IS ANOTHER NIGERIA TRULY POSSIBLE?
GLOBAL TRENDS, DOMESTIC DISTEMPERS AND THE BIG PICTURE FOR THE GIANT OF AFRICA

by

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Is another Nigeria truly possible? Global trends, domestic distempers and the big picture for the giant of Africa
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Preamble

There is a time for everything, as the familiar saying goes. So it is then that when a given people arrive at a cross-roads, they must pause to ask, where do we go from here? Nothing new in this. For one thing, our elders even left us anecdotes that explicate both the dilemma, and the solutions at such crossroads. They believe for instance, that in times of need, different leaders make claims to being the hero with the answer - but that when time comes to put up or shut up, the one who knows how to pound the yam will do so in a mortar, with his pestle pounding - while the untutored ones waste their effort hitting bare ground, producing nothing but sound and fury, signifying nothing, to borrow from a familiar literary allusion from William Faulkner.

These are truly interesting times that we live in, to paraphrase the Chinese who know, as we do, that a tree does not move unless there is wind - and the storms of historical proportions are gathering. This is true whether in the realms culture and epistemology, politics or economy, as well as in the rarefied arena of technological innovations that promise to out-pace our present preoccupations with the mundane. For Nigerians and other Africans, the danger is that we may well be missing in action and those manning the wheels of history have been known to take no prisoners. Big Power imperial and neocolonial forays of the past should make us ponder on a revealing puzzle: If crocodiles can eat their own eggs, what would they
do to the flesh of a frog? Weak states with legitimacy crises are constantly in danger.

This presentation is therefore, a driven one that seeks to have us come down from our comfort zones and take a look around- from a global perspective. It is the first step that is difficult, as everyone knows. But the ignorance among policy makers of some of the issues at stake calls for another reflection from the ancients, that for one not to know is bad enough - but not to wish to know is worse.

Having said that, having gotten that off the chest, let it be known that many are trying, several voices among the intellectual cognoscenti have been singing these tunes for decades. They do so, not in the misplaced hope of a guaranteed policy response but because it is their duty. Duty for us evokes the challenge of the Caribbean pan-Africanist Franz Fanon who roused the youth of Africa at the height of the colonial era, with his clarion for 'every generation strive to discover its historic mission, and then fulfil it.' For those in the 1940s and 1950s, the mission was concluding the First Liberation of Africa in the 20th century, that is, gaining independence from the six European powers of France, Britain, Italy, Portugal and Belgium, with South Africa as a special case. Later on still, another generation, those weighted down by the military dictators of the 1960-1990s era, had to fulfil its mission in the pro-democracy struggles that constitute the second liberation for Africa and which ushered in the African Union, complete with a continental parliaments and the coming of an African Common Market.

Every generation must contribute its best for the survival of our much stigmatized continent. In this regard, we agree with the reminder from the Bard of Avon, William Shakespeare that the world is akin to a stage with exits and entrances, each man playing his role and more. A fuller rendition of his classic "The Seven Ages of Man" is instructive -

\[
\text{All the world’s a stage,} \\
\text{And all the men and women merely players;} \\
\text{They have their exits and their entrances,}
\]
And one man in his time plays many parts, His acts being seven ages. ...

Fair enough. There is indeed a time for everything. What we can do while we still can, let's not hope it will be done by someone else! There are grave challenges ahead and everyone - especially these gifted students of a premier technological academy, the Federal University of Technology in Owerri, FUTO seated before us - they have a rendezvous with history. They too must discover their mission.

Is another Nigeria possible? Truly? Today we are assembled to speak to this topic, with three primary audiences in mind to begin with: the graduating students - a delight for me, having once been the SUG president at UNN at the time of the Ali-Must-Go student strike of 1978. I also address colleagues of the cap-and-gown fraternity, fellow members of the academic community from which I am drawn - especially those who ask the question: knowledge for whom, knowledge for what? Finally a third audience will be the movers of the political world - the political class as the media labels them, a group with whom I am also affiliated. All three affiliations, affirmatively by choice, I might add.

For starters, this paper is more about our collective Tomorrow, about what I see coming down the highway of history, down the virtual turnpike. So what do we see? A lot of entropy at work - the good news being of snippets of a wondrously feasible prosperity ahead, individual achievers despite the odds, fine mansions and high fashion, fabulous trips and entertainment, all in a land that could be called Happy. But then, as quickly as I see it all coming together, this dream disappears, fast-fast, as reality reasserts itself. Instead what presses down so much more, becomes the urgency of a need for rapid steps over our future - if we mean business.

Rather odd, wont you agree? One dream hopeful, the other dreadful. There is a reason for this and it may be worth exploring as our first order of business.
PART 1

I. Nigeria’s Duality: Exceptionalism and Retrogression

In the foregoing, I have offered a foretaste of the problem facing us in Nigeria as a people inhabiting a geographical space, more of an emporium - located in the sub-Saharan geological basin but far away from the global centers of gravity. I will be advancing the thesis that Nigeria needs to rise to the challenge of finally addressing its internal elite dysfunction - what I here see as 'domestic distempers', the Babel of voices and mutual acrimony that serve to disillusion the otherwise rudderless, meandering of the expectant masses. At the heart of this is the challenge of defining what Nigeria means to its citizens - what its best minds summarize quite simply as, The National Question.

It is of course self-evident that if Nigeria cannot solve its citizenship dilemma - if indeed this giant of Africa cannot rise to the level of a miniature Africa by overcoming these deep-seated distempers, minor players from within and without - and possibly from space colonies of the latter 21st century - will seek to fill the void. The outcome will not make a pretty sight. This is the basis for what an advocate of instrumental panAfricanism would see as the imperative of seeing through the fog of our current comfort-seeking lifestyles, and what is essentially an easy life, import dependent, full of song and dance. To them, what is needed is forward-thinking in rapid strides using all the tools and gadgets available today to transform Nigeria, even the entire continent while there is time. All we may have is just 20 years, before a potential global crisis erupts. Who really knows? But such rapid transformations based on fear of the unknown, have been undertaken before. Japan starting from the Meiji Restoration, transformed
itself in two generations. Singapore in one decade plus. Mighty China in just 32 years to be precise - in 1949 it was a rice bowl beggarly nation; by 1971 it had secured its borders, decreed national unity based on common citizenship and exploded the atomic bomb. China could no longer be ignored on the world stage, as had been the practice till then.

Now, let's be clear about one factor often not stressed by those who cite the success of these South Easter Asian states. They possessed one quality which Nigeria and the rest of Africa grossly lack - commitment to national integration under visionary leadership and with long term national plan strategies in each case. Patriotism is encouraged, recognized and rewarded. There is usually a drive for technology and development as a the foundation of national defence. Often authoritarian, they unquestionably managed to advance those nations toward readiness for what was coming.

Do we need to emulate them? Certainly not in all particulars. They also never had advantages that we today have in abundance: a solid and predictable revenue base, a populace living an age of information overflow, and enough human technical capacity, working with a knowledge industry yet to be articulated and motivated. Of course none of them could ever have boasted of being the largest economy in their sub-region, as Nigeria can. So Nigeria is endowed with prospects it needs to fully understand - by first recognizing them.

We live in a world that sounds a bit like *A Tale of Two Cities* by Charles Dickens; more like a tale of two worlds apart. The half dozen centers of global innovation and corporate dynamism are ever more busy, far more affluent and even more driven, than when the industrial revolution first took off early in the 18th century.

Scarcely a week passes by without some R & D break, or news of a coming a breakthrough from the world of innovative technology and the corporations that power them - from consumer products and popular entertainment to new sources of energy, rolling out from places like Silicon Valley and New York City, Shanghai to Tokyo, Berlin, Paris and London,
Geneva, Berne or even Copenhagen, from Toronto and Sydney, occasionally from Moscow and Madrid, even New Delhi. From embattled entrepots like Haifa, Israel and Seoul, South Korea, to mention just two, the world is alive with possibilities. Soon enough from Dubai to Riyadh to Teheran, things will be happening with commercial, military or other transformative promise.

Now, what of us? In this **Tale of Two Cities**, what do we have here? Sorry to disappoint those who might think we have nothing worthwhile in these climes. We have prospects, to restate. Nigeria's strengths are actually well-known. Right off the bat, let me mention a handful for the record:

1. **NATURAL RESOURCES** - from oil to solid minerals in strategic abundance and commercial quantities; as the world's 10th largest oil producer with its national in charge of the main oil cartel, OPEC, it is a global player to a degree.
2. **DEEP CULTURES** - the heritage of thousand year norms, values and techniques, is still very much alive; the ethnic and clan identity that go with these, could form the linkages capable of being harnessed to nation building based on equity and fairness.
3. **HUMAN CAPITAL** - very important to our discussion of 21st century possibilities: where we had just a few educated elites upon independence after 100 years of British rule, Nigeria today has close to 150 universities, scores of polytechnics and other academies - and millions of technically and managerially trained manpower capable of any challenge - given the chance. A huge manpower reserve is also to be found in the Diaspora who are now part of the brain-gain asset that could be drawn from.
4. **ENTREPRENEURSHIP** - as the son of a businessman and one who has watched the Dangotes, Elumelus and Ovias, Indimis, Dozies and Adenugas, along with the richest black woman Folorunso Alakija, take on the investment world so imaginatively, we are reminded that the corporate enablers of Africa are finally here. As for the Nigerian banking conglomerates - from Zenith to UBA, Diamond to Union and the rest,
making their presence felt across Africa's capital cities is in the mould of a Giant of Africa.

Fifth would be the ready existence of TECHNOLOGICAL & AGROINDUSTRY CENTERS; historically and in terms of contemporary opportunities, the coming of an export-driven Nigerian businesses to take on traditional light manufacturing industries in Aba, Kano, Ife, Benin, Kebbi, Bida and elsewhere, should mark a turning point in the Nigerian quest for economic diversification.

6. CREATIVE INDUSTRIES - The rise of globally acclaimed ENTERTAINERS, WRITERS AND SPORTS STARS OF NOTE must be noted as the one arena of solid triumphs for an otherwise troubled nation; though the latest export of Nigeria to the world - the Nollywood movie industry - is barely two decades running, it has become a global sensation. They follow in the footsteps of acclaimed artists and maestros that charmed the world over the latter half of the 20th century - Fela in music, Achebe and Soyinka in literature; the Green Eagles in soccer - from Yekini and Okocha to Musa and the other Top Twenty. Nigeria has sent forth a series of unforgettable field athletes, boxers and wrestlers. Taken together, they constitute assets this nation can build on.

We could move on but a 7th strength is crucial to the future - Nigeria's GLOBAL PAN-AFRICAN PRESENCE as the nominal 'Giant of Africa': this is a moniker the nation has taken quite seriously as a Big Brother as well as in being a global good citizen - the peace-keeping laurels and anti-Apartheid campaign diplomatic success of the 1970s through 1990s, are only part of this twin commitment. From being a reliable player in pacifying the Congo in the 1960s and Darfur Sudan in the 1980s, to leading West Africa's ECOMOG forces in tamping down the destructive fires of civil war in Liberia, Sierra Leone and elsewhere, she too has paid a price in soldiers lost and in treasures expended for peace in Africa.

I could also speak as a surprisingly important strength, the popularly consistent and abiding FAITH IN DEMOCRACY; this is No. 8. Democracy as
the best form of government in a federal republic - this is a faith Nigerians have been tenacious in defending from the First and Second Republics, to the Third and the Fourth, despite intervening years of military rule and bloody suppression. Let it be noted in passing that this faith in democracy may occasionally go to extremes; for instance, currently, rather than two to three grand parties with clear ideological policy options, we have 68 registered political parties last time I checked. But better perhaps, the more the merrier, rather than being stuck with just two or three, who might tend towards what the German political sociologist, Robert Michels, calls the 'iron law of oligarchy' in new democracies.

Then there is the 9th strength that both delights and inspires but also dismays: the puzzle that a nation seemingly filled with so much ritual and occult bloodletting, is also the first worldwide when it comes to RELIGIOUS PASSION SECOND TO NONE! You need to see how the faithful flock in their millions to hear the Adeboyes, Bakares, Mbakas and Hezekiahs, all over the world. Same with the leading lights of the other major religion. The issue for Nigeria is really how to strategically incorporate the charismatic preachers to the task of positive image rebranding, with arriving droves of the faithful from all over the world spreading better news about this country. There is nothing profane about this. Religious tourism in places like India, Israel and Saudi Arabia, Ethiopia and the Vatican, is part of those nations' economic calculations.

And finally, No. 10, given that it is a virus that has eaten deep in the Nigerian fabric for years, the effort by various administrations since the 4th Republic to tame CORRUPTION, can only be applauded, so long as it is not selective or vindictive. The institutions are already in place, despite the recent controversies over the latest Transparency International rankings. The recognition of the Nigerian leader by the African Union as the symbol of anti-corruption across Africa, shows that the effort so far at home is being watched with keen interest.
These ten are merely indicative - many more could be listed in the sense that sometimes it pays to see that glass of water as half full than half empty. One is encouraging, motivating. So there are foundations for the rise of a new civilization powered by an energetic populace. We can add half a dozen more, but the picture is clear: our future in part, lies with us. But to get there, we must first get through the worst of our domestic distempers. Without crossing that hurdle, nothing else might work.

II. Domestic Distempers - Progress Under Arrest

For now let us return to the everyday reality that keep Nigerians grumpily asserting that life is worse than ever, and that despite the material affluence surrounding us, our parents in their time, lived a more fulfilling life and the like. Am not sure the facts bear that out, if we take up any human development index (HDI) measure or look at GDP per capita differentials between 1960 and say 2010. A mere vox-pop, quantitative survey might tell us that there is more of everything - more government ministries and parastatals, more schools and other academic institutions, more CAC-registered companies and a buzzing stock exchange presiding over a burgeoning financial sector. There are more doctors, hospitals and health-care personnel. Things have gotten bigger even if not more efficiently - but then of course, we have a far larger population than ever. This is set to get more challenging as Nigeria balloons from its current 180m to 400m by the year 2050, making it perhaps the 5th most populous country in the world.

At one level therefore, there are more roadwork, even measurable evidence of structural economic growth as opposed to personal income improvements, which is usually slower. Nigeria is back to being considered at $405bn GDP, the largest African economy by far. South Africa and Egypt are far down in this ranking. Despite greater evidence of big things happening, so to say, people feel strongly that the sky is falling. This is
because **man does not live by bread alone**, to cite from the scriptures. Too many other things trouble Nigerians - the most important being the manifold insecurities that govern everyday life. Job insecurity is an obvious one - bosses such as DGs and MDs can hire and fire at will; their power is such that employees literally double over as they salute each morning as the boss arrives. Formal rules of Nigerian labour laws mean nothing. Junior personnel are routinely treated like servants. Hence the rush to reach the safety zone of assistant manager, deputy MD or associate VP, assistant director in the civil service or rise to become a school vice principal, anywhere but the bottom.

Then there is the insecurity of life and limb. Still worse is the daily fear of kidnappers, blackmailers, armed robbers and random violence. Fear for one's job in an economy with 40% unemployment and 70% underemployment and where one cannot start a business because the banks will laugh one off the premises. In a land where stomach infrastructure is understandably the first order of the day - for the poorest among us, including our ghetto dwellers and low income relatives in the villages, this is no simple consideration.

Leaving the average individual immersed in his or her personal fears, enacted every working day, is the reality of the world in which they must navigate as they step out - fearful of law enforcement agents cadres from over a half dozen agencies - police, army, civil defence, customs, immigration, all with different segments, each one of which, armed to the teeth they confront civilians who have no right to bear arms at all. Practically each day we hear of abuses of this asymmetrical relationship between the governed and the governing classes. Our average citizen has to deal with broken infrastructures, epileptic electricity, undrinkable pipeborne water, and roadside restaurants without food inspectors. Not to be left out: office holders might zoom into the road with sirens-blaring cars. And with many state governments owing salaries for months on end, the Nigerian worker is bedraggled automaton doing what they can to survive.
The average Nigerian is therefore bedraggled, impoverished, insecure and frankly in need of expert medical care. Any wonder then that he hardly pours accolades to big deal of roads and ports expansions, and other edifices under construction? This is in part what Bill Gates, the American computer billionaire, was alluding to the other day when he came calling and was asked to attend a meeting of Nigeria's Economic strategy team. Focusing on human beings and human capacity is as important, same time, as erecting the physical infrastructure we are busy with.

Indeed Nigeria is in need of fast-tracking, and one must acknowledge where progress appears in view. Good plans exist in transportation, in works and housing, in aviation and agriculture - we see those. But they are mostly work in progress. One area now catching attention is in the consciousness-raising effort of the of the Science and Technology ministry which is transforming from a small, generally neglected and under-funded outfit into one with big dreams. The unveiling of an ambitious Technology Road Map 2018-2030, represents the sort of Big-Think boldness that we instrumental pan-Africanists call for. No less is the outcome of the Technology Expo at Eagle Square early in March 2018 featuring Nigeria's talented innovators, fabricators and managers of the technological establishment - along with the group that is often missing in the past, the captains of industry arrayed in their chambers of commerce, industry and agriculture. The talk these days is of Technology Parks and incubator projects, the very strategy that propelled China forward in the 1980s. The right ideas are finally starting to catch on in Nigeria and that is a good thing in itself. But can these be sustained?

III. Re-Educating Nigerian Politicians

It is important not to lose sight of the larger issue, intriguing as these occasional bursts of energy, might appear. They are often a flash in the pan. The real challenge is the re-education of Nigerian decision makers, meaning the politicians in our democratic setting. They need to get their
principles honed and lined up; they will need to answer the question, what do you stand for and why? The Nigerian political elite who control the levers of three things that could be decisive - education, money and power - are typically not committed to any Big Picture that might trouble their comfort and leisure. The only transformational instinct they possess is the drive to greater wealth. Rocking the boat is a risk they will not take. This is an old predilection. Those familiar with the various tendencies during the colonial era of pan-African nationalism could recall that left to some Nigerians, the colonial masters could rule for another 100 years and it would be all fine and good.

The Union Jack colonial powers even didn't have to wear their smirk in public as the "trousered savages" that Lord Lugard spoke of went about their mad schemes for African controlled banks, even more fancifully, all that talk about democracy and the Rights of Man, and even funnier of such things as free education and of a university by Africans for Africans. The greatest critics of the nationalist leaders were their fellow Nigerians, the sort whom Black America would call Uncle Toms and we would dismiss as 'been-to's' suffering from 'colonial mentality'. Same thing by and large, same disappointing lack of self confidence.

So the first problem to tackle for Nigeria to find its destiny is the problem of the liberation of the power elite. We are dealing with an ahistorical elite, who like members of the American Know-Nothing Party of the 1920's, wish to hear nothing, see nothing and know Nothing beyond cash flow. We need to witness the coming of what might sound like a breath of fresh air, the NAMs - new African Men (and women of course). Sashaying down the street with swagger-sticks but with smallthink provincialism, is a style doomed to vanish into the history of tomorrow. The era of living in old glories of nostalgic village communities, clan-kingdoms and grand empires, each one fixated on the exploits of legendary heroes of the ancient world, will not do for the supersonic age that is about to replace the digital post-industrial era.
The daily fare of bad news sum up our situation today. Take a census, if you can stand the horror of it all, of the daily news headlines we have become accustomed to. Herdsmen-farmers killings in Benue, Taraba, Delta, Enugu, Ondo, Ekiti, Nassarawa. Banditry in Zamfara. Kidnappings in Imo, Rivers, Edo, Lagos, all over. Boko Haram exploits in the Northeast, from Sambista and Chibok to Dapchi, Yobe where they seized a trailer load of 111 students and returned only 105, reportedly of their own free will. News fare of communal clashes in practically all states is to be found alongside photos of collapsing pensioners or of striking workers. Crime and deviance rule the day as forces of darkness, so to say, step out from the shadows. Newspaper crime sections are filled with bizarre stories of cultists bad ritualists with human skulls parading our towns and cities. Witches and wizards on the prowl. All in this 21st century! Many a trembling citizen can almost swear they can see them live. Fake drugs dealers. Armed bandits hiding in forests along the highways. Much more. From generation to generation these outbursts of cultural insecurities descend on us despite the nominal Christianity and Islam that are part of the official narrative in the international Year Books. Other insecurities: The porous borders are controlled by smugglers and pirate bosses. The ill-maintained highways are a world of their own. Aviation, despite the growth in airlines, barely transports a small percentage of the travelling public. The railroads are just starting to chug along. Baby factories complete with salesmen and bargain hunters, in Imo, Abia, Ebonyi, elsewhere. Students who cannot gain admission - or get jobs. Amid all this, we have leading political actors berating each other as the 2019 election inexorably draws near, both on and offline. There is no need to continue with the catalogue - the point is trebly clear that our nation may be heading for even worse crisis of state collapse if there is no rapid turn-around. The moral collapse and cultural confusion of predictable societal norms simply disorient the younger generation about right and wrong. You may have read of the rise in drug addiction and worse, as a youth phenomenon. No surprise then that the
national fabric will ever remain tattered as they rise to take over the reins of society.

But here is the rub - in an age of globalization, how does all this play out there? Image matters, I repeat. Take the average international investor, given all of the bad news consistently emanating from the Giant of Africa, to use the sobriquet, what do you think he might have at the back of his mind as they land at Murtala Muhammed or Nnamdi Azikiwe international airports, even as he puts on a fixed smile on meeting his hosts? Can any such valued visitor truly respect us as he looks around; we are not talking of trust. That's where it starts - seeing us up close for what we are.

IV. Re-engaging with the Future

The above is not about further depressing us. The mission today is to seek for solutions, to ask ourselves, is there a way out of our malaise and where will it be coming from? Can there be perseverance with vision? Is Another Nigeria Possible? as I ask here - taking from a common poser several years back and which formed the basis of a collection of essays I once had published.

Man is the maker of his own history and we will make an attempt here at sifting through a variety of options. To my mind, five dilemmas face us, each one daunting enough that not to resolve them will end the sedate assumptions of the 4th Republic and foreclose possibilities of the onset of a new civilization. Paradoxically - but positively, resolving them could usher in a more purposeful Fifth - and maybe Final - Republic. I will merely itemize these for discussion later:

In answer to the poser, IS ANOTHER NIGERIA POSSIBLE?, here are five policy imperatives we need to briefly explore:

I. The logic of a pan-Africanism nationalist re-orientation;
II. Inclusive democracy with a trusty INEC umpire as a priority
III. Determined abolition of poverty and related QOL indices
IV. Public policy with Diaspora engagement
V. Attention to Technology and what's coming down

There may be other preferences by other experts but very few can be dismissive of the fact that our domestic distempers are such that we might yet miss our own rendezvous with history. I intend to examine just the first and the last, if we are to survive what I see coming down the highway of history, to repeat.

God-sanctioned SCIENCE and TECHNOLOGY will ultimately determine which of today's post-colonial nation states we describe as 'developing', will make it to advanced industrial and post industrial formations, in the decades ahead. Regardless of what else they do, their fate will depend on how successful they are in resolving their internal dissensions - their 'domestic distempers' - as I call them. By this coinage I refer to the deep well-springs of existential insecurities and attendant conflicts that pervades the land. That would be in the near term. In the long run, the fall-out from a cascade of technological innovations will alter the weak states of today in directions they can only imagine at this dawn of both putative triumph and potential disaster.

Events are moving at imaginable speed elsewhere. As I argued in an early version of my book, INSTRUMENTAL PAN-AFRICANISM, we need to get one thing right: what is national development and how will it occur? This is clearly the dependent variable in our national striving since the First National Plan in 1962 at the very least. That we are no nearer being called developed ever since then, suggests how difficult this transformation can be. This a vast field where adherents of the more practical First Things First technocratic approach contend with the market determinists of this age closer to the trickle-down economics of the Washington Consensus school of structural adjustment and import substitution. Both sides also are in full contention with the world-systems dependency theorists who tend to focus on global economic and cultural neo-imperialism as blockers of development. There are a dozen other convictions.
Now, what is development? Here is the shortest answer I can advance: "(D)evelopment." says a University of Ibadan don from some forty years ago, "means ‘change’ from one growth pole or point, to another." But how? By whom? The author, S. Olajuwon Olajide, in his 1981 monograph titled *Scientific Research and the Nigerian Economy*, evokes the need for agency and guidance as central to the development process: “In an age of great expectations, change must not be allowed to occur in a *laissez faire* manner. Rather, change must be motivated, promoted, induced and even enforced, in order to ensure the attainment of maximum social (benefits to the nation).” Let us acknowledge that various administrations in the past 17 years, have made notable efforts in the area of financial management strategies and technology Visioning. Some leaders have harped on the need to leap-frog in the technology quest. For one thing, the huge increase in the number of science and technology universities, the universities of agriculture and animal husbandry, the polytechnics and schools of education with a bias to science and technology, is not to be scoffed at. This is happening at three levels – federal and state as well as with the private establishments. There is a full-fledged Nigerian Academy of Sciences along with dozens of professional bodies. The chambers of commerce are in place and the source of finance capital are no longer the mystery they once were. Parastatals of the Ministry of Science and Technology are perhaps the largest in the civil service.

With all these, the stage is set. The awareness already exists and this is to be encouraged. But the spark is not yet seen. We continue to be heavily beholden to external imports and local efforts are only starting up the pathway of quality assurance. So, the various efforts in place appear rather tepid, and without the energy that comes from innovation, so hardly that important to the shaping of the world as it unfolds. Technology of the synergistic variety, robustly funded by both the state and the corporate world, and designed with the interest of Africa squarely in mind, that will count.
By the close of the 20th century as the New Millennium loomed, a Japanese-American physicist and famous popular science TV personality, Professor Michio Kaku, could look back in triumph at the grand achievements of his nation. He writes in his now classic work, *Visions: How Science Will Revolutionize the 21st Century*, (1997), that:

“Perhaps in our lifetime we would see many of (the) marvels of science unfold before us. For we are no longer passive observers to the dance of nature; we are in the process of becoming active choreographers. With the basic laws of quantum (physics), DNA (biotechnology), and computers (digitization), discovered... we are on our way toward attaining, in the next century or two, the planetary power of a Type 1 civilization that would make us a truly planetary society.”

Though he was writing three decades ago, his concerns are still fresh, as witnessed in an interview he gave just a few weeks ago, in March 2018. And though favouring a picture of science as mostly benevolent, coming down the pike, he is no less scarier when he speaks of the inevitability of computerized humanoids, Cyborgs, in the distant but not so far-fetched eras ahead.

My larger concern is that the Provincialists and Tribalists have won out in Nigeria. With the rise of indifferent policy makers with provincial limitations, the demise of visionary pan-Africanism was inevitable. The political space became mentally restricted as masses of Nigeria saw no other option than to be battle-ready in a retreat to a primeval era of plain old fashioned Social Darwinism, survival of the fittest. What we have seen endlessly since then are clashes followed by more bloodletting as people defend their turf.

All this is predictable. With no higher purpose, mini-wars erupt - and this is true the world over. Michio Kaku, Alvin Toffler, Heman Kohn, Daniel Bell, Francis Fukuyama, Thomas Friedman and others are some of the futurists who understand too well that the *divide et impera* (divide and conquer) of the 19th century imperialists could never have succeeded without the
mutual distrust of the 'Natives' who hated each other more than their invaders. They lived to see themselves taken down one after the other. 

Alvin Toffler lays out the issue in a memorable passage when he speaks of what could be considered "the master conflict" of the clash of civilizations that saw the "Second Wave industrial powers" taking on First Wave agrarian powers". The latter had no idea that their endless conflicts were ultimately irrelevant; he sees them as "Tribal and territorial wars between different primitive and agricultural groups" that made "them easy prey for the colonizing forces of industrial civilization." That was how one imperialist named Cecil Rhodes, with "his armed agents" even seized "vast territories from tribal and agrarian groups busy fighting one another with primitive weapons." He named his new conquest after himself: Rhodesia.

The lessons of history are either heeded or ignored - and the records are there. The advanced technological civilizations today are advancing in huge strides that as Toffler says in Third Wave, make them snigger at the bread-and-butter preoccupations of the highly divided societies of the First World nations. Some of the current breakthroughs and visions may sound psychedelic, option, even irrelevant: but they are building up to something. According to one source from December 1916, the next half decade will witness "Floating farms, brain wave passwords, and coffee-powered cars are just some of the incredible inventions and innovations that will shape our future."

Other forecasts drawn from issue 285 of BBC Focus magazine hold that there are perhaps two dozen techno-wonders with. Here are some that might be of interest to this discussion, paraphrased:

*Space Station Drones* - drones carrying items in space stations, *760mph trains* - can ferry passengers between San Francisco and LA in 35 minutes, compared to 7.5 hours by train.

*The AI scientist* - a huge step towards the development of a conscious computer, and potentially a landmark step in the way we carry out research.
**Space balloon** - If you want to take a trip into space, your quickest bet might be to take a balloon... Technically ‘space’ is defined as 100km above sea level, but 32km is high enough to witness the curvature of the Earth.

**Internet for everyone** - SpaceX founder Elon Musk is turning plans to send almost 4,000 small satellites into low-Earth orbit that would beam back a high-speed wireless signal to everyone on the planet. British billionaire Richard Branson also wants to cover the world with wifi.

**Personalities for robots** - Google has obtained a patent on robot personalities - automatically chosen to match the purchaser’s needs. **Self-driving trucks** - We will soon be seeing a lot more [driverless trucks](#) – after all, logistics make the world go round. They’ll be cheaper to run than regular rigs, driving more smoothly and so using less fuel. Though computers never get tired, but many companies have said the trucks will still need a human passenger to ensure their cargo is safe.

**Brain print as password** - Could your brainwaves function as your computer password? In future, a honed version of this idea could verify who is sitting at a PC.

**Holiday by Airship** - Modern airships are filled with helium rather than hydrogen, can fly for thousands of kilometres while burning less fuel than an aeroplane. When perfected they could replace long-haul freight trucks and cargo ships. But the backers for now have more ambitious plans for tourism.

**Pleistocene Park** - Russian scientist Sergey Zimov hopes to recreate a 12,000-year-old environment in a wildlife park for herbivores like wild horse and bison, with extinct mega fauna like mammoths replaced by modern hybrids. Zimov will study the impact of the animals on environment and climate.

Of all these, I am quite intrigued by the idea of **Floating farms**. As the BBC magazine write up has it: The UN predicts there will be two billion more people in the world by 2050, creating a demand for 70 per cent more food. By that time, 80 per cent of us will be living in cities, and most food we eat in urban areas is brought in. So farms moored on the sea or inland lakes
close to cities would certainly reduce food miles. Good enough, but how would these work? Says the BBC writer:

A new design by architect Javier Ponce of Forward Thinking Architecture shows a 24m-tall, three-tiered structure with solar panels on top to provide energy. The middle tier grows a variety of veg over an area of 51,000m², using not soil but nutrients in liquid. These nutrients and plant matter would drop into the bottom layer to feed fish, which are farmed in an enclosed space. A single Smart Floating Farm measuring 350 x 200m would produce an estimated 8.1 tonnes of vegetables and 1.7 tonnes of fish a year. The units are designed to bolt together, which is handy since we’ll need a lot of them: Dubai, for instance, imports 11,000 tonnes of fruit and veg every day.

So much good has come from the various technological revolutions including one of the most recent, a new medical discovery that might help in locating cancerous cells. But science could also deliver the opposite, our worst nightmares.

V. Warrior Drones & Destructive Science

We have truly seen the wonders of science and technology so far and witnessed the coming of post-industrial societies ever since the 1970s. The sight of a drone carrying a man standing upright and at his control, floating down into a stadium to deliver a football to referees at a Portuguese soccer match, the crowd cheering. We have witnessed a variety of drones doing useful things - surveying wastelands, helping with search and rescue operations, ferrying small loads. The city state of Dubai talks of drone taxis and the prospects of the Chinese trading giant Alibaba plans a fleet of drones that can lift cargo loads of 1000 tons each. Our own geniuses from the air force and universities, also had their own drone versions on display at Eagle Square some weeks ago.

On the plus side of human history, there is indeed a lot to celebrate. But on the minus side, there is also enough to be wary of. The age of robot armies is here. Drones, being robots, are at the heart of this since they can float across, manned or unmanned. This is already a staple conviction among
military scientists and those of you computer geeks even listening as we speak. The emerging reality has sparked alarm among exerts such as Stuart Russell, a Professor of Computer Science, University of California, Berkeley whose essay, "Robots in war: the next weapons of mass destruction?", published 17 Jan 2016, can be found on the site of the World Economic Forum at Davos.

He writes of a "A new breed of robots" and states as follows in what might be a new introduction to an intractable danger coming down the pike:

We’re all familiar, in varying degrees, with three pieces of modern technology:

1. The self-driving car: You tell it where to go and it chooses a route and does all the driving, “seeing” the road through its onboard camera.

2. Chess software: You tell it to win and it chooses where to move its pieces and which enemy pieces to capture.

3. The armed drone: You fly it remotely through a video link, you choose the target, and you launch the missile.

A lethal autonomous weapon might combine elements of all three: imagine that instead of a human controlling the armed drone, the chess software does, making its own tactical decisions and using vision technology from the self-driving car to navigate and recognize targets.

He worries about the dangers of a war without rules since these machines being what could be called "autonomous weapons", will be determining strategy and what constitutes victory. In the section on "Robots of mass destruction", he writes:
The primary strategic impact of autonomous weapons lies not so much in combat superiority compared to manned systems and human soldiers, but in their scalability. A system is scalable if one can increase its impact just by having lots more of it; for example, as we scale nuclear bombs from tons to kilotons to megatons, they have much more impact. We call them weapons of mass destruction for a good reason. Kalashnikovs are not scalable in the same sense.

...A million Kalashnikovs can kill an awful lot of people, but only if carried by a million soldiers, who require a huge military-industrial complex to support them – essentially a whole nation-state.

A million autonomous weapons, on the other hand, need just a few people to acquire and program them – no human pilots, no support personnel, no medical corps. Such devices will form a new, scalable class of weapons of mass destruction with destabilizing properties similar to those of biological weapons: they tip the balance of power away from legitimate states and towards terrorists, criminal organizations, and other non-state actors. Finally, they are well suited for repression, being immune to bribery or pleas for mercy.

....(T) he strategic balance between robot-armed countries can (even) change overnight thanks to software updates or cybersecurity penetration. Finally, many military analysts worry about the possibility of an accidental war – a military “flash crash”.

Prof. Russell and his associates in the Global Agenda Council on Artificial Intelligence and Robotics have every reason to be as scared as we should be ourselves. Military high commands are already scrambling aboard - and that should tell us something about what they see down that highway we speak of.
PART 3

I. Toward the Technological Great Leap forward

Where does all this leave Africa? Can Nigeria and the rest rise to the occasion of matching these strides - or defending themselves if under attack? These are questions we must face head on. No adversary will come to Abuja to seek permission first.

These technological leaps should remind us of one thing: Just as war is too important to be left to generals, so the outcomes of science and technological geniuses need to be interrogated in time enough by social scientists, historians and psychologists. What will save us will come from science; so also what will destroy us. Only the bravest among us still thinks that the Nuclear explosion that devastated Nagasaki and Hiroshima in 1945, is any blessing to humanity. Just look at the even more scary spread of WMDs and their spawn across the world, from Europe to Pakistan, Iran and Israel China and Russia to North Korea, and elsewhere

Many have thought long and deep on these matters - notably Michio Kaku, who has a gift for saying it like it is. In what I have called in my own writings the problem of "Technological Laggards as History’s Orphans" I explore the intersection between Civilizations and Development using Kaku’s Types of Civilizations as a point of departure and juxtaposing these to Alvin Toffler’s Three Waves. The intention is to demonstrate how truly backward we in the Third Wave nations really are, even as we are preoccupied with the first domestic distemper of mutual distaste. Permit me to quote from that earlier writing, in some detail:

... Michio Kaku, internationally acclaimed string theory physicist and TV commentator, paints a picture of the impact of the next waves in science that ought to make one pause. He sees the world already set on a course that is more or less irreversible – one in which laggards will be left far behind. Following in a long line of scientists from Arduous Huxley to Arthur C. Clarke, (or for that matter people like the disillusioned father of the atom
bomb, Henry Oppenheimer), Kaku sees the future as beholden to the vagaries of science. Just as Max Weber had once spoken of the ‘iron cage of bureaucracy’ enveloping the world today – a notion that the English sociologist Anthony Giddens transforms into a case of modernity as an inescapable ‘juggernaut’; Kaku implies as much: we are already in the iron cage of science and technology. No escape. No retreat to a Halcyon paradise of some dim past.

However, unlike those pessimistic scientists of the past, he believes that man will be in control, barring any catastrophe, especially if we succeed in harnessing the promise of three synergies of the 20th century, namely, the convergence of quantum physics, biotechnology and the digital revolution. Their combined impact may be man’s best hope. He writes:

The biomolecular revolution will give us a complete genetic description of all living things, (allowing) us the possibility of becoming choreographers of life on earth. The computer revolution will give us computer power that is virtually free and unlimited, eventually placing artificial intelligence within reach. And the quantum revolution will give us new materials, new energy sources and perhaps the ability to create new forms of matter. (1997:323; emphasis added)

The above is already part of current reality. In fact, ever since he wrote, several other technological break-outs in digital technology and space research have expanded these horizons. But his basic model is worth reflecting upon for those of us in these parts.

Here is what really should concern us: according to Kaku, seen from the standpoint of the vast complex of galaxies that compose the universe, the Earth and all our labors these 10,000 years past, merely qualify us – all 192 countries and 7bn. inhabitants - as a ‘Type 0’ civilization, in Kaku’s terminology. We still draw energy from dead animals and plants - fossils, that need complex conversions before use. This is ancient, antiquated and no match for higher civilizations.

Let’s get the theory straight. Taking off from the works of Russian astronomer Nikolai Kardashev, Kaku writes of three other levels of civilization imaginable beyond our own Type 0 world. The others, which
could well belong to extraterrestrial civilizations, he calls Type 1, Type II, and Type III—“based on the natural progression of energy consumption.” Each level is separated by energy output roughly 10 billion times larger than the other one, even though acceleration by lower forms is feasible. For instance, our Type 0 civilization, a transitional one at best, if capable of economically growing at 1% per year, is close enough, with only a few hundred years left, to attaining Type 1 status. In turn, the movement from Type I to Type II civilization might conceivably take at least 2,500 years—though a growth rate of the global economy at 3% annually, could reduce the transition to 800 years. Finally, the movement from Type II to Type III would take far longer, say a few thousands, to perhaps, millions of years, and would involve a mastery of intergalactic communication as well as interstellar travel.

Fig. 2
Kaku’s Four Civilizations: Type 0 to Type 3

FIG 2
Imagining the 3 Historical Waves as Merely the Dawn of Humanity’s
Ascent Across Type 0 Civilization with Type 1 still Unattained

TYPE 0
Earth’s 3 Waves

TYPE I
Space Colonies

TYPE II
Inter-Planetary

TYPE III
Intergalactic
On the question of the universe which in his estimate then was perhaps 15bn. years old, there just might be other civilizations out there, possibly millions of years ahead of ours. Our own Milky Way galaxy for instance, contains over 200 billion stars – yet there are trillions of other galaxies within “the visible universe” - and who says there may not be others “unimaginably ahead of ours in their science and technology”? The future while full of possibilities, is certainly no cakewalk: security and the very survival of the human species, would always be a major concern. Back to our own modest but conflict-ridden Type 0 civilization, what we see is that nations may end up killing themselves with nuclear weapons and chemical pollution, due to accidental wars. If perchance some nations evolve toward Type 1 patterns, and move into space, the enormous intergalactic distances would pose enormous communications problems for long term survival as they may spend centuries mastering just one planet. In turn, the far more advanced Type II inhabitants might yet be in danger of exploding supernovas showering them with gamma rays. Kaku speaks of a "Planetary Civilization" of diverse nations technologically working together as man's best bet. Far-fetched as this might sound, isn't it safer to ponder the implications of such plausible reality - than to assume that mankind has reached the ends of his possibilities?

All this, I must admit, is in the realm of the shape of things-to-come – and the discussions and debates of everything from nanotechnology and the social implications of new technologies as well as the latest concepts from Kaku, Kardashev and their ilk who can be found on the internet engaged in daily disputation over the merits of various scenarios. But if we were to return to current earthly reality and extend the discussion, we could logically ask, how does the human race’s ‘Type 0 civilization’ rate on a “cosmic scale”? Not that much, really, from the standpoint of developmental efficacy and overall cognitive ability; for one thing, Africa is
yet to scramble aboard the industrial revolution, already on the wane elsewhere. As a civilization, mankind collectively still are “like infants”, says Kaku – we are still at the stage where we “derive our energy from dead plants”, from fossil fuels, he notes.

The obvious question can hardly be avoided: if today’s already most industrially advanced countries are only just beginning to ascend to Type 1 civilization when Africa is yet scrambling to get aboard the lower rungs of Kaku’s Type 0, where would the First Continent, as I might call Africa, be when they skip forward to the Type II pattern and start cruising the galaxies? Would the rest of the humanity be counted upon to lend a hand to a ‘slowcoach’ Africa to catch up? Or – think of this: might some warlord of the future decide on a Final Solution, with the eerie echo of a different century from the past? The concern of instrumental pan-Africanism with the imperative of continental reorganization aimed at long run democratic stability and industrial prosperity as anchor to security may not be farfetched. A lot may be more at stake than is realized – if only the capacity to peer down the fog of history and imagine in hundred-year scenarios, were feasible. The incestuous preoccupation with the present is a symptom of the externally defined cultural dependence among Africa’s elites that prevents creative and long-term strategic thinking outside the box, astride the framework interposed by some foreign guarantor. There are other futurists who echo aspects of Kalu’s technocentric predictions, among the most serious of whom are Alvin Toffler and his wife Heidi, whose monograph, Creating a New Civilization: The Politics of the Third Wave, sets out a number of intriguing hypotheses on broad historical trends. These follow from the conclusions reached in their twodecade long trilogy, Future Shock, The Third Wave, and Powershift that charted the vast technology and communications-centered transformations that have engulfed the world in the last 300 years and the direction of a techno-driven future. Likening the motion of history to a series of waves, they declare that there have been three such Waves in the history of civilizations: each one “largely
obliterating earlier cultures”, and substituting “ways of life inconceivable to those who came before. They advance the thesis that "The First Wave of change – the agricultural revolution – took thousands of years to play itself out. The Second Wave – the rise of industrial civilization – took a mere three hundred years... (T)he Third Wave will sweep across history and complete itself in a few decades.” They add that people alive today – since the 1980s-90s at least - who stand, at the cusp of the new millennium - this “explosive moment” -are bound to “feel the full impact of the Third Wave” in their lifetimes. It follows that we may well be “the final generation of an old civilization and the first generation of a new one.”

For the purposes of instrumentalist thinking – again in the sense of a mobilized, society-wide can-do engagement with the development imperative - the insight of the Tofflers cannot be dismissed. They advance an interpretation of history based on “the wave theory of conflict” – in contrast to the theses advanced by Samuel Huntington in his ‘clashes of civilizations’ work and by Francis Fukuyama in his ‘end of history’ hypothesis. To them, the main conflict in history “is not between Islam and the West” but between “three distinct, differing and potentially clashing civilizations” – first, second and third waves. Indeed this global battle had its domestic component in the different factions in the politics of each nation who seek to defend vested interests in one wave or the other in times of transition; this, to them, is the ‘master conflict’.

In every industrializing country, bitter, often-bloody battles broke out between Second Wave industrial and commercial groups and First Wave landowners in alliance very often with the church (itself a large landowner)... Strikes and rebellions, civil insurrections, border disputes and nationalist uprising erupted as the war between First and Second Wave interests became the master conflict – the central tension from which other conflicts derived.” This war of modernizers versus traditionalists was to be
waged everywhere from the American South to Japan of the Meiji Restoration; (emphasis added; Ibid, p.29).

Nor was it just limited to internal duels. More intriguing for Africa was the argument of the Tofflers that colonialist expansion and imperialism were perhaps inevitable, given the yawning gaps between First Wave agriculturalists and Second Wave industrialists. The new industrial states of Northern Europe “needed markets and cheap raw materials from distant regions.” Inevitably, the more “advanced Second Wave powers” were driven to wage “wars of colonial conquest and (thus) came to dominate the remaining First Wave states and tribal units all over Asia and Africa.” The unsuspecting ‘tribes’, given to fighting mutual skirmishes of limited importance in the global scheme of things, could easily be overrun by the likes of Cecil Rhodes, Louis Faidherbe, Frederick Lugard and their ilk, despite vast superiority in numbers, albeit poorly armed. The point, to restate, was that the “many seemingly unconnected wars around the world were, in fact, expressions of the main global conflict, not between competing states but competing civilizations.” In today’s world however, the First Wave societies are still symbolized by the hoe, the Second Wave by the assembly line and the third by the computer. Where First Wave societies supply raw materials – agricultural and mineral, the Second Wave engages in mass production based on cheap industrial labor, whereas the Third wave “creates and exploits knowledge.” Specifically, what do the Third Wave states actually produce today?

(I)nformation and innovation, management, culture and pop culture, advanced technology software, education, training, medical care and financial and other services to the world” – and this could include using “superior Third Wave forces” to provide protection as a service to nations that could afford it, such as Saudi Arabia and Kuwait following the first Gulf War.

The implications of the foregoing are clear enough – but what concerns the continent of Africa needs to be clear as well, if this model has any validity. Africa is a First Wave civilization whose capabilities stand a danger of
increasingly being made obsolete by the galloping capabilities of the advanced Second Wave civilizations now entering the 3rd Wave stage. And if Africa is still struggling to escape its First Wave binders in an age of Third Wave globalization needs, how does it rate in the overall planetary schema outlined by Kaku and others – both in the short and the long run? In other words, if it has been well-nigh impossible for Africa to industrialize while others are making the transition to the early use of space probes, what leapfrog strategies could conceivably bring the backward but great continent and its 800m.

Now, one must bring the cascade the doomsday scenarios to some control – for all we know, it might turn out to be a caring, civilized allembracing future in which even newer technologies enable an incredibly longer span of life for inhabitants of First Wave civilizations while endowing them with Second Wave capabilities, all in just the next generation? But what if such miracle in the end, doesn’t come about? There is the strategic question as well: how could an ever-weaker Africa preserve its security against renewed Second and Third wave neo-colonial aggression in the future? Quite simply, not executing a determined, rapid strategy out of the First Wave entrapment may prove fatal for the oldest continent whose Egyptian forebears introduced civilization itself. Fig 1. shows how far back, even at the Type 0 level of civilization, in which Africa remains; hence Nyerere’s prescience in understanding the urgent need of reordering the neocolonial social structure if Africa must meaningfully advance, a theme captured in a biography of him aptly titled We Must Run While They Walk.

That still begs the question of how African needs to re-position itself either to partake of the quite significant opportunities within the Type 0 civilization – or attempt a conscious leapfrogging toward a Type I civilization acoming. To that end then, what might Africa need to look like in the next half century? What would its most populous nation-state appear like to observers two generations hence? In other words, what manner of society do today’s Africans, beneficiaries of the best technological education and
greatest cosmopolitan exposure of the past 500 years, aspire to bequeath to their offspring? This question is pertinent since like all societies, from rulers and annual development plans down, Africans also possess a conceptualization of the ideal modern state – and it is simply this, to erect at a minimum, an industrialized, wealthy society with all the wonders of modern technology at beck and call. That the march of technology, at a minimum, is something we would always need to take seriously, is shown in Table 1, in itself a mere selection of some of the most notable high social impact types and by far not a full accounting of the achievements of the 20th century.

What is perhaps of greater interest should be the post-twentieth century brief listing of the ‘next big things’ – some of which range from the promise (and dread) of human genome project to the capabilities of new jetpack experiments (the wearers could literally fly off) - the world as we know it has a full promise of achieving mass prosperity for all, even, much later down the line, for disadvantaged Africa. But creating prosperity is not enough – security and the ability to defend itself ought to be a legitimate concern of the proposed African High Command.

II. A Second Defence: Fifth Stage Pan-Africanism & Project 2063
Here we deal with another priority - the tentative, practical steps that must be taken, starting with historical knowledge. The first law of relevance cabin be found in the ancient dictum: Man Know Thyself. It is no surprise that the Ministry of Educations has finally restored history’s part of the curriculum but the initial hubris in banning it in the first place, reflects the proclivity of an unserious elite whose poor judgements are putting us at risk.
If there is one subject area the industrial countries pay huge attention to aside from global financial economics and technological innovations, it is history. Very few young Africans understand enough of the 10000 march of African civilizations and how it was brought down in the Hyksos invasion of 1650 BC for instance, In my seminars hardly any of my post-grad students has heard of Axum, Napata or Meroe, nor aware

**TABLE 1**

<table>
<thead>
<tr>
<th>SELECTED 20TH CENTURY TECHNOLOGIES WITH THE MOST IMPACT</th>
<th>1900s</th>
<th>1950s</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plastics</td>
<td></td>
<td>Birth control pill</td>
</tr>
<tr>
<td>Airplanes</td>
<td></td>
<td>Integrated circuits</td>
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<tr>
<td>Air conditioning</td>
<td></td>
<td>Charge cards (led to credit cards)</td>
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<tr>
<td>Neon light</td>
<td></td>
<td>Polio vaccine</td>
</tr>
<tr>
<td>Vacuum Cleaners</td>
<td></td>
<td>Sputnik: space flight by Soviets</td>
</tr>
<tr>
<td><strong>1910s</strong></td>
<td></td>
<td>Artificial intelligence</td>
</tr>
<tr>
<td>The Assembly Line Factory System</td>
<td></td>
<td><strong>1960s</strong></td>
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<tr>
<td>Army Tanks</td>
<td></td>
<td>The Laser</td>
</tr>
<tr>
<td>Mammography</td>
<td></td>
<td>Robots</td>
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<tr>
<td>Traffic Lights</td>
<td></td>
<td>Polaroid</td>
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<tr>
<td>Stainless steel</td>
<td></td>
<td>Moon landing</td>
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<tr>
<td><strong>1920s</strong></td>
<td></td>
<td><strong>1970s</strong></td>
</tr>
<tr>
<td>Television tube</td>
<td></td>
<td>IVF – in vitro fertilization</td>
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<tr>
<td>Penicillin</td>
<td></td>
<td>Cell phones</td>
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<tr>
<td>Liquid-fuel Rockets</td>
<td></td>
<td>GPS (global positioning systems</td>
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<tr>
<td>Insulin</td>
<td></td>
<td>The Concorde super planes</td>
</tr>
<tr>
<td><strong>1930s</strong></td>
<td></td>
<td>CT scans</td>
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<tr>
<td>Radar</td>
<td></td>
<td>Floppy disks</td>
</tr>
<tr>
<td>Computers</td>
<td></td>
<td><strong>1980s</strong></td>
</tr>
<tr>
<td>Jet engines</td>
<td></td>
<td>The Personal Computer</td>
</tr>
<tr>
<td>Photocopiers</td>
<td></td>
<td>Genetic fingerprinting</td>
</tr>
<tr>
<td><strong>1940s</strong></td>
<td></td>
<td>RU 486 birth control pills</td>
</tr>
<tr>
<td>Atom Bomb</td>
<td></td>
<td>Fiber optics</td>
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<tr>
<td>Transistors</td>
<td></td>
<td>Stealth bomber</td>
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<tr>
<td>Instant Photography</td>
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<td>Microsoft Windows</td>
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<tr>
<td>Supersonic Flight</td>
<td></td>
<td>CD-ROMs</td>
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<tr>
<td>Microwave ovens</td>
<td></td>
<td><strong>1990s</strong></td>
</tr>
<tr>
<td>Bar codes</td>
<td></td>
<td>World Wide Web</td>
</tr>
</tbody>
</table>
of what region is referred as the Zanj, its location and a history of 3000 years in the Indian Ocean, the Gulf of Arabia to the Mediterranean world system, and counting. The Black people of Arabia, India and the East generally – Near East, Far East, Middle East – where do we think they came from?

The future can never be fully predicated as unexpected events can also intervene. Take for instance the rise of the Western world just 500 years ago. Long before Columbus sailed and the trans-Atlantic Slave Trade began, Persia and China through the Silk Road, were the centers of the world, not London and Paris, being new urban centers thousands of years later. Yet one unplanned event, purely accidental, in the realm of happenstance, served to changed the course of history as Peter Frankopan has shown in his recent book, Silk Roads: A New History of the World. In other words, the rise of the West after 3000 years of global irrelevance, was just that - an accident, but a consequential one, mostly because Columbus failed to find the sea route to India, but chanced upon a new world of two inhabited continents no one ever knew existed. The rest, as they say, is history. The wild colonies of the Americans would steadily rise from 1500 to 1900 to become the world’s most dominant military, economic, cultural and technologically innovative sector ever witnessed - since Ancient Egypt, or Kemet, as the Afrocentric School. would prefer.

Like other areas in the Western hemisphere, American scholars take history seriously and not long ago had to debate an issue close to our heart: Is Egypt African? Given their huge technical and cultural, religious, literary and engineering feats, attested to by every civilization thereafter from
Alexander the Great to Napoleon Bonaparte, even to the Nazis dreaming of a Thousand Year Reich, were the ancient Egyptians black? Might Cleopatra they look more like Elizabeth Burton than Naomi Campbell?

The fierce battles over the ownership of Egypt or Kemet, was up close and personal, as I write elsewhere. Established Egyptologists, mostly of European background, first had to be persuaded to finally accept that Egypt was indeed a cradle of what Ivan van Sertima calls “The Nile Valley Civilizations” - stretching from the Delta of Egypt through Kush and Meroe to Axum, present-day Ethiopia, with the impact of its literacy and technological ingenuity dispersed all along the 2000-mile river. This happened with the close, careful research in a masterly work, Black Athena by Martin Bernal.

But what of the rest of Africa as chronicled by the Afro-Dutch Caribbean historian van Sertima whom I had the pleasure of listening to when he came to speak at Harvard years ago?

That was the rub - has Black Africa ever contributed anything of consequence? There were answers galore, as to be found in even earlier works - George G.M. Jones’ Stolen Legacy, (1954) to Chancellor Williams’ The Destruction of Black Civilization to Jacob H. Caruthers readable Intellectual Warfare (1999) and Edgar J. Ridley’s An African Answer. Their opponents have been equally sharp in their disagreement, especially Mary Lefkowitz in her Not Out of Africa: How Afrocentrism Became an Excuse to Teach Myth as History. (1996.) The most impressive defence, however, has been mounted by the legendary scholar whose African name, Molefi K. Asante, author of the best-selling Afrocentricity, in his monumental 900-page compilation, African Intellectual Heritage. The response to historical Social Darwinists who were so enthralled by Chinua Achebe's Things Fall Apart and Arrow of God, stems from their assumption that out of Africa, there can be nothing. They must have misread Pliny the Elder's 2nd Century AD observation that 'out of Africa always a surprise' to mean that there is nothing there. They listened too closely to those Oxford
dons who once claimed that there was no history of Africa since it was a Dark Continent where nothing ever happened in that vast territory. Snorted one of them, a Regius Professor of history, 'darkness is not a subject of history.'

Yet we know that African history was suppressed, mangled and deliberately misrepresented. The only way to sustain colonial and imperial power was to create the myth of superior and inferior races - and the selective historiography to go with it.

Why has post-independent Africa not moved forward as fast as the challenges require? Again, the over-dependence on imported comforts and necessities, has had a dulling, deceptive effect, stifling ambitious local capacities. Not too many people – scientists among them – appear to understand that there is often social context to the triumph of technology. The student of technology and change must recognize three such patterns that stand out: the social need must exist, the resources must be available, and the social (including political and economic) conditions, must be encouraging enough. Once mankind moved beyond the Paleolithic age – witnessing the coming of apelike humanoids from the Neanderthal Man to the Cro-Magnon Man and the Peking Man, history began in earnest with the Neolithic Age and the mastery of the fabrication of metal tools and objects. Starting from the Egyptian and the Mesopotamian epochs, location would play a major role in the rise and fall of nations; whereas Egypt would be the benefactor of the world in more ways than one, India and China, relatively isolated, stagnated, until, like Africa, the West swept down with colonialisit shackles. In Africa, the best-known case of the definitive role of geography and destiny is Ethiopia – Upper Kemet to Chancellor Williams, the pioneering Afrocentrist historian, situated as it was, at one end of the ancient world. Herodotus would say of Ethiopia that she “forgot the world and was by the world forgot.” Denied something akin to the wide, bi-coastal Mediterranean
and Aegean seas, she could not play in Africa’s case, the role Greece and Rome played in the rise of the West.

The Graeco-Roman era in science and technology was ultimately supplanted by the 1000-year Middle Ages until the breakthroughs started appearing from the Renaissance, especially with the coming of printing and the rise of scientific speculations of the Philosophes – Bacon, Descartes, among many others. Again, the resources needed to be there, as would the related social conditions, for progress to occur. Hence Leonardo da Vinci could leave all those remarkable sketches, hinting future contraptions that stretched the credulity of his contemporaries – among them flying craft, submarine prototypes and high rise buildings, all this without a clue yet as to the science that would one day make those concepts real. Who knows how many gifted African thinkers could equally have imagined what might be feasible, but never had the material wherewithal to investigate.

Evidence of the scientific and related capacities of African peoples abound: The Dogon of Mali, for instance, knew of the Sirius or Dog star; the level of the material attainments of the Dogon are chronicled in the anthropological films of Jean Rouche. The Igbo Ukwu bronze works, the Great Zimbabwe, the stelae of Southern Sudan, the Stone Pyramids of Ethiopia, the medical research centers of ancient Timbuctoo, the gold works of the Ashanti, the even more ancient Nok terra-cotta, and the Oyo-Bini bronze master craftsmen of old, among others, all suggest an advanced level of technical skills. By the same token, the keepers of the half millennium Kano Chronicles and those of the Borno empire, gave credence to a level of technological sophistication that Basil Davidson and others have chronicled in detail.

For the West, the breakthrough that came with the industrial revolution – especially of new forms of energy – steam, wind, gas, hydro, and their ability to power the machinery in the factories - provided impetus for the dominance of the next 200 years plus, thus far.
Man know thyself, say the ancient. The point of the foregoing is to draw attention to the fact that when it comes to knowledge and progress, it must be precept-before-action all the way. Those were no empty exercises. Ideas rule the world, if I must repeat. What we pass on to the next generation should enable them meet the task of leap-frogging to the front-lines of history where they belong. What is required is the historicist grounding that enables scientific quests and the political will to engage in big picture strategic re-thinking.

This is what it takes to be the Giant of Africa. You either lead or step out of the way. Africa's dilemma now and in future, is not for the faint hearted - or the self-assured fool. Nigerians must believe in their own capacities. They must see themselves as people of history. They must reignite their passion for technological innovations - this time with a mission: surviving the not-so-distant future.

In a 1989 entry to the *Encyclopaedia Britannica*, the authors argue that the history of mankind is nothing if not the story of technology ceaselessly employed in the service of human needs – and the gradual rise of man’s preoccupation with the technological quest, starting with the speculations that gave rise to astronomy. These efforts came to a head at the height of the industrial revolution to produce the 20th century wonders of the Nuclear Age and the unfolding Space Age.

III. The Constitution as Guide - Social Justice as Keu

Now comes the hard part - the consistent inability of the political class to recognize the one failure that is the very root cause of a long string of other problems - chronic poverty, social injustice and the resulting political exclusion. This of course is an old saw that has long been visited in the newspapers, by the clergy of all faiths, and especially by the country’s literary icons from Chinua Achebe in *A Man of the People* and *Anthills of the Savannah* to Wole Soyinka in *The Trials of Brother Jero*
and *The Man Died*. From Ben Okiri and Kole Omotosho In my own literary efforts such as *Yesterday Was Silent*, a novel, and in plays such as *Prisoner of the Kalakiri, House of Little Regrets, The Flycatcher’s Identity*, we follow in this long tradition of pointing to the inability of those who swore by the constitution, to face the problem of poverty squarely. Let’s settle a key point first: Is there enough available to contemplate a sustained assault on poverty? Wont you produce before you distribute? Is Nigeria a rich country? On this last question, many will say yes but so economist or social scientist will be caught affirming that without qualification. But if the question is whether it is a richly endowed country with a half century old problem of distribute equity, the answer is obvious.

Again this is not new. Almost 40 years ago, the Nigerian economist Victor Diejemoah along with the American political scientist Henry Biennen, edited a massive and comprehensive study of inequality in Nigeria and how to end poverty. They discovered then as they would do today if the surveys were repeated, that the elite habit of 'dispensing largesse and expecting fealty' - that is, buying for themselves royal style loyalty and fawning gratitude, is even more entrenched. Today a handful have oil blocks and own banks, many cruise around in jets and many pocket billions. They then all turn around and invade the political arena. The quarrel is not with wealth itself, desirable to all men, but with illegal acquisitions so cavalierly accepted.

Yet the poverty remains a scourge. It is visible and present in several painful vistas if one cares to pause for a moment. On the faces of haggling peasants in the marketplace. On the faces of jobless youths awakening to one more day without source of income. In the polio stricken fellow countrymen and women condemned to unimaginable existence. In the sufferings of workers struggling to for transport after work. In the anxiety at free empowerment events, free medical check-ups or occasions where free feeding is guaranteed. You see this in the work of
charitable organizations by religious bodies - the surging crowds tell a story. Same when a governor, a minister or a president is in town. You see this in the inability of millions to pay school fees or afford the various add-ons in states claiming nominal free education.

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Can poverty, at least chronic poverty, be abolished? Most Nigerians will tell you it cannot be and if you probe further they would raise the five fingers and remind you that not all fingers are meant to be equal. To which I would normally respond by saying nonsense, how would you know unless you try? If it can work in the Nordic courtiers and Canada, Australia, New Zealand and much of Western Europe, Japan and the Asian Tigers (Singapore, Hong Kong, Taiwan, South Korea), there is no reason it cannot work here. Even as we speak, China is systematically ending the scourge of hunger and insecurity - and she is five times the population of Nigeria, with three time zones and eleven climate zones.

The reason is simple: a mal-integrated Nigeria where the sense of nationhood is yet to take place, has leaders who think in associational multi-national, multi-track terms. There is no national sense of direction on the matter.

I consider the issue of poverty eradication - not just alleviation - one of a chicken and egg puzzle - which must come first: creating a viable citizenry equipped with mass literacy, social capital values of trust and empathy, with law and order anchored in a judicial system above reproach, under a wise and compassionate political leadership who obey term limits and are devoid of the impulse to African-style authoritarian impositions.

Let's be fair about one thing - Nigeria has not been short of pious efforts to address the issue of poverty alleviation. From independence in 1960 till date, Nigeria has actually publicly established many institutions
which embarked on several policies and programmes to address poverty, inequality and wealth. The effectiveness of these programmes is still a subject of debate among many analysts. Some of these programmes include:

First National Development Plan (1962-68),
Second National Development Plan (1970-74),
Third National Development Plan (1975-1980),
National Accelerated Food Production Programme (1972),
Nigerian Agricultural and Co-operative Bank (1972),
Operation Feed the Nation (1976),
Green Revolution Programme (1979),
Directorate of Food, Roads and Rural Infrastructure (1986),
Better Life for Rural Women (1987),
Family Support Programme (1993),
Family Economic Advancement Programme (1993),
National Directorate of Employment (1986),
Small-and Medium-Scale Enterprises Programmes, Millennium Development Goals (2000),
Poverty Alleviation Programme (1999),
National Poverty Eradication Programme (2001),
National Economic Empowerment Development Strategy (2002),
Seven Point Agenda (2007),
Transformation Agenda (2010),
Subsidy Reinvestment Programme (2012),
YOUWIN (2012), etc.

We could count a few more up to 2015. They have mostly all been failures. Under the present administration, another round of programs, the most interesting of which as the social investment programs. Unfortunately, despite these plethora of policies and programmes,
poverty and inequality have been on the increase and have become self-perpetuating, while wealth creation remains thwarted dream in Nigeria.

But the reality is with the grand graveyard of all policy ideas - BUDGET NON IMPLEMENTATION. Indeed I had cause to address the Rivers State House of Assembly at a retreat in Calabar a few years back and spoke in identical terms of the heart of the matter. As I told the Honourable Gentlemen and Ladies in a speech to the Rivers State Assembly in a 2013 speech at a retreat they held in Calabar: ".. the most pronounced failure of the democratic experience so far, be this at the level of the local government as of the State, the Federal - as of the other arms at the center - the legislature and the judiciary: the failure... (in) the implementation game. The Gordian knot of democracy is popular promises that need to be followed by delivery... usually where we fall flat."

Eliminating chronic poverty in a world of plenty, in my view, a major reason for the insecurities that bedevil Nigeria. Another is the lack of inclusiveness in Nigerian governance. Taken together they actually constitute a breach of the constitution. Consider Chapter 2 on the Fundamental Objectives and Directive Principles of State Policy, Section 14, for instance, which declares in subsection (b ) that: "the security and welfare of the people shall be the primary purpose of government." This needs no further elaboration. But on the issue of system legitimacy, Section 14 (3) is even more explicit on federal character as a fundamental requirement of social justice:

The composition of the Government of the Federation or any of its agencies and the conduct of its affairs shall be carried out in such a manner as to reflect the federal character of Nigeria and the need to promote national unity, and also to command national loyalty, thereby ensuring that there shall be no predominance of persons from a few State or from a few ethnic or other sectional groups in that Government or in any of its agencies.
It goes further in 14(4) to state: The composition of the Government of a State, a local government council, or any of the agencies of such Government or council, and the conduct of the affairs of the Government or council or such agencies shall be carried out in such manner as to recognise the diversity of the people within its area of authority and the need to promote a sense of belonging and loyalty among all the people of the Federation.

This inclusiveness concept was deemed so important that the constitution in Section 217 sub-section 3, felt constrained o mention it in the case of the armed forces as well, as follows: "The composition of the officer corps and other ranks of the armed forces of the Federation, shall reflect the federal character of Nigeria."

On this matter, enough said. The constitution is very clear. We are in line with its humane provisions in Chapter 2 on Fundamental Rights in general. The day social justice that includes an end to chronic poverty and social and political exclusion will be the day Nigeria's journey to greatness takes off. Poverty along with other ills, can be then be tackled head-on as a national security objective.

Indeed the constitutional foundation for a human social order are already laid out in Chapter 2, Sections 16 & 17. Chapter 16 (b) and 16(c) point the way to a true society of abundance for all. Other benefits of a 21st century society are already written into the grundnorm of the Nigerian federation. It simply needs implementation. Section 17 (3a) captures the mood of the social democratic heritage. But there is one catch - the courts shy away from holding the state culpable in the implementation of these constitutional provisos. They continuously hold that these black and white statements are simply non-justice able.

For Nigeria to mature as a democracy and a giant of Africa, the battle for the justiceability of Chapter 2 on Fundamental Objectives and Directive Principles of State Policy, must be a continuous one. Without a cohesive national working toward integration and common citizenship, Nigeria may be but a historical footnote by the 22nd century. Its socially excluded poorest citizens like those of ancient Rome, would have seen to that.
CONCLUSION

What will the next 25 years be like? There certainly will be two possibilities - either the world gets better or it degenerates as we said before, into a nightmare. Enough of that. For the young and the young at heart here now, let's re-frame the question: what might THE WORLD OF FUTO STUDENTS be in the next 5 to 10 years? Without question we are looking at some of the future movers and shakers of the engineering, business, academic, technocratic and political worlds of tomorrow. The potential is there but so also, the chances of wrong steps that might lead down slippery slopes.

Now, despite what might seem like a Doomsday scenario that I have spent time making a case about. it may come to pass that analysts of the future will brand the current generation as perhaps the luckiest in a way. You will not be called Generation Next but perhaps Generation Hope. The Black Panther generation, if you must, capable of adapting hi-tech trends to sub-Saharan African realities. You will be the make-or-break generation destined to deliver on the Big Picture of escaping neoimperialism, underdevelopment and other kinds of global marginalization. You have it in your hands to create a genuine pan-African civilization of the Type 1 variety where elements of the Nigerian Dream can come to fruition. As citizens of Thomas Friedman's 'Flat World' globalization, there is nothing you cannot aspire to, there is little that, if you have the means, you cannot do - even from the comfort of your living room. In the digital age, once you have your wifi connections and your Samsung, you have the world in your hands.

To my three audiences today - academics, politicians, new graduates - the first two are already well-schooled on these matters. They are the ones who have brought us thus far: from the elementary levels of the First Republic along with its divisive rivalries, down to the modest but crucial triumph of 1999 when the Fourth Republic took hold. Their greatest success is in holding Nigeria together as the 'giant of Africa', even if only metaphorically speaking. Their greatest failure which could rend everything else into a
mere house of cards, is in the building of a viable national integration process based on a philosophical foundation the people can understand, drawn from the pan-Africanist ideal; instead what we have is an emporium of diverse sub-nationalities still trying to talk about an inevitable restructuring re-convention, to enable the task of national cohesion and stability.

We all can see the absence of unity and the unilateral nature of power at the center, with the parties not standing for any set of larger principles these make it ever harder for Nigeria to lay claim to that Giant of Africa moniker.

However, I know that history can offer a bag of surprises and one that I am betting on is that these digital types I call Generation Hope, could lead us to our Black Panther fantasy and get us ready for the probable global turbulence ahead. In this regard then, I would rather offer a few trends they may wish to occasionally reflect on as they proceed with their varied careers - if only because they need to heed Franz Fanon's exhortation to discover their mission - and fulfil it. They need to imbibe the wisdom of the philosopher kings who always understand that in one lifetime, people need to go beyond the quest for mere selfgratification and the hedonism that goes with it. They need to aim to stand for something.

**I. Dream big, strike bold**

Generation Hope types must learn to think in planetary terms. Get to know the world better - and what moves what and where. Yes, the world is shifting just as the tectonic plates holding the planet together is also shifting, with climate change being one outcome we are currently aware of. Black Africans, once cut off by the mighty Savannah wastelands, once stayed back but ended up being enslaved. Don't stay in one place - travel the world: this can even be by virtual reality, though physical haulage best. Simply, you must get to know the world, from Tasmania to Tenerife, from the Galapagos islands to those of the Komodo dragons, from the coral reefs
of Australia to the Himalayas ranges of Hindustan. The researchers and writers among you should learn to send back your travelogues and impressions of those places - from an instrumental pan-Africanist prospect. You need to build your own codification of knowledge based on what you already know. Your mission in the Fanon sense is to ask the question, knowledge for whom.

For many more of you who are very likely to become entrepreneurs and consultants, project managers and investors, your mission is even clearer. You can become the next Tony Elumelu, the africapitalist guru, powering thousands of big and small projects across the continent and hence unleashing an army of entrepreneurs capable of changing the face of the continent by creating more jobs and prosperity. For yet others, upon attaining big-time success, many in this arena today, could become the next Aliko Dangotes, building manufacturing plants all over the continent and venturing into other lands. Several pathways to follow, given the record of pioneers like Mike Adenuga in Telecommunications, Leo Stan Ekeh in computers, Mrs. Folorunso Alakija in oil, Innocent Okafor in car manufacturing and assembly plants, a dozen others like that, some of whom we have mentioned before. You could analyze their tracks from Business Schools case studies and MBA courses on how Africa's moguls of today, mostly born of humble circumstances, rose to become the icons being celebrated in the iconic US-based Forbes Magazine rankings.

II. Innovate, watch hi tech trends

Follow the world of hi-tech rather than just 'stomach infrastructure.' Some of you would soon catch up with the progress of China's ambitious new Silk Road of mutual prosperity that will traverse Eurasia and maybe even head toward the Mediterranean worlds of the Middle East and North Africa, following the path of the ancient trading routes that dominated the world for 3,000 years before Columbus sailed. China remains an example of an
emerging high-tech power coordinating engineering wonders with the diplomatic skills of cultural re-engagements among dozens of nations, sold on the idea of a common global future as currently conceived. This is Big-Think in motion. It may sound far off but as often has been the case, the spill-over may end up affecting us if the Silk Road ends incorporating the Nile Valley civilizations and the East African Zanj, the world of the Indian Ocean that also changed the world when African sailors guided the lost Portuguese explorer, Vasco da Gama, on his quest for a sea-route to India in 1497.

My old teacher Ezra Vogel in Cambridge, Massachusetts, once rattled Wall Street with his best-selling work, Japan as Number One, chronicling the steady rise of the Japanese auto industry among others, to global dominance, despite strong opposition from the Detroit and European auto makers. The trick was in the cultural capital of having management and labour, owners and workers, the Ogas and the staff, sharing the pains and the gains of the business enterprise. One big lesson has always been that a nation driven by a dominant big-think philosophy such a manifested itself in Japan's famous Ministry of International Trade and Industry (MITI), will always win out over somnolent, querulous and disunited elites of patchwork nations such as we have seen in our subcontinent. It will be the task of Generation Hope to work towards a three-step harmony between Business and Government, and these two with Markets - synergy between finance capital and state regulation, and between them and consumer choices, if you will. Quality control and international savvy will be key to success. You are likely to be the generation to fully explore and exploit export opportunities as precision engineering and transistor electronics-based businesses as well as telecommunications, migrate from South Asia to sub-Saharan Africa. WE should look forward to the day some here will attend another Technology Expo at Abuja’s Eagle Square and snap up a deal to market, for instance, Mr. Michael Friday’s wireless keke vehicle and create a new generation alternatively-powered personal transport - for export
across Africa. The Raw Materials Development Council, a parastatal of the Ministry of Science, boasts dozens of investment opportunities as well. I know: as a member of parliament I served on the House Committee on Science and Technology as may have been mentioned in the introduction.

Keeping an eye out business, is one thing; far more important is security and not just over terrorists, herdsmen, militant vigilantes and rogue ex-soldiers hiding in plain sight. You need to watch the cosmos. If we have established anything today, it is that we all need to be conscious of the cosmos. Others have never taken their eyes off, not before Galileo, nor ever since. Indeed, the watchdogs now number in their thousands of physicists, computer experts, mathematicians, astronomers and behavioural scientists - as well as businessmen like Elon Musk of Spacex and Richard Branson of Virgin Atlantic, a man who has done business in this country once.

Michio Kaku for instance, is still at it, as recent as this 2018 March. In an interview he was asked: 'WHAT'S LIFE GOING TO BE LIKE 10 YEARS, 20 YEARS IN THE FUTURE? WHAT BIG CHANGE IS COMING?' And he responded as follows with an answer that veers far away from his initial training in physics to the world he had once called the synergy of the molecular revolution, physics and computation: "In the area of biotechnology, I think we're going to extend the human lifespan. We're now isolating the genes that control the aging process. We've even found an enzyme called telomerase, which immortalizes cells.... (For now) your skin cells divide 60 times, then they go into senescence and they eventually die. There's a clock in every skin cell in your body. We can reset the clock with telomerase..."

He goes further to explain something that leaves you in both awe and dread. He says: "Artificial intelligence will seal the deal. We'll take millions of genomes from old people, millions of genomes from young people, and see where the aging takes place, and we'll do that using artificial intelligence to recognize millions and millions of sequences of DNA... Aging is the accumulation of errors, so we'll fix those errors with gene therapy. I
think our grandkids will have the option of hitting the age of 30 and maybe stopping for many, many decades at age 30." In other worlds we can go back to the Methuselah era with consequences we can’t fully decipher today. But like everything else, this is a work in progress, it cannot go too far for now "because cancer cells also immortalize themselves", as he explains.

This raises another question: what if they get over that hurdle tomorrow? What if these scientists using the synergy they have already established, can create an AI-informed humanoid, a Cyborg with near immortality and who comes floating down from across the Atlantic, in fifth-generation drones, ready to grab this land of our ancestors?.

Ok, no need to be alarmed: all we are saying is that we need to bestir as a society. What some of you may want to do when you become rich, is create foundations and research centers - don't wait for government and its quarrelsome leaders and their rivalries - but dream to empower you own scientists in the mold of the recently departed Stephen Hawking, your own Michio Kakus of Africa, to match the American, European and East Asian polymaths, brainiacs and innovators, toe to toe.

### III. Heed the instrumental pan-Africanists

Understudy a contemporary worldview that works for you. Policy matters; the beliefs and convictions underlying them matter. A nation without a dominant ethos of governance and visioning, will never go far. I will argue that unless we look for the ideals, the instrumental tools of national cohesion that underpins our national institutions and offer a sense of inclusive democracy based on a national constitution, Nigeria will never become a great power. To move an inch forward that counts for anything, Nigerians starting with the 2019 election must look for people with a pan-Africanist bent who are also grounded in the nuances of community basic needs and what contributions to make to the National Question.
But you must first, to restate, heed the call: Man, you must first know thyself. You must first ponder on the historical lineage that the afropessimists wish you wouldn't bother much with. You must understand that there may have been five historical eras in the Pan-africanist quest journey, as follows: The Classical Era – Carthage, Egypt, Axum & the Nile Valley Civilization 3000BC-300AD; Sub-Saharan Era - Empires, Kingdoms and Acephalous communities – 100AD-1400AD; The European Era - Intrusion resulting in massive disruptions - Slavery, Capitalism, Missionaries & Colonial to 1460-1884; Nationalist Era – urban & commercial classes, pan-Africanism, independence; and the era of 2nd Liberation – 1990s-present – prodemocracy movements.

The task of Generation Hope is to engage in three sociopolitical steps - be good members of your community; be good patriots of your nation; be visionary instrumental pan-Africanist and make African unity part of your extended reality. Today's pan-Africanist perspectives call for this forward march into the future with a focus in particular, on the promise of high tech developments and the requisite attitudinal adjustments. There is a recognition that Africa must run while others walk - but the opposite is unfortunately the case.

Instrumental pan-Africanism hence is a call to action that builds on the legacies of the earlier generations, whose vision is oddly enough, captured in the latest Hollywood high tech thriller, Black Panther, that shows a nimble mix of tradition and modernity, a nimble high tech Africa that is a global super-power in its own right.

For now, the most important talk on the table is about Agenda 2063. As mentioned early. An official definition has it "as a strategic framework for the socio-economic transformation of the continent over the next 50 years." It builds on, and seeks to accelerate the implementation of past and existing continental initiatives for growth and sustainable development."
Foundations for Agenda 2063. The seven African Aspirations are: 1. A Prosperous Africa, based on inclusive growth and sustainable development; 2. An integrated continent, politically united, based on the ideals of Pan Africanism and the vision of Africa’s Renaissance; 3. An Africa of good governance, democracy, respect for human rights, justice and the rule of law; 4. A Peaceful and Secure Africa; 5. Africa with a strong cultural identity, common heritage, values and ethics; 6. An Africa whose development is people driven, relying on the potential offered by people, especially its women and youth and caring for children; and 7. An Africa as a strong, united, resilient and influential global player and partner.

Nigeria has to be a leader in these final steps as the African giant. The recent African Free Trade agreement is in line with Agenda 2063. If all due precautions are taken, the massive increase in intra-African trade and investments, will be a big boost to a continent where 90% of all manufactured goods are imported. Clearly, for Generation H, here is another opportunity beckoning.

IV. Join Politics - It's not always dirty!

Nothing I have said in the foregoing 45 pages will mean much without stressing the centrality of politics and the quest for power. Without the leaders to actualize the dream, not much will happen. But bad things continue to happen because good men refuse to step out, as Edmund Burke, the English philosopher, noted in the 19th century. But consider that as Max Weber observed, power is the ability to compel obedience regardless of opposition, and you will know why power is too important in its own, to
be left just to the politicians. Everyone has a role - either as a kingmaker or a king, so long as the process is democratic.

You may have to seek the political level you wish to play at but never forget that there were many who walked on the edges of death and disaster, to ensure that African freedom became a reality, as documented in the masterly study by the historian and mathematician, MIT-trained Chinweizu Ibekwe, titled *The West and the Rest of Us*. In such books and in mine, the careers of the likes of Oluudah Equiano, J. Africanus Horton, Edward Blyden, Kweggiir Aggrey, Herbert Macaulay, Haile Sellassie, Nnamdi Azikiwe, Kwame Nkrumah, Jomo Kenyatta, Mbonu Ojike, Sekou Toure, H.O. Davies, Obafemi Awolowo, Aminu Kano, Patrice Lumumba, Eduardo Mondlanae, Steve Biko of Black Consciousness fame and Nelson Mandela. If you add the Civil Rights Leaders from Frederick Douglass to W.E.B. DuBois, from Martin Luther King to Malcolm X, right up to the just departed Winnie Mandela, and a raft of others, you will get the picture of what they had to go through so that we may live.

On this note, let us pause for a moment to salute the memory of Mama Africa, Winnie Mandela, whose clenched fist, sharp tongue and elegant carriage, were in themselves a poignant repudiation of all the gibberish that constituted apartheid in particular, and racism in general. Winnie told off her oppressors at every instance that this land was hers and not of the interlopers from across the seas. For her courage, saw was visited with years of repression, imprisonment and diverse assaults. But she also wrote herself into history. She would never be forgotten. I still insist that politics can be a noble calling but only if one is principled. The point will be to sort out that you must understand what a party stands for before you dabble deep. You must not fall for the trap of lazily thinking that politics is dirty; dirty wheeling and dealing refer to crimes and need to be treated as such. And thirdly, what is the sort of Nigeria you dream of and how can you help make it happen.
How does one even start when the first step is to decide which of the nearly 70 odd parties to join! Well, the best way to start is to start somewhere, to paraphrase the line from *Alice in Wonderland*. INEC says each one which is supposed to have and maintain dozens of offices, a headquarters and a membership registers brimming. Go see the organizing secretaries and take it from there.

One thing I must concede you - there are no givens in the world of politics. You must develop the stomach for it and for its tricksters and double tongued masters of the game. With time you get to know them. But to repeat, get involved only if your intention is noble enough and you have a program to support or to sponsor. Think of the joy of success when success is attained - a water project, a new road, a clinic, anti poverty empowerment, scholarship schemes, new markets of electrical connections where once there had been darkness. There are redeeming aspects in political involvement; it's not all manipulations and gerrymandering. No FUTO graduate should want to hide from the call to public service - if one is not part of the solution you are probably part of the problem, as yet another saying goes.

**V. Look after your alma mater, FUTO.**

Looking after FUTO, the academy that gave you your future - it goes without saying that you will. I know I did. I still call my time in the year 1979, just like yesterday and there we were, seated, just like you, with a convocation speaker, just like me. Little did we know of the adventures ahead nor that our travels and travails would take us across Africa, to Europe, America, the Caribbean and for many, toward Asia and the Middle East. Every scattered, so to say - but the alma mater remained! Years later it would be a fulcrum for reunions.

As a former SUG leader in my time and one active in the University of Nigeria alumni movement, I just finished a two year term as president of
the alumni chapter in Abuja. We just finished the first phase of a N100m plan to establish faculty scholarships in the university. Along with classmates some of who became noted social scientist and criminologists, lawyers and Commissioners of Police, business success stories, publishers and authors, technocrats and politicians, my old department is set to honour a few of us in a few weeks. From that event I plan to be in Lagos to deliver another keynote address to the national alumni movement as a new executive holds its inaugural quarterly outing. And yet the tasks facing our campuses remain as daunting as ever. FUTO will need you.

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I therefore bring this long convocation lecture to a close by harkening to the man considered to be the greatest African of the 20th Century, Nelson Mandela, the Madiba of South Africa. He fully understood that life in itself is a continuous work in progress and that we in Africa have to see the freedom we have today as a gift to be guarded closely - or it may be lost again. Says Mandela in his bestselling autobiography, Long Walk to Freedom:

I have walked that long road to freedom. I have tried not to falter; I have made missteps along the way. But I have discovered the secret that after climbing a great hill, one only finds that there are many more hills to climb. I have taken a moment here to rest, to steal a view of the glorious vista that surrounds me, to look back on the distance I have come. But I can only rest for a moment, for with freedom come responsibilities, and I dare not linger, for my long walk is not ended.”

Thank you. I THANK YOU FOR LISTENING.

(Abuja FCT, 30 March, 2018.)
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