

'Turning Education Around'

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I need to begin by telling you that I am an optimist. I need to do that first because I believe that humanity has only a generation or two — certainly not more than a century — to solve its predicament. Everyone here knows what that predicament is: there are simply too many of us, and our number keeps on growing. There are 6 billion human beings now, and there may be as many as 9 billion of us in fifty years' time. By 2020 two-thirds of us will live in large cities, and large cities are expensive things that cause a lot of pollution as well. We human beings consume a great deal of the earth's finite resources, and we put great strain on our own environment. We have escaped from the governance of the natural laws that control other species, but we have not yet learned to govern ourselves.

That is the dark side of our situation. On the bright side, a great many people in very many countries already do know all this, and in a multitude of places are coming to terms with it, and trying to deal with it constructively. And we have one great weapon on our side. The weapon is knowledge. The English language has a number of other words that are closely allied to 'knowledge' — 'understanding', 'learning', 'wisdom', 'information' and 'data'. In this brief address today I want to say something about these words, and how we should best develop a strategy based on their meanings.

A Little History

My intellectual background is in history and political science, so it is natural for me to set our predicament in a historical context. Most of you will have seen a graph of the growth of the human population whose low point is set at 1800, and begins to rise quickly during the 19th century and to rise exponentially throughout the 20th century. The growth of what people in universities like to call 'knowledge' (that is, things that they have discovered themselves) has a similar shape, and indeed it is human knowledge that has itself allowed the increase in our numbers. In the last half-century there has been something like a fifty-fold increase in the sum of human knowledge, and there is no sign that the rise will slow down, let alone stop. There are available now more than 500,000 serials (learned journals), and the great libraries of the world have become selective, not omnivorous, in what they hold, because there are now too many books for any library to hold them all. There is too much information for us to cope with easily.

Once again, there is a bright side: there has been a great expansion in education, almost everywhere. In higher education, the domain about which I know most,

there has been at least a doubling of enrolments in the last ten years as more and more young people (as well as older people) realise that it is knowledge which is now the mainstay of well-paid employment. Countries like my own Australia, or Germany our host country, are quickly becoming dependent on a wide range of interacting professions, not simply the old 'learned professions' like medicine, or law, or teaching, but newer ones like computing, tourism, nursing, accounting, business management, environmental science, communication, multi-media, and so on. The explosion of knowledge is so great that in most disciplines much of the factual content of what we learn at university has been superseded ten years later. Modern professionals are now engaged in 'life-long learning'. We are more and more dependent on machines and on the energy which powers them, but at the same time our machines are becoming more reliable and more robust. We are learning how to produce machines that need relatively little energy as well as to find alternative sources of energy for them. In short, we are developing the people and the skills and the approach that we need to overcome our predicament.

Forms of Knowledge

If you would be so kind as to take away one single thought from this address, I hope that it would be this: that we already know what it is that we need to do to solve our predicament. For some of you that thought will seem almost counter-intuitive. Surely, you will want to say, we need further research, more knowledge, more understanding. I want to say 'No'. I am sure that further research, new knowledge, will occur anyway, and that the outcome is likely to be longer life-spans for new generations, speedier forms of travel, quicker communications, new materials and the like. And some of these discoveries may well assist us in solving the predicament. But I would want to say that we already know what we need to do, without any new discoveries.

Let me give you some examples.

*We can be pretty sure from Maslow's work fifty years ago that human beings need food and shelter and warmth and love before they can concentrate very hard on what is the best system for garnering public revenue or the best form of democracy

*We can be pretty sure from the outcome of public health measures in the 19th century that plenty of pure air and water and an understanding of elementary hygiene will greatly reduce infant death rates and indeed death rates generally.

*We can be pretty sure from the work of Stouffer and Runciman (again fifty years ago) that so long as we continue to have important differences in the standards of living, broadly defined, of different groups of people there will be jealousy, anger and conflict. As a political scientist I want to argue that until our human world is composed of broadly democratic republics of approximately similar standards of living we can expect to see a continuation of wars and civil conflicts. Here I would bring to you as evidence the experiences of the last two hundred years, and the lessons of history.

*We now know a great deal about human fertility, and how to control it.

If I am only half right in what I have just said then we need to consider what we should do in a world which is simply deluged with information and with daily 'breakthroughs' of one kind and another. We need to cease believing that we must acquire new knowledge, and ask instead whether or not we have the knowledge we need in order to achieve our goals. If the answer is that we have the necessary knowledge, then we need strategies to put the knowledge into effect. Let me sketch out part of the story.

There seems to me to be a kind of continuum that begins with

- * the 'datum', the smallest piece of useful information, and stretches through
- * 'information' itself, which is systematically ordered data, to
- * 'knowledge', a useful and reliable collection of information, and then to
- * 'learning', a span of knowledge in its rich context, and finally to
- * 'wisdom' — our understanding of the best ways in which to use our knowledge.

I do not claim that this continuum is original, and I do not suggest that my feeling that we have too much information and too little wisdom is any more original. But I would like to emphasise an earlier point in a somewhat different way, and say that we know how to add to the first four rungs on this ladder, and that the mechanism is research. Research is wonderful at generating new data, new information, more knowledge and deeper learning. I have been part of the research system of the world for more than 30 years, and I believe that those of us inside the system have assumed that a concentration on new knowledge, on solving problems through understanding nature, on wrestling with the paradoxes and anomalies that arise through the way that we formulate our knowledge — we have assumed that this kind of intellectual struggle would, almost effortlessly, lead to a better life for humanity. More research must be a good thing. One of my universities had its motto the aim 'to know first the nature of things', which seemed almost self-evident when I was a student there. But I have now come to see that research, and even knowledge of the nature of things, does not by itself add to our wisdom. Wisdom is about the kinds of research we should do, and the needs to which we should place our new knowledge. Wisdom comes from inside us, not from the outside. We certainly need a wider distribution of wisdom.

In the same fashion, after observation and reflection, I have come to see that making people wealthier does not necessarily make them happier. Measured in US dollars per capita, my own country is some three times wealthier than it was fifty years ago. But no-one at all suggests that it is three times happier. Indeed,

on some indexes of the human condition, like suicide rates, for example, Australians seem plainly not to be happier than their counterparts were half a century ago. Contemporary social surveys in my country also show that Australians are uncertain about the future, anxious about the present and regretful for the loss of the past. Much the same signs of this kind of anomie can be found in other Western countries. As the contemporary phrase has it, we seem to have lost the plot. New ways of doing things, new discoveries and new technologies, certainly assist us in our daily life, but they do not, it seems to me, greatly add to our wisdom, our happiness or our preparedness to tackle the really big issues of our age.

Where to From Here?

The principal task before us is to help all human beings to recognise that they face a common predicament, and that the solutions are well known. That doesn't mean that the solutions are easy to implement, palatable to everyone or available everywhere. One of them is a reduction in the rate at which children are born. That is already occurring in a number of countries, but the mechanisms are still hotly disputed. Another is a knowledgeable approach to greenhouse emissions. What this means is in dispute also, because the data allow more than one kind of inference. Yet at the individual level, there are many things that people can do, and already do, to reduce the production of carbon dioxide, to live more simply, to reduce waste, and so on. That does not mean, or need to mean, a reduction in standards of living, but rather a re-assessment of what standards of living imply.

I do not see the answer in world government, or in prohibitions of one kind or another. We are not going to have effective world government for several decades, if at all. Yet national governments are losing their power to regulate their populations effectively because, while world government is not yet with us, the world economy is all around us, and it is daily growing in its reach. The world economy cannot be regulated effectively by any national government, and only at the margin by alliances of many governments.

If there is an answer, and I believe that there is, it lies in the capacity of human beings to adapt their behaviour once they know of their situation and understand its context. In order for that to occur, they must be well-educated enough to read about and discuss matters at a relatively high level of abstraction. Western societies are now increasingly well-educated, and the proportion benefiting from higher education is approaching one half of the age cohort in a number of countries. Well-educated people are responsive and responsible, and they are able to deal with complex problems. Moreover, they seem on the whole to be more self-confident than the less educated, and more able to take the longer view rather than look for short-term advantage. Although I cannot prove it, and measurement questions are difficult, I believe that in some respects it is the autonomous actions of individuals across regions and countries, as much as the actions of governments themselves, which has got us as far as we have come. If that trend continues, then it will be people, rather than governments, who play the leading role in extricating human beings from their predicament.

At the end, I am caught in something of a dilemma. I do want societies to ensure that their people, whoever they are, are well-housed, well-fed and free from gross insecurity. But current practice is to try to make societies wealthier, in the hope that there will be a trickle down. I think we know enough to be confident that this won't work. So I propose an alternative way forward: it is education, as much of it as possible to as many people as possible, and especially in the poorer countries.. That is a strategy which ought to be tried. Everything else — information technology, research, economic growth, military power — is peripheral. Those of you faced with the priority-setting question: how best to use public money, will, if you agree with my argument, use your resources to lift the general level of education of your societies as the first priority.