



**“The Future of Work:  
Technology and Humanity”**

**by**

**DR. RONNIE R. F. YEARWOOD**

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Madame Chairwoman, Ladies and Gentleman. Good morning.

This weekly convocation by the Barbados International Business Association, (BIBA), suggests, in scope and variety, that the Association is simply not marking time -- and I sure hope it is not -- but is embracing diverse opinions on issues of import that will impact our economic and developmental trajectories, and is therefore looking to and remaking itself for the future.

I am therefore honoured to be included in the deliberations -- that people think that I am thought worthy to be included in the promise of the future.

If we are all not looking to the future in our thinking and planning, even if we are bogged down by the unraveling of today, there will be no tomorrow for many of us.

Right now, the future of Barbados looks rather bleak. If we are to be frank and honest in assessing the political and economic landscape, there can be no denial of that.

However, I will not dishonor this occasion with themes of darkness of what is Barbados today. We must look to the future -- believing and working for *'our'* future, not *'the'* future, as there is not one version; or *'a'* future, as there is no specific

version, but critically 'our' future, -- the one that we decide and make as a country for the benefit of all Barbadians.

I wish to suggest that my topic, "*The Future of Work: Technology and Humanity*", is one for urgent scrutiny by the leaders of Barbados in every sector, and both the army of occupation currently at the top of Broad Street, in Bay Street and Warrens, and to be frank, in the context of the touch word today "innovative", they are hardly that.

Questions therefore arise as to, can we somehow pivot amidst the challenges of a changing world -- in the so-called Fourth Revolution, the technological age -- to reposition Barbados, to reap benefits and set the stage for our people to have a better life?

How can we maneuver amidst the seeming and unrelenting march of technology to ensure a work environment for our people that is productive as well as rewarding? How as a small nation, can we create a nation that is not reminiscent either of the nightmares of wasteland left behind, eulogised in Steinbeck's, book *The Grapes of Wrath* or more recently, Simon's, television series *The Wire*, that populate America as results from seismic technological and developmental shifts, or equally

apocalyptic, as a nation of slums? In essence how can we avoid failure as a nation and not leave large segments of Barbadians behind from the disruption that technology inevitable causes to jobs as we build the new dawn?

### **What of the Future?**

The first contextual checkpoint I wish you to bear in mind on the idea of the future as someone once said, is that “the future is not what it seems”. Add to this Zadie Smith's insight (in *White Teeth*):

"But surely to tell [these] tall tales and others like them would be to speed the myth, the wicked lie, that the past is always tense, the future, perfect. And as [Archie] [we] know[s], it's not like that. It's never been like that."

We can identify four disruptive technological periods. The first in the 18<sup>th</sup> century (the 1700s) characterized by the mechanical weaving loom was driven by water and steam power. The second in the 19<sup>th</sup> century (the 1800s) characterized by mass production and the assembly production line was driven by electrical power. The third in the 20<sup>th</sup> century (the 1900s) characterized by information technology and automation was still driven by electrical power. Each period is also characterised by political and socio-economic change such as the introduction of the welfare state,

women and black Americans given the right to vote, and in the Caribbean decolonisation.

We are now living in the fourth period, the so-called internet of things, the rise of artificial intelligence and the wider automation of work which is what I will discuss today.

The nature of the changes we are still witnessing, but they have included the collection and use of big data, debates about privacy, and the rise of “fake news” through the use of the very information technology that was to liberate us, improve markets and fuel new waves of democracy.

In many ways, the period has been marked by the opposite. Firstly, there has been a rise of global inequality whereby the world’s wealthiest individuals, those owning over US\$100,000 total only 8.1% of the global population but own 84.6% of global wealth (Global Wealth Report, 2015). There has also been a lack of economic growth and high government debt for many countries with the Caribbean being prominent examples, with the debt-to-GDP ratio between 60% and 100%. Moody’s in a report on the region, “The Silent Debt Crisis” (2016) stated that “Unlike elsewhere, the build-up of debt in the Caribbean region was not sudden or caused by the global

financial crisis. It happened gradually and almost unnoticeably over many years.”

Thirdly, democracy is under threat with some arguing and perhaps rightly so that social media is part of the problem as it can de-inform the quality of debate surrounding decision making as disgruntled voters easily take to social media to complain and march without real engagement of the issues or actually voting when the time arises. So much for the *End of History* that *Francis Fukuyama* predicated in his thesis in 1989 that the end of the Cold War was to usher in the final form of democratic free market governments everywhere in the world.

We have to acknowledge the changes.

The examination of the probability of computerisation for 702 occupations found that 47% of workers in America had jobs at high risk of potential automation, for example in transport and delivery services and administration such as receptionists and security guards, cashiers, retail staff, telemarketers and accountants (Carl Benedikt Frey and Michael Osborne, 2013). In the UK, the Economist stated that studies put the figure at 35% of the workforce for Britain and 49% for Japan.

In the Barbados Human Resource Development Strategy 2011-2016, it was estimated that 12% of the labour worked as clerks, 18% as service/shop workers, 6%

as plant and machine operators, 8% as technicians and sub-professionals. That means on a cursory reading that 44% of the jobs in Barbados would therefore be vulnerable from automation.

However, a missing dimension in much of the analysis about the future of work has been the potential shifting -- to a more qualified workforce, more technology sectors, more high yield jobs and more jobs in the creative industries.

Each period of technological change was predicted to be the death knell of labour and in fact some countries. The reality? The disruptions and changes unlocked potential jobs, and fueled economic and unprecedented social growth in some instances.

Technology. Disruptive, yes. Grim reaper, no.

Automating a particular task, so that it can be done faster or cheaper by tech, can often increase the demand for workers to do the other tasks in relation to the job that have not been automated.

So computerisation and automation of tasks can also create jobs for the ones that will potentially be lost.

Further, there will be new jobs created by automation itself. For example, take self-driving cars, human operators will still be needed if there is an emergency. Customer service call centres managed by algorithms still require people to write the algorithms and refine the speech patterns and words of the automated systems, and once that is done, to keep them updated. Jobs involving empathy or social interaction still require humans – medical practitioners and those in caring professions.

According to the study by Frey and Osborne, dentists and recreational therapists are very unlikely to have to worry, but accountants, auditors and economist have some of the highest rates of probability for computerisation and automation of their jobs.

People who work in creative industries will be less susceptible to automation and computerisation. *In the Castle of My Skin, Growing Up Stupid under the Union Jack, West Indian Politician, Omeros, Redemption Song*, could not have been written by a computer or robot no matter how advanced. As a quote attributed to a 1965 NASA report stated: “Man is the lowest-cost, 150-pound, nonlinear, all-purpose computer system which can be mass-produced by unskilled labor.” This a contextual



checkpoint I wish you to bear in mind, especially in relation to the creative industries which we have not properly exploited.

What we realise is the susceptibility to job losses by computers is not so much whether the work concerned is manual or white-collar, but whether the work was routine and repetitive, and therefore by that virtue the work itself capable of automation and being coded.

Discourse on technology and humanity has tended to be along the lines of extremes, but as with many things the true often lies somewhere in the middle.

As Martin Wolf said “Just consider the shift from a world without telephones to one with them, or from a world of oil lamps to one with electric light, Next to that, who cares about Facebook or the iPad? Indeed, who really cares about the Internet when one considers clean water and flushing toilets?” Controversial but correct, as without electric lights, clean water and sanitation, the internet and all the applications it has driven make little sense and would be worth very little.

Let us push the analysis a bit further. The car was to be the demise of the horse. The TV was to be the demise of radio. And the Iphone and Samsung the demise of TV.

But what is your tablet except a portable TV? It is simply more informative, or at least it should be, but essentially the technology is portable, more flexible, and more immediate.

These are the watchwords that must inform how Barbados as a nation, the Caribbean as a region and our enterprises proceed, so that we do not fall further behind, to a point where it is impossible to catch up, or rather be unable to determine what sort of future we want.

The last contextual checkpoint I wish you to bear in mind is the example of India. Taking India as a case study on an example of leadership in tech. India got into tech in 1967, and by 1973 it was going full scale with the establishment of its first software zone. Rapid investment followed and by the 1980s India was providing the world with programmers. Tech was also playing a major role in India's economic growth, by 6 %, from 1993 - 2002. This is a case study in what is required in Barbados. Leadership.

## The Present

There is a great irony in Barbados when it comes to technology and its usage and production. Cell phones and internet usage are widespread. According to the World Bank, 80% of the population uses the internet and there are more than 300,000 mobile phone subscriptions.

However, none of this appears to be translating to any serious advancements in the production of tech services, beyond being merely passive consumers.

The Global Competiveness Index 2016-2017 rated Barbados out of 138 countries with 138 being the worse, 81 in relation to its capacity for innovation, 78 for the amount companies spend on research and development, 44 for firm level technology absorption. And I believe what particularly shows the disconnect between education, business and production, 83 for university-industry collaboration in research and development and 100 for government procurement of advanced technologies.

What is more and of grave concern is that in relation to our education, we are falling behind. The Global Competitive Index in 2012-2013 out of 144 countries, rated Barbados 7 for the quality of the educational system, 7 for the quality of maths and

science education and 33 for internet access in schools. By the 2016-2017 report Barbados was rated 22 quality of the education system and 20 for the quality of math and science education and 54 for internet access in schools. The overall competitiveness rating in that same time period moved from 44 to 72. Education requires urgent action especially in the key skills in science and maths that would be required to create the workers to fuel innovation in technology and science that would allow us to capitalise on the opportunities that technology that can bring.

When we examine that the biggest reform of education, EduTech, to introduce technology into Barbadian schools appears to have started stalled as there was no successive building on the premise beyond having computers in schools. An approach that also seems to have been repeated in public sector reform if the data from the Global Competitive Index is anything to go on.

Further there has been no rationalisation of the provision of education for children, young people and workers. So we currently have and I list; a Ministry of Education and Human Resource Development, a Ministry of Labour, the Barbados Accreditation Council, The Training Administration Division, the TVET Council, the Barbados Vocational Training Board, the Samuel Jackman Prescod Polytechnic, the Erdiston Teachers Training College, the Barbados Community College, the

Barbados Statistical Services and the National Council for Science and Technology all in some way responsible for education and the human resource development of Barbados.

Yet in all of that there are no tech schools, no formalized coding courses in all schools from primary to secondary, no tech parks with the appropriate infrastructure and fiscal measures to encourage the growth of information technology in a serious way to create jobs and linkages with other industries such as the creative services.

However, as I noted above, the cell phone and social media are ubiquitous in Barbados. We are mere consumers, not producers of tech and if we are to create a new wave of work, this will have to change. Leadership as I mentioned earlier will be key.

### **Leadership is Key**

Even in this forum of the enlightened, this bears referencing and reinforcing, especially in the current economic and political situation Barbados finds itself in.

There must be prudent leadership to understand markets and to recognise when an industry has ‘run its course’ and to plan for the winding down in a careful manner and to protect those working in the industry.

There must be prudent leadership to make the timely investments in new technology. This will require a culture change in political culture not to continue to invest in the past for the sake of votes, but in the future of the entire nation, where all Barbadians can benefit. Leadership is key.

The future though unpredictable can be made and shaped to our will. To do that requires imagination, planning and above all, implementation. These things are choices.

We have to determine what our future will look like, because no one will do it for us, or care beyond warm words what really happens to this little rock Barbados, or the other little countries in the Caribbean. We have had talk about Marshall Plans before and grand gestures at the UN for special protection of the Caribbean as a vulnerable region, yet nothing. It is unlikely to be the first or last, and we plough on.

We have to determine what kind of country we will build and what role technology plays and where we will locate it, and how we spread the benefits of any economic progress to all Barbadians.

India's story is salutary. Even so, there is one example I must cite to underscore the future of work.

With tech as a centrepiece, the Indian economy began major transformation in 1991. Two watershed developments took place.

The then Prime Minister made tech development one of the five national priorities and created the Indian National Task Force on Information Technology and Software Development.

The second major development was that the task force provided an extensive report with 108 recommendations. That were acted on. I repeat, the recommendations were acted on.

But note this also. The task force moved swiftly acting on existing experience. Its proposals were consistent with the policies of the World Trade Organisation and the

International Telecommunications Union. It also readily applied the experience of countries like Singapore which already had established similar programmes.

And the rub. According to the India Association, NASSCOM, (National Association of Software and Services Companies) the tech sector increased its contribution to India's GDP from 1.2% in 1998 to 7.5% in 2012. In 2015, the sector had revenues of US\$147 billion. (Income from exports amounted to US\$99 billion and domestic revenue amounted to US\$48 billion.)

The Global Innovation Index in 2017 ranked Indian the world's number 1 exporter of information communication technology and number 2 for innovation quality. Exports constitute about 77% of the industry's total revenue.

The story does not end there as Indian has moved beyond developing and exporting programmers and programming, and call centres. It is on the leading edge of cloud computing and software development.

Just one more corollary. Many of the tech experts of India, which should read India's tech experts of the world, are US-based have reinvested in the millions in their



country, not just in business but in many instances for the social good. And many have simply returned home to lead a new generation.

Bear all the above in mind in this dynamic of technology and humanity.

### **What can Barbados do?**

If Barbados is to reform education to create producers of technology to capitalise on the new forms of work and shift the economy away from tourism to find new growth areas in tech, then the government will have to be key in facilitating and leading the deep structural changes that will be required in education and about the very idea of work.

Firstly, we have to create like India and Iceland, a learning society. Jay Randle writes that, “Such a society is one in which the people of a country have learned how to produce high value products, using technologically sophisticated methods of production.”

This is critical as a learning society is not dictated by natural factor endowments, in our case, sea, sand and sun to drive tourism, but the creation of exports that would be associated with high levels of learning.

This can also address concerns of a brain drain. With tech we can remain in Barbados while being global. Anyone can remain in Barbados and through tech invent, as some are doing, collaborate and so on without leaving their house.

It will require serious leadership from whoever becomes the next government in rationalising the provision and type of education, especially when it is estimated (by World Economic Forum, 2016) that 65% of children entering schools today will likely work in jobs that do not exist as yet. Not only do we have to create a learning society but education must become a lifelong process, so we have a workforce that is flexible and adaptive to whatever the jobs of the future will be.

Technological changes and the effects it will have on work will require radical changes in the content and the way our education is being delivered. This is not dissimilar to what happened in the 19<sup>th</sup> century Industrial Revolution. The more formalized education as we now know it, became key as workers moved from agricultural fields to more industrial based jobs. The rise of technology, automation

and artificial intelligence will make it necessary to change our educational systems, with lifelong learning as key.

Secondly, entrepreneurship should be supported to create jobs and opportunity. Barbados has to create a new class of business people otherwise and it goes without saying that we will not have the ability to create new jobs in new areas.

Thirdly, encourage and support scientists through example, Centres of Excellence and the appropriate fiscal incentives to attract talent back to Barbados by rationalizing existing educational and other governmental departments. We do not necessarily need to create yet another government body to spend more of what are already strained tax dollars. For example, how to retain (attract) the talent of Barbadians, talent, that can create new businesses, open new areas for economic growth, jobs and development? We can start with something practical, such as reorganising the Facilitation Unit for Returning Nationals (FURN) of the Ministry of Foreign Affairs and Foreign Trade (which was renamed the Barbados Network Programme) reorganised and some functions of other development agencies such as BIDC and Invest Barbados rationalised as the new Barbados Centre for Innovation.

A new role for the Centre, having the institutional memory of the FURN, would be to actively attract and facilitate young Barbadians living overseas (and even international talent) to move to Barbados to live, set up businesses and work. The Centre could also rationalise the role of other government agencies to make it easy for these young returning nationals to create new businesses. It would continue to administer the current tax breaks of the FURN, in addition to new tax breaks for young returning Barbadians or international talent partnering (whether through financing, technology transfers or knowledge-sharing) with small businesses or entrepreneurs already present in Barbados. The Centre would take us a step beyond the FURN, as the Centre would not only be linked Barbados' embassies and consulates as is the FURN, but to make the embassies and consulates active hubs for facilitating the export of Barbadian products and services.

Fourthly, upgrade infrastructure. A government should be involved in building and maintaining infrastructure and public services as a clean and safe place to live is a more productive place to do business in. Speightstown and Bridgetown should be key on the agenda to facilitate new tech parks and start-up cities.

Fifthly, create a national dividend or some form of national income whereby whatever investments government makes into new technology, part of the financial benefits can be directly deposited into a fund and given to every citizen.

Sixthly, rethink the very idea of work as a 9 – 5 job, to a more flexible system which can be shift based to allow for more work-life balance and for later working hours. We must also recognize that as life expectancy has increased, we may need to work for a longer period in our life with shorten hours to facilitate better work-life balances, instead of more intense working patterns over a shorter period.

These are all viable and achievable with leadership, that is, the best at the table because if public life does not attract the best and the best are not interested in public life, then an electorate is likely to be faced with poor choices.

### **Conclusion**

Overall technology will be a compliment of humanity. There is a misplaced assumption that the end of human work is nigh with the rise of the ‘useless class’, but work is key to the social and mental well-being of people.

The unrelenting march of technology has not eliminated the need for humans and for us to work. Indeed, technological developments have in many instances improved economic productivity and provided for an improved quality of life. Jobs have disappeared but others have replaced them. There are fewer jobs in manufacturing and sugar related industries today than there were fifty years ago, but there are many more jobs in the service sector. In the next fifty years of our independence, there will undoubtedly be more jobs that employ the human skills that are difficult to automate, such as empathy, care and creativity.

The challenge for us will be to start moving the educational system to cater for the new jobs that the tech itself will create and in the areas that will be least disrupted by tech so we can actually gain from the advances in tech.

There is absolutely nothing new about any of this. We, as a humankind, have been here before in our history. As for a small country like Barbados, or a big country, the key is how do we choose to respond so we do not make the same mistakes as in the past to create rancid new inequalities, but create more opportunities for our people. It will not be by luck or chance, but by having government and private sector leadership to plan and implement the much needed structural change to our educational systems to drive the new jobs and growth in the economy.

I want to end by saying this has been my third public intervention for the year, and as I have ended them all I end with a quote from the Bible, I will make today no different. I cannot think of a more relevant quote at any rate than Ecclesiastes 1:9 “What has been is what will be, and what has been done is what will be done, and there is nothing new under the sun.”