

Inspirational Graduation speech

At December Graduation last year, Professor Sir Paul Callaghan (who was also honoured as 2011 New Zealander of the Year in February) received an Honorary Doctorate from Victoria University. Below are excerpts from his moving speech.

... When I was 12 my father finally gave up coming to watch me play [rugby] because, as he said, “he found it too humiliating”. My rugby coach once called our team together and said, pointing at me, “this is the worst rugby player I have ever seen in my life, but because he always comes to practice, I will give him a game on Saturday ahead of those of you who don’t”. That actually made me feel quite proud.

Later when I went to secondary school I discovered middle distance running and rowing, both of which I was quite good at, and I discovered Maths and Physics which I loved.

... So my first lesson is this: Never worry about the things you are not good at. Discover what you are good at and do that, and do it with commitment. But always respect those whose talents are different from your own.

... After my graduation, I won a scholarship that took me to Oxford University to work on a doctorate in physics ... I worked in a beautiful field of research ... [with] the grand name of “nuclear orientation”.

Having finished my doctorate, I then had to decide what job to take on ... I wanted to come back to New Zealand, and I was offered a job at Massey University where there were just a few staff teaching elementary physics in a chemistry department.

But a wonderful thing happened. The only way I could see to do research there was to be a physicist playing in the garden of chemistry ... so, because I was playing in the chemists’ garden, I decided to learn about molecules, and the best method in the world to study molecules is nuclear magnetic resonance. My chemist friends let me use their magnetic resonance spectrometer and I decided to make some extra attachments that would allow me to measure molecular motions. Amazingly, the equipment worked really well and I could not have been more lucky. The field I had stumbled on grew in importance, carrying me along on the wave. Meantime, nuclear orientation stagnated. By changing fields I had struck it rich in scientific terms.

... So that’s my second lesson. See the opportunities in new directions. “If you do not change direction, you may end up where you are heading.” [Lao Tze]

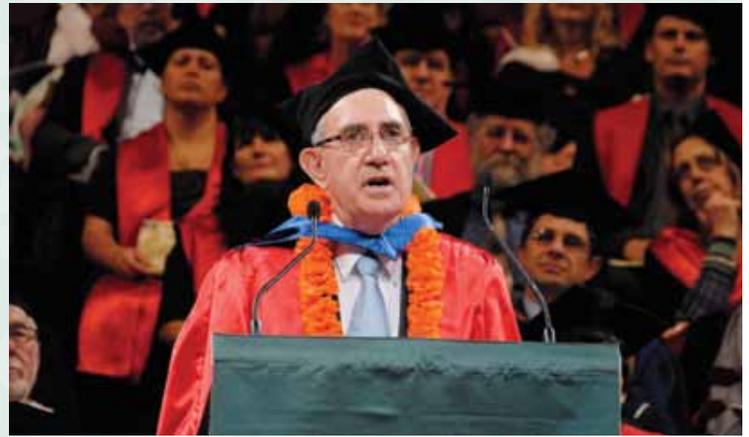
During my time as a physics researcher and university teacher I have had many graduate students ...

quite early on I learned that these apprentices often wanted to do their research quite differently from my expectations ... and mostly they would surprise me with their success and so, I learned to learn from my own students.

And as we combined our different skills our scientific work grew even more successful. My students became my collaborators.

In 2004, a group of us, including two of my then students, Mark Hunter and Robin Dykstra, along with ex-student Craig Eccles, decided to start a company and export specialised nuclear magnetic resonance instruments to the world. Another ex-student, Andrew Coy, who had some business flair, offered to run the company, which we called Magritek. The team was recognised with the Prime Minister’s science prize last month.

And so here is my third lesson. Never underestimate the capacity of those younger than you to surprise you with their talent, learn from



them, and always revel in the opportunity to combine talents to build a team.

Two years ago I had surgery for colon cancer, and if I had been like most people in that situation, I should have been completely cured. But, as it turned out, I was in an unlucky minority and the cancer spread. In February this year I discovered I had a rare form of metastatic cancer that was incurable, with a median survival measured in months.

But I am a scientist and so I know a little about statistics. When it comes to survival statistics the distribution has to be what is called “right skewed”. That’s because the lower bound is fixed at zero years while the upper bound can, in principle, extend for decades. Hence, a few can survive several years even if the median survival is six months. Well, here I am, 10 months later, and apparently hale and hearty, though I must admit I’ve had some pretty drastic chemotherapy and quite aggressive further surgery to keep me in that right skew of the distribution.

What I was brutally reminded of in February was that I was mortal, as we all are, for death is the one certainty we all face, and its time of coming is unknowable. The lesson for me was that I had to know how to live my life accepting death, while at the same time living optimistically.

So how do we live our life, wherever we are situated on life’s survival curve? You will not be surprised when I tell you that for me, the answer lies in a paradox.

That paradox is “To live each day as though it were our last, and at the same time, to live as though we will live forever.”

... And what is the single word that expresses the tension of this paradox? Buddhists would probably call it *mindfulness*. Christians would probably call it *love*. And though I have no religious belief, I’m happy with those words.

What really counts in life is love, to do the work that you love, to find the partner you love, to act always with love, wasting not a moment in anger or hostility. The prospect of death makes each living moment vital, each action significant, each spoken word of immense importance.

In every human culture, in every language, in every religion, in every secular ideal, this mindfulness is present.

Let me give an example, in just one of its many forms, and so beautifully expressed in German.

“Der weg ist das ziel.” The journey is the destination.

You are at a waypoint on your life’s journey. Make every step count.