

**Address  
at Khon Kaen University, Thailand**

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**'The University in the Twenty-First Century'**

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It is a great honour to be speaking to you today. My starting point in my address is the role of the university in the coming century, and your flourishing campus is an ideal place to speak on such a subject. In your country and in my own the university is the shaper of the future, for the 21st century will be, above all, the century of the use of knowledge, just as the 20th century has been the century of the development of knowledge.

**The Growth of Knowledge**

To look forward it is always helpful first to look back, to obtain a sense of perspective. Until the 20th century human knowledge was small in scale, even in the so-called 'developed' countries, and restricted to a few. Most people were uneducated, universities were few in number and small, and the status of 'knowledge' was unclear. That is to say, confronted with what was said to be scientifically true, on the one hand, and what was conventional wisdom on the other hand, people often preferred conventional wisdom, because they themselves had not acquired enough education to understand why science, and the approach to understanding which science offered, offered a real way forward.

From the middle of the 20th century, and mostly because of the second world war, there was a rapid and sustained change. 'Research' became a powerful word. In the western countries more and more children attended and completed secondary school, and a greater proportion of them continued to university. As they did so, the proportion of the workforce made up of university graduates continued to rise, an increase itself demanded by the new applications of human knowledge that were being put to use. New professions emerged, all of them based on applications of human knowledge, many of them originating in the university, and knowledge kept growing in complexity and reach. It is probably true that whatever quantum 'human knowledge' represented in 1947, that quantum is fifty times greater in 1997. No library in the world now contains more than a small fraction of this knowledge — there are more than half a million academic journals, each producing thirty to fifty articles a year, an annual output of some 20 million new contributions to knowledge, or 200 million such contributions every decade. Indeed, we are in some danger of being drowned in knowledge, and it is fortunate that the recent rapid increase in the power of communications and information technologies has given us the tools with which to deal with the sheer abundance of knowledge.

For we cannot stop inquiring, discovering, learning and applying. The exigencies and circumstances of human life keep pointing to problems which we could in principle solve if we applied ourselves to the task. There is no longer a widespread view that these matters are beyond us, and have to be accepted as the will of God, or as the nature of things, or as the working out of chance. And each new discovery points to a new possibility, a new path in the quest to understand ourselves, our world and our purpose: research inevitably leads to more research. What is more, it is likely that within the next generation the human population of the world will start to run up against unpleasant boundaries to its continued growth and even to its continued existence: a decline in the availability of clean air and fresh water, of fossil fuels, even of good food; increasing competition for these good things; perhaps the sudden emergence of a respiratory or viral pathogen of great power; geo-political instability caused by some or all of the foregoing. I am not at all a prophet of doom, but it is plain to me that without a major effort of human ingenuity and will, life on this planet will become less pleasant in the next century for our descendants than it is now, and it is not especially pleasant for most people now. That effort of ingenuity and will must involve as its central focus the application of human knowledge to human problems, and much of it will take place in, and all of it will depend on, our universities.

### **The Building of an Educated Society**

I will say something more about the future research role of universities later on. But now I want to concentrate on a further great purpose of our institutions, the development of an educated society. A well-educated society is one whose citizens have that paradoxical combination of virtues which come from having successfully completed a university degree: they are at once self-confident and humble. They are self-confident because they have worked at something hard over many years, and succeeded; they therefore know at first hand the value of intellectual striving and of work. They are humble because they now understand how little they know; they recognise the importance of working together, of team-building, of collaboration. That combination makes them in principle good professionals, and good citizens, good parents, good husbands and good wives. A society that has such people in abundance will exhibit tolerance, compassion, curiosity, purpose and consistency. On the whole this purpose is not one which attracts governments, because it points to a time when governments will be an instrument of society rather than a ruler of it, and for governments that is a good end, but one which can be some time in coming.

But it is nonetheless a purpose which should attract far-thinking people. In 1993 UNESCO set up an independent Commission chaired by M. Jacques Delors, then the President of the European Commission, and asked it to consider the challenges which the coming century raised for education, and for universities in particular. The Commission reported that higher education had four tasks, which could be summarised as: learning to be, learning to know, learning to do, and learning to live together. If we interpret them broadly, these learning tasks exemplify the characteristics of the citizens of a good society. They are people who have a good sense of themselves and of the human predicament, who see knowledge as a resource to be used in addressing problems, who are practised in doing things with that knowledge,

and who construct peaceful, tolerant, and constructive societies which are not marked by great gaps between the rich and the poor, by civil strife or by injustice.

This is a great task for the university of the 21st century. It is perhaps the greatest task, for if we do not produce a generation of graduates who are marked by their high moral sense then we will have done no more than equip our societies with highly skilled barbarians, and at a time when we need much more than this. It is a difficult task, because we need to transmute individualism into a broad social sympathy, first for the less advantaged people of our own society, then for disadvantaged people everywhere. Yet of course it is individual strength and purpose that allow people to strive at the difficult task of completing a university degree. The key must lie in the moral basis of our university programs, especially those that prepare people for the professions.

The learned professions at their best rely on two powerful moral bases: first, that one's work is based on a body of knowledge which grows and changes ceaselessly and requires constant study throughout one's practice of the profession, and second, that one uses that knowledge in the interests of other people. Professional work is not simply technical, though technique is important. It is moral, the use of knowledge to improve the lot of other people. It seems to me vitally important that the universities of the 21st century are filled with that sense of mission. If that is to be the case, then tomorrow's universities must have a vision not only for themselves but for humanity as well. I would express it like this: we must learn how to construct, maintain and enhance societies in which people live free from hunger, want and injustice, and in which they are capable of making the changes that are necessary after full discussion and without anger. That is the goal which we seek, and the universities are the facilitator of that goal.

### **The Distillation of Culture**

Let me now shift to another central concern of the university of the 21st century — its function as a cultural distillation centre. Much of what I have said so far could give the impression that I see the university as involved only in what is 'new'. Yes, there will be a major focus on research, on the improvement of professional practice, on the anticipation and solution of humanity's problems. But there will also continue to be an important focus on ourselves, where we have come from, our cultural heritage, our customs, practices and values. Our music, our art, our literature all help to define who we are, and universities must continue to produce people who study these aspects of human life and interpret them to the next generation. Despite the increasing use of the metaphor of 'the global village', I am not one of those who think that we are moving to a world composed of a single society, with a single set of values and one cultural heritage, albeit an encyclopaedic heritage. I agree that the use of technology always comes with a cultural price. Nonetheless, cultural forms have their own power: supermarkets are not the same in France, or Thailand, or Australia, as they are in the USA, where the supermarket concept originated. Just as there is a major task for Australian universities to explain to Australia the cultural journey that Australians have been taking, and the fruits of that journey, so there is a major task for the universities of Thailand to explain to the Thai people what

is singular and what is distinctive about Thai culture, what core values support them, and what aspects of art, broadly defined, illuminate them. The analysis of the cultural heritage of our society is a natural partner, not a competitor, of the urge to improve our society.

We have learned, I think, that to be 'modern' does not require the jettisoning of everything connected with the past. Every society has, in its own progression through time, developed useful responses to the challenges facing it, and those responses have become embedded in artistic, literary and musical forms. A recognition of the worth of their art and literature is a great aid to the self-confidence of the society, and that self-confidence in turn can enable it to deal with the problems of the present. It is for this reason that I am a supporter of every university's maintaining a place for 'cultural studies', broadly defined, alongside the education of people for professional service and a full life as a citizen which is their central role. In my own country I am not worried about *overdoing* the cultural role of universities; the worry is that these concerns are disappearing from the scene, as though the past were unimportant and the only important thing is the future. This cannot be the case: a civilised society will understand and respect its past just as it deals justly with the present and prepares wisely for the future.

### **The Shape of the University of the 21st Century**

So far I have argued that the university of the 21st century will be involved in three major tasks: first, the building of an educated society, second, the forging of human knowledge as the weapon in the solving of human problems, and third, the distillation of the cultural experience and cultural values of the society in which the university is situated. What effect will these tasks have upon the shape of the university?

It now seems likely to me that the way universities are constructed has a lot to do with timing and available models. Australia's first universities were constructed in the 19th century on British models, but adapted to fit local purposes. A hundred years later we were confident enough to start new universities based on our own existing universities, which had by now changed in accordance with the changes in Australia society. We have in fact used four models over the past century and a half: an early British model, a newer locally derived model for second and third universities in the major cities, a regional model, for universities in the provinces, and the most recent model, one based on community and professional needs rather than on categories of knowledge, which was the basis for construction in the 19th century. This last model, of which my own University is a good example, is most reminiscent of the universities I visit in Thailand, with their emphasis on educating people for the newer professions and on developing knowledge which will allow a real attack on important local and regional problems.

Are there likely to be further models? I am sure that the answer is Yes, but of course it is hard to anticipate what the models will be like. Let me return to the older models. The oldest European universities of all were based on the study of the languages of the ancient world, of its major contributions to knowledge (mathematics, law and philosophy), and on the study of God's word and work — divinity or theology. The people who studied in these old universities became administrators, or lawyers, or clerics. In time these

branches of knowledge sub-divided into what we now know as history, and physics, and medicine, and of course many others. In time these subdivisions divided again into branches of the main discipline (like applied mathematics), or into amalgamations of two disciplines (like biochemistry), or into departures from a discipline (like economics, which divorced from the study of politics). My own first discipline of history is now quite enormous in scale, as is my second, the much more recent discipline of political science.

It seems to me that we can no longer construct universities on the basis of categories of knowledge, because there are so many categories, and they are so large that to have a department which is truly comprehensive is almost impossible. Today we seem to be constructing universities on the basis of needed professions: education, nursing, engineering, computing, architecture, management, and so on. It is the task of these professional schools to take from the old categories of disciplinary knowledge what they need to ensure that their graduates are well-informed, well-educated and well-prepared for work and for life. This schema allows universities to be small or large according to the number of professions for which it is constructed, and the scope of the professions themselves. My expectation is that this model will work for some time to come, and that it will be able to adapt relatively easily to demands for new professions based on new needs and new discoveries, new knowledge.

This model will also be able to adapt, and here I return to the theme of research which I started with, to new and urgent demands for particular types of research, to deal with sudden and perhaps unexpected problems. In my view it will be the university which is called on to provide this research, or at least to be its home. And these demands will force the university to come to terms with another kind of model — the model of how new human knowledge is acquired.

Since the end of the second world war one particular model has been very powerful. It is called the 'linear model'. According to the linear model advances in understanding arising from basic or pure research lead to opportunities to apply the new knowledge, which in turn lead to the development of a product or process for the market, and to the successful commercialisation of this product or process. This linear model is attractive to universities, because basic research is seen to come first. The inference to be drawn is that universities should be funded to undertake pure research, because no other institution has advances in understanding as a core element in the institution's mission. Universities, of course, do have advancing knowledge as part of their mission, just as they have communicating that knowledge to students as another part of their mission.

It is not hard to find examples of the linear model in the real world. But it is also easy to show that very often advances in understanding come as a consequence of applied research carried out to achieve a quite specific end. In practice, it now seems, advances in understanding come from many different activities, and none is more important or more virtuous than any other. I want to suggest to you that your University, like mine, should concentrate most of its research energy on undertaking the research that is needed by your community, your industries and your economy. There is sufficient pure research being carried out elsewhere, in my view, and there is enormous

demand for particular kinds of applied research. What is more, your postgraduate students and your staff will gain great satisfaction from being associated with research which helps people deal with their problems now, while the University will gain a great reputation for being central to the present and the future of your region — for being an indispensable knowledge resource.

Let me conclude with the theme with which I started. The coming century presents humanity with a challenge: can we use our great capacities to learn, to understand and to apply knowledge to overcome the pressures which our sheer numbers, as a species, are exerting on the planet, its air, soil and water, its living things, its future? If we can, then the task of doing so starts in the universities of the world. But our response to that challenge also has to start in separate nations, because the nation-state is the political form which we presently use to deal with our political problems. I can see the time coming when there will be both a global government and a series of local governments, but that time is well ahead of us. Now, and in the foreseeable future, the universities where we teach and learn are universities situated in separate nations. Your task is to help build Thailand; ours is to help build Australia. We must first do what is necessary in our country before we can become constructively involved in wider regions, or at the level of the world itself.

But let us work in a way which helps us all. I offer you a continuing partnership between the University of Canberra and Khon Kaen University. That partnership has already begun. Let us extend it, so that we keep learning from each other, and work together in applied research, in teaching and in learning. By doing so, we will have more effect in our own countries — and more effect in the greater world. What goal could be more important?