Towards the university of tomorrow

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Some 1,150 years ago this year, the first ‘modern’ university granting academic degrees was established as the University of Al-Karaouine in Fez, Morocco. According to the Guinness Book of World Records, it is the oldest degree-granting university in the world, founded in 859. This no doubt was influenced by the many Islamic intellectual traditions that began during the days of the Andalusian era, which predates it by at least a hundred years. Some of the notable names that remain in the annals of modern learning include Al-Khwarizmi, Idrisi, Biruni, Omar Khayyam, Ibn Sina (better known as Avicenna in the West) and Razi (Rhazes) – all belonging to the learning culture of Andalusia’s various ascendants – Arabs, Turks, Afghans and Persians. They collectively represent more than 300 years of continuous, unbroken intellectual advancement. Some of them, like Ibn Sina or Avicenna, were even recognised in other cultures where their treaties helped to shape the idea of the modern discipline, many of which are still alive today. In addition, they too helped usher in the new ‘humanistic’ phase in education which later took a definite form in the 12th century.

By the 10th century, Al-Azhar University, founded in Cairo, Egypt, offered a variety of postgraduate degrees, and is often considered as the first fully fledged university. By then too, other intellectual communities joined the Andalusian traditions, sharing the stage with names such as Ibn Rushd (Averroës), Abu-Imran Musa bin Maimoun (Maimonides), Al-Tusi and Ibn Nafis. Among them were Gerbert of Aurillac, Adelard of Bath, Gerard of Cremona and Roger Bacon, who later became a professor at Oxford University, to name but a few.

Thus by the 11th century, Europe had established some of its oldest universities, such as the Università di Bologna (in 1088) in Italy; the University of Oxford (11th century, allegedly teaching in some form in 1096) in England; and the Université de Paris (created as the Collège de Sorbonne in 1252) in France. They in turn became the precursors of an emerging intellectual revivalism of the European Renaissance, after a period known as the ‘dark ages’. As Europe emerged from centuries of poverty and social strife, the Andalusian civilisation had already created a land long enriched by international trade, brilliant artisanship, and a highly productive agriculture. The kingdom’s rulers were literate men … and generous patrons of scholarship and the arts’, to quote Richard E. Rubenstein, a Rhodes scholar at Oxford University, and a graduate of Harvard College Law School. He wrote this in a book aptly entitled Aristotle’s Children: How the Recovery of Ancient Knowledge Transformed Christianity and Ushered in the Modern World (2003, p.13).

Such are the waves of change that continue into the 19th century, causing universities to further evolve; notably the Humboldtian model conceived by Wilhelm von Humboldt (1767–1835) in Germany. He was instrumental in incorporating research as a significant part of the core functions expected of modern universities. Consequently, today’s universities manifest these changes in mixtures of diverse cultures and practices over the period. The term ‘university’ finally came into existence, derived from the Latin universitas or more fully universitas magistrorum et scholarum, which stands for a ‘community of teachers (masters) and scholars’, according to the entry in the Encyclopedia Britannica: History of Education: The development of the universities. Among others, the aim is to provide education, almost in the altruistic sense, both at the undergraduate and postgraduate levels. According to Humboldt, ‘the ultimate task of our existence is to give the fullest possible content to the concept of humanity in our own person’.

While this becomes the mainstay of universities for several centuries, the emergence of the industrial revolution around the late 18th century left an insidious impact on the future of universities. This time the wave of change was even more drastic in that ‘university’ gradually started to drift away from the notion of a community of masters and scholars. In recent times, it resembles more a ‘factory’ – a metaphor that soon signals how education has shifted to be an integral part of an industrial mission that concerns itself more with the production of commodified education. Partly, this is in response to the criticism that universities are somewhat divorced from the demands of industry; and partly it is due to the pressures exerted by the business community, which looks at universities as a source of highly trained (rather than educated) ‘workers’ (sometimes qualified as ‘white-collar’ or even ‘gold-collar’ workers), and which hopes that they will produce further innovations and advance the competitiveness of their industry.

Thus several technological revolutions took place, some by force, as a result of the intense collaboration between academia and industry. The epitome of this is perhaps best illustrated by the establishment of the Massachusetts Institute of Technology (MIT) some 150 years ago. In the words of Dr Charles Vest, President, US National Academy of Engineering and President Emeritus, MIT ‘It was founded to be a new and different kind of institution to serve the purposes of the emerging Industrial Age in the United States.’

While this ‘new’ mission of the modern universities is now well recognised, accepted and incorporated in various ways internationally, taken to the extreme this model of the university
exerted a permanent impact on the role, if not the meaning, of a university. More often than not there is a blurring of its well-regarded ‘altruistic’ mission with that of the business-like model that treats knowledge as a commodity to move the industrial mode of production to the next level. Eventually, the language of a university comes to sound more and more industry-like as the former loses its distinctive identity as a ‘community of teachers and scholars’. Increasingly, it is being pushed towards a ‘community of entrepreneurs and knowledge workers’ who are tasked to produce ‘thinking machines’ that could enhance even more the creation of economic wealth, defined by a state of ‘having’ rather than of ‘being’. As it moves up the so-called value chain, the notion of a knowledge society has slanted towards a k-economy (knowledge economy), as humanity loses its priority and as the human being is reduced to mere human capital, collaboration and sharing give way to competition and the monopoly of knowledge (sometimes called ‘professionalism’), convergence gives way to divergence and fragmentation, and wisdom to profitability. Finally learning is more about earning (for which read ‘employment and jobs’), at the expense of the state of ‘being’.

A quick glance at the 2006 data of the World Health Organization (WHO) alone is sufficient to illustrate the point about the level of ‘being’ we have today. For example, it is reported that within every 40 seconds, one person commits suicide; every 60 seconds, one person is murdered; and every 100 seconds, one person dies in armed conflict. Overall, WHO estimates that 1.6 million people died prematurely due to violence. Suicide, on the other hand, was recorded as the 13th most frequent cause of death in 2006, worldwide. Given the state of the world today, its state of ‘being’ is indeed very worrying!

In other words, the university, while changing its image as an ‘ivory tower’, acquired one of a ‘production house’ of a sort that mechanistically operates to churn workers out of students who will reflect the new and vital challenges faced by universities and the university’s mission of serving the public.

Unfortunately, as pointed out by Roger Geiger in his book, Knowledge and Money: Research Universities and the Paradox of the Marketplace (2004), the fundamental task of higher education institutions in creating and disseminating knowledge has been profoundly affected by global market forces. He highlighted several cases of how the forces have provided access to greater wealth, more often than not there is a blurring of its well-regarded ‘altruistic’ mission with that of the business-like model that treats knowledge as a commodity to move the industrial mode of production to the next level. Eventually, the language of a university comes to sound more and more industry-like as the former loses its distinctive identity as a ‘community of teachers and scholars’. Increasingly, it is being pushed towards a ‘community of entrepreneurs and knowledge workers’ who are tasked to produce ‘thinking machines’ that could enhance even more the creation of economic wealth, defined by a state of ‘having’ rather than of ‘being’. As it moves up the so-called value chain, the notion of a knowledge society has slanted towards a k-economy (knowledge economy), as humanity loses its priority and as the human being is reduced to mere human capital, collaboration and sharing give way to competition and the monopoly of knowledge (sometimes called ‘professionalism’), convergence gives way to divergence and fragmentation, and wisdom to profitability. Finally learning is more about earning (for which read ‘employment and jobs’), at the expense of the state of ‘being’.

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In other words, the university, while changing its image as an ‘ivory tower’, acquired one of a ‘production house’ of a sort that mechanistically operates to churn workers out of students who will help prolong the current state of affairs, based on the ‘industry-factory’ metaphor. For this reason, they are designed to be part of the assembly line (at times within a global framework), where schools and other educational institutions are fashioned to deliver standardised and uniform ‘packages’ as efficiently as possible. It is targeted to serve more as an ‘end’ (in the delivery and exploitation of educational and research ‘products’), and less as a ‘means to an end’ (of highly educated and responsible global citizens). More so in the 21st century, where the need to educate for compassionate, knowledgeable global citizens differs greatly from that of the industrial workers of the last century who were made to conform to some tangible measures in the name of standardisation (or its numerous ramifications, including ‘protectionism’), performance indicators and productivity benchmarks – as though the elements of trust, compassion, citizenry and other intangible values are of less importance.

Ultimately, education, higher education in particular, runs the risk of losing out as an institution whose essence derives from its distinctive educational mission. Instead, increasingly it becomes undifferentiated from the marketplace that drives it to gradually conform closer to the ‘industry-factory’ metaphor and standards with commercially tainted idea of values, and less to humanity. Worse still, university, like industry, is largely insensitive to the importance of being sustainable despite the myriad of problems that are affecting planet Earth. It, too, is preoccupied with being an ‘engine’ of economic growth, rather than the ‘conscience’ of societal wellbeing.

Not surprisingly therefore, there were many suggestions that university has lost the ability to reshape future society and to cope with the changes affecting society globally. On the contrary, universities have been largely stuck in a ‘cocoon’ that separates it from the larger global society, and its dynamically changing economic, socio-cultural and ecological circumstances. In that sense, many are still living in the industrial age, despite all its advancements and sophistication, expanding rather blindly, unaware of the consequences of its unsustainable growth. Under the present circumstances, progress towards a totally different scenario that will cater for a future that is radically different from the present seems impossible. In other words, the relevance of a university for the 21st century is inconceivable without the regeneration of educational systems – a vital necessity everywhere. The very proximity of the university to industry as promoted by the prevailing mode of thinking, and the fact that the ‘industrial model’ is today in crisis, raise a number of implications for universities: namely whether they too are in crisis?

Even the acclaimed ‘world-class’ institutions are now in dire need of change if they want to continue to play a role in reshaping the future, starting with that of higher education. ‘Smart people spent more time manipulating numbers and symbols than making things’, to quote President Obama when proposing that we need to get back to basics’ while admitting the failures of the modern education system in shaping the future. In short, the ‘industry-factory’ metaphor that was championed in the 19th and 20th centuries is no longer tenable to deal with the future without itself undergoing a drastic change. Invariably, this will lead to a discussion that allows for the emergence of a ‘new’ metaphor that will reflect the new and vital challenges faced by universities and higher education institutions in the days ahead.

The contrast between the two metaphors is that while industries in general are rarely compelled to consider societal needs in terms of global sustainability, for example sustainable production and consumption, universities look upon it as their core responsibility. Unfortunately, as pointed out by Roger Geiger in his book, Knowledge and Money: Research Universities and the Paradox of the Marketplace (2004), the fundamental task of higher education institutions in creating and disseminating knowledge has been profusely affected by global market forces. He highlighted several cases of how the forces have provided access to greater wealth, better students, and stronger links with the economy but at the same time have unfortunately exaggerated inequalities, diminished the university’s control over its own activities, and weakened the university’s mission of serving the public.

In view of such observations, the quest and demand for a ‘new’ metaphor is imperative. The metaphor should be compatible with the framework of sustainable development or sustainability, and augurs well with the trend and direction of economic growth and economic development towards a ‘sustainable society’. In addition, it must mainstream education for sustainable development as envisaged by the United Nations when it declared the United Nations Decade of Education for Sustainable Development (2005–14, DESD). That is to say that the mechanistic ‘industry-factory’ metaphor is not a ‘sustainable’ one, as amply exemplified by the need for the concept of a triple (ecological, socio-cultural
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and economic) bottom line that has gained wide acceptance in almost all industrial and economic sectors. It implies that similar ‘triple’ concepts should be embedded in the ‘new’ higher education metaphor for it to be compatible with the demands of the future. This is urgently reinforced by the findings of the UN Millennium Ecosystem Assessment (2005) which states: ‘There is no longer any doubt that every ecosystem that life depends on is compromised and in danger.’ The mechanistic world as we have come to know it is no longer as tenable as the old notion that ‘man’ is the centre of the universe, and all else revolves around him!

Like in the days of Galileo we need to come up with a more natural constellation, where the ‘new’ higher education metaphor can be contextualised in harmony and at peace with nature. The mechanistic world view of the industrial age has outlived its usefulness, as the earlier quote suggests: ‘[t]here is no longer any doubt that every ecosystem that life depends on is compromised and in danger’. And much of this can be traced back to the emergence of the industrial age and the kind of worldwide environment it ushers. The time has come to take cognisance of the fact that our ways are no longer sustainable, but rooted in the very education system which is in itself unsustainable. We need to promote awareness that another world is possible, as we shift back to what has been squandered, namely the need to re-emphasise the bigger picture of a sustainable knowledge society, where wisdom takes precedence over profits; where human beings are more vital than human capital; where collaboration takes precedence over competition and learning over earning. Yet in all this, biodiversity is maintained in preference to the brazen process of ‘McDonaldisation’ under the waves of globalisation.

In this respect, Universiti Sains Malaysia (USM),¹ in its attempt to search for a new metaphor for the university of tomorrow, has embraced the notion of ‘sustainability’ or ‘sustainable development’ as outlined in the World Summit for Sustainable Development in 2002 and, more recently, in the declaration of the United Nations’ Decade of Education for Sustainable Development (DESD) 2005–14. The DESD framework is particularly relevant because it seeks to mainstream sustainable development in higher education, and establishes implementation schemes with related agencies in the areas of sustainable development. It was proposed in Johannesburg, South Africa, as a Plan of Implementation in 2002, and adopted by the UN General Assembly in December 2002. The International Implementation Scheme (IIS) for the DESD was approved in September 2005. Member states are invited to consider the measures to implement the DESD in their educational strategies and action plans, including the establishment of a Regional Centre of Expertise on Education for Sustainable Development, of which USM is one of its pioneering members.

Generally, sustainable development is commonly understood as ‘development which meets the needs of the present without compromising the ability of future generations to meet their own needs’ as spelt out in Our Common Future by the World Commission on Environment and Development (1987), commonly known as the Brundtland Commission. In the words of Marco Antonio Dias (from Brazil) as Director, Division of Higher Education, UNESCO: ‘before we decide what kind of university we want, we must decide what kind of society to build.’ For USM, the succinct answer is of course: a sustainable society, based on new knowledge and wisdom.

Given its blueprint, ‘Transforming Higher Education for a Sustainable Tomorrow’,² an initiative under the auspicious Accelerated Programme for Excellence (APEX) by Malaysia’s Ministry of Higher Education, the new metaphor of a sustainability-led university is now slowly but surely emerging to replace the largely dysfunctional metaphor of yesterday. Like all transformations, it seeks to change the entire system much like the industrial age changed the agrarian one. This time it is from the former to a ‘knowledge age’, based on sustainability, where higher education should take the lead into the future. With it, the worldview and mindset for higher education must be revisited. This clearly shows some of the challenges of the new century which must be won within the realm of education – higher education in particular – before any meaningful transformational change can be possible on a wider scale. Failure, indeed, is not an option!

Endnotes

5 Times Digest, 21 April 2009, p.7.
6 www.usm.my, accessed on 22 April 2009. USM was designated as one of the seven pioneering Regional Centres of Expertise (RCE) in 2005 at Nagoya by the United Nations University based in Japan.
7 The University: Which Way Do We Go? UNESCO Sources, No. 85, December 1996.
8 Universiti Sains Malaysia. Transforming Higher Education for a Sustainable Tomorrow, April 2008. This blueprint is part of the APEX initiative conceived under the Ministry of Higher Education Strategic Action Plan launched in August 2007.

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