



Cars lined up at a Covid-19 drive-through testing site in Los Angeles, California, in July. The United States has recorded over a quarter of a million deaths from the disease amid the pandemic. PHOTO: BLOOMBERG

ScienceTalk

Covid-19, science and politics

Pandemic has shown the nation suffers when leaders put politics above science

Edison Liu
For The Straits Times

In early January, Mr Donald Trump was in a good place.

With the economy booming, he was confident of winning the upcoming United States presidential election.

It did not matter that his nativist and exclusionary language was considered racist by many, that his politicisation of the military appalled retired generals, that he taunted civil servants and previous political allies as losers, or that his promises of a great wall against immigration and the repeal of Obamacare never materialised.

His supporters remained steadfast, and the independents swayed his way.

Then Covid-19 happened, and everything changed.

Throughout the pandemic, Mr Trump dismissed the seriousness of the problem, contradicted his own medical advisers, ridiculed public health officials and projected conflicting messages.

Those of us working locally to manage the pandemic stopped listening to the confusion coming out of the White House, and worked exclusively at the state, municipal and civic organisational levels to simply get things done.

Ms Ronna McDaniel, chairman of the Republican National Committee, said before election day that "if he loses, it's going to be because of Covid".

Sure enough, in the aftermath of the Nov 3 election, Mr Trump became the first incumbent president in 28 years not to be re-elected, losing by the widest gap in the popular vote in 20 years.

His opponents say that Mr Trump's failure was that he did not believe in science.

In truth, it is more complicated. Science is not pure, it is not immutable, and certainly not infallible. The act of bleeding a patient was accepted medical practice for hundreds of years, and eugenics was a mainstream science that was the basis of public policy.

Both turned out to be wrong.

Moreover, early forms of communism and fascism claimed to be based on science. In both cases,



Throughout the Covid-19 pandemic, US President Donald Trump dismissed the seriousness of the problem, contradicted his own medical advisers, ridiculed public health officials and projected conflicting messages. PHOTO: REUTERS

this "science" was the justification for some of the most egregious crimes against humanity.

Science is not just a body of facts but, more importantly, is a way of thinking and doing that is respectfully sceptical of the past, but also critical of any new claims.

The term empiricism, which is at the core of the scientific method, states that truth can come only from objective experimentation.

The problem with the Trumpian worldview is the obsession over ideology; an obsession that justifies the rejection of inconvenient truths.

Throw in arrogance and we have an ideological narcissism that is outright dangerous.

History has given us clear evidence of this danger.

In Soviet Russia, from 1930 to 1950, Dr Trofim Lysenko rose to prominence as he pushed the concept that important agricultural plants could be permanently transformed by progressively exposing them to environmental challenges such as the cold.

This concept, which was not supported by any substantive evidence, was, however, consistent with the ideology of Stalinist revolutionary communism that asserted that cultural systems and human behaviour can be changed

through will and force.

Rather than to pose his theories as an alternative to the genetics of heredity (Mendelian genetics), Dr Lysenko demonised classical genetics as bourgeois and counter-revolutionary, making this entire discipline an enemy of the people.

This extension of Stalinist political ideology to biology was a natural progression in the moral vacuum of a dictatorship.

As Dr Lysenko was given control of Russia's agricultural research, he sent thousands of "dissenting" biologists either to the gulag or to their graves, attacking them as adherents of the "pseudoscience" of Mendelian genetics.

Dr Lysenko not only propelled the disastrous agricultural policies of Josef Stalin that contributed to famines in the Soviet Union, but he also destroyed Russian biological sciences for generations.

Mr Trump also accused scientists who were critical of his Covid-19 policies of propagating "fake news", pushed unsubstantiated treatments and threatened to fire his public health officials, most notably Dr Anthony Fauci, who leads the National Institute of Allergy and Infectious Diseases, for citing standard epidemiological knowledge that went against his message.

It looks like, for now, the US dodged the bullet and avoided falling into the abyss.

The casualties, however, were the quarter of a million Covid-19 deaths in America and the Trump presidency.

What lessons have we learnt from the Covid-19 pandemic?

First, when leaders put politics and ideology above the objective, science-based approaches, either their country fails or their regime falls, or both.

Second, is that science by itself is not enough.

Strong leadership, a coordinated administration and an adaptive command structure – informed by science – are the keys to success.

The US has one of the most talented biomedical research infrastructures in the world.

Yet in the absence of an informed political leadership and central coordination, the results have been embarrassing.

Any successful pandemic solution must take into account the so-

cial, cultural and political sensibilities that usually reside in elected officials supported by a trained civil service respectful of, but in command of, science.

In this scenario, scientists are servants of the people and of the nation. This is where Singapore has excelled.

There are countless examples, from mobilising A*Star (Agency for Science, Technology and Research) and other scientists, researchers and doctors islandwide, to the use of information technology talent to establish electronic contact tracing, to the joint vaccine effort by researchers at Singapore's Duke-NUS Medical School and US company Arcturus Therapeutics, which expects to ship its initial batch in the first three months of next year.

Each step of the way, the Government has been transparent about its actions. And experts, from the National Centre for Infectious Diseases to the National University of Singapore to the National University Hospital, among other key organisations, have come forward to explain the science and health implications to the public.

There is a spirit of commitment and duty: My scientist friends in Singapore call their involvement in the Covid-19 response national service.

Singapore has utilised science to maximum benefit, all coordinated by a Government that has continuously learnt from each epidemic challenge.

In April 2005, I wrote an article for *The Straits Times* that started with: "Something strange is happening to the world on the way to maturity. It is beginning to look like Singapore."

The core premise of this piece is that Singapore had to rely on science and technology, and their management, to secure its future because it had no choice.

I said that as the world exhausted its natural frontiers, countries had to progressively rely on science for both prosperity and safety, and it would look to Singapore for its inspiration.

Fifteen years later, in the case of the Covid-19 pandemic response, this has turned out to be true.

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About the writer



Dr Edison Liu is president and CEO of The Jackson Laboratory, an independent non-profit research institute focused on complex genetics and functional genomics in the United States. Under his leadership, The Jackson Laboratory established a high throughput Covid-19 testing capability and has performed 550,000 tests since late March, which covered 20 per cent of all tests in the state of Connecticut. He was previously founding executive director of the Genome Institute of Singapore. In 2003, Dr Liu led the Genome Institute of Singapore in sequencing the Sars virus and developing the diagnostic test that was widely used. These views are his own and do not reflect those of his institution.