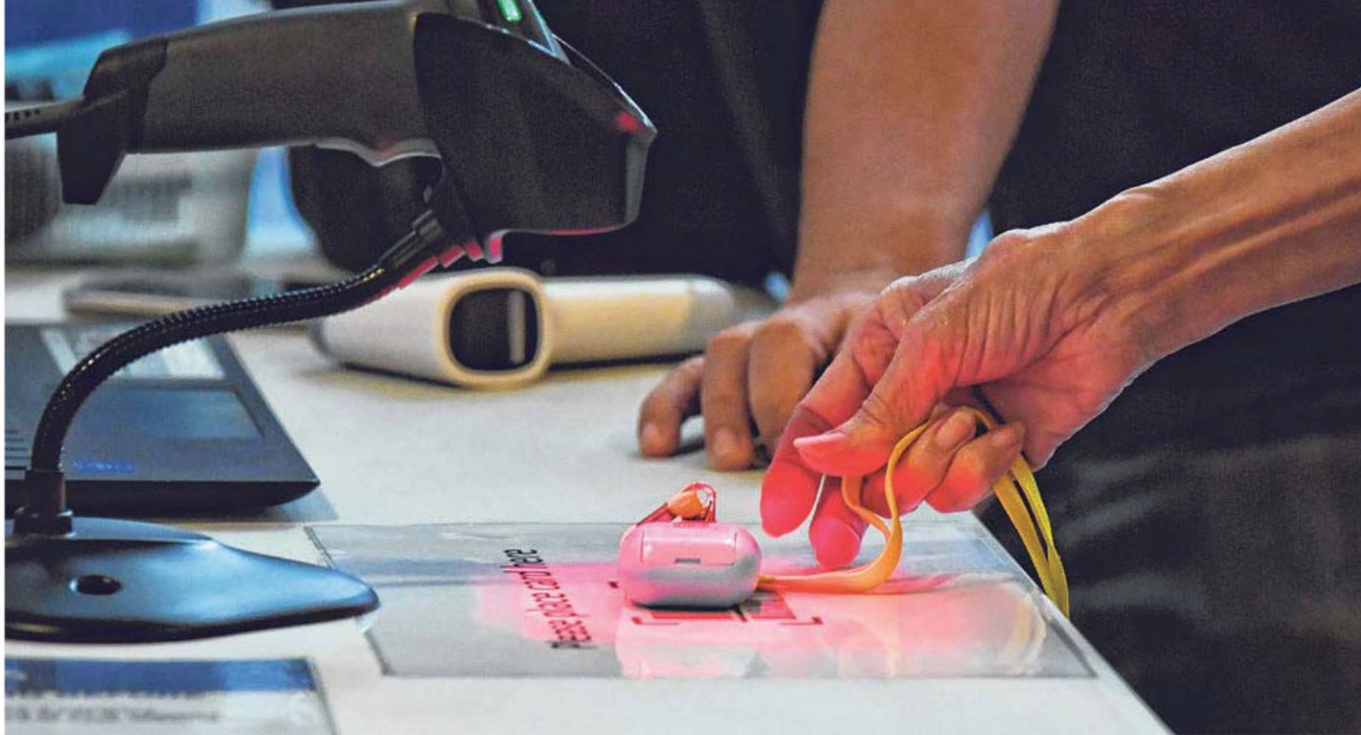Technical solutions such as the TraceTogether app and token (right) have helped in tackling the coronavirus pandemic. For the most part though, it is the sheer perseverance, ingenuity and sacrifice of doctors, nurses, researchers and health professionals around the world that have saved many lives, says the writer. ST PHOTO: KUA CHEE SIONG

Time to wake up from techno-utopian dreams?

Useful as the TraceTogether app may be in criminal investigations, not every problem has a technical solution, as dealing with the Covid-19 crisis has shown

Andreas Deppeler

For The Straits Times

The modern world is a technological world. Technology is so deeply ingrained in our lives that most of us cannot imagine ever being without it. But technology is more than the gleaming gadgets that are glued to our hands like artificial limbs. It is more than the computers that process and store our work. It is more than the optical fibre and wireless communication infrastructure that keeps everything running.

It is an ideology.

The Oxford Dictionary defines ideology as "a set of beliefs, convictions or ideas which both binds a particular group of people together and determines the actions they take". Technology is not just any ideology – it is the dominant ideology of our time.

It is the ordering and organising principle of society, business, government, culture and education. Even the arts, which long held out as the last refuge of transcendent, critical and imaginative thinking, have not been spared.

One of the mainstays of technology-as-ideology is the belief that every problem has a technical solution. If the problem is complex, it should be gradually subdivided into simpler ones until they become analytically tractable.

This kind of reductionism, first outlined by the philosophers Rene Descartes and Francis Bacon in the 17th century, became the conceptual foundation of the Age of Enlightenment and the Industrial Revolution.

Rapid economic development since then has vindicated, in the eyes of many, the superiority of techno-scientific thinking. The triumph of reason over nature coming at the cost of an irreversible destruction of the biosphere was considered, in typical ultra-rational fashion, an "externality" – to be dealt with via some yet-to-be-devised technical fix.

A VIRUS AS A PROBLEM

In the same vein, when a novel coronavirus started spreading among humans in late 2019, the logical reaction was not to critically examine overpopulation or wildlife trade, but to call for a technical solution. The virus was an aberration of nature, which had to be subdued.

Time-tested measures like washing hands, wearing masks, physical distancing and quarantine were not enough. We needed something shiny, progressive and digital.

In other words, we needed a smartphone app. Sure enough, mere days after the first virus cases were detected, proposals for technical solutions were being floated. Soon after, the first software products became available.

Early apps and mini-programs were designed to help people get through the crisis. Users could, for example, check their exposure on train rides, find a clinic, schedule an online consultation with a doctor or buy masks and hand sanitiser. Other versions, already more sophisticated and intrusive, monitored compliance with quarantine orders.

Last March, the China State Council launched a national health QR code for mobile platforms. A green QR code means that a person is healthy and may safely travel. At the recent Group of 20 meeting, Chinese President Xi Jinping proposed a global system of QR codes in order to facilitate the flow of personnel.

While it is unsettling to imagine that the Chinese system of total surveillance might be exported to the rest of the world, Mr Xi is right to criticise the lack of global coordination. It has led to the creation of a veritable zoo of mutually incompatible smartphone apps, which is bound to hamper the eventual resumption of cross-border travel.

This haphazard and parochial approach to software development stood in marked contrast to the established practice of biomedical researchers who, throughout the entire crisis, shared information freely with colleagues around the world. As scientists know, a virus has no nationality. It does not respect borders. The only way to contain it is through international collaboration.

CONTACT TRACING

Among all the solutions that sprung up in the first quarter of last year, none attracted more interest and scrutiny than proximity-based contact tracing.

It seemed like a simple and elegant way to take advantage of the fact that many people now carry around a smartphone all day wherever they go. When two phones get closer than a defined range, they exchange a little piece of data through a Bluetooth connection. A log of such contact events is stored on each phone. When a person is infected, they can release the log to the health authorities, allowing them to identify recent contacts.

Not all were convinced it would work in practice, among them Mr Bruce Schneier, a fellow at Harvard University and a highly respected cyber-security expert. In his view, which is echoed in a report published by the Brookings Institution last May, contact tracing apps are ineffective because they both under-report and over-report exposure events.

The authors believe that, due to these shortcomings, people would soon lose trust in the apps and stop using them.

THE TRACETOGETHER STORY

With this in mind, it is worth revisiting the story of Singapore's own contact tracing app. The TraceTogether app was released on March 20 last year. Adoption was initially rather slow.

The use of the app or token will soon be compulsory for gaining access to workplaces, shopping malls, restaurants and other places where people gather. The adoption rate has now increased to about 80 per cent.

According to official statements, the app has helped reduce the time it takes to identify and isolate close contacts from four days to two. That is a respectable result. It shows that handheld tools can play a part in public health policy.

At the same time, it is worth remembering the hidden and not-so-hidden human labour that makes this possible. Just think of the thousands of security guards who monitor temperature scanners and check admission across the island.

Then, this year, controversy erupted when it became known that the police can request data collected by the TraceTogether app for criminal investigations – in direct contradiction with public assurances made last June that the app would be used "purely for contact tracing".

Two comments seem in order.

First, it is common and longstanding practice, here and elsewhere, for the police to obtain access to privileged data under a court warrant. Article 1 of Singapore's Personal Data Protection Act states clearly that an organisation may collect personal data about an individual without consent if "the collection is necessary for any investigation or proceedings". Privacy has never granted immunity from criminal investigations.

Second, and rather ironically, those who deplored the breach of trust by the Government most vociferously found no better outlet to air their grievances than Facebook, a platform whose entire business model hinges on the expropriation of personal data.

It is worth emphasising that the most prolific and determined data collectors in the last 15 years have not been state actors, but private companies.

The Covid-19 crisis has laid bare our most existential vulnerabilities. None of the technologies that we hold so dear protected us against a simple viral structure.

No artificial intelligence engine was even remotely capable of emulating the complex research that scientists undertook in their clinical laboratories. No robot could replicate the creativity, human touch and experience of a nurse in the intensive care unit.

To be sure, modern tools helped enormously in decoding the genetic structure of the virus and in developing candidate vaccines in record time.

But, for the most part, it was the sheer perseverance, ingenuity and sacrifice of doctors, nurses, researchers and health professionals around the world that saved many lives.

It is to them – and not to some technical contrivance – that we owe our gratitude.

stopinion@sph.com.sg

● Andreas Deppeler is adjunct associate professor and deputy director of the Centre on AI Technology for Humankind at the National University of Singapore's Business School. He teaches and writes about the economic and societal implications of digital technologies.