-called African Renaissance cannot occur in Africa. It can only occur in Paris, London and New York. There are more Soukous musicians in Paris, than in Kinshasha; more African professional soccer players in Europe, than in Africa. African literature is more at home abroad than it is in Africa. In other words, Africans in Europe are alleviating poverty in Europe, not in Africa. Until the men and women of ideas – the true healers of Africa – start returning home, the African Renaissance and poverty alleviation will remain empty slogans. After all, the brightest ideas are generated and harnessed by men of ideas.

The first annual report by J.P. Morgan Chase, a firm with assets of 1.3 trillion dollars, reads: “The power

of intellectual capital is the ability to breed ideas that ignite value.” This quote is a clarion call to African leaders to shift purposefully and deliberately from a focus on things to a focus on information; from exporting natural resources to exporting knowledge and ideas; and from being a consumer of technology to becoming a producer of technology.

For Africa, poverty will be reduced when intellectual capital is increased and leveraged to export knowledge and ideas. Africa’s primary strategy for poverty alleviation is to gain debt relief, foreign assistance, and investments from western nations. Poverty alleviation means looking beyond 100 percent literacy and aiming for 100 percent numeracy, the prerequisite for increasing our technological intellectual capital. Yet, in this age of information and globalization when poverty alleviation should result in producing valuable products for the global market and competing with Asia, the United States, and Europe – shamefully, diamonds found in Africa are polished in Europe and re-sold to Africans.

The intellectual capital needed to produce products and services will lead to the path of poverty alleviation. Intellectual capital, defined as the collective knowledge of the people, increases

productivity. The latter – by driving economic growth – alleviates poverty, always and everywhere, even in Africa. Productivity is the engine that drives global economic growth.

Those who create new knowledge are producing wealth, while those who consume it are producing poverty. If you attend a Wole Soyinka's production of Chinua Achebe's "Things Fall Apart," you consume the knowledge produced by Soyinka and Achebe as well as the actor's production, much like I consume the knowledge and production of Bob Marley's through his songs.

We will need wisdom, that which turns too much information – or information overload – into focused power, not only to process, but also to evaluate the overwhelming amount of information available on the Internet. This wisdom will give us the competitive edge and enable us to find creative solutions.

The following story illustrates the difference between information and wisdom. Twelve hundred years ago, in the city of Baghdad, lived a genius named Al-Khwarizmi, who was one of the fathers of algebra. In fact, the word *algebra* comes from the title of his book *Al-jabr*, which for centuries was the

standard mathematics textbook. Al-Khwarizmi taught in an institution of learning called the *House of Wisdom*, which was the center of new ideas during Islam's golden age of science. To this day we computer scientists honor Al-Khwarizmi when we use the word *algorithm*, which is our attempt to pronounce his name.

One day, Al-Khwarizmi was riding a camel laden down with algebraic manuscripts to the holy city of Mecca. He saw three young men crying at an oasis.

“My children, why are you crying?” he enquired.

“Our father, upon his death, instructed us to divide his 17 camels as follows:

‘To my oldest son I leave half of my camels, my second son shall have one-third of my camels, and my youngest son is to have one-ninth of my camels.’”

“What, then, is your problem?” Al-Khwarizmi asked.

“We have been to school and learned that 17 is a prime number that is, divisible only by one and itself and cannot be divided by two or three or nine. Since

we love our camels, we cannot divide them exactly,” they answered.

Al-Khwarizmi thought for a while and asked, “Will it help if I offer my camel and make the total 18?”

“No, no, no,” they cried.

“You are on your way to Mecca, and you need your camel.”

“Go ahead, have my camel, and divide the 18 camels amongst yourselves,” he said, smiling.

So the eldest took one-half of 18 – or nine camels. The second took one-third of 18 – or six camels. The youngest took one-ninth of 18 – or two camels. After the division, one camel was left: Al-Khwarizmi’s camel, as the total number of camels divided among the sons (nine plus six plus two) equaled 17.

Then Al-Khwarizmi asked, “Now, can I have my camel back?”

These young men had information about prime numbers, but they lacked the wisdom to use the information effectively. It is the manipulation of

information to accomplish seemingly impossible purposes that defines true wisdom.

Today, we have ten billion pages of information posted on the Internet – more than enough to keep us busy the rest of our lives, and new information is being added daily. More information has been created in the last 100 years than in all of the previous 100,000 years combined. We need the wisdom to sift through and convert these billions of pages into information riches.

The genius of Al-Khwarizmi was not in his mathematical wizardry or even his book knowledge: It was in his experiential knowledge – his big-picture, right-brain thinking; creativity; innovation; and wisdom. It was his wisdom to add a camel to make the total 18 and still get his camel back.

Prime numbers are to whole numbers what the laws of physics are to physics. Twenty years ago, I used an Al-Khwarizmi approach to solve a notoriously difficult problem in physics. I added inertial force, which enabled me to reformulate Newton's Second Law of Motion first as 18 equations and algorithms, and then as 24 million algebraic equations. Finally, I programmed 65,000 "electronic brains" called processors to work as one to solve those 24 million

equations at a speed of 3.1 billion calculations per second.

Like Al-Khwarizmi, I derived my 18 equations through out-of-the-box thinking in an in-the-box world, adding my metaphorical camel: inertial force. In other words, I applied wisdom to known knowledge to generate intellectual capital.

Unless Africa significantly increases its intellectual capital, the continent will remain irrelevant in the 21st century and even beyond. Africa needs innovators, producers of knowledge, and wise men and women who can discover, propose, and then implement progressive ideas. Africa's fate lies in the hands of Africans and the solution to poverty must come from its people. The future that lies ahead of Africa is for Africa to create, after the people have outlined their vision. We owe it to our children to build a firm foundation to enable them go places we only dreamt. For Africa to take center stage in today's economic world, we have to go out and compete on a global basis. There is simply no other way to succeed.

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Philip Emeagwali was voted history's greatest scientist (#1) of African descent – and the 35th greatest African of all time – in a survey for the September 2004 issue of the London-based *New African* magazine. He won the 1989 Gordon Bell Prize, the Nobel Prize of supercomputing. For his speech video recordings, visit emeagwali.com.



Philip Emeagwali delivering his speech at the University of Alberta, Canada. (Photo of Philip Emeagwali taken in Edmonton, Alberta, Canada on September 23, 2006 at about 8:00 p.m.)



Philip Emeagwali at a Meet & Greet with African students at the University of Alberta, Canada, after delivering a lecture on “Where is Africa Going Wrong?” (Photo of Philip Emeagwali taken in Edmonton, Alberta, Canada on September 25, 2006)

Globalization Not New; Look at Slave Trade

Delivered by Philip Emeagwali on September 18, 2004, at the Pan-African Conference on Globalization, Washington, DC. This transcript was reprinted in hundreds of newspapers.

Comment: Permission to reproduce is granted.



Globalization - or the ability of many people, ideas and technology to move from country to country - is not new. In Africa, it was initiated by the slave trade and given impetus by colonialism and Christian missionaries.

The early missionaries saw African culture and religion as a deadly adversary and as an evil that had to be eliminated.

In 1876, a 27-year-old missionary named Mary Slessor emigrated from Scotland to spend the rest of her life in Nigeria.

For her efforts in trying to convert the people of Nigeria, Mary Slessor's photograph appears on Scotland's ten pound note, and her name can be found on schools, hospitals and roads in Nigeria.

The introduction to Mary Slessor's biography titled: "White Queen of the Cannibals" is revealing:

“On the west coast of Africa is the country of Nigeria. The chief city is Calabar,” said Mother Slessor. “It is a dark country because the light of the Gospel is not shining brightly there. Black people live there. Many of these are cannibals who eat other people.”

“They're bad people, aren't they, Mother?” asked little Susan.

“Yes, they are bad, because no one has told them about Jesus, the Saviour from sin, or showed them what is right and what is wrong.”

These opening words clearly show that Mary Slessor came to Africa on a mission to indoctrinate us with Christian theology.



Comment: Mary Slessor's photograph appears on Scotland's ten pound note.

She told us we worshipped an inferior god and that we belonged to an inferior race.

She worked to expel what she described as "savagism" from our culture and heritage and to encourage European "civilization" to take root in Africa.

We accepted the mission schools which were established to enlighten us, without questioning the unforeseen costs of our so-called education.

These mission schools plundered our children's self-esteem by teaching them that, as Africans they were inherently "bad people."

Our children grew up not wanting to be citizens of Africa. Instead, their education fostered the colonial ideal that they would be better off becoming citizens of the colonizing nations.

I speak of the price Africans have paid for their education and "enlightenment" from personal experience.

I was born "Chukwurah," but my missionary schoolteachers insisted I drop my "heathen" name. The prefix "Chukwu" in my name is the Igbo word for "God." Yet, somehow, the missionaries insisted that "Chukwurah" was a name befitting a godless pagan.

The Catholic Church renamed me "Philip," and Saint Philip became my patron and protector, replacing God, after whom I was named.



Comment: I was renamed "Philip" in Saint Mary's Church, Onitsha, by pioneer missionary Rev. Fr. Obelagu.



Comment: Emeagwali was born "Chukwurah" in Akure, Nigeria, August 23, 1954. The catholic church called him a godless pagan and renamed him "Philip."

I have to argue that something more than a name has been lost. Something central to my heritage has been stripped away.

This denial of our past is the very antithesis of a good education.

Our names represent not only our heritage, but connect us to our parents and past.

As parents, the names we choose for our children reflect our dreams for their future and our perceptions of the treasures they represent to us.

My indoctrination went far deeper than just a name. The missionary school tried to teach me that saints make better role models than scientists.

I was taught to write in a new language. As a result, I became literate in English but remain illiterate in Igbo - my native tongue.

I learned Latin - a dead language I would never use in the modern world - because it was the official language of the Catholic Church, which owned the schools I attended.

Today, there are more French speakers in Africa than there are in France.

There are more English speakers in Nigeria than there are in the United Kingdom.

There are more Portuguese speakers in Mozambique than there are in Portugal.

The Organization of African Unity never approved an African language as one of its official languages.

We won the battle of decolonizing our continent, but we lost the war on decolonizing our minds.

Many acknowledge that globalization shapes the future, but few acknowledge that it shaped history, or at least the world's perception of it. Fewer acknowledge that globalization is a two-way street.

Africa was a colony, but it is also a key contributor to many other cultures, and the cornerstone of today's society.

The world's views tend to overshadow and dismiss the value and aspirations of colonized people. Again, I must impart my own experiences to illustrate this point.

I grew up serving as an altar boy to an Irish priest. I wanted to become a priest, but ended up becoming a scientist. Religion is based on faith, while science is based on fact and reason - and science is neutral to race. Unfortunately, scientists are not neutral to race.



Comment: I grew up serving as an altar boy - from January 1966 to April 1967 - with Rev. Thomas Kennedy (2nd left). On Sundays, we traveled to the Nigerian towns of Obinomba, Obiaruku, Umutu and Abraka.

Take, for example, the origin of AIDS, an international disease. According to scientific records, the first person to die from AIDS was a 25-year-old sailor named David Carr, of Manchester, England.

Carr died on August 31, 1959, and because the disease that killed him was then unknown, his tissue samples were saved for future analysis.

The "unknown disease" that killed David Carr was reported in *The Lancet* on October 29, 1960. On July 7, 1990, *The Lancet* retested

those old tissue samples taken from David Carr and reconfirmed that he had died of AIDS.

Based upon scientific reason, researchers should have deduced that AIDS originated in England, and that David Carr sailed to Africa where he spread the AIDS virus.

Instead, the white scientific community condemned the British authors of those revealing articles for daring to propose that an Englishman was the first known AIDS patient.

If these scientists were neutral to race, their data should have led them to the conclusion that Patient Zero lived in England.

If these scientists were neutral to race, they should have concluded that AIDS had spread from England to Africa, to Asia, and to America.

Instead, they proposed the theory that AIDS originated in Africa.

Even history has degraded our African roots. We come to the United States and learn a history filtered through the eyes of white historians.

And we learn history filtered through the eyes of Hollywood movie producers.

Some of us complained that Hollywood is sending its distorted message around this globalized world.

Some of us complained that Hollywood is a cultural propaganda machine used to advance white supremacy.

George Bush understood Hollywood was a propaganda machine that could be used in his war against terrorism. Shortly, after the 9/11 bombing of New York City, Bush invited

Hollywood moguls to the White House and solicited their support in his war against terrorism.

Some will even argue that schools play a significant role as federal indoctrination centers used to convince children during their formative years that whites are superior to other races. Fela Kuti, who detested indoctrination, titled one of his musical albums: "Teacher Don't Teach Me Nonsense."

It scares me that an entire generation of African children is growing up brainwashed by Hollywood's interpretation and promotion of American heroes.

Our children are growing up idolizing American heroes with whom they cannot personally identify.

We need to tell our children our own stories from our own perspective.

We need to decolonize our thinking and examine the underlying truths in more than just movies.

We need to apply the same principles to history and science, as depicted in textbooks.

Look at African science stories that were retold by European historians; they were re-centered around Europe.

The earliest pioneers of science lived in Africa, but European historians relocated them to Greece.

Science and technology are gifts ancient Africa gave to our modern world.

Yet, our history and science textbooks, for example, have ignored the contributions of Imhotep, the father of medicine and designer of one of the ancient pyramids.

The word "science" is derived from the Latin word "scientia" or "possession of knowledge." We know, however, that knowledge is not the exclusive preserve of one race, but of all races.

By definition, knowledge is the totality of what is known to humanity. Knowledge is a body of information and truth, and the set of principles acquired by mankind over the ages.

Knowledge is akin to a quilt, the latter consisting of several layers held together by stitched designs and comprising patches of many colors.

The oldest patch on the quilt of science belongs to the African named Imhotep. He was the world's first recorded scientist, according to the prolific American science writer Isaac Asimov.

The oldest patch on the quilt of mathematics belongs to another African named Ahmes. Isaac Asimov also credited Ahmes as being the world's first author of a mathematics textbook.

Therefore, a study of history of science is an effort to stitch together a quilt that has life, texture and color. African historians must insert the patches of information omitted from books written by European historians.



Comment: The U.S. Capitol. According to the US Treasury Department, 450 of the 650 workers who built the White House and the Capitol were African slaves.

There are many examples of the mark Africans have made on world history. Americans are surprised when I tell them Africans built both Washington's White House and Capitol.

According to the US Treasury Department, 450 of the 650 workers who built the White House and the Capitol were African slaves.

Because the White House and Capitol are the two most visible symbols of American democracy, it is important to inform all schoolchildren in our globalized world that these institutions are the results of the sweat and toil of mostly African workers.

This must also be an acknowledgement of the debt America owes Africa.



Comment: The White House. According to the US Treasury Department, 450 of the 650 workers who built the White House and the Capitol were African slaves.

Similarly, discussions of globalization should credit those Africans who left the continent and helped build other nations throughout the world - most nations on Earth.

Africans who have made contributions in Australia, in Russia, and in Europe must be acknowledged so our children can have heroes with African roots - so they can know their own roots and be proud of them.

The enormous contributions of Africans to the development and progress of other nations has gone unacknowledged.

We have yet to acknowledge, for example, that St. Augustine, who wrote the greatest spiritual autobiography of all time, called "Confessions of St. Augustine," was an African; that three Africans became pope; that Africans have lived in Europe since the time of the Roman Empire; that Septimus Severus, an Emperor of Rome, was an African; and that the reason Beethoven was called "The Black Spaniard" was because he was a mulatto of African descent.

Why are we reluctant to acknowledge the contributions and legacies of our African ancestors?

We cannot inspire our children to look toward the future without first reminding them of their ancestors' contributions.

Look at the long struggle of African Australians, who recently became citizens with rights on their native continent.



Comment: According to CNN, African Australians were not recognized as human beings prior to 1967.

Comment: Africans have been living in Australia for 50,000 years. Yet, African Australians were granted Australian citizenship just 37 years ago, in 1967.

Africans have been living in Australia for 50,000 years. Yet, African Australians were granted Australian citizenship just 37 years ago, in 1967.

According to CNN, African Australians were not recognized as human beings prior to 1967. They “were governed under flora and fauna laws.” African Australians were, in essence, governed by plant and animal laws.

For many years, African Australians were described as the “invisible people.” In fact, the

first whites to settle in Australia named it the "land empty of people."

The contributions of Africans to Russia must be reclaimed. Russia's most celebrated author, A.S.(Aleksandr Sergeyeovich) Pushkin, told us he was of African descent. Pushkin's great-grandfather was brought to Russia as a slave.

Russians proclaim Pushkin as their "national poet," the "patriarch of Russian literature" and the "Father of the Russian language."

In essence, Pushkin is to Russia what Shakespeare is to Britain. Yet Africans who have read the complete works of Shakespeare are not likely to have read a single book by Pushkin.



Comment: A.S.(Aleksandr Sergeyevich) Pushkin is the great-grandson of an African slave.

Pushkin is to Russia what Shakespeare is to Britain.

I was asked to share today the story behind my supercomputer discovery. It would require several books to tell the whole story, but I will

share a short one that I have never told anyone.

The journey of discovery to my supercomputer was a titanic, one-man struggle. It was like climbing Mount Everest. On many occasions I felt like giving up.

Because I was traumatized by the racism I had encountered in science, I maintained a self-imposed silence on the supercomputer discovery that is my claim to fame.

I will share with you a supercomputing insight that even the experts in my field did not know then and do not know now.

In the 1980s, supercomputers could perform only millions of calculations per second and, therefore, their timers were designed to measure only millions of calculations per second.



Comment:

Emeagwali and world's fastest supercomputer (huge square box in the background) at 245 First Street, Cambridge, Massachusetts on November 30, 1990.

But I was performing billions of calculations per second and unknowingly attempting to time it with a supercomputer timer, which was designed to measure millions of calculations per second.

I assumed my timer could measure one-billionth of a second. It took me two years to realize my timer was off a thousandfold.

I was operating beyond a supercomputer's limitations, but I did not know it. The supercomputer designers did not expect their

timers to be used to measure calculations at that rate.

I almost gave up because I could not time and reproduce my calculations which, in turn, meant I could not share them, two years earlier, with the world.

After years of research, my supercomputer's timer was the only thing stopping me from getting the recognition I deserved.

I realized the timer was wrong, but I could not explain why. I spent two years mulling over why the timer was wrong.

It took two long and lonely years to discover why I could not time my calculations.



Comment: Emeagwali did not realize his timer was wrong and spent two years (on this spot) mulling over why his timer was wrong. Photo taken from the *Detroit Free Press*, page 1E, May 29, 1990.

My 3.1 billion calculations per second, which were then the world's fastest, were simply too fast for the supercomputer's timer.

What I learned from that experience was not to quit when faced with an insurmountable obstacle

- and that believing in yourself makes all the difference.

I learned to take a step backward and evaluate the options: Should I go through, above, under, or around the obstacle?

Quitting, I decided, was not an option. Indeed, the old saying is true: When the going gets tough, the tough get going.

Looking back, I learned that most limitations in life are self-imposed. You have to make things happen, not just watch things happen.

To succeed, you must constantly reject complacency.

I learned I could set high objectives and goals and achieve them.

The secret to my success is that I am constantly striving for continuous improvements

in my life and that I am never satisfied with my achievements.

The myth that a genius must have above-average intelligence is just that, a myth.

Geniuses are people who learn to create their own positive reinforcements when their experiments yield negative results. Perseverance is the key.

My goal was to go beyond the known, to a territory no one had ever reached.

I learned that if you want success badly enough and believe in yourself, then you can attain your goals and become anything you want in life.

The greatest challenge in your life is to look deep within yourself to see the greatness that is inside you, and those around you.

The history books may deprive African children of the heroes with whom they can identify, but in striving for your own goals, you can become that hero for them - and your own hero, too.

I once believed my supercomputer discovery was more important than the journey that got me there.

I now understand the journey to discovery is more important than the discovery itself; that the journey also requires a belief in your own abilities.

I learned that no matter how often you fall down, or how hard you fall down, what is most important is that you rise up and continue until you reach your goal.

It's true, some heroes are never recognized, but what's important is that they recognize themselves.

It is that belief in yourself, that focus, and that inner conviction that you are on the right path, that will get you through life's obstacles.

If we can give our children pride in their past, then we can show them what they can be and give them the self-respect that will make them succeed.



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Randal Robinson Solidarity Award
Randal Robinson
African Heritage Awards
Philanthropic & Humanitarian
Awards Oprah Winfrey
Kweisi Mfume
Louis H. Sullivan Foundation
African Statesman Award
President Olusegun Obasanjo



How Do We Reverse the Brain Drain?

Delivered by Philip Emeagwali on October 24, 2003 at the Pan-African Conference on Brain Drain, Elsah, Illinois USA. This speech was translated into several languages and reprinted in hundreds of newspapers.

Comment: Permission to reproduce is granted.



Comment: Bente Morse Chats with Emeagwali

Bente Morse, an emigrant from Denmark, was Emeagwali's guide during his four-day visit to Principia College and the historic village of Elsah. [Principia Guest House, Elsah, Illinois. October 26, 2003]

"I read with tears in my eyes the brain drain article, Oh good lord!"

--- Gboyega

"I was in the car and my heart shed tears for the revelations before me."

--- Tope Ayedun, Lagos, Nigeria

"I have never come across such a speech concentrated on solving the problem of Africa." --- Aster Sagai (born in Eritrea), London, England

"Your article is the most inspirational document I have ever come across my whole life." --- Born in Ghana, living in Minnesota, USA.

"I am of the view that the issues raised in this speech should form the basis of discussion and brainstorming at the next Federal Executive Council meeting in Abuja [Nigeria]." --- Segun Kukoyi, Lagos.

"I was marvelled not about the content on its own but the way and manner the note was delivered." --- Adisa, Saheed Adedeji

"Sir, I must say that your speech on that faithful day have enable me rediscover myself, and also reminds me that Africa has great potentials that can make Africa rise to its glory." --- Sunday Isoni

"Truly a powerful speech that brings to reality the truth and the actual effect of brain drain." --- Wallace Ngugi, Nairobi, Kenya

"We need more people like you to look up to and speak and advice on the way forward." --- Chibuzo Amaefule.

For 10 million African-born emigrants, the word "home" is synonymous with the United States, Britain or other country outside of Africa.

Personally, I have lived continuously in the United States for the past 30 years. My last visit to Africa was 17 years ago.

On the day I left Nigeria, I felt sad because I was leaving my family behind. I believed I would return eight years later, probably marry an Igbo girl, and then spend the rest of my life in Nigeria.

But 25 years ago, I fell in love with an American girl, married her three years later, and became eligible to sponsor a Green Card visa for my 35 closest relatives, including my parents and all my siblings, nieces and nephews.

Let Us Talk About Africa

Collected Speeches
with Commentary by
Philip Emeagwali



Comment: The Baltimore Afro-American, August 22, 1981.



Comment: Emeagwali fell in love with an American girl, married her three years later, and became eligible to sponsor a Green Card visa for his 35 closest relatives, including his parents and all his siblings, nieces and nephews.

The story of how I brought 35 people to the United States exemplifies how 10 million skilled

people have emigrated out of Africa during the past 30 years.

We came to the United States on student visas and then changed our status to become permanent residents and then naturalized citizens. Our new citizenship status helped us sponsor relatives, and also inspired our friends to immigrate here.

Ten million Africans now constitute an invisible nation that resides outside Africa. Although invisible, it is a nation as populous as Angola, Malawi, Zambia or Zimbabwe. If it were to be a nation with distinct borders, it would have an income roughly equivalent to Africa's gross domestic product.

Although the *African Union* does not recognize the African Diaspora as a nation, the *International Monetary Fund* (IMF) acknowledges its economic importance. The IMF estimates the African Diaspora now constitutes the biggest group of foreign investors in Africa.

Take for example *Western Union*. It estimates that it is not atypical for an immigrant to wire \$300 per month to relatives in Africa. If you assume that most Africans living outside Africa send money each month and you do the math, you will agree with the *IMF* that the African Diaspora is indeed the largest foreign investor in Africa.

What few realize is that Africans who immigrate to the United States contribute 40 times more wealth to the American than to the African economy. According to the United Nations, an African professional working in the United States contributes about \$150,000 per year to the U.S. economy.

Again, if you do the math, you will realize that the African professional remitting \$300 per month to Africa is contributing 40 times more to the United States economy than to the African one.

On a relative scale, that means for every \$300 per month a professional African sends home, that person contributes \$12,000 per month to the U.S. economy.



Comment: Emeagwali delivering this speech at the Pan-African Conference.

Of course, the issue more important than facts and figures is *eliminating* poverty in Africa, not merely reducing it by sending money to relatives. Money alone cannot eliminate poverty in Africa,

because even one million dollars is a number with no intrinsic value.

Real wealth cannot be measured by money, yet we often confuse money with wealth. Under the *status quo*, Africa would still remain poor even if we were to send all the money in the world there.

Ask someone who is ill what "wealth" means, and you will get a very different answer than from most other people.

If you were HIV-positive, you would gladly exchange one million dollars to become HIV-negative.

When you give your money to your doctor, that physician helps you convert your money into health - or rather, *wealth*.

Money cannot teach your children. Teachers can.
Money cannot bring electricity to your home.

Engineers can. Money cannot cure sick people.
Doctors can.

Because it is only a nation's human capital that can be converted into real wealth, that human capital is much more valuable than its financial capital.

A few years ago, Zambia had 1,600 medical doctors. Today, Zambia has only 400 medical doctors. Kenya retains only 10% of the nurses and doctors trained there. A similar story is told from South Africa to Ghana.

I also speak from my family experiences. After contributing 25 years to Nigerian society as a nurse, my father retired on a \$25-per-month pension.

By comparison, my four sisters each earn \$25 per *hour* as nurses in the United States. If my father had had the opportunity my sisters did, he certainly would have immigrated to the United States as a young nurse.

The "brain drain" explains, in part, why affluent Africans fly to London for their medical treatments.

Furthermore, because a significant percentage of African doctors and nurses practice in U.S. hospitals, we can reasonably conclude that African medical schools are *de facto* serving the American people, not Africa.

A recent World Bank survey shows that African universities are exporting a large percentage of their graduating manpower to the United States. In a given year, the World Bank estimates that 70,000 skilled Africans immigrate to Europe and the United States.

While these 70,000 skilled Africans are fleeing the continent in search of employment and decent wages, 100,000 skilled expatriates who are paid wages higher than the prevailing rate in Europe are hired to replace them.

In Nigeria, the petroleum industry hires about 1,000 skilled expatriates, even though we can find similar skills within the African Diaspora. Instead of developing its own manpower resources, Nigeria prefers to contract out its oil exploration despite the staggeringly high price of having to concede 40% of its profits to foreign oil companies.

In a pre-independence day editorial, the *Vanguard* (Nigeria) queried: "Why would the optimism of 1960 give way to the despair of 2000?"

My answer is this: Nigeria achieved political independence in 1960, but by the year 2000 had not yet achieved technological independence.

During colonial rule, Nigeria retained only 50% of the profits from oil derived from its own territory. Four decades after this colonial rule ended, the *New York Times* (December 22, 2002) wrote that "40 percent of the oil revenue goes to Chevron, [and] 60 percent to the [Nigerian] government."

As a point of comparison, the United States would never permit a Nigerian oil company to retain 40% of the profits from a Texas oilfield.

Our African homelands have paid an extraordinary price for their lack of domestic technological knowledge.

Because of that lack of knowledge, since it gained independence in 1960, Nigeria has relinquished 40% of its oilfields and \$200 billion to American and European stockholders.

Because of that lack of knowledge, Nigeria exports crude petroleum, only to import refined petroleum.

Because of that lack of knowledge, Africa exports raw steel, only to import cars that are essentially steel products.

Knowledge is the engine that drives economic growth, and Africa cannot eliminate poverty

without first increasing and nurturing its intellectual capital.

Reversing the "brain drain" will increase Africa's intellectual capital while also increasing its wealth in many, many different ways.

Can the "brain drain" be reversed? My answer is: yes. But in order for it to happen, we must try something different.

At this point, I want to inject a new idea into this dialogue. For my idea to work, it requires that we tap the talents and skills of the African Diaspora. It requires that we create one million high-tech jobs in Africa. It requires that we move one million high-tech jobs from the United States to Africa.

I know you are wondering: How can we move one million jobs from the United States to Africa?

It *can* be done. In fact, by the year 2015 the U.S. Department of Labor expects to lose an estimated 3.3 million call center jobs to developing nations.

In this area, what we as Africans need to do is develop a strategic plan - one that will persuade multinational companies that it will be more profitable to move their call centers to nations in Africa instead of India.

These high-tech jobs include those in call centers, customer service and help desks - all of which are suitable for unemployed university graduates.

The reason these jobs could now emerge in Africa is that recent technological advances such as the Internet and mobile telephones now make it practical, cheaper and otherwise advantageous to move these services to developing nations, where lower wages prevail.

If Africa succeeds in capturing one million of these high-tech jobs, they could provide more

revenues than all the African oilfields. These "greener pastures" would lure back talent and, in turn, create a reverse "brain drain."

Again, we have a rare and unique window of opportunity to convert projected American job losses into Africa's job gain, and thus change the "brain drain" to "brain gain."

However, aggressive action must be taken before this window of opportunity closes. India is a formidable competitor.

Therefore, we need to determine the cost savings realized by outsourcing call center jobs to Africa instead of India. That cost saving will be used as a selling point to corporations interested in outsourcing jobs.

A typical call center employee might be a housewife using a laptop computer and a cell phone to work from her home. As night settles and her children go to bed, she could place a phone call to

Los Angeles, which is 10 hours behind her time zone.

An American answers her call and she says, "Good morning, this is Zakiya." Using a standard, rehearsed script, she tries to sell an American product.

Now that USA-to-Africa telephone calls are as low as 6 cents per minute, it is economically feasible for a telephone sales person to reside in Anglophone Africa while virtually employed in the United States, and - this is important - paying income taxes only to her country in Africa.

I will give one more example of how thousands of call center jobs can be created in Africa.

It is well known that U.S. companies often give up on collecting outstanding account balances of less than \$50 each. The reason is that it often costs \$60 in American labor to recover that \$50.

By comparison, I believe it would cost only \$10 in African labor (including the 6 cents per minute phone call) to collect an outstanding balance of \$50.

Earlier, the organizers of this Pan African Conference gave me a note containing eleven questions.



The first was: Do skilled Africans have the moral obligation to remain and work in Africa?

I believe those with skills should be encouraged and rewarded to stay, work, and raise their families in Africa. When that happens, a large middle class will be created, thereby reducing the conditions that give rise to civil war and corruption. Then, a true revitalization and renaissance will occur.

The second question was: Should skilled African emigrants be compelled to return to Africa?

I believe controlling emigration will be very difficult. Instead, I recommend the United Nations impose a "brain gain tax" upon those nations benefiting from the "brain drain."

Each year, the United States creates a brain drain by issuing 135,000 H1-B visas to "outstanding researchers" and persons with "extraordinary ability."

The U.S. Internal Revenue Service (IRS), working in tangent with the Immigration and Naturalization Service (INS), could be required to credit one month's salary, each year, to the country of birth of each immigrant.

Already, the IRS allows U.S. taxpayers to make voluntary contributions to election funds. Similarly, it could allow immigrants to voluntarily pay taxes to their country of birth, instead of to the United States.

The third question was: Why don't we encourage unemployed Africans to seek employment abroad?

Put differently, if all the nurses and doctors in Africa were to win the U.S. visa lottery, who will operate our hospitals?

If we encourage 8 million talented Africans to emigrate, what will we encourage their remaining 800 million brothers and sisters to do?

The fourth question was: Should we blame the African Diaspora for Africa's problems?

Yes, the Diaspora should be blamed in part, because the absence it's created has diminished the continent's intellectual capital and thus created the vacuum enabling dictators and corruption to flourish.

The likes of Idi Amin, Jean-Bedel Bokassa and Mobutu Sese Seko would not be able to declare themselves president-for-life of nations who have a large, educated middle class.



The fifth question was: Should we not blame Africa's leaders for siphoning money from Africa's treasuries?

It becomes a vicious circle: the flight of intellectual capital increases the flight of financial capital which in turn increases again the flight of intellectual capital.

Leadership is a collective process, and "brain drain" reduces the collective brainpower needed to fight corruption and mismanagement.

For example, the leadership of the Central Bank of Nigeria did not call a news conference after Sani Abacha stole \$3 billion dollars from it.

The bank's Governor-General did not go on a hunger strike. He did not report the robbery to the police. He did not file a lawsuit.

Had they the intellectual manpower to counter corruption, the results would have been very different.

The sixth question was: Is it possible to achieve an African renaissance?

Because by definition, a renaissance is the revival and flowering of the arts, literature and sciences, it must be preceded by a growth in the continent's

intellectual capital, or the collective knowledge of the people.

The best African musicians live in France. The top African writers live in the United States or Britain. The soccer superstars live in Europe. It will be impossible to achieve a renaissance without the contributions of the talented.

The seventh question was: For how long has the "brain drain" problem existed?

A common misconception is that the African "brain drain" started 40 years ago.

In reality, it actually began ten times that long. Four hundred years ago, most people of African descent lived in Africa. Today, one in five of African descent live in the Americas. Therefore, measured in numbers, the largest "brain drain" resulted from the trans-Atlantic slave trade.

Contrary to what people believed, Africa experienced a brain gain during the first half of the 20th century. Schools, hospitals and banks were built by the British colonialists. These institutions were the visible manifestations of brain gain.

At the end of colonial rule, skilled Europeans fled the continent. Skilled Africans started fleeing the continent in the 1970s, 80s, and 90s. The result was the widespread rise of despotic rulers.

The eighth question was: Is "brain drain" a form of modern slavery?

By the end of the 21st century, people will have different sensibilities and will describe it as modern day slavery.

In the 19th century, which was an Agricultural Age, the U.S. economy needed strong hands to pick cotton, and the young and sturdy were forced into slavery.

In the 21st century, which is an Information Age, the U.S. economy needs persons with "extraordinary ability" and the best and brightest are lured with Green Card visas. Africans who are illiterate or HIV-positive are automatically denied American visas.

The ninth question was: Do you believe that the "brain drain" can be reversed?

As I stated earlier, "brain drain" is a complex and multidimensional problem that can be reversed into "brain gain."

India is now reversing its "brain drain," and turning it into "brain gain;" I believe Africa can do the same. But unless we reverse it, the dream of an African renaissance will remain an elusive one.

The tenth question was: Can we blame globalization as a cause of brain drain?

Globalization began 400 years ago with the trans-Atlantic slave trade that brought the ancestors of 200 million Africans now living in the Americas. It has accelerated because the Internet and cell phone now enable you to communicate instantaneously with any person on the globe.

Overall, globalization is a force that is denationalizing the wealth of developing nations. Economists have confirmed that the rich nations are getting richer while the poor ones are getting poorer.



We also know that the globalization process is increasing the foreign debts of developing nations, accelerating the flight of financial and intellectual capital to western nations.

The economics of offshoring will force multinational corporations to outsource to developing nations where lower wages prevail.

To remain competitive and profitable, companies will be forced to reduce costs by hiring five-dollars-an-hour computer programmers living in Third World countries and lay off expensive American programmers that demand \$50 an hour.

In the long term, offshoring will reverse the flight of financial and intellectual capital from western nations to the Third World.

The eleventh question was: Why have I lived in the United States for 30 continuous years?

Africa has bitten at my soul since I left. My roots are still in Africa. My house is filled with Africana - food, paintings, music, and clothes - to remind me of Africa.

I long to visit the motherland, but I must confess that when Africa called me to return home, I couldn't answer that call.

The reason is that I work on creating new knowledge that could be used to redesign supercomputers. The most powerful supercomputers cost \$120 million each and Nigeria could not afford to buy one for me. I created the knowledge that the power of thousands of processors can be harnessed; this knowledge, in turn, inspired the reinvention of vector supercomputers into massively parallel supercomputers.

New knowledge must precede new technological products and the supercomputer of today will become the personal computer of tomorrow.

And so to answer your question: even though I reside in the U.S. the knowledge that I created is now materializing into better personal computers purchased by Africans.

Finally, millions of high-tech jobs can be performed from Africa, but may instead be lost to India. We must identify the millions of jobs that will be more

profitable when transferred from the United States to Africa.

Doing so will enable us to create a brain drain from the United States and convert it to a brain gain for Africa.



Comment: Lisa S. Chiteji, Emeagwali and Sombo Nkwazi
An informal Q&A session followed Emeagwali's speech on reversing brain drain. [Principia College, Elsah, Illinois. October 24, 2003]

African History: Lost, Stolen or Strayed

Delivered by Philip Emeagwali at Arizona State University West, Phoenix, on
February 17, 2003 and reprinted in hundreds of newspapers.

Comment: Permission to reproduce is granted.



Let Us Talk About Africa

*Collected Speeches
with Commentary by
Philip Emeagwali*

"They have been stealing the glory and history of Africa but now it has to stop." --- Onyekachukwu Michael Mbonu

"My name is Louis. I'm a Senegalese living in France. I am both upset and proud reading somethings I learn on your site about the black mathematicians Euclid ... I wonder: How many secrets like this have we lost?"

"The essay 'African history lost stolen or strayed' hit me in the gut. The story is truly greater than the warrior. The Igbo extol the primacy of language but somewhere in our journey we dropped the ball. We became enraptured by the three dimensionality of contemporary experience and forgot that language is not just descriptive but more importantly, that language is deployable. Spin is not only employed during political campaigns, it is the currency of daily living. The picture of the white Emeagwali and the chickens says it all. Right before our own eyes. The spin. Imagine what has been done over the course of millennia. Thank you so much." --- Obi Nwachukwu

When I was ten years old, living in Africa, my father posed the following question to me:

"The story or the warrior, which is mightier?"

"The warrior!" I replied."



Comment: Philip Emeagwali (far right) was taught by his father, James, (second left) that the story is mightier than the warrior. Family photo taken on December 24, 1962 in Uromi, Nigeria.

My father shook his head in disagreement.

"The story. The story is mightier than the warrior," he said to me.

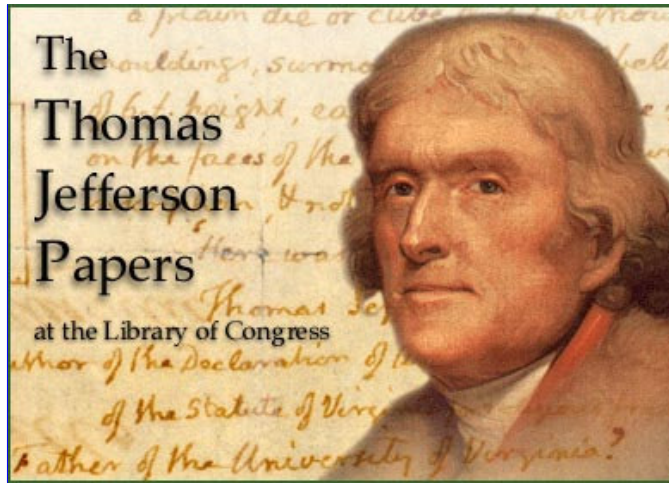
"How can that be?" I asked him.

"The story lives on long after the warrior has died," he explained.

This month is Black History Month. We celebrate it by telling stories of the contributions of black Americans to America. Also, today is President's Day. We celebrate it by telling stories of the contributions of American presidents to America. We tell stories about Thomas Jefferson, the third president of the United States. We tell how Jefferson coined the phrase "All men are created equal." A phrase written in the Declaration of Independence. Jefferson wrote, "All men are created equal." But he meant, "All white men are created equal."

Jefferson did not believe that white women are equal to white men. He did not believe that black men are equal to white men. Not much has changed two centuries later. As they say, the more things change, the more they remain the same.

In his one and only published book, called "Notes on Virginia," Jefferson explained why white men are intellectually superior to black men. Jefferson wrote that it would be impossible for a black person to understand the mathematical formula in Euclid's famous book called "The Elements."



Comment: Jefferson wrote in his book "Notes on Virginia" that Africans are intellectually inferior and cannot understand mathematics.

Euclid wrote his book, called the "The Elements," 2,300 years ago. It is the second most reprinted book in history. It is second only to the Bible. And Euclid is, perhaps, the world's greatest mathematician of all time. To the ancients, Euclid's Elements was a notoriously difficult textbook. The story is told about a discouraged student that asked Euclid:

"What shall I profit by learning these difficult things?"

Euclid, visibly angered, said to his assistant:

"Give this boy a penny, since he must make a profit out of what he learns."

Because The Elements was notoriously difficult to understand, Jefferson wrote that it would be difficult for a black person to understand the work of Euclid.

He believed that only people of European ancestry could understand the subject of Geometry.

As an African mathematician, I studied and understood geometry. There was nothing in my experience that could lead me to believe that

whites have greater mathematical aptitude than people of other races. Yet, that stereotype persists among white mathematicians.

While researching the origins of the Euclid's work, I was surprised when I learned that Euclid never even traveled outside Africa.

"How could Euclid be Greek, if he was born, raised and educated in Africa?" I asked.

It occurred to me that Euclid, the greatest mathematician of all time, was neither Greek nor white. It occurred to me that he was probably black and full-blooded Negro.

I found the best explanation in a book on "History of Mathematics." The author explained

that ancient Egypt was not in Africa. "Egypt was part of Greece," he added.

I was curious about how Euclid looked in person.

As I probed further, I discovered a widely circulating photo of Euclid. It was the photo of white male that seems to be 90 years old.

I asked: "Is this a true portrait of Euclid?"

Upon reflection, I realized that it was a fictitious portrait. It was drawn 2,000 years after Euclid died.

Euclid died 2,300 years ago in Africa. And we do not have any true portrait of any person that lived before Jesus Christ. We do not have any true portrait of any person that lived even 500 years.

I later learned that many Greek scientists of ancient times were born, raised and educated in Africa. And I still wonder if those Greek scientists were actually black Africans.



Comment: This false portrait of Euclid as a white male reinforced Jefferson's views that mathematics could only be comprehended by whites. Since there is no proof that Euclid ever travelled outside Africa it makes sense to assume that he is full-blooded Negro.

Our history books are full of erroneous statements.

Black History Month is a period for us to re-examine the erroneous statements in our history books.

A period for us to challenge these erroneous statements in our history books.

A period for us to teach our children the truth. Teach them that Euclid was not Greek. That he was not white. That was born, raised, educated and worked in Africa. That he is African.

A period for us to acknowledge that science is the gift of ancient Africa to our modern world. If Euclid never traveled outside Africa, we should assume that he is African. Which raises the profound question:

If Euclid is African, then Thomas Jefferson must be wrong when he argued that an African couldn't understand the work of Euclid?

Euclid was the warrior and Thomas Jefferson was the storyteller.

As my father taught me, the story is mightier than the warrior.

The story lives on long after the warrior has died.

Thomas Jefferson's belief that an African cannot understand the subject of geometry lives on 200 years after Jefferson has died. It lives on in the belief that whites make better mathematicians than blacks. It lives on among historians of science who are reluctant to

acknowledge the contributions of Africans to mathematical knowledge.

When I was young, I believed that the warrior is mightier than the story. I did not understand that the pen is mightier than the sword.

As a young man, I believed history is about the truth.

As an older man, I learned that history is both truth and illusion.

I learned that the value of my scientific discovery is in the perception of those evaluating it.

I learned that the black student considers me to be his role model.

I learned that the up and coming white scientist is reluctant to accept me as his role model.

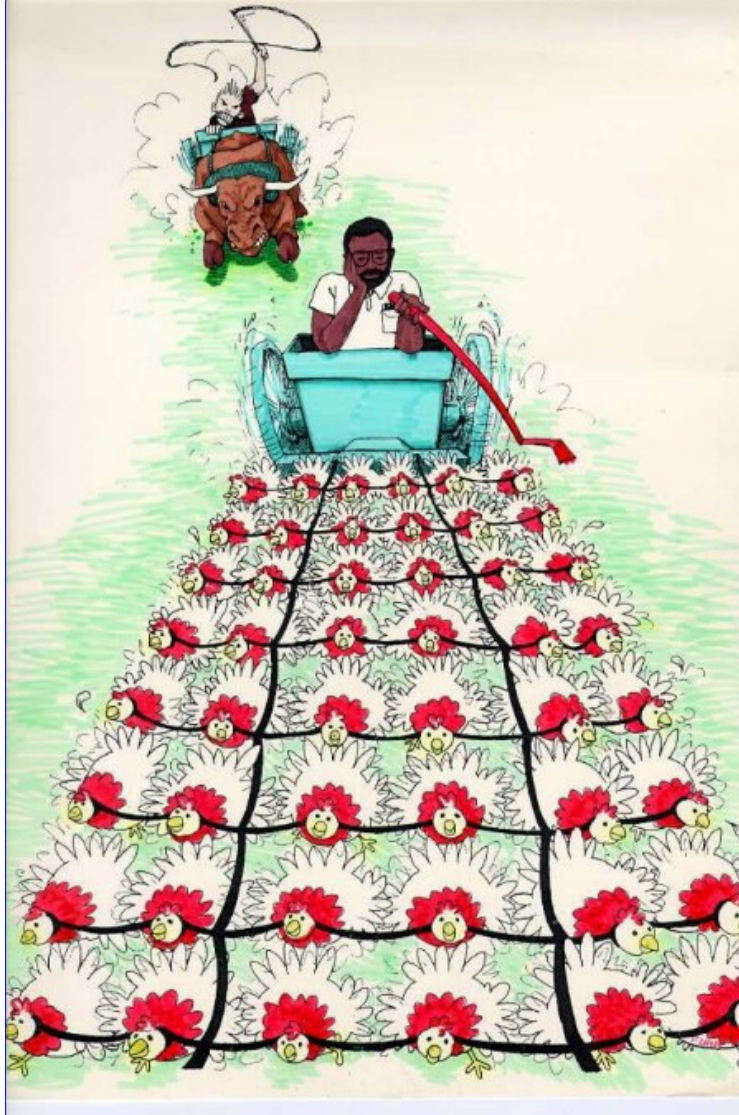
I learned that the established white scientist considers me to be an anomaly. Considers me to be a "freak of nature." Considers me to be the anti-Christ. Considers me to be a scientific vampire that sucks on the white race. Visualizes me as a monster with couple of horns on his head.

I learned that what I am is not as important as what I am to you.

I learned that when you ask me: "Who Are You?" that you really meant "Who Am I?"

I learned that you are searching for yourself in me.

Twelve years ago, a magazine hired a white man to prepare an illustration of a supercomputer wizard riding an ox. I was supposed to be the supercomputer wizard. But the white illustrator, who knew that I am black, portrayed me as a white person in his published illustration. I learned that the white illustrator was searching for himself in me.



Comment: The first draft of a portrait that depicted Emeagwali as a supercomputer wizard driving a carriage powered by thousands of chickens (a metaphor for his 65,000 weak processors that performed the world's fastest computation). The "Negro Emeagwali" (shown in this illustration) was rejected and replaced with a "Caucasian Emeagwali" (shown below).

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Comment: A "whitened" Caucasian portrait of Emeagwali was acceptable and widely published. One illustrator argued that Emeagwali has a trace of Caucasian blood and said that he could see the "Caucasian look" in his face.

Five hundred years ago, Leonardo da Vinci was commissioned to paint his masterpiece "The Lord's Supper." Before the Renaissance period, many paintings of the Madonna depicted a black woman. The infant God or Christ-child was depicted as black. But Leonardo da Vinci was searching for himself in Jesus Christ. He re-depicted Jesus Christ as white.

The Bible did not tell us what Jesus looked like. But we know that he lived in the Middle East or an eastern extension of Africa. We know that the Hebrews sojourned into Egypt and Africa. We know that Moses had a Cushite (Ethiopian) wife. When we put the facts together, we know

that Jesus likely looked like a dark-skinned
Palestinian, Yemenite or Egyptian.



Michelangelo used his family to pose for Jesus
Christ. Michelangelo was searching for himself
in Jesus Christ. During the Renaissance, the
mother of Christ became a white woman.

I learned that King James wrote the Bible the
way he believed it was supposed to be written.
I was trained by white mathematicians. I read
books about History of Mathematics written by

white authors. I learned in schools controlled and dominated by Eurocentric thoughts.

Considering where I came from, it was heresy to suggest that Euclid was African. Psychologist named this phenomenon "cognitive dissonance." I call it "The Fear of the Truth." We are afraid of the truth that the real Jesus Christ is dark-skinned. We are afraid of the truth that the real Euclid was an African and a full-blooded Negro.

I learned that Euclid was portrayed as a European to instill a sense of pride in white students. To embed a feeling of intellectual supremacy into their collective subconscious. I

learned that European mathematicians were searching for themselves in Euclid.

I learned that Africans are the pioneers in many other fields of study.

I learned that the modern chemist is not aware that the word "chemistry" meant "black man's science."

I learned that the word chemistry was derived from the word "Kemet." And that Kemet is the ancient name for the land we now call Egypt.

And that Kemet translates as "land of the blacks." And that "chemistry" means "black man's science."

Yet the story of black people's contribution to the science of chemistry is not included in

chemistry textbooks. As my father taught me,
the story is greater than the warrior.

We Africans have to tell our story. We
underestimate the power of the story.

"What happened to the black people of Kemet,"
the traveler asked the old man.

"For legend had it that the people of Kemet
were black? What happened?"

"Ah," wailed the old man, "they lost their
history and they died."

Isaac Asimov is the author of more than 500
books. One of his books called "Biographical
Encyclopedia of Science," is standard reference
in many libraries.



Comment: Isaac Asimov, the most prolific science writer, acknowledges that mathematics, science and technology are the gift of ancient Africans to our modern world.

The Encyclopedia of Science:

Acknowledges that an African named Imhotep is the Father of Medicine.

It acknowledges that an African is the Father of Architecture.

It acknowledges that an African is the first scientist in recorded history.

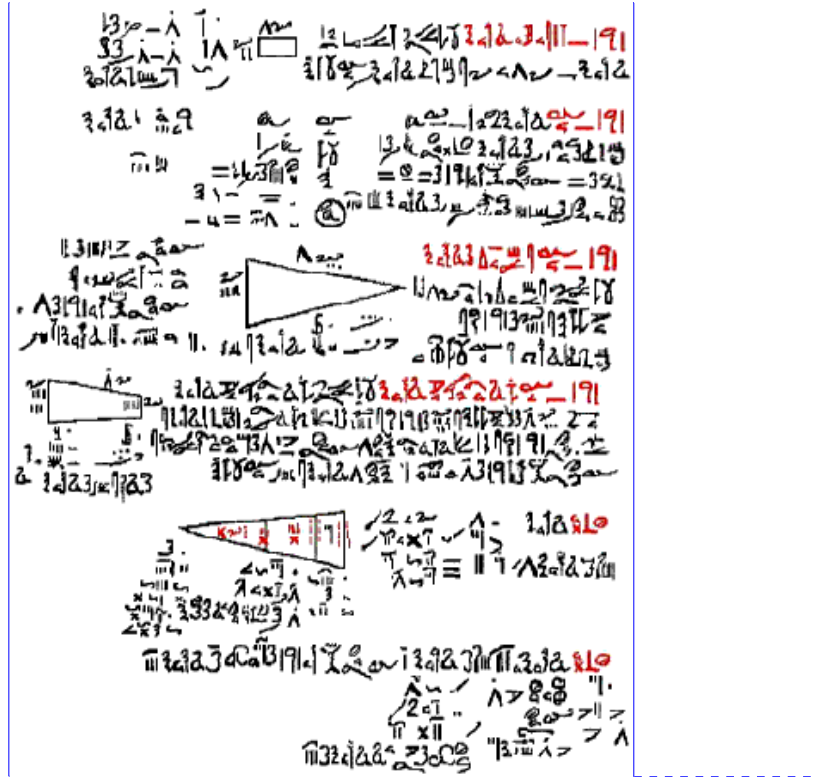
It acknowledges that the earliest Greek scientists were educated in Africa by Africans.

That they lived and worked in Africa. That they were even born in Africa.

If the earliest Greek scientists lived in Africa, then it leads to the profound conclusion that Greece is not the birthplace of Western civilization. It leads to more logical conclusion that Africa is the birthplace of civilization.

The oldest mathematics textbooks are called the Rhind, Moscow and Berlin papyri.

Comment: The ancient papyri are our primary source of information about the mathematics of Nile Valley civilization. A page from Ahmes papyrus which is about one foot tall and 18 feet long. This book was renamed "Rhind Papyrus."



The Rhind Papyrus was not written by Alexander Rhind --- the Scottish traveler that purchased it. It was written 4,000 years ago by an

African named Ahmes. But it was renamed after a non-mathematician that purchased it.

The Moscow Papyrus was not excavated in Moscow. It was excavated in Africa. But it was renamed after the city of Moscow.

The Berlin Papyrus was not excavated in Berlin. It was excavated in Africa. But it was renamed after the city of Berlin.

Ladies and gentlemen, we should give credit where credit is due. Scholars name a book after its author. Scientists name a discovery after the discoverer. And technologists name an invention after the inventor.

Why then were African textbooks Europeanized by naming them after European cities and

persons? The reason is that the story is mightier than the warrior. Ancient Africans were the ancient warriors and modern Europeans are the modern storytellers.



Comment: A digital facial reconstruction of a mummy believed to be Queen Nefertiti. The British forensic experts that performed this reconstruction were astonished when the image of a black woman emerged on their computer screen! (Image courtesy of USA Today, August 13, 2003)

History is called "his story."

It is a story told from the perspective of the storyteller. From the bias of the storyteller.

With the prejudice of the storyteller.

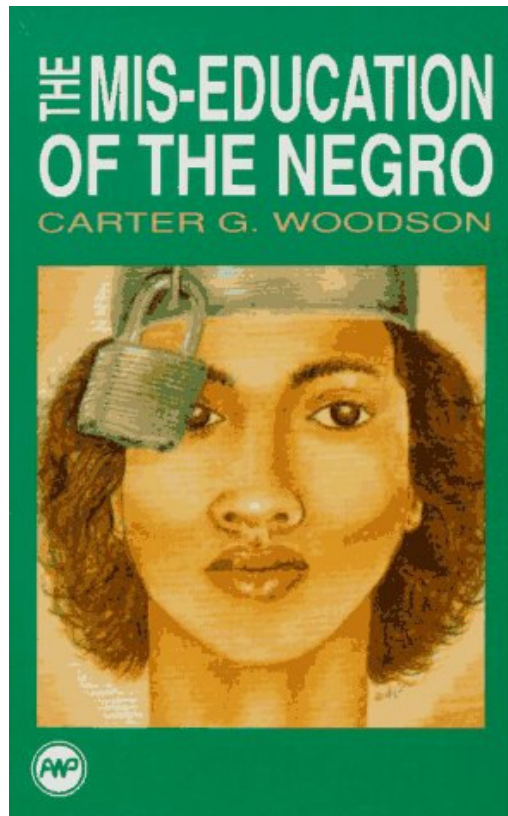
"What is history?" asked Napoleon, the conquered French emperor.

"History is nothing but a lie agreed upon!"

Napoleon answered.

Carter Woodson is the name of the historian that founded Negro History Week in 1926.

Woodson wrote:



"When you control a man's thinking, you do not have to worry about his actions."

"You do not have to tell him not to stand here or go yonder. He will find his (proper place) and will stay in it."

You do not need to send him to the back door.

He will go without being told.

In fact, if there is no back door, he will cut one for his special benefit. His education makes it necessary," said Woodson who was the son of former slaves.

Someone asked me: "Why don't we have a White History Month?"

"Every month is White History Month." I explained to him.

However, our goal is to make every month Black History Month. Our goal is to include black history into American history. And to include African history into world history.

African history is a search for answers to profound questions. Universal questions such as: Who are we? Where have we been? And how did we get here?

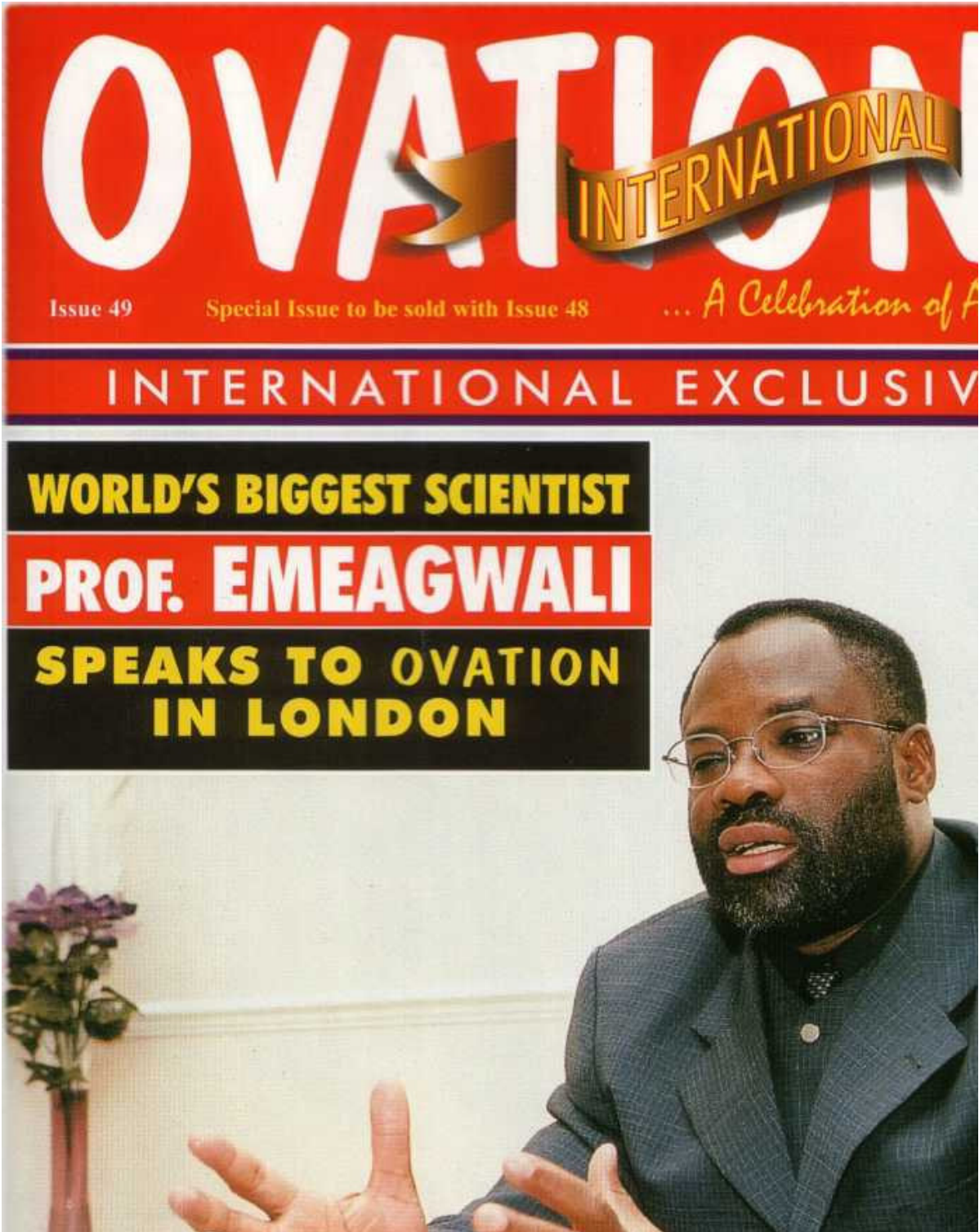
History is the compass that tells us who we are, where we have been, and where we are going. We now know that Africa is the birthplace of humanity. It is the Motherland of all people: black or white.

We should teach our children that: Science is the gift of ancient Africa to our modern world.

Finally, and most importantly, we should remind them that Africans were the carriers of light. Africans were not waiting in darkness for others to bring light to them.

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Chronology of Emeagwali's Life

1921. James Nnaemeka Emeagwali (father of Philip) born in May in Onitsha, Nigeria.

1938. Agatha Emeagwali, *née* Balonwu, (mother of Philip) born on August 7 in Onitsha.

1954 Chukwurah Emeagwali born on August 23 in Akure, Nigeria.

1955 Baptized as "Philip" |

Comment: by pioneer missionary William Obelagu at Saint Mary's Catholic Church, Onitsha, in November.

1960 Enrolls in 1st grade in January. Nigeria gains independence from Britain on October 1.

1962 Philip (far right) in family photo taken on December 24 in Uromi, Nigeria.

1966 Nigerian military overthrows elected government. Civil uprising with 30,000 dead.

1967 Nigerian-Biafran war begins in May. One million died in 30-month war.

1968 Emeagwali family fled Onitsha for the fourth and final time. |

Comment: Lived in refugee camps for two additional years.

1969 Emeagwali conscripted into the Biafran army in August, sent to Oguta war front.

1970 Biafran army defeated in January. Emeagwali is discharged from the Biafran army.

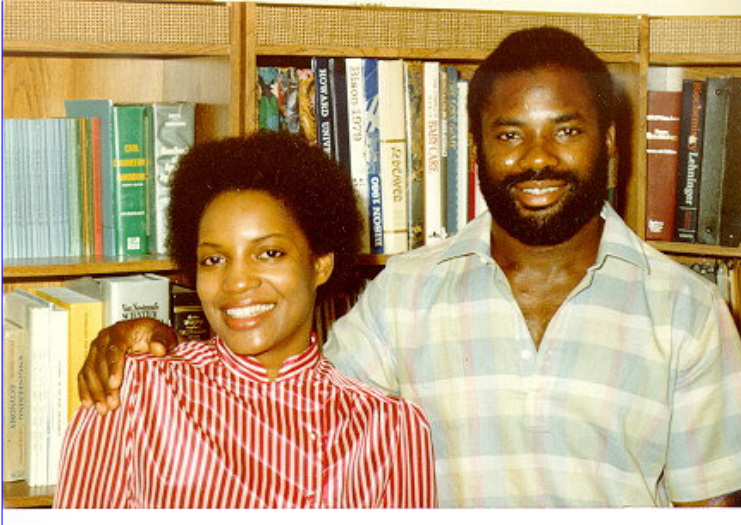
1973 Emeagwali wins a mathematics scholarship to study in the U.S. |

Comment: and arrives in Oregon (U.S.) on March 24.

1981 Marries Dale Brown on August 15 in Baltimore, Maryland. Continues scientific research at National Weather Service.

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Comment: Philip and Dale Emeagwali

1983 Obtains U.S. permanent residency “Green Card” visas for his 35 closest relatives.

1987 Programs 65,536 electronic brains, called processors to perform the world’s fastest calculation.

1989 Wins the Gordon Bell Prize alone, the equivalent in the supercomputer industry of the Nobel Prize.

2000 Bill Clinton extols Emeagwali as “one of the great minds of the Information Age.”

2004 *New African* magazine poll ranks Emeagwali as history’s greatest scientist of African descent.

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Comment: Philip, Dale and Ijeoma Emeagwali [photo taken on June 8, 2005]

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Dale Emeagwali
(Baltimore, Maryland. October 1, 2000)



Dale and Philip Emeagwali signs the Governor-General's guestbook.
(King's House, Kingston, Jamaica. March 23, 2001)



Emeagwali with Sir Howard Cooke (The Head of State of Jamaica)
(Kingston Hilton Hotel. March 24, 2001)

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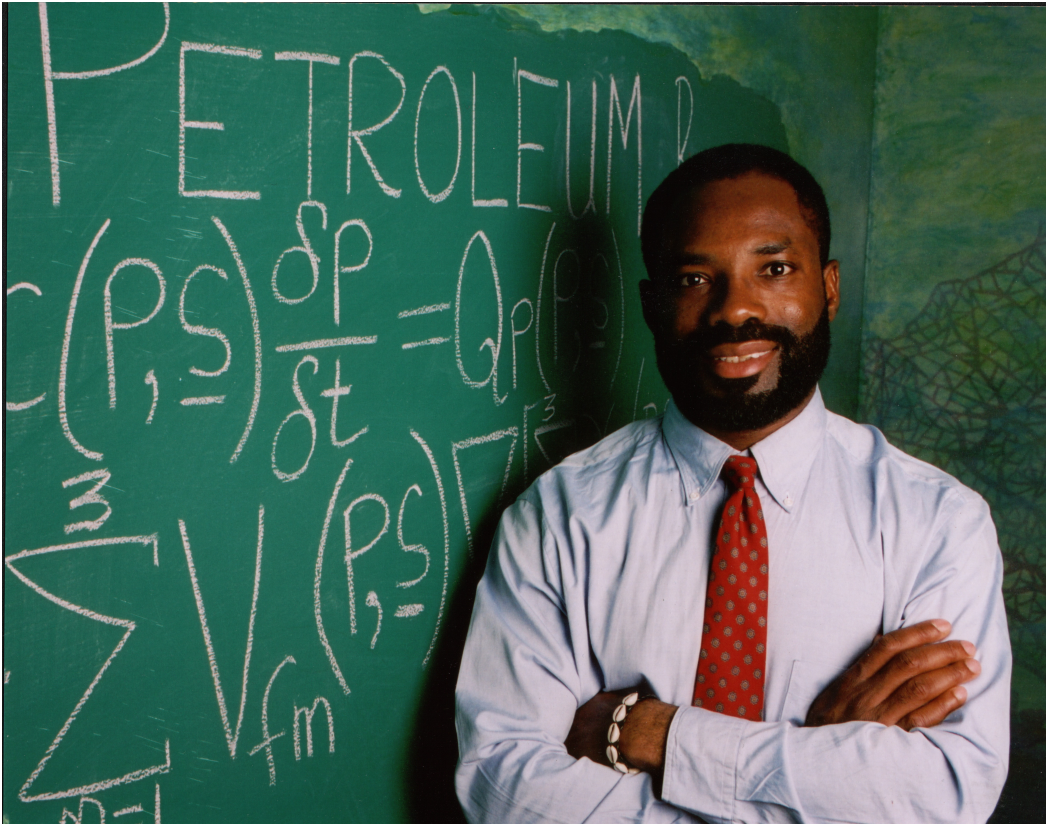
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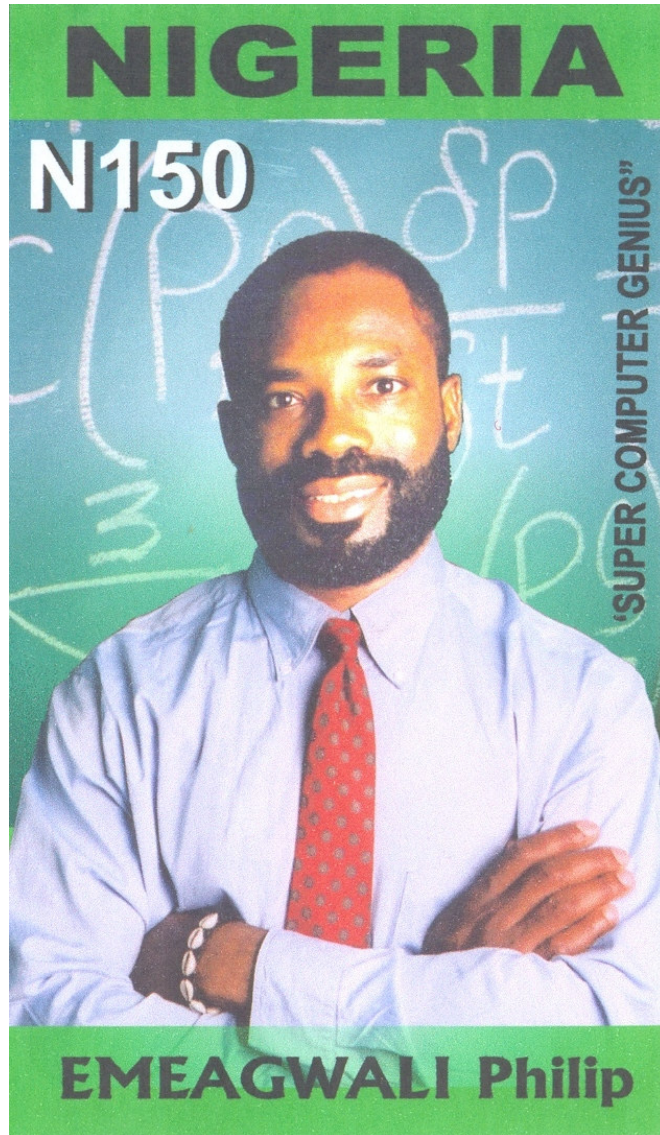
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