

Professor Emeritus Kenneth Julien: Perspectives and Experiences – The UWI Years

Professor Brian Copeland

Pro Vice-Chancellor and Campus Principal, The University of the West Indies, St Augustine

Professor Kenneth S. Julien Festschrift Conference

November 25th and 26th 2018

Abstract

As Principal of the St Augustine Campus of The University of the West Indies, I could not be more grateful for this opportunity to comment on Professor Julien's incredible contribution to the University, tertiary education in Trinidad and Tobago, the region and the world. Indeed, my only dilemma is limiting my remarks to education, given the massive impact of Professor Julien's good works. Professor Kenneth Julien has left an indelible mark in engineering education both at The University of the West Indies where he first worked as an academic, and then at the University of Trinidad and Tobago, where he played the lead role in its establishment.

1.0 Introduction

American sociologist C. Wright Mills once said that “neither the life of an individual nor the history of a society can be understood without understanding both.” This is especially true for Ken Julien, because in many ways, his story is the story of Trinidad and Tobago. His rise as an educator, scholar and innovator helped in no small way to fuel the development of our independent Republic.

Perhaps most importantly, the legacy he has created and the example he has provided, are crucial assets in Trinidad and Tobago's goal of achieving a prosperous and sustainable future. Those of us (both within and outside the University) tasked with navigating our republic through this current period of social and economic adversity, can only benefit from reflecting on the civic-minded scholarship, patriotic commitment and confident determination to build a better nation that guided leaders such as Ken Julien.

My first encounter with Professor Julien was as a student in his first year engineering class in 1975. Even then, I was very much aware of his reputation as a professional engineer and a strong proponent for change and development in local and regional industry. Prior to becoming Campus Principal at The University of the West Indies' St Augustine Campus, I served as Dean of the Faculty of Engineering for eight years from 2007 to 2015. This followed my tenure as Head of the Department of Electrical and Computer Engineering, a position I took up when Professor Julien vacated office upon retirement in 1998. Throughout my entire career, most of it at The UWI, I have held the utmost respect for Professor Julien, not just for his stellar work in developing Trinidad and Tobago's industrial landscape but, more significantly, because he is one of the pioneers of the engineering discipline in the Caribbean.

2.0 The Faculty of Engineering

The Faculty was established in October 1961 under the Deanship of Peter Whitton. It was funded by the Ford Foundation for its buildings, the United Nations Development Programme (UNDP)/UNESCO for its equipment, and the Government of Trinidad and Tobago. Much of the UNESCO equipment can still be found throughout the Faculty.

The establishment of the Faculty in Trinidad as part of a new UWI Campus at St Augustine was the result of intense negotiations by Nobel Laureate Sir Arthur Lewis, who argued that doing so was essential to ensure balance in the offerings across its campuses. Furthermore, there was strong viability given the fact that Trinidad and Tobago's industry was on a solid growth path due to the significant industrial development plans laid out at the time. Indeed, by the time of the Faculty's establishment, the Trinidad oil industry had doubled in capacity and size and its sugar industry continued to grow [1]. Most importantly, the Government of Trinidad and Tobago had expressed the will and the financial capacity to support the Faculty.

From the perspective of The University of The West Indies (which was established by Royal Charter from its predecessor, The University College of the West Indies at Mona in Jamaica), it was felt that locating the new faculty in Trinidad would bring balance in academic delivery across the three campuses while validating investments in infrastructural development on the campus. The lands of the Imperial College of Tropical Agriculture (ICTA) at St Augustine had more than sufficient availability to support a new faculty and were an obvious choice for the location of the new institution.

3.0 Professor Ken Julien – The First West Indian Dean of Engineering

Professor Julien first worked in the oilfields in the 1950s and received a scholarship to do his PhD at the University of British Columbia in Electrical Engineering. He successfully completed this degree in 1961. These strong credentials made him a very attractive candidate for the new Faculty of Engineering. He was recruited to the fledgling Faculty by John Carpenter, the first Head of Electrical Engineering. Together with Harry Phelps and Compton Deane, Ken Julien was among the first West Indians in the Faculty. As we now know, employing these young scholars was a wise investment on the part of the University. All three have provided invaluable service to the engineering discipline, to The UWI, to Caribbean higher education in general, and to Caribbean society.

They would be called upon to do so very early in their careers. For, in 1964, there was a staffing crisis at The UWI that saw several senior academics leave the University, including the founding Dean. Prior to this, the teaching staff was made up mainly of British personnel who were funded by the UN. The staffing crisis almost brought the Faculty to its knees. However, Professor Julien and his West Indian contemporaries decided that this simply could not happen. They wasted no time in taking charge of the Faculty's affairs. As the only West Indian with a PhD, Professor Julien was the most obvious candidate to fill the vacant position of Dean of Engineering and was so appointed. He and his team were now responsible for taking the seedling of Caribbean engineering education and seeing it through its growth in the years to follow.

Of course the challenges of being Dean in a faculty that had existed for only four years are not the same as they are today. In 1961, the freshly minted Faculty of Engineering had only 28 students, all undergraduates. Indeed, the first cohort included such well known figures as Malcom Jones and Professor Winston Mellowes. Today at the St Augustine campus there are as many as 9000 students in any given academic year. Subsequent Deans included the likes of Professor Emeritus George Maxwell Richards, who later became Campus Principal and President of Trinidad and Tobago; Professor Dave McGaw; Professor Desmond Imbert; Professor Gurmohan Kochhar; Professor Clement Sankat and Professor Brian Copeland. The current Dean, the recently appointed Professor Edwin Ekwue, is tasked with sustaining and developing this well-established institution.

Ken Julien served as Dean from 1964 to 1974. By his admission these were not easy years, particularly the period from 1964 to 1969. However, bolstered by the support of a leadership team that included the previously mentioned Harry Phelps, Compton Deane, Desmond Imbert, George Maxwell Richards, and others, by 1970 the Faculty began to see tremendous expansion. In fact, the physical expansion that led to the building of the infrastructure that we now know as the Engineering compound at UWI came as a direct result of the lobbying of Professor Julien, who at the time was also busy conducting his ground breaking national service.

From the 1970s to the 1980s, the consistent growth led to what students today would recognise as the precursor to our modern Faculty of Engineering. Although he stepped down from the post of Dean in 1974, Professor Julien remained a powerful figure in both the faculty and the campus itself, even as his work took him ever deeper into the wider society.

One wonders what it must be like to have been there at the beginning, when, after its first build-out (which ended in 1962), the Faculty amounted to no more than five blocks of less than 6,000 square metres. Prior to that, the Faculty was housed in a few buildings previously allocated for agriculture under ICTA. What must it be like to know that through the early endeavors of Professor Julien and his contemporaries, engineering students and academics today occupy a space of well over 50,000 square feet, where they enjoy access to a host of facilities, equipment and programmes of study. The Faculty now hosts five departments with a range of undergraduate and postgraduate courses, an Engineering Institute that provides industrial outreach and several specialist laboratories. Furthermore, the University has only just this year (2018), established its second Faculty of Engineering at its Mona Campus in Jamaica. That is quite a legacy.

For more detailed information on the early days of the Faculty of Engineering at the St Augustine Campus, the reader is referred to the excellent paper by Melisse Thomas-Bailey Ellis and Gyan Shrivastava in [1].

4.0 Contributions to the Department of Electrical Engineering (now Electrical and Computer Engineering)

Apart from an early stint, Professor Julien returned from public service to the Department of Electrical and Computer Engineering on a more full time basis sometime around 1990.

As an engineer my special regard for Ken Julien goes far beyond his role in the establishment of the engineering faculty. Indeed, he is also, of course, an extremely accomplished and well-recognised scholar both at home and internationally. Professor Julien is the first West Indian to achieve the rank of Fellow of the Institute of Electrical and Electronics Engineers. He is a widely published researcher and holder of several patents in electrical systems.

Yet with all of this, Professor Julien's career provides an extraordinary example of impactful academic work. His efforts, whether within the halls of academia or in concert with policymakers and industry, were specifically for the material advancement of society through the professional's ability to apply theory to practice.

Looking back at the various addresses of early leaders such as late Prime Minister Eric Williams, it is not hard to see an astonishing clarity of vision. These leaders knew exactly what they wanted for an independent Trinidad and Tobago. They clearly saw the move of the economy from agriculture to industry as essential for growth and development. They wanted to use the vast energy resources as fuel for industrial development through power generation and for downstream industries. The UWI had a crucial part to play in this vision.

Not only would the University develop the human capital to service the emerging energy and related industries, its scholars would focus their energies on developing the tools, systems and innovative products for these industries. But the academics of that era always had an even bigger picture in mind, and this vision was to be manifested in their output. Perhaps this, more than anything else, explains why leaders such as Professor Julien were so effective.

This breadth of perspective, spanning academic scholarship to practical application and competence, motivated many of the initiatives mounted by Professor Julien at the Department of Electrical and Computer Engineering. Through his efforts the department mounted a unique sub-programme defined by four sequentially offered courses aptly named "Laboratory and Project Design" (LaPD). This programme ensured that students engaged in hands-on design and testing activity in each of the first four semesters of their engineering education. This culminated in a very intense special project that spanned the entire final year. A more recent variation of the LaPD curriculum exposed students to electrical installation and wiring standards, an activity that many graduates have reported as extremely useful in their careers. This was unheard of in most universities globally but was necessary for our graduates to be more immediately relevant to their work environment.

In the more traditional line of scholarship, it was through Professor Julien's collaboration with Gordon Shirley, then CEO at Jamaica Public Service, that the department set up a special offering in 2002; a Masters in Power Systems for employees at the company. At that time, Jamaican enrolment had started to decline at St Augustine due to economic circumstances. Furthermore, our graduates employed at JPS would have found it difficult to take time off to improve their academic knowledge and competence. The solution was this relatively new on-site programme offering that resulted in several qualified employees at JPS acquiring a postgraduate degree, many in record time and with a higher than normal amount of distinctions.

On a more personal note, it was Professor Ken Julien who called me while I was wrapping up my PhD studies in Control Systems at the University of Southern California, requesting that I design and teach a Digital Electronics programme on my return to the department. I often wondered, but never asked, why he would make such a request of someone who had demonstrated a passion in the discipline but did not have a formal qualification in the area. I did not focus on the area in my postgraduate work as I felt that Control Systems was more relevant to industry. However, motivated by Prof Julien's apparent faith in my abilities, I made the adjustment in academic focus. This proved to be an extremely useful diversion in discipline concentration as the Digital Electronics programme I spearheaded provided vital skills for the department to keep pace with the rapid evolution of digital technology. It also established a strong basis for students and staff to create extremely innovative solutions to a wide range of problems. We were pretty much in the fray of design and fabrication using microprocessors; and digital designs using random and programmable logic.

This paper would be incomplete without mention of Professor Julien's leadership style, which I was exposed to during his time as Department Head and then as a Director on the Board at e TecK. I was most impressed by his cool, calm, non-aggressive yet commanding and effective style. Make no mistake, he would almost always have a clear idea what any given decision should be, however, he was gracious enough to give everyone a chance to share their ideas. He was very open to input from all and would certainly go beyond cursory interest once their arguments were logical and sensible.

The powerhouse under his cool exterior first became evident at our hand-over meeting on his retirement as Head of Department, when he provided advice in the following words: "Brian, let no-one run this department but you." Those words grounded in me an appreciation for the responsibility of leadership that I use to this day.

It could be argued that there are visual markers of Ken Julien's legacy all around us, far beyond the confines of the St Augustine Campus. In the field of education his work continues as Chairman of the Board of Governors of the University of Trinidad and Tobago. And others have

already spoken of his contribution to the development of the energy sector and the industrialisation of our country. Without much hyperbole, it can be said that Professor Julien's lifetime of work is strongly reflected in the Port of Spain skyline, the refineries and plants of Point Lisas, and the offshore platforms in the waters of T&T.

5.0 The Challenge for the Future

The focus on building a cadre of qualified, competent individuals to drive local and regional development drove our leaders of the 50s and 60s in the early years of Independence. We are at a similar crossroads today. The challenge of that era was to carve out a future for our independent nation. In 2018, it is to renew our society in the face of major economic, political, social and environmental change. As in the Post-Independence era, we need a powerful and compelling shared vision to guide us in collective action.

At The UWI we are very clear about our role in facilitating a prosperous future for Trinidad and Tobago. Like the fledgling university that Professor Julien and those early scholars did so much to develop, we have to educate students who are not only proficient workers, but also innovators, entrepreneurs and good citizens.

Just as Professor Julien and other members of the 1974 Energy Coordinating Task Force brought their innovative thinking to the exploitation of natural gas, our scholars have to do the same in areas such as food production, natural products, environmental management, manufacturing, culture and the creative industries, and any other area in which we can make an impactful contribution to the betterment of society.

I am very pleased to say that the St Augustine Campus has accepted the challenge to put innovation and entrepreneurship in the forefront of our activities. Researchers at several faculties have been developing some truly exciting innovative projects with good market potential. We are on the brink of launching start-up companies for UWI-created products and services. We will also continue to aggressively reach out to Government and industry, to offer them concrete support in solving their challenges and creating new opportunities, building the much touted Triple-Helix of sustainable development in the process. We have charged our students with the responsibility of growing a local and regional SME sector that, like the German Mittlestand, earns 30% or more of the foreign exchange requirements of our respective countries.

This year, The University of the West Indies commemorates its 70th anniversary in 2018. It was in 1948 in Mona Jamaica that the University was founded, first called The University College of the West Indies. It was a small medical school, serving no more than 33 students. Gradually, with campuses in Cave Hill, Barbados, Trinidad, and the Open Campus, The UWI has grown to become our Caribbean university, today serving almost 50,000 students.

6.0 Conclusion

Today UWI is perhaps our region's most important institution. But an institution is little more than a name or a building without the collective effort of the individuals who make it great. As the Principal of the St Augustine Campus, the former Dean of the Engineering Faculty, a former lecturer, an engineer, and an engineering student, I would like to thank Professor Julien for his sterling contribution in the development and growth of The UWI.

The University of the West Indies will reference his legacy as we navigate our path forward. As a country and a region, we have so much for which to be thankful. Those initiatives he led in education and industry catapulted us on an enviable journey of prosperity which we now unfortunately have not sustained. However, it is my sincere belief that despite all the turbulence we face as a society, this is a time of enormous opportunity. But we have to have the will and the confidence to seize it. We have to have the same kind of innovative daring that transformed a former agricultural colony to an island powerhouse in the energy sector. With the example set by Professor Emeritus Kenneth Julien, we believe it can and will be done.

It is often said that as a nation we wait for far too long to recognise our heroes, amplifying their faults and diminishing their accomplishments. However, when one adds to his exploits over the years, his sheer brilliance and foresight, so well exemplified in the signature role he played in building the recent wealth status of Trinidad and Tobago, it should be clear to all that we owe Professor Julien a great debt of gratitude. There is no doubt in my mind that underlying all of this and more was a conviction that this nation has the wherewithal to be the master of its own destiny. This target remains his undying legacy to our people.

References

[1] *Fifty Years of Civil Engineering at St. Augustine: The First Decade (1961-1971)*, Melisse Thomas-Bailey Ellis and Gyan Shrivastava, *The West Indian Journal of Engineering*, Vol.36, No.1, July/August 2013, pp.4-10.