

**Address to the Chief of Army Exercise
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'Educating for the Future'

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My topic centres on the future we are likely to have and what ought to be done to educate and train our people to prepare for it. I have been engaged in a kind of 'futurology' for much of my working life, and I am aware of its limitations. I am also aware that unless one thinks hard about the future one cannot in any sensible way make long-term plans; and to be without plans is to adopt the role of someone who simply rolls with the punches. Such people do not act; they react. That is not a good role for any organisation which sees itself as having a continuing and important existence, like universities or major corporations or the defence forces. It worries me that the present Australian Government seems to be indifferent to this principle. More than any other organisation, national governments need a vision of the future and a sense of mission. If our Government lacks that perspective, what are the rest of us to do?

We are about to enter a new century. There is some value in contrasting attitudes a hundred years ago which those which seem dominant now. In the late 1890s, at least in what we now call the Western world, there was a mood of excitement. Humanity had entered the modern world. Scientific discoveries and technological changes of great moment — electricity, the telephone, wireless, the motor vehicle, the aeroplane — were either in existence or anticipated. A sense of imminent development, of the transformation of the conditions of humanity and great confidence in the outcome, was widespread. The great expositions and exhibitions of the second half of the 19th century, with their theme of 'Look what we have achieved!' and their focus on the future, had prepared people for an expectation that the new century would bring even more of the same. And of course it did, along with wars, dictatorships and ruin.

I do not think that there is any such sense of excitement, let alone of confidence, in much of the world now. The new century offers us nothing but challenge. The challenges are interconnected, so that there is not an obvious set of priorities. The most important challenges are these.

- ***Human over-population*** There are at present around 6 billion human beings. Well within the lifetime of many of those in this room, that number is likely to double. It is no doubt true that we will be able to feed them all, but not, I think, at the levels currently ruling in Australia.
- ***Urbanisation*** By 2020 there are likely to be 25 cities in Asia alone whose populations exceed 10 million. Some 600 million people will have moved from rural areas and villages to the cities. (To provide a sense of scale, I remind you that Australia has a little over 18 million people.)

- ***Pollution*** Air and water pollution are already a major and not obviously solvable problem in the industrialised parts of the world. (Most of the world's clean fresh water is in the Canadian lakes.) Garbage and sewage disposal are also increasingly significant sources of pollution, and political issues in their own right (the downstream problem — what Banbury drinks today Oxford drinks tomorrow).
- ***Pathogens*** An influenza epidemic in 1919/20 killed some 40 million people. Viral or respiratory pathogens of equal power seem a likely prospect for the 21st century, and the highly efficient world transportation system will spread them with great speed. It is possible that medical science will be able to deal with them before they have done too much damage (as seems to have been the case with AIDS). But the increasing use of antibiotics in Western countries may also have made Western populations less resistant in general.
- ***Geo-political instability*** The collapse of the Soviet Union and the rapid decline of communism as an international ideology have removed the prospect of great-power nuclear war, but probably increased the prospect of small-scale conflicts which are waged by countries which are pursuing their own interests rather than acting as proxies for the great powers. The competition for food, arable land, fresh water, living space and related goods is likely to intensify. We do not have anything like world government, and if anything the UN has less credibility than it used to have.
- ***A decline in confidence*** It is less easy to be sure of this element, but I think it is important. In the 1960s there was an assumption among both politicians and opinion leaders that in principle all social, economic and political problems were solvable. What was needed were varying amounts of knowledge, political will and money. J. F. Kennedy, Lyndon Johnson, Harold Wilson and Gough Whitlam, and the circles around them, all possessed versions of this outlook. It was sharply jolted by the 'oil-price shock' of 1973, and simply faded away in the 1980s and 1990s as it became clear that Western societies had permanent and serious unemployment, and that technological change was not necessarily a thing to look forward to. I would add to this
- ***A growth in individualism and materialism*** The second world war produced probably the high-point in feelings of solidarity among citizens of democracies. The last fifty years have seen a steady move away from communitarian feelings towards individualistic ones. The 'economy' has become more important in people's thinking than the 'society'. One consequence is that it now much more difficult than in the past to mobilise the citizens of democratic countries towards collective goals, no matter how virtuous or necessary they are. Coupled with this change is a move away from religion towards materialism or secularism. Western societies have not found a widespread alternative to organised religion, though there has been a sharp increase in the appeal of 'environmentalism' and occult and mystical systems of all kinds. The lack of confidence about the future is, I think, connected with a spiritual uncertainty about the meaning of life and the purpose of modern civilisation.

None of that is cheery stuff. But there is, of course, some good news. Once again, the good news is connected, and points to the kind of response we need to make to the challenges.

- ***Knowledge*** Humanity is incomparably more knowledgeable now than it was fifty years ago. We know the dimensions, proximate causes and likely solutions to all of the above challenges other than the last two. Not only that, we know how to learn more. The capacity of Western societies for ‘research’ — broadly, an attack on a problem by closely investigating its constituents along lines suggested by previous studies in the area — has demonstrated its power steadily since the last war and, notwithstanding the loss of confidence discussed above, does provide the tools we need.
- ***The distribution of intelligence*** It is now pretty likely that all humans are intelligent enough to benefit from high-level education and training, providing (and it is an important proviso) that they possess the necessary motivation and that they undertake the necessary preparation. Today’s university system is dealing with about 40 per cent of the cohort, with another 10 per cent likely to go to university at some later stage. In twenty years’ time about two-thirds will go to university. Despite worries about declining standards, it is plain that old models of a tiny proportion possessing ‘true’ intelligence, the rest being suitable only for simple or repetitive jobs is just wrong.
- ***The power of reason*** Well-educated people, and well-educated societies, are demonstrating that they can deal with difficult questions by marshalling the evidence and coming to a decision in which short-term loss is accepted in order to achieve long-term benefits. At the individual level the best examples are in the decline in smoking among Australian adults over the last twenty years; at the social level, the acceptance of a need to change Australian practices in the context of relatively declining national income. What every country needs, as quickly as possible, is a well-educated population. Ours needs to be much better educated, and the education needs to grapple with moral as well as technical issues.
- ***Globalisation*** The challenges cannot effectively be dealt with through a nation-by-nation approach, although they must in fact be approached separately in each nation. The astonishing advances in communications of all kinds in the last half-century have made it possible to do things in different countries in much the same way at much the same time, by mobilising the same kinds of people. We can see this occurring in Australia at the State and local levels. It is possible that much of what will have to be done (new approaches to pollution, or environmental degradation, or birth control, for example) will not be carried out at the instigation of national governments or of the UN and its agencies, but by coalitions of like-minded people connected through the Internet and in other ways. Australia’s universities, for example, have built coalitions and alliances around the countries to our North, for

example, which have no counterpart at the Government level, and involve tens of thousands of people in dozens of countries.

The challenges are momentous. At my most sombre I can say that humanity has at best two generations, or fifty years, in which to come to terms with the problems it has itself generated. And it has to do it in the context of a warring world, of great differences between rich nations and poor nations, of sharp divides between religious forces, and a world that is never still, in which there is never any possibility of a fresh start or clean slate.

But I am also an optimist, and since my whole working life has been spent in and around the most productive process of all — education — I look to it to provide the key and the tools. I have set out what I think they are, and I suggest, politely but firmly, to all of you who are involved in preparing the army of the future, that if education, continuing education and even more continuing education are not part of what you are planning, then you are very probably going down the wrong path. I can't tell you what sort of education you will need (that is a matter for you and for the professionals) but I think I can tell you that you will be asking your people to do much more, to make many more judgments, to rely much more on their knowledge and not on commands, to work quickly and effectively with others, and to be responsible for their actions. This is what we try to educate our young graduates to become. I think it will be what we need all our citizens to become.

And, as I said, we do not have very much time.