

Foresight Beyond Strategy: Social Initiatives by Business and Government

Richard A. Slaughter

What is Foresight and Why is it Needed?

Webster's dictionary defines foresight as an "act or power of foreseeing; prescience; an act of looking forward; a view forward" and "provident care, or prudence". These are not qualities that late industrial cultures have been well known for. But they could be.

Foresight is primarily a part of the rich world of understanding and perception made possible by the human brain. It is a defining condition of human life that actions and decisions (hence understanding in general) are founded both on what has gone before *and* on what is expected or intended. The former has received ample attention from psychologists and historians, but until recently the futures dimension did not attract similar attention. However, it is now clear that futures are at least as central to the human enterprise as the past is commonly assumed to be. The ability to pursue purposes and formulate meanings, to decide on goals and design strategies, to plan outcomes and intend consequences, to take responsibility for the consequences of our actions—these all depend upon an open and undetermined future which is continually scanned from within the moving present. Our common humanity is founded on these capacities.

Experience is not merely a product of past events, nor simply a passive record of elapsed time. Experience is a product of the *interaction* of memory and foresight, of identity and purpose. In this dynamic process the yield of the past is symbolically transformed through being 'read upon' as-yet unde-

The author argues that foresight is primarily grounded in human capacities and needs. However, in many contexts it is now being used as a tool for strategic or competitive advantage. Such uses are entirely appropriate when considered from the viewpoints of particular groups. However, a more critical and egalitarian type of foresight needs to be pursued for cultural innovation beyond the industrial worldview.

termined situations. The foresight principle is called into play by irreducible uncertainties created by the precariousness of life. Foresight is 'common-sense' in that there is obvious merit in seeking to avoid dangers and reduce risks. However, the principle is easier to implement at the individual level than at the social level.

Foresight cannot be identified with any single act or action. It is quintessentially a directed process which broadens the boundaries of perception through careful scanning of possible futures and the clarification of emerging situations. This suggests a vision of the mind rather than of the organs of sight. It pushes the boundaries of perception forward in at least four major ways by:

- Consequence Assessment: assessing the implications of present actions, decisions etc.;
- Early Warning and Guidance: detecting and avoiding problems before they occur;



- Pro-active Strategy Formulation: considering the present implications of possible future events;
- Normative Scenarios: envisioning aspects of desired futures.

The first three appear to perform guidance and early warning functions, but the fourth goes beyond these strategic and protective interests to consider what is desired in positive terms. Here foresight intersects with creative and visionary work of many kinds. Since foresight springs, in part, from unconscious, or preconscious, sources it cannot be reduced to a technique. It is grounded in innate human capacities and needs. Yet its social expressions require specific, rational institutional arrangements. So a *balance* is implied between the rational and the non-rational, between technique and the wider world of human significance which supports it. It is therefore likely that the most successful foresight work will draw substantially upon this wider framework (including an explicitly ethical orientation) rather than adopting the narrower focus of in-house futurist expertise or, worse, a prior commitment to the instrumentalities of science, technology and marketing. However, the latter is becoming much more common, and this is a problem.¹

There are countless examples of foresight conceived in exactly this narrow, professionalized way. This is not a new phenomenon. The modern futures field developed out of a single-minded concern for military and corporate strategy. So the tendency has always been there. However, if foresight is merely, or even predominantly, seen in this familiar instrumental guise, then its wider social and cultural implications will be overlooked. This, in turn and over time, would actually undermine the enterprises that are now taking up foresight with such enthusiasm because humanity is facing a *civilizational challenge*, not merely an economic or military threat.

The challenge is this. In the middle of the 19th century there were perhaps 1 billion people living on planet earth. Human life was until that time nested within an apparently inexhaustible nature. However, between then and now human activity, with all its many associated impacts, *changed scale*. The species is now acting with the impact of a geological force, and we anticipate a world with many billions more people exerting higher impacts still. This is, in a word, unsustainable. While business managers, investors, strategists and consultants of many kinds continue to look to the market place and orthodox economics to provide a steady return on work and investment, those with knowledge of the earth's life-support systems, and those close to the biotic communities that are interwoven with them, know that during the mid-1990s critical global limits are already being exceeded.² Environmentally devastating futures are therefore increasingly likely. So the chal-

lenge is not simply the limited, instrumental one of serving this or that organization, marketing this or that product; it is rather *to situate all human activities in a different framework of understanding and enterprise*. A few corporate leaders know this: I call them the 'intelligent sector'. The others do not know it, block it out or deny it; these form the 'recalcitrant sector', which is a threat to us all. But writers such as Paul Hawken and Lester Milbrath have provided many insightful pointers to the way ahead.³ A profound shift of outlook is clearly needed. Essentially it is a shift from a materialist, short-term, high-impact, rapid growth outlook to one that is post-materialist, long-term, low-impact and low-growth.

However, few of the users of strategic foresight are interested in this civilizational challenge and they continue to reap the benefits of foresight for their own limited purposes. This is the great dilemma for foresight in the immediate future. Can it be deployed in more socially and culturally powerful ways? I believe it can, and that is why I set out a case for this wider cultural role.⁴ Another way of expressing this is to say that when the rational, social and ethical aspects of foresight are co-ordinated and in balance, they can contribute substantially to economic sustainability and social learning. But such a balance is not easy to achieve, in part because foresight at the level of social process still lacks broad support. Gaining such support can therefore be regarded as the next critical step in the development of foresight work in the public interest. But then we run into a major structural problem. For there is not yet an effective social equivalent to the neural processing that takes place in individuals. In other words, we have foresight at the individual level and, in some cases, at the organizational level. *But foresight at the social level is almost non-existent*. This is a grave oversight: late industrial societies are plunging blindly toward a most challenging and unstable period without the tools of understanding, the insight or the institutional capacity to make good, long-term strategic decisions.

It follows that we require foresight at the social level in order to carry out a number of vitally-important tasks: scanning, warning, direction-setting, determining priorities, educating decision-makers, informing and involving the public and so on. *Such tasks are too important to be left to private interests or to chance*. The 'invisible hand' of the market place is incapable of responding effectively because it is largely retrospective in operation. Such tasks therefore need to be undertaken systematically and with wide social, cultural and political support. The institutions that carry them out can be metaphorically likened to the headlights on a car, the radar in a plane or the skilled judgement of a ship's pilot. They are needed in order to develop sophisticated and useful views of the 1990s decision context and to put as much structural detail as possible on the grainy pic-

ture of the near-term future. It is only by so doing that we can begin to see clearly enough to steer away from disaster and toward a more viable way of life.

So what I am suggesting is that to be of any use at the level of cultures and civilizations, foresight must emerge from the corporate boardrooms and consulting suites to become an inclusive and widely-supported social and cultural process. Fortunately, there are grounds for this expanded role in the traditional uses of foresight.

The Traditional Role of Foresight

The value of foresight is clearly expressed in a number of traditional folk sayings. *Look before you leap* is an injunction to engage in some kind of futures scanning before committing oneself to a particular action. It implies that taking action carries risks and that 'looking' may reduce those risks. It indicates a generalized and informal capacity which, in theory, is available to anyone. Clearly, the injunction is derived from a concern for physical safety, but the metaphor has very many wider uses.

Forewarned is forearmed goes a step further. It indicates one of the tangible benefits of futures scanning: a self-protective readiness for whatever may happen. The 'armour' here refers to the preparations which can be made in response to foreknowledge. Such 'knowledge' is clearly of great value, even though its epistemological status remains uncertain. This helps to explain why so much attention has been paid throughout history to prediction in all its many guises. The desire to make careful preparation to cater for contingencies involves a need to assess the future by whatever means are available.

A stitch in time saves nine outlines the basic rationale of almost any approach to futures work: the saving of effort that would otherwise be expended clearing up the mess. Here foresight can be equated with notions of prudence and conservation of effort. Complex organisms (and, indeed, organizations) simply cannot afford to 'let the future take care of itself'. There is too much at stake, and fatalism can be fatal. In each case the principle is grounded in examples drawn from individual and group experience; but it clearly has much wider applications. Foresight may begin with the individual or group but it clearly does not end there.

Fragmented Foresight at the Social Level

In some respects foresight has long been implemented at the social level. There are many examples: the stor-

age of food (in anticipation of drought, famine, changing seasons); the building of defences (as preparation for, or protection against, attack); the design of tools and buildings for a range of future uses. Notions of design, building and invention are themselves comprehensible only when set in a context embracing past and future. However, the needs which these applications address are based on long-term historical experience. They are well understood and universally accepted. Appropriate social mechanisms have therefore evolved to cater for them. It may be concluded that there is nothing particularly controversial or problematic about the general application of the foresight principle in traditional contexts.

Clearly people are adept at using foresight. Nothing demonstrates this more clearly than the exercise of planning an overseas trip. This is a true futures exercise. Consider: there are an infinite number of options. The first question is probably where do we want to go? Once this is decided, one moves on the next questions: can we afford it, how shall we travel, where shall we stay? There are many items to consider. They include: passports and visas, foreign currency, health precautions, clothing and other gear, insurance and perhaps local maps. The question of maps, and more generally of mapping where one wishes to go, provides an obvious metaphor for the work of the futures field. In general terms, the purpose of futures work is not to predict. It is rather to 'map' the near-term future insofar as this is possible with the knowledge of, and from the vantage-point of, a particular point in time. Like any map, including maps of the physical world, there will be much that cannot be represented. But the futures map does try to indicate such things as areas of danger, areas needing attention and a range of directions, options and alternatives. Given that people have had so much practical experience in foresight, no-one should have too much trouble 'reading' this futures map.

Other social arrangements catering specifically for future contingencies include the insurance industry (developed to indemnify people against a wide range of risks and dire events), the security industry (providing a range of services and devices to guard against robbery, theft and violence) police forces, fire brigades, emergency services and the armed forces. Most are all kept in various states of readiness to deal with a range of threatening or destructive events. Hospitals, too, have carefully-designed emergency plans to cope with different types of disasters. Past experience has shown that the lack of a quick-response capacity adds to the toll of unforeseen or catastrophic events.

Preventative health care is another area where forward-thinking has become standard practice. In many developed countries, campaigns drawing attention to diet, exercise and life-style have successfully reduced the incidence of heart disease, lung cancer and other conditions. An important shift here has been that

away from treating sickness to promoting health and well-being. It is a good example of the benefits to be derived from implementing foresight. Nor should we overlook the practice of injecting weak strains of pathogenic organisms into babies and children. We know that by so doing we will stimulate their immune systems to produce antibodies which will protect them against such diseases as chicken pox and diphtheria. Here again, a little short-term pain, and even a slight degree of risk (since some children have adverse reactions) is chosen in order to deliver long-term benefit. So, on the whole, we are quite good at applying foresight to familiar, close-up problems. But we are not yet so good at applying it to wider concerns. Yet even here there are positive signs. The story of the human and institutional response to the thinning of the ozone layer is instructive. In summary, the process went something like this.

1974	The first scientific papers were published suggesting a possible problem.
1978	A law was passed in the USA forbidding the use of chlorofluorocarbons (CFCs) as propellants.
1984	The first scientific evidence was obtained of an 'ozone hole' over Antarctica.
1987	The Montreal protocol was signed, freezing production of the most common CFCs at 1986 levels and progressively reducing them thereafter.
1990	Representatives of 92 countries met in London and agreed to phase out CFCs entirely by the year 2000.

This shows that the global community *can* mobilize to act in concert when the need is clear. Yet there is also a sting in the tail of this success story, which is highly significant. It took 13 years from the first scientific paper to the signing of the Montreal protocol. It will take about the same time for the latter to be fully implemented. In other words, the human/institutional response time in this case is about 26 years, or, roughly a quarter of a century. Beyond this, it will take another century for the ozone-eating CFCs to be eliminated from the atmosphere. *This demonstrates very clearly that the implicit time-frames used by most governments and decision-makers (say from 1 to 5 years ahead at the most) are out of step with the dynamics of the life-support systems of the earth.* Because of the long delays, the long-term processing periods, the time it takes natural systems to recover from damage or abuse, the time-frames applicable to our environment must be measured in decades or centuries.

Here is the great challenge for habitually growth-oriented, short-termist and resource-intensive societies. How can they begin to deal with this opposition between short-term and long-term? How can they

apply systematic foresight to the big issues of planet management now, and in the 21st century? If they continue to regard only the short-term as significant, then it is quite clear that they will be moving into a period which the systems modellers call 'overshoot and collapse', which is not a pleasant prospect.⁵

One way to avoid this prospect is to understand that, by virtue of its power and impacts throughout the natural world, *our global, industrial culture is already in the future!* The effects of actions, decisions, pollutants, wars and so on are never fully expressed where they happen to originate. Just as it took many years for DDT silently to ascend the food-chain, and just as it will take over a century to cleanse the atmosphere of CFCs, so too are there many other substances and impacts presently working through the entire global system. Clearly, we do not only need a long-term early warning system to tell us about things that are already in the pipeline, as it were; we must begin to think ahead on the scale required. While the exact time-scales will differ for different systems and purposes, the above examples suggest that *at the social level our collective foresight needs to extend a hundred years into the future.*

We are a long way from this. But the prospect would be less daunting if we simply applied what we already know about foresight. Unfortunately, there are a number of barriers or impediments to its wider implementation. These will extend the time and hence increase the risks and the eventual costs to all forms of life on the planet.

Barriers to the Wider Use of Foresight

Here are six barriers to the wider implementation of foresight. They by no means exhaust the field, but they do give a clear indication of some of the difficulties to be faced by would-be social innovators in this critical area.

- *The practice of future discounting:* this suggests that because the future has not yet happened, it is inherently less important and can therefore be discounted. The rate of discounting used tends to conceal judgements about the value (or lack of value) of something or someone (i.e. future generations). In practice, a high discount rate suggests that the future is too remote to be worth anything much and can safely be ignored. A low discount rate would be an indication of value or importance. The major problem is that these judgements tend to be implicit and made by default. The empiricist background from which they emerge tends to be unrecognized and unquestioned.
- *The empiricist fallacy:* it is a dated yet common

empiricist view that the most important subjects for disciplined enquiry are those that can be measured, weighed or otherwise empirically verified. Since there are no future facts, the only sources of useful knowledge are those found in the past and the present. Future uncertainty is too great to permit us to say anything much of value about what may lie ahead. Therefore we should stick to what we can know directly and let the future take care of itself.

- *A sense of disempowerment*: many people feel that the problems are too great and individuals are too insignificant to have any real impact. The difficulty is exacerbated when experts disagree in public. People take the view that they have neither the power nor the opportunity to help solve major problems. The availability of reality-avoidance industries, including the surrogate worlds of mass entertainment, provide some relief from the resulting tensions. But there remains a sense that one is out of touch, and events are out of control.
- *The idea that time and space perspectives are fixed*: it is assumed that human beings have natural interests in the short-term which cannot be extended very much. These limits create boundaries which cannot be changed. In this view, it is unrealistic to imagine that people will ever be prepared to look more than a few years ahead.
- *Fear of foresight*: it must be acknowledged that foresight can be wrong, badly timed and biased. It may even complicate decision-making. The practical difficulties of making long-term policies and decisions based on provisional knowledge can be seen as insuperable.
- *The cost of foresight*: foresight is too expensive. Organizations are already hard-pressed to cope in difficult circumstances. The last thing they need is new set of costs. They should stick to what they know and leave others to indulge in idle speculation.

Objections similar to the above clearly carry weight in many contexts. But perhaps that 'weight' derives less from intrinsic validity than from habits of thought and perception which spring from an earlier world view; a view which itself has lost legitimacy and is seriously in doubt. Underlying it are assumptions which persist through inertia rather than through appropriateness or 'fit' with current circumstances or needs. Yet each of the fallacies identified above should be taken seriously. They indicate issues which socially-responsible foresight work must respond to. Indeed, each can be re-framed as positive agenda items, opportunities for clear and incisive work. Such work is now being carried out in many places. But a lot more will occur when the implications of the new

context are more widely understood. So I now turn to one way of illuminating the huge difference between the need for foresight in earlier societies and our present, very different, requirements.

The Change of Scale: From Horse and Cart to Superhighway

Foresight would have little or no social utility during settled times because yesterday's solutions would also suit tomorrow's problems. But it takes on added urgency during periods of rapid change and uncertainty. Such conditions are not entirely new. However, during much of history it is safe to assume that social foresight was not an urgent priority due to relatively slow rates of change, more diffuse populations, the limitations of more primitive technologies and the limited impacts humanity was capable of exerting. The underlying model for learning was to take the lessons of past experience and apply them within a well-understood present. But in modern times this stability has vanished. A new dynamic has subverted traditional wisdom in very many ways and seemed to outstrip the capacity of societies to respond. The 'technological trajectory', (or direction of technical developments) resulting from such assumptions is by no means a natural feature of the world. Yet it has seemed to many to be both natural and unstoppable. It is therefore useful to explore some of the foresight implications of this shift through simile and metaphor.

Imagine driving a horse and cart slowly along a country lane. It is a fine day and the horse is on familiar ground. There is no need to concentrate. A simple flick of the wrist conveys all that is needed. The creature ambles along. There's all the time in the world to dream, meditate on the week's events, idly watch birds gliding across the landscape. You can afford to relax because there is no urgency, no danger and no penalty for not being alert. You've done the trip before so your mind wanders.

If we contrast this idyllic scene with the demands of driving a fast car, the differences are obvious. Now it is no longer possible to relax in this easy-going way—it is all too easy to have a serious accident. So you necessarily move into a different mode. You concentrate, continuously scan ahead and try to anticipate situations as, or before, they develop. You learn to read the signs of speed, direction, momentum, road surface, weather, visibility, braking distances—all in split seconds. This kind of driving quite literally takes the human nervous system to the limits of its capacity (and perhaps beyond them, as the almost unbelievable statistics of car deaths and injuries around the world consistently show). It is worth noting that in both contexts an increase in speed can take one well beyond critical thresholds. Stopping

distance increases proportionately to speed, so you necessarily put greater effort into anticipation.

Such comparisons are not without drawbacks. Societies are not motor cars and the technological trajectory is not a road. But by applying traditional and commonplace understandings to modern conditions we can utilize shared experience (at least in developed countries) to highlight an aspect of the principle of foresight. When planners and futurists talk of forecasts, scenarios and cross-impact matrices they speak in a foreign tongue. But every driver understands foresight and anticipation in its familiar practical guise. Put simply, the illustration demonstrates *the social value of foresight*. Modern conditions clearly make unusual (non-traditional) demands upon present-day people, institutions and structures. They require that we *extend our framework of concerns from the local to the global level*, from the here-and-now to a wider temporal span and from simple person-to-person interactions to systemic ones mediated by a range of powerful technologies. Hence we are challenged to exercise our foresight capabilities in new ways.

But at least we can base the extension of perception and concern on a principle already in wide use.

Institutions of Foresight

In recent years there have been a number of concerted attempts to broaden temporal boundaries and to implement foresight activities of one sort or another. Some are government sponsored, others are private. Some exist as distinct institutions, others take the form of voluntary networks, associations or councils. Examples include the World Future Society, the Congressional Clearing House on the Future, the Millennium Institute and the Foresight Institute (USA), the Global Network on Responsibilities to Future Generations (Malta), the Future Generations Alliance Foundation (Japan), the Council for Posterity (UK), the International Futures Library (Austria), the World Futures Studies Federation and the Commission for the Future (Australia). Some of these are considered in detail elsewhere.⁶ The key question is, what do such organizations contribute? The examples given below show considerable diversity. But there is a common underlying pattern. Broadly-speaking these organizations pursue the following tasks:

- *Raising issues of common concern* that may be overlooked in the conventional short-term view: peace, environmental stability, inter-generational ethics, implications of new, and expected, technical developments.
- *Highlighting dangers, alternatives and choices* that need to be considered before they become urgent.

- *Publicising the emerging picture of the near-term future* in order to involve the public and contribute to present-day decision-making.
- *Contributing to a body of knowledge* about foresight and the macro-processes of continuity and change that frame the future.
- *Identifying the policy implications of the transition to sustainability*.
- *Helping to identify aspects of 'a new world order'* so as to place these on the global political agenda.
- *Facilitating the development and application of social innovations*.
- *Helping people to deal with fears and become genuinely empowered* to participate in creating the future.
- *Helping organizations to evolve* in appropriate ways.
- *Providing institutional shelters* for innovative futures work which, perhaps, could not easily be carried out elsewhere.

These are clearly significant contributions because they can help in many practical ways to initiate and support the crucial shifts of perception, policy and practice which, in no small way, form the pivot upon which this over-heated and over-extended global 'megaculture' now turns.

The Costs and Benefits of Foresight

How much does foresight cost, and who should pay for it? These are two key questions. The answers depend upon the organization involved, the work to be done and the way the work is approached.

For example, at its peak, Australia's Commission for the Future cost about A\$1 million (US \$700,000) a year to run, and was a mere 'drop in the bucket' in relation to government and consumer expenditures. The proposal by Professor Lester Milbrath of the State University of New York for a Council for Long-range Societal Guidance (in the USA) would be an order of magnitude larger, employing as many as 200 people. This might cost US\$20 million to set up and up to US\$1 billion a year for studies and impact assessments. It seems a lot—until one compares it with other expenditures: US\$10 billion for a nuclear power plant or the US\$300 billion needed to clean up hazardous waste dumps. Milbrath points out that the latter would not have been needed if adequate foresight had been in place 40 years ago. And that is the point. How does one assess cost in relation to assumed benefits? A simple example will make this clearer.

Some years ago I looked at the work of a volunteer who works exclusively with 'graffiti kids' in suburban Melbourne. Despite numerous applications to official

bodies, this dedicated individual could get no funding. So I added up the financial costs to the community (excluding the significant range of human costs) which included cleaning damaged property, prosecuting individuals and jailing them. Depending on the assumptions used, I came up with a figure of between A\$315,000 (US\$220,500) and A\$1,500,000 (US\$1,050,000) per year for dealing with 40 active individuals *after* the event. A median figure was A\$592,500 (US\$414,750). In other words, for an outlay of about A\$40,000 (US\$28,000) for the salary of this one worker, the state could save in the region of half a million dollars.

Yet the odd thing is that the transit authorities and police continue to spend far more on prosecutions and clean-up activities—around A\$12 million (US\$8,400,000). Here is a specific example of the costs of *not* using foresight in active prevention. The old saying ‘a stitch in time saves nine’ was proved to be true—though it was nearer 1:14 in this case (592,500/40,000=14.8). Such examples could be extended indefinitely. Indeed, they ought to be extended so that decision-makers can begin to see the financial benefits of successful foresight. Wherever we look, we see short-term thinking storing up expensive problems and dangers for the future. It is therefore important to assess dangers, to give a full accounting of the associated costs, and to show in particular contexts just what savings can be expected from implementing foresight over a sustained period. The notion of ‘*foresight auditing*’ has enormous potential because it can show clearly the magnitude of savings to be derived from successful foresight work. In this respect, it is not unlike energy accounting. Both provide long-term rationales for doing things differently. This is where progressive consultants and others with a social conscience should be working.

Since our present actions and decisions stretch far into the future, systematic foresight should be built into all our institutions and all aspects of government. It has already proved useful in government at the state level in the USA. Rather than seeing it as only an ‘extra’ cost, it may well be that existing planning systems can be revised and up-graded to incorporate environmental scanning and foresight. Each country should develop its own national foresight strategy designed to work with each major constituency within it. This work should also be directly related to the international program of 21st century studies.⁷

On the other hand, socially-progressive foresight can be informal and facilitative. The World Futures Studies Federation operates on a tiny fraction of the sums mentioned above. Similarly, the cost of some networks is minimal, particularly when they involve donated time and shared information. So, while it is true that foresight will require some level of resource commitment in certain circumstances, this should not

be uncritically generalized or used as a reason to avoid using it. As noted, it is possible to show that foresight will save more than would otherwise be expended. If one also adds an estimate of other costs: human, social, environmental, the cost/benefit ratio is even more obvious. In short, foresight is no longer a choice: it is a necessity.

The Foresight Imperative

The growth of human understanding and the extension of our concerns beyond the present has the effect of extending the ethical community beyond the here-and-now to our future selves, to our descendants and even to other species. Such an extension is entirely justified. *Under modern conditions foresight is less a choice than a necessity with all the force of an historical imperative.* This is so because a simple continuation of business-as-usual attitudes and practices leads inexorably on to futures no sane person would wish to inhabit. I therefore expect to see foresight work continue to develop in many contexts, e.g. in government, industry, business, education and public advocacy. However I am concerned that far too much attention is being paid to private or limited interests and not enough to universal ones.

Universities can, and should, play a major part in this process since they have within their walls many talented people and much of the expertise required. This suggests that they lift their focus beyond culturally-conservative forms of knowledge, short-term politics, boundary-maintenance and credentialism. But too few are willing to do this and even fewer have thought to provide space for futures studies in general and foresight implementation in particular. This is a grave oversight and one that contradicts the public-responsibility rhetoric commonly found in their mission statements. But universities, above all, should understand that the world is changing, and the future looks a good deal less secure than it did even a few years ago.

The human species has compromised the environment to the extent that its future viability can no longer be assumed. It has unleashed upon the world a remarkable variety of short-sighted and untenable ideologies and systems of value and belief which have unacceptable costs in the long term. It has sanctioned the construction of armies and weapon systems, complete with large stocks of hazardous materials which, were they ever used, would deplete and pollute the globe beyond repair. Some of these weapons are now in the hands of terrorists, so the nuclear spectre has not disappeared and will likely re-emerge in a different guise. *However, the widespread implementation of the foresight principle may provide a powerful stimulus for system change.* It sets up a different dynamic to that established during the indus-

trial age: one which helps us to question the accepted wisdom of the past and to participate in the creation (or recovery) of a worldview which interprets the world according to a different epistemology and a non-instrumental mode of rationality.⁸ The outcomes of this process are unpredictable. Yet the outlines of a more sustaining and sustainable way of life are beginning to appear. They are visible in the struggles of minority groups, in progressive social movements and in the coalescing of global networks around common causes. They are also evident in the laudable attempt to clarify just what may be involved in extending the scope of the ethical community beyond the limited interests of a single generation.

In summary, foresight in the 1990s means consciously working to complete the transition to a more sustainable world while there is time to achieve it and the future remains open. In this process limited, short-term interests must be located within more universal and long-term ones. Can there be a more pointed and critical challenge to the human species than this?

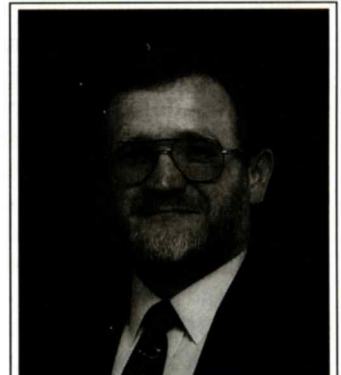
Conclusion

I have defined foresight as primarily a human capacity. This capacity can be bent, moulded and applied in many different ways. It can be applied to science, technology, business, profit, power and pragmatism. Or it can be directed to re-humanizing the future. If we collectively choose the former then we will continue to put all our eggs in the business-as-usual basket. That, I believe, is a profound strategic error because foresight tells us that, in Milbrath's terms, "Western culture cannot maintain its trajectory". In other words the collective map of the near-term future which has emerged from the work of far-sighted people around the world is telling us to change course without delay.

The central myth of the 20th century has been the view that the path to human destiny is through science, technology and instrumental reason. I suggest that these have been over-valued and that we are challenged to create a new synthesis which involves foresight and the pursuit of wisdom.

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Dr Richard Slaughter is Director of the Future Study Centre in Melbourne, Australia.