**University of Wollongong**

**Occasional Address**

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It is an **honour and privilege** to be able to provide the Occasional Address at this important Graduation Ceremony. For a number of reasons.

**First**, because it marks for you, the new graduates, an important milestone in your professional lives. I know at first hand the many trials and tribulations you have faced, the challenge of mastering concepts and calculations, the achievements and disappointments. But you have passed through all that to stand tonight, recognised in our society as qualified professionals, equipped to address the many challenges our world faces.

**Second**, it is an important occasion for the families and friends that have supported you over these difficult years – through providing meals at all hours, the physical and psychological space for you to study, the encouragement to address tasks they mostly have little understanding of. . You have justified their faith in you.

**Third**, because a Graduation Ceremony is a very important ritual in our society, which provides meaning to your achievements, and an occasion to loudly proclaim the important role of higher education in our society. Too often, completion of the final exam or thesis is marked by relief, emptiness, even depression. In a hectic world full of endless distractions, it is important to be able to pause, if only for one evening, to reflect on the significance of becoming a graduate, and the values that underlie our Universities.

**And finally**, it provides me with the personal opportunity to connect again with this fine University, so often in the news for its many achievements. The University of Wollongong was my employer an unimaginably long time ago throughout the 1980s. At that time, the university was just emerging from its infancy. Those were heady days of impossible dreams (regularly poo-poohed in the local press) and great promise, much of which has been realised in the following 25 years.

I recall that one of the first projects I took on after arriving at the University of Wollongong, with my colleagues, was a study of The Effects of Technological Change on Employment in the Wollongong Region in the 1980s.

In those days, 35 years ago, there was a widespread concern that new technology could destroy industries and jobs. How little has changed. Our analysis showed that the dominant steel and coal mining industries would substantially decline, but that global economic change was the dominant cause. I should point out that Port Kembla was then the largest Wollongong employer, with a staff of about 30,000. Today it is less than 5,000.

Our analysis also showed significant growth in the education and health sectors, to become the major employers in the region, with major spillover benefits to business, the community and culture in the region.

These predictions, most of which have turned out to be accurate, or even under-estimate the change, were greeted at the time by a Mercury headline “Professors away with the Fairies”. And I can tell you despite your hard-won expertise and earnest labours, your insights will not always be understood or accepted. An issue I have battled with throughout my career.

But I should confess we got one thing totally wrong. We suggested that by now the BHP site in Port Kembla would become a giant theme park. Perhaps there is time yet?

The larger lesson to draw I suggest is the importance of engaging with the future. It cannot be predicted with any certainty. But the process of imagining the kinds of realistic futures which might occur, and developing the capacity and resilience to make the best of them, is an essential way of thinking for individuals, like you, planning your careers, for universities seeking to chart their place in an uncertain world, and for global corporations.

I want to use this occasion to share with you some thoughts on the daunting challenge of being a professional engineer. I understand the great majority of you tonight are graduating as engineers, of one kind or another, though a number of you are graduates in the fascinating field of medical radiation physics.

You have chosen to take on a very great responsibility, because in my mind and experience, engineering is the most demanding of all the professions.

Of course you require excellent technical skills, which you will have gained through your study here at the University of Wollongong.

In addition, it is essential that you be economically, environmentally and politically literate. As an engineer you will find yourself grappling with developing and assessing widely varying project cost estimates. There are almost always key environmental concerns to be addressed, with inevitable trade-offs between environmental benefits and economic costs. And you need to understand the language of government and its decision-making, and be able to enter the process.

But wait, there’s more. You will need to be able to work effectively as both a leader and a team member, shifting roles easily as appropriate. Your major daily tasks are likely to involve the management of projects, which is hard enough. But managing projects involves managing people, and that is where it gets really complicated and you will need to draw on a wide range of social and life skills to be effective.

And finally, you must be able to communicate your knowledge clearly and persuasively to your colleagues, to clients, to governments and to the wider community.

Oh, and did I forget to mention that you have to approach all this with a well-developed sense of humour, and a desire to have fun!

It is beyond any university degree to impart all these skills. The challenge I put to you is to recognise that all you have achieved is just a fraction of what lies ahead of you in learning. It may be formal, through postgraduate education, or through professional courses such as those offered by Engineers Australia, and on the job and through your employer.

Please remember that asking ‘why’ is not the preserve of the young. Your willingness to engage in a professional and personal life shaped by continuing learning is the best recipe I can offer you for a full and satisfying life, which in turn will make life better for others.

I conclude with a quotation from that peerless engineer and scientist, Leonardo da Vinci: “Learning is the only thing the mind never exhausts, never fears, and never regrets”.

Congratulations. Thankyou.