Coburg High School: 2020 Homecoming

Thank you. It is my privilege to be part of your celebration today. It is 69 years since I started at Coburg High School, and 63 years since I left. Many things have happened. Most recently in 2020, all our lives were discombobulated by the Covid-19 pandemic. With great resilience, you and your teachers and your families have got you through year 12, despite the virus, and despite the challenges of remote learning! You should all be very proud of that!

I am eternally grateful for the opportunity that Coburg High School provided for me. It was also at school that I met Coralie Chatfield, who was to become my wife and soulmate and to share in a lifetime of research experiences.

In reflecting on the years after school, I will develop three messages. First, that the friends you have made at school can be friends for life. Second, that school helps to prepare us for the lifetime of learning that we need to manage the challenges of the future. Third, that your future world will change in ways that are unpredictable, and even unimaginable today.

At school in the 1950s we did not have Covid-19, but there was great alarm in Victoria because of the epidemic of polio virus, causing paralysis in children. The vaccine to prevent polio did not become available until 1956, so it was not so surprising that my school friend, Bob Gregory, caught polio in 1955, leaving him with a gammy leg that ended his football career. Undaunted, Bob switched to baseball and excelled as catcher and captain of the team. He became Head Prefect in our last year at school and went on to a stellar career as an economist at the Australian National University, and as an adviser to government through the Reserve Bank Board. We have stayed friends over the many years since we went in our different professional directions.

My decision to study science and medicine at the University of Melbourne was perhaps influenced by living through the polio epidemic; I was set on the path to become an epidemiologist, even though, when I left school, I probably didn't know what the word meant. Because of Covid-19, most of you now know that an epidemiologist is someone who studies the spread of diseases in populations and tries to understand how to prevent them.

My interest in solving epidemiological puzzles began when as a medical student in 1964, I first went to the remote highlands of New Guinea to help study a fatal brain disease called Kuru. The locals thought that kuru was caused by sorcery. However, after years of work by Australian and US scientists, Kuru was shown to be transmissible, and that it most likely spread because women, with their young children, sometimes ate the brains of relatives who had just died from kuru; they did this as mark of respect.

Although cannibalism had been suppressed by government patrol officers since the 1950s, the last few cases of kuru did not occur until 2006; these were in older people following an incubation period of 45 or more years, corresponding to the time since they had been infected as young children by eating kuru brain given to them by their mothers!

After returning from PNG in 1968, I trained at the Walter and Eliza Hall Institute, then spent two years at Oxford University before coming back to Melbourne. We studied causes of cancer, and the effects of poor diet, smoking and vasectomy on immune responses and heart disease. We also did some of the early work using computers to handle health data and to make computer-based diagnoses, and we established the Australian Twin Registry as a national research resource.

In 1983-4 I was part-time Senior Scientific Adviser to the Royal Commission to decide whether the health problems of Australian veterans of the Vietnam war had been caused by Agent Orange herbicide. The Commissioner concluded that most health problems of the veterans were due to the post-traumatic stress rather than to Agent Orange. Your parents and grandparents would remember the welcome home parades in 1987, recommended by the Commission, that helped Australia to reconcile with the veterans who had gone to fight in that unpopular war.

I also advised government about the health effects of radiation, especially because of concerns about cancers arising from the British Atomic Bomb tests in Australia in the 1950s. Because the tests were “top secret”, our committee was not given complete information. It was only after the McClelland Royal Commission was established in 1984 that the facts about nuclear contamination in Australia emerged.

In 1985 I went to Darwin to establish the Menzies School of Health Research. We worked with Aboriginal communities to better understand the causes of low birthweight, and of diseases affecting chests, ears, kidneys and hearts. These were made worse by poor nutrition and by overcrowded housing with poor hygiene facilities, which allowed infections to spread. In mainstream Australia, such conditions were last seen 100 years ago in the slums of our cities.

In 1989 we advised the Australian Health Minister’s Conference about measures to improve Aboriginal education and health, especially in remote Australia. In 1997 we established the CRC for Aboriginal and Tropical Health as the first-ever Aboriginal-controlled research organization, chaired by Lowitja O’Donoghue.

In 1999 I moved to Canberra as Deputy Chief Medical Officer. The Commonwealth government had become concerned about mad-cow disease (BSE), which had emerged in the UK. BSE was found to result from the feeding of calves with meat meal prepared from cattle carcasses, so that the BSE agent could spread from generation to generation in affected cattle herds in the same way as kuru had spread via cannibalism in PNG. Fortunately, very few human cases occurred in the UK and Europe from eating of BSE-contaminated beef, and the disease in cattle was kept out of Australia by our strict quarantine regulations.

We also learnt from the first epidemic of SARS, which emerged in China in 2003, and spread rapidly via air travel to Canada, Vietnam, Taiwan and South Korea. An important pathway of spread was from SARS-affected patients in hospital to health-care workers. Once this was realized, infection could be prevented by protecting doctors and nurses with masks, gloves,

gowns, by “barrier nursing” and quarantine. Subsequently, SARS died away, and we never needed to make a vaccine. The lessons from SARS helped Australia to respond rapidly to Covid 19. However, because Covid 19 is more infectious than SARS, vaccines are needed to bring it more rapidly under control.

From 2004 I moved back to the University of Melbourne, while continuing to provide occasional advice about influenza, vaccination policy and pandemic planning. More recently, we persuaded governments to provide access to national data to identify increased cancer risks following childhood exposures to radiation from CT scans. The next important question is whether CT scans of parents are contributing to mutation, cancers or birth defects in their children.

From all that I have described, and from your own experiences of Covid-19, you can see that the world is never going to stay as comfortable and predictable as we would like it to be. For every success that we have in understanding and preventing diseases such as polio, BSE and Covid-19, new threats will inevitably emerge. For example, there are threats from the unintended consequences of new technology, as is the case with cancers caused by CT scans.

Fortunately, we can learn from the past, and we know that as time goes by, science gets better at what it can do to keep people safe, and the public become better informed about what is going on and what they can do to help.

Let me remind you of the values of your school: Excellence, Integrity, Curiosity and Community. We should place particular value on curiosity!

As we grow-up, many of us lose our curiosity and we stop asking so many questions about things we don’t fully understand. We accept that life is too short for us to personally understand the causes of everything. We leave it to other people to answer most questions, and we take their word for it! But we do need to be careful about whose words we believe! As you very well know, we should not necessarily believe someone just because they have a big following on Facebook or Twitter.

Since I left school, I have been lucky enough to be able to follow my dream, to maintain my curiosity in research, and to work with many wonderful colleagues and friends in many parts of the world to help answer some of the interesting why questions. Research on socially relevant questions continues to give purpose and meaning to my life, even when the questions have been too hard to answer!

In closing, I come back to my three messages. First, that the friends you have made at school can be friends for life, even if you end up in totally different careers, as was the case for me and Bob Gregory. Second, that what we learn at school prepares us for the lifetime of learning that is needed to manage the challenges of the future. Third, that your future world will change in ways that are unpredictable, and even unimaginable today. But you will all succeed, provided that you stay curious and keep asking questions of the world, and of all of those about you.