

## Wanted: Scientists with human touch

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OVER the last few weeks, the subject of science and innovation has been the theme of a number of conferences and seminars.

Under the initiative taken by the Science, Technology and Innovation Ministry, a case has been made for an innovation-driven economy which will hopefully take Malaysia to greater heights.

This has been the case of many developed economies where science and technology act as the driving force. As a nation progresses, it is inevitable that they will transit from a resource-based economy to one that is innovation-based.

The former is more dependent on tangibles like labour, land, resources and machines. The latter depends on intangibles such as talent, ideas and knowledge.

It is like comparing automobile manufacturers, which have to rely heavily on physical assets, with a computer company that requires more software.

It is here that the interplay of ideas, talent and knowledge becomes crucial in producing innovative products and outcomes. The information and communication technology explosion currently transforming society is a case in point.

The time has come for Malaysia to embrace innovation as the new platform that would eventually take the country into the 21st century. This would mean that Malaysia must embrace new mindsets and skillsets that would make innovation happen.

This in turn depends on an environment that would allow ideas, talent and knowledge to flourish and interact in an uninhabited fashion. This refers not only to workplaces but also schools and universities.

It is not only the science laboratories and incubators that are critical but equally other venues where creativity plays an absolutely vital role, for instance in museums, galleries and theatres.

At this juncture, perhaps it is important to remind ourselves that innovation is not the domain of science and technology alone. It cannot be overemphasised that economies rich in art and culture are in fact equally strong in science and technology. This is because discovery does not know boundaries or compartmentalisation of knowledge as we have made them to be. Instead, it requires the fusion of both.

Edward Wilson has noted that the compartmentalisation of knowledge is an artifact of scholarship. Consequently, there is now a renewed effort to rectify this artificial separation so that innovations and discoveries can be more meaningful and relevant to society's well-being.

To drive home this point, we only need to consider the state of the world centuries after the industrial revolution. No doubt, these were exciting periods when new gadgets and inventions were churned out by science to improve the quality of life; but they were confined only to a certain sector of society and up to a point.

As it stands today, these phenomena do not cause that much excitement any more as we face the looming threat of global warming and the consequent climate changes. Much of this has now been blamed on human activities, thanks to a large part to the very gadgets and inventions that have taken us that much "forward".

It cannot be denied that it is because of the exploitative nature of science that our planet is ironically facing such a bleak future instead. It degrades and degenerates our environment almost irreversibly.

As a result, the future of our entire population is threatened, especially when science becomes the convenient tool of the market place — and that of a battlefield.

In short, gradually science has been rendered without soul and value in uplifting human living standards globally. And as science is employed to move up the value chain, humanity is only vaguely represented, if at all.

Today, the value chain that matters most is one that promotes material wealth and monetary profits. Otherwise, how else can one explain the hundreds of millions who are still suffering in abject poverty globally while science advances by leaps and bounds?

How is it that science can be mobilised to ferry fellow humans to the moon repeatedly but cannot solve the basic problem of malnutrition and diseases here on Earth?

Clearly, unless and until the concern for humanity is embedded once again in science as a comprehensive body of knowledge, it will be business-as-usual, where the market dictates and rules. There is little to hope that the innovations will bring greater public good to benefit the marginalised and destitute.

It is in this context that the case of social innovation must be strongly argued so that the benefits of science can be diffused more evenly through the entire population that has been deprived of it.

This is more so in the face of global challenges of increasing disparity between the rich and the poor as a result of unbridled globalisation (read: market).

For sure, to narrow this yawning gap, we do not need an innovative rocket scientist, but rather a scientist steeped in human values and principles.

This is the new breed of scientists that Malaysia must attempt to nurture through its national innovation system: one that has not only a human face but, more importantly, a warm human heart.

This looks like the first social innovation that we need to urgently work on before anything else for, to quote Gandhi, science without humanity is indeed a deadly sin that must be avoided at all cost!

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