Speech by Minister for Education, Mr Tharman Shanmugaratnam, at the Class of 1985 20th Anniversary Celebrations at NTU on 26 November 2005

Professor Su Guaning, Ms Lee Bee Wah, distinguished Class of ’85,

Thank you very much for inviting me. I think I’m cheery but not very bright this morning.

I think it’s always a very special occasion that after many years, alumni come back together. For some reason, each time we come back together, it becomes more exciting as we remember what happened when we were young. Maybe more exciting because as we get older we ourselves become less exciting, so when we remember what we did, it seemed very fun and exciting.

But it shows what fond memories you have of your time together as a pioneer batch. And indeed it was a pioneering time - very exciting time, but not without risks. And the pioneer batch of ’85 took many risks. And you also ended up with a very difficult situation. There was the 1985 recession, and I think you all agree that it is those very difficulties that you went through that also explain why you have done so well subsequently.

You’ve gone through great adversity, in many ways like the original Nantah alumni – faced adversity, kept your vision, kept your spirit high, and eventually you’ll succeed in life.

But I think this occasion is also special as both Bee Wah and Su Guaning have mentioned, because of the future, not just the past.

I think now NTU is now in a very privileged position of becoming an autonomous university. I say privileged because actually it is very rare on an international scale, for us to do what we’re going to do.

Most of the great universities in the world are private universities. Those are the best universities in the world - the American research universities, the Ivy League universities, a few other top universities internationally - they’re private universities. All their state-funded universities have very little state funding. The top state universities in the United States: Virginia, Michigan, a few others, they actually get very little state funding – about 10% to 25% of their money comes from state funds. The rest are from tuition fees, from contributions, from corporations, and from their alumni.

In our case, we will be maintaining a very high level of government funding for our universities, which no other, within the UK, Australia, Canada, US, no other state universities get. Seventy-five percent of the recurrent funding, and higher than, much higher than that for development funding. So we’re committed to achieving excellence in the university sector.

At the same time, we’re going to give them the autonomy that those other great universities have. So they’re in a very sweet spot, our universities - Substantial government funding, plus the autonomy that makes universities great.

And this autonomy is ultimately about ownership. The ownership will shift from government to the university community. And who is the university community – of
course the faculty, are critical part of the university community. The Council, or in future they’ll be called the Board of Trustees once it becomes a corporatised university.

But thirdly, when you look at any of the great universities, you know that it’s really the alumni that gives it its spirit, give it its connection, its network, and to really keep the tradition going. And ownership by the alumni is a precondition for any great university.

So what does ownership mean? It does involve some financial contribution, so that you want to become a great university, and not just a good university that’s funded by government. And I keep emphasizing the government is not reducing its funding – we’re going to continue to dedicate one percent of GDP to our university sector. And I know of very few countries that dedicate one percent of GDP to the university sector, despite the fact that we’re just talking about three universities. But we will continue to do that. We’re also going to increase our research funding, very substantially, for the university sector.

But this still doesn’t make a great university. And I really think, sincerely, that NTU has what it takes to become a great university - One of the best in Asia, and also one of the best internationally in terms of specific fields. It is entirely possible. We have the people, we have the commitment from the government, and we need this X-factor, the X-factor that comes from a certain spirit of the faculty, the students, the alumni, that will really make it a great university.

It will require some fund-raising, but it also requires other aspects of contribution to your alma mater. Getting involved in the faculties, getting involved even in selecting students for admission to the university, providing contacts to industry, providing research, spurring the research collaborations, opening up opportunities for students to get internships, not just in Singapore, but in China, in Southeast Asia, and elsewhere. The whole set of contributions, so that at any point in time, when you think of yourself, part of your mind is ticking away about NTU. You might be a businessman, or a professional, or a politician, but part of your mind is always thinking, what can I do next weekend, or what can I do next month, for my NTU. It is just part of your identity.

And that is really what makes a great university. And I think we can achieve it. NTU has got challenges which I’m confident, is facing up to, and can address, in order to become a great university.

First of all, of course NTU has to decide, what its identity is. Is it a science and technology university, is it a comprehensive university or is it some amalgam that defines its identity.

NTU has got real strengths already, which is remarkable in such a short space of time. In fact, quite apart from your overall ranking of being number 48 in The Times, UK Times’ ranking of global universities. In technology, among technology universities, you’re ranked number 26 - which is a remarkable achievement. And one of the, well within the top ten in Asia - that is already a major strength to build on, and NTU would have to think very hard about what its identity will be as it expands and introduces new schools, how will these new schools relate to its strengths in engineering and technology. And not just leave it to chance.

The second challenge is the undergraduate education experience, because all great universities are great first and foremost because of what they do with undergraduates.
And there again, we have to keep evolving, not just to take what we inherited. In fact we inherited a very old British model, and we have been improving it ever since. But we should be willing to look at it now and think in a very bold way about what an undergraduate education should be like. All of you here are engineers, and it's the engineering education that we maybe have to think the hardest, about what an undergraduate education should be like.

Not everyone needs to be trained to become a professional certified engineer. We need people with engineering education – I think that remains critical for Singapore’s future, so that we can have the whole range of technology-related industries. And even in the service sectors, financial industry for instance, you need people who understand technology, who can learn technology twenty years after they graduate from school.

So we need engineering education. But not everyone needs to be trained to become a professional, certified engineer. Of course, if you’re talking about buildings, you want a building that’s certified and safe and sound, you’d better be certified yourself. But most of our engineering graduates, whether you join a manufacturing company, or you work in government, or you work in business or financing, you don’t need to be professionally certified. But you need to understand the basics and fundamentals very well.

So we have the opportunity for NTU to think through what is it you really need to provide in an engineering education. For some people, they need a full, regular engineering education so you can be certified and the public can trust you, and you can achieve excellence in that field.

For many others, maybe you need more science in your engineering, more business in your engineering, more IT – various combinations – which amount to a high quality educational experience with engineering as its core.

In Britain they have something called the PPE in Oxford, which is regarded as the elite programme, called Philosophy, Politics and Economics. It’s a very good programme, but it also reflects a certain tradition in Britain where many of the elite went to Oxbridge, and then went to Whitehall or Westminster, into civil service or politics, or the financial sector. They never have that engineering bias. And I think that is basically a weakness in the UK. And even now you see that weakness being replicated year after year, where very few students are even taking physics at A levels, very few teachers are willing to teach physics, and they restrict Britain’s options for the future. We will never want to restrict our options in that way. We are proud of our bias towards science, technology.

But how do we groom people in the science and technology area is very important. They have their PPE as the elite programme, they have many other elite programmes. I think we can create an elite programme with engineering in sight, and various combinations of programmes.

When I say elite I don’t mean necessarily just for a few individuals, I mean in quality and status and reputation. Create a programme that has engineering inside but isn’t necessarily purely about engineering. Because most engineers are going to learn a lot from their engineering on-the-job – They need to understand the fundamentals, the basic concepts, they increasingly need to understand some science, and increasingly they need to understand some business and some of the humanities. They need to be able to
communicate well, they need to be team workers and leaders of people. So how do we groom this future generation of engineers, it’s a very important issue.

The third challenge is to enhance NTU’s reputation in research and there again we’ve established already some very powerful reputations in specific areas of research. Environmental engineering is one amongst many areas that NTU has already established a strong reputation in. And anyone who follows the events of the last year or the events from the last two weeks, knows how important environmental engineering is going to be in Asia.

So NTU will have to identify key areas - it cannot be every area - but key areas in which you think you can achieve a great reputation and can contribute to the world. And again I think that is possible. We’re a small country, but actually if we put our minds to it, if we collaborate, combine resources, including combining across the universities, we can achieve deep pools of capabilities in specific areas. And this is a very important priority both for our universities and for Singapore as we go forward – Achieving best quality standards in research so that Singapore is at the cutting edge in five or six areas, five or six disciplines.

Finally I think your challenge is to continue the spirit that you see in the Class of 1985. Starting from the Nantah spirit of course – that spirit of facing up to adversity, overcoming it and doing great things because of your individual will and your collective will. That is something we really have to replicate among future generations of students, and it will only happen if past generations get involved, keep interacting, keep giving them the feeling that they’re not just coming to the university for three or four years, but they’re joining a community. All the great universities give their students that sense that they’re joining a community. In the United States it’s obvious. Even in China, it’s very obvious – the alumni of the university in China will ‘look after’, so to speak, future generations of students in business, in the workplace, even in social community that they build – it’s very clear. And you need some of that – that sense of identity and belonging and looking after each other. That really ultimately is the X-factor in a great university – the spirit which is alumni have, which is somehow in an invisible way communicated to future generations of students, current and future generations.

I’m confident that NTU is able to take on these challenges and really become a great university and contribute to Singapore.

And I thank you and commend you for coming forward, taking the initiative to be part of this new journey towards excellence in the university sector.

Thank you very much.