MY SUPERCOMPUTER DISCOVERY

Excerpt from a speech by Emeagwali [emeagwali.com] delivered on September 18, 2004, Washington DC USA.

The entire **transcript** is posted at
http://**emeagwali.com**/speeches/globalization/the-truth-about-globalization/index.html

Bio
Emeagwali helped give birth to the *supercomputer* - the technology that spawned the *Internet*. He won the 1989 Gordon Bell Prize, which has been dubbed the "Nobel Prize of Supercomputing."

Excerpt
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.

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.

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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