ASSESSING THE *QUEST* FOR FUTURE KNOWLEDGE

Significance of the quick environmental scanning technique for futures

Richard A. Slaughter

This paper discusses the QUEST technique, pioneered by Burt Nanus and Selwyn Enzer in the early 1980s. Since that time, QUEST has been taken up and applied by many people in a number of countries, including Australia and New Zealand. Several versions of the basic approach now exist, and the article explains why this process is expected to continue. The intention is to provide a critical overview and to comment on the significance and possible future evolution of this technique in relation to forecasting and the futures field. It appears to incorporate a shift of perception which may be of fundamental importance to the field as a whole.

'The central problem for top executives today is the management of change and complexity arising from the firm's interaction with an increasingly turbulent external environment.'

Burt Nanus, 1982.

'Formerly the future was given to us; now it must be achieved.'

Jonathan Schell, *The Fate of the Earth*, 1982.

The futures field embraces a wide variety of interests, individuals and groups, but the force which drives it is not individualistic or self-interested. The force in question is *historical necessity*. It arises from the particular conditions of our time as we experience the transition from industrialism and confront quite new dimensions of hazard and uncertainty.

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A wide-ranging literature, which embraces fiction and non-fiction, documents the decline of the Utopian impulse and the rise of Dystopia. The loss of sustaining (and sustainable) views of futures and the 'death of progress' constitute the twin subtexts of many volumes about the world *problèmatique*. It is clear that global culture is delicately poised, such that not even the very rich may feel secure. Powerful learning experiences (such as Chernobyl, the greenhouse effect and revulsion at recent events in China) have rippled around the globe. They serve to undermine many earlier certainties and to highlight further the necessity of scanning futures. Yet, despite this, the futures field still lacks the legitimacy and public acceptance it requires in order to fulfill its role. Why is this?

I have suggested elsewhere[1] that the development of the field has been hampered by lack of depth and by a range of unhelpful assumptions which, on the whole, seem to derive from the US context. My notion of 'critical futures study' arose from a reaction *against* this dominant tradition and the need for more durable foundations (which I found in certain European traditions of enquiry). But there is another dimension to this story. It concerns the nature of public misconceptions about futures work.

Three misconceptions are relevant here:

- the identification of futures with innovations in science and technology (which misdirects public attention away from the deeper sources of change in values, worldviews and ways of knowing);
- the assumption that forecasting and prediction are paradigmatic activities in the field (which identifies futures work with think-tanks and remote, professionalized contexts); and
- the persistent view that nothing substantial can be known or understood about futures (which springs, in part, from the chronic reductionisms inherent in empiricist and positivist modes of enquiry).

I consider each of these propositions invalid. But since they are constantly reinforced by the media and ill informed academic and other public discourse, they continue to distort public understanding of 'what futures is about'.

The collective impact of such misconceptions seriously inhibits the field. In practical terms, these false notions make it harder for futures people to get jobs and for those with jobs to obtain funds—particularly if the work is intended for the public domain (for it is here that the effective constituency for futures work paradoxically remains weakest). Yet this occurs at a time when futures work has become a *structural* necessity. A simple metaphor makes the point.

The continued marginalization of the futures field at this particular point in time is a serious mistake. It makes no more sense than does driving at high speed at night without the benefit of headlights. The *principle* underlying this proposition is incontrovertible because failing to look ahead demonstrably exposes us all to unacceptable risks. (Moreover, the insight is not new. It receives support from traditional cultures through sayings like 'a stitch in time saves nine' and 'look before you leap'.) The *limitations* of the metaphor derive from important differences between driving a car and

'steering' a global culture. Clearly the latter is much more difficult. But that is precisely why the field should be stronger and more active than it is. That is also why it should command wider support. To gain such support it will be necessary to draw on robust models of futures work, refute the misconceptions and engage public opinion much more effectively on a range of levels. This article uses the QUEST technique to explore steps in that direction.

A critical overview of QUEST suggests that a move away from forecasting and predicting *per se* to more process-oriented approaches may be under way. If so, the benefits will take time to appear. But to the extent that the shift is real, the position of the futures field seems likely to improve. The paper is not intended to provide support for those who wish to attack forecasting since it clearly has a wide range of applications, and is here to stay. Rather, I am concerned to re-assess the *dominance* of forecasting and prediction in relation to the wider spectrum of futures work.

QUEST: a rationale and overview

In his original paper on QUEST Burt Nanus outlined the case for a technique of this kind.[2] His argument can be summarized as follows:

(1) Organizations need efficient and cost-effective ways of dealing with uncertainty and rapid change.
(2) To assume that the future will be like the present or that decisions can be deferred until the environment is better understood increases the risks of failure.
(3) The future cannot be predicted. However, alternatives can be systematically explored.
(4) Top executives already possess a view of the dynamics of their organizations' environment. This view can be made clearer and more explicit.
(5) Techniques from futures research can be combined to provide a coherent picture of alternative future environments.
(6) This picture can be used as a basis for strategic planning.

Though apparently straightforward, these propositions form the basis for what is, in fact, a very complex process indeed (as anyone who has used it will know). The process can only be described up to a point—after which practitioners are on their own working at the interface of knowledge, technique and group interactions. Thus while some measure of initial guidance can be given, much of what needs to be known in order to perform QUEST can, perhaps, only be learned by doing it. So what knowledge, techniques and group processes are involved?

The QUEST process is not for the inexperienced, nor for the faint-hearted. Several types of knowledge are needed. First, knowledge of people and experience of group processes. The latter includes brainstorming, polling, voting, clarifying and structured debate. Second, a background in futures is undoubtedly helpful because it provides much of the professional *authority* to carry out the work. Given the context, this is essential. Quick thinking and the rapid resolution of problems is important, and for this to occur easily a wide knowledge of the area is helpful. Finally, one must

possess knowledge of, and experience with, the actual techniques involved.[3]

Two futures research techniques stand at the heart of QUEST—the cross-impact matrix, and the use of scenarios. Both can be difficult to use under pressure, so it is usual to have an interval of several weeks between workshops. They are discussed in more detail below.

Structure and process

Figure 1 provides an outline of the QUEST process. Five stages are identified: preparation; an environmental scanning workshop; intermediate analysis and report; a strategic options workshop; and, finally, follow-up work.

The preparation stage is important. If it is done well, the rest of the process runs much more easily. Careful preparation is particularly important when, as sometimes happens, a quick scan is compressed into a *rapid* scan over two successive days. This puts a great deal of pressure on the facilitator to process material and come up with useful scenarios.

Preparation begins with the initial contact and subsequent briefing, during which any foreseeable ambiguities and problems should be ironed out. A team from the organization is then chosen from among the top management. An ideal number for the team is about ten, including the chief executive officer and at least one individual from each major division or area. The team should be briefed about the nature of QUEST and what it can and cannot do. Three points stand out. First, it is prudent to avoid 'over-promising'. Nanus has described this as the single most important error to avoid.[4] Second, it should be emphasized that QUEST is *not* predictive: it explores an array of futures using different assumptions. Third, QUEST should not be seen in isolation, but as a 'front-end' process which leads on to further work within the organization.

The other main aspect of preparation is the compilation of a notebook containing information about the organization and its environment, ie information about trends, events, opinions, policies, competitors etc. Statistical summaries of key indicators of performance are also useful here. The entire team is asked to review this material before the first workshop. It provides a common base from which to begin the exercise. While some

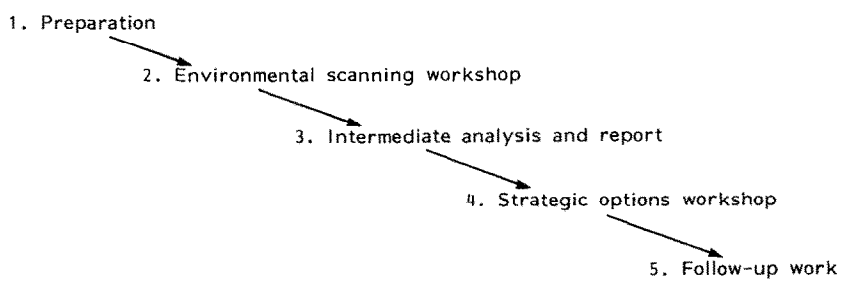

Figure 1. Main stages of the QUEST process.

users of QUEST have dispensed with this step, most would agree that it is a useful starting point, particularly if there are likely to be significant time-pressures.

Since time is limited it is tempting to plunge straight into the analysis of the organization at the beginning of the first workshop. However, facilitators also need to pay attention to the group process aspect. Unless there has been a prior meeting with the full team (which is unlikely) the facilitator will be to some extent 'on trial' at the beginning. He or she will be new, untested and unfamiliar with personalities, power relations, the organizational culture and many detailed facts and processes pertaining to the organization. Moreover, the process necessarily involves the disclosure of confidential and sensitive material; So the question of trust and confidentiality arises—quite apart from any consideration of professional standing or ability. It is therefore valuable to spend some time establishing working relationships and trust. The facilitator may describe earlier workshops, lay out the assumptions underlying the procedure and allow time for questions. Again, not everyone is comfortable working in group situations and it is likely that some participants may experience stress. If the facilitator can reassure the client team about these matters the process will clearly run more easily.

Apart from establishing personal contact it is also useful to establish basic 'ground rules'. For example, if the sessions are taking place at the organization's own premises, there will be distractions. People will want to make telephone calls or receive them. So prior agreement about procedure is important. It is particularly useful to emphasize adherence to times for coffee and meal breaks since some phases of the QUEST process can be disrupted if members of the team are not present.

It is unlikely that there will be any difficulty defining the organization since many people will already be familiar with a 'SWOTs' (Strengths, Weaknesses, Opportunities, Threats) analysis. However, the identification of future external trends and events which may affect the organization is more demanding. Perhaps 100 or more will be derived and written down. But before the top ten trends and events of greatest potential impact are voted for and used further, it is important to clarify entries and make them more precise *without* becoming bogged down in long discussions. The rapid ajudication of debate in pursuit of clarity and brevity is one of the most demanding aspects of QUEST. Once the trend/event set is agreed and clear, a simple voting process (such as the nominal group technique) yields perhaps ten items which the group collectively decides are the major ones. These can be assessed for probability or they can be entered directly into the cross-impact matrix.

At every point of QUEST there are choices to be made. Here it may be that one matrix is completed, or several. It depends on the situation, approach etc. The matrix provides a systematic 'picture' of the interaction of the chosen trends and events. (This does not mean that the rest of the trend/event set are discarded—they are included in later analyses and used in the scenarios.) Some choose to differentiate between trends and events and to impact them separately. Others run them together. It can also be useful to impact the top ten trends and events against key performance indicators since this provides additional insight into the way external factors

may affect the internal dynamics of the organization.

It is essential that the matrices are completed by the end of the first day. However, this is demanding work and it is likely that the participants will be tired at this stage, so the process needs careful handling. Knowing that the hardest work comes near the end of the day, an astute facilitator will, perhaps, *use* this fact to encourage steady progress at the earlier stages. If time is short, parts of the matrices can be assigned to pairs or groups in order that they be completed more quickly. However, this can introduce complications due to the use of different assumptions.

The intermediate analysis and report will normally be produced over a period of weeks and fed back to the team for comment and revision. It will outline areas of disagreement, possible omissions and inconsistencies and, most important, draft scenarios for the second workshop. The latter are drawn from the matrices and the full list of trends and events. They depict *contrasting future environments* which accord with clusters of trends and events. It is important that the scenarios are clear, internally consistent and plausible. When the time between workshops is reduced, shorter versions may be used.

The second workshop uses each scenario as a starting point for the identification and refining of strategic options. If the scenarios are plausible they will attract immediate support. The team can then divide into groups. Each group works its way into a particular scenario and poses the question: 'If this occurred, what strategic responses could we make?'. Once a list of options has been produced, discussed and refined it can be impacted on the strengths and weaknesses identified on the first day. This can be a fruitful exercise. It is at this point that QUEST begins to repay the effort involved since new insights about the organization and its options now begin to emerge.

The pattern of options impacted against strengths and weaknesses models a set of judgments and interactions which are extremely important to the organization in terms of its present self-understanding and the evolution of its strategic planning and policy making. Equally, at this point some of the judgments may appear questionable. If so, they may be discussed and revised. However, it is a mistake to re-do matrices from the beginning. This is something that can be undertaken later.

The next step is to select the most robust options for further work. Those which are deemed 'robust' are options which seem to apply *across the range of scenarios*. In other words, they represent a distinct 'pay-off' regardless of which path events take. This is an important consideration for reasons which are explained below. It is possible that the process may wind down at this point. However, if the most productive use is to be made of QUEST then the options which have been identified need to be redefined in terms of work tasks, specific responsibilities and personnel, and explicitly incorporated into a strategic planning cycle. If there is insufficient time during the workshop the options may simply take the form of key ideas for further work. The important thing is to feed the early results of QUEST directly into the structures and processes of the organization.

Finally, it is good practice to provide the clients with clean copies of the workshop materials, along with a final report summarizing the major conclusions.

What is QUEST?

The account given above is drawn from my own practice and from the work of other users.[5] It suggests that, while in outline terms there is a clear basic structure to be followed, in more detailed terms QUEST is less a single technique than a 'suite' of options and approaches. Many decisions are required to tailor the process to a particular situation. Clearly, this is a matter of professional insight and judgment. Difficult choices may have to be made. Parts of the process may have to be omitted. Methodologies may need to be simplified or changed. The basic unit of analysis may need to be reconsidered, particularly if the QUEST team is drawn from different organizations.[6] It follows that no two exercises are likely to be identical. While detailed QUEST 'blueprints' do exist, it seems more likely that their elements will be used on an *ad hoc* basis rather than followed in detail. Nevertheless such accounts do provide useful starting points for new practitioners.[7]

QUEST clearly represents a fluid and adaptable approach to the problems identified by Nanus at the head of this article—change, complexity and environmental 'turbulence'. It has been used in a wide variety of organizations. These include:

- financial institutions;
- manufacturing corporations;
- health care organizations;
- international airlines;
- universities and colleges;
- government agencies; and
- non-profit organizations.[8]

Given the diversity of the above, it is hardly surprising that QUEST has taken a variety of forms. In less than a decade, it has spread to at least four countries. This suggests that the claims made on its behalf are not exaggerated. The most widely reported benefits and outcomes are that:

- It provides an opportunity to develop a shared view of future options and eventualities.
- It permits the clarification of the underlying mission or purpose of the organization in relation to specific environmental changes.
- It promotes a greater awareness of the dynamics of the environment and of the key variables involved.
- There tends to be an increase in strategic thinking.
- Shifts toward more 'proactive' attitudes and practices are experienced.
- The process promotes team building and a stronger corporate identity.
- It strengthens commitment to the strategic planning process.

It is clear that none of these results is dependent on a 'hard' notion of forecasting or prediction. This lends weight to the view that a major purpose of futures work is not to make confident assertions about 'the future' but to elaborate understanding in the present (however defined).

But is this all? Is QUEST simply a flexible, multi-faceted technique which solves problems for large organizations? There are several factors which may contribute to understanding the wider significance of QUEST.

Significance of QUEST in relation to forecasting and futures

The apparent success of the technique may partly be found in the novel way it circumvents and resolves the ambiguous desire of human beings to 'know' some aspects of the future ahead of time. The epistemology of futures scanning is a subject far larger than can be pursued here. However, it seems to me that forecasting and prediction *per se* have been accorded undue prominence within the field. Both will continue to be important for a wide range of practical purposes. But it may be a mistake to regard them as dominant, paradigmatic foci since they are highly specialized activities which only embrace a small part of the spectrum of futures work (see below).

A related issue is the attempt to assimilate *all* forms of futures scanning to a notion of prediction. Bell and Olick have argued this position strongly.[9] However, I prefer to retain a much tighter definition (of prediction) and restrict its use to those limited contexts when all relevant parameters can be measured with confidence. If we lose the distinctions between different types of futures scanning we will perpetuate the unfortunate myth that 'futures' is centrally concerned with 'foretelling the future'. The structural imperatives which are driving the futures enterprise will continue to be overlooked and our work will continue to be misidentified with that of prophets and soothsayers (who belong to a very different tradition). Figure 2 makes this somewhat clearer.

The simplest possible typology considers two broad types of futures scanning and two types of system. (Far more complicated accounts are possible, but I have tried to keep this discussion to essentials.) This suggests where some of the different approaches to scanning futures may fit. Prediction seems best suited for rational/analytic discourse about the superficial aspects of physical and technical systems. These are relatively simple. (All systems break down into unmeasurable complexity at the quantum level, but that is not my concern in this article.) They can be measured, understood and modelled. Strategic planning and scenarios are more applicable to human and cultural systems. Such systems are inherently unpredictable because they are composed of unmeasurable and incommensurable elements. The techniques employed circumvent these difficulties by

	RATIONAL/ANALYTIC APPROACHES	INTUITIVE/INFORMAL CREATIVE APPROACHES
PHYSICAL AND TECHNICAL SYSTEMS	Prediction	Foresight Anticipation
	Forecasting and extrapolation	Speculation
HUMAN AND CULTURAL SYSTEMS	Strategic planning and scenarios	Imaging Critique

Figure 2. Types of futures scanning.

creating forward-looking decision contexts. Forecasting and extrapolation are, perhaps, transitional between these since they use time-series data to create plausible lines of development.

The role of intuitive, informal and creative approaches is less clear. Terms such as foresight and anticipation are nearly synonymous. But since they are ubiquitous in everyday life they cannot be considered the exclusive province of futurists. Similarly, speculation is a powerful human capacity which tends to be overlooked by nearly everyone except artists and SF writers. The fact that it is basically exploratory and non-prescriptive may well have obscured its central importance to us all in looking beyond what is to what may be. Imaging processes tend to be more structured and intentional. They draw on the creative power of human imagination to construct new (or renewed) possibilities. The latter may have little support in the everyday world of the present. But successful imaging can create and destroy nations. Yet the futures literature is sparse on this important area. Clearly there are grounds for seeing these types of futures scanning as having their own specific uses, and applications within different types of systems.

Finally, the ability to critique images and projects of futures is not one which has flourished in the chronic taken-for-grantedness of the dominant US tradition. Yet it is perhaps as important to critique such images and projects as to create them. We do not have to go very far back in history to find projects which have proved to be disastrous because they did not attract sufficient opposition to prevent them taking root. Critical futures work certainly draws on different sources to those of forecasting and prediction, but it would take a brave critic to argue that it had less social utility.

None of these approaches to futures scanning relies solely on prediction in any hard sense. They do not say that something *will* happen; only that it *may* if, and if, and if . . . So what we are looking at here are not futures in their reality and substance but mental operations in the present. As noted above the latter lacks firm boundaries and therefore embraces aspects of both past and future. Such mental operations rely on a *sense of the future* (which is the product of rational and intuitive processes), and an expectation of it, but not on the future itself. That remains ever out of reach until it becomes the present.

My 'map' of the futures field places forecasting and prediction near one end of a broad spectrum which ranges from hard-headed, quantitative, analytic and professionalized work at one pole, to the more intuitive, qualitative and participatory approaches of activists, visionaries and social innovators at the other.[10] This suggests that it is the imaginative and intellectual *range* of the field which lends it particular value, rather than just the existing institutionalized components.[11]

The 'crisis' in forecasting has only partially been resolved by improvements in methodology.[12] It has been repeatedly shown that expert opinion may not be more accurate in the end than common speculation, and that forecasters have missed many key shifts and events of our time.[13] How could they do otherwise? Futures scanning in a social/cultural/economic context cannot be considered primarily as a *technical* issue. No technique or method can imitate history and come up with future facts *unless* they be about inherently predictable physical systems such as planetary motions,

lunar cycles, tides etc. Most matters of deeper human and cultural concern lie almost entirely beyond measurement and the total understanding which would be needed.[14] Of the hundreds of futurists who gathered in Beijing in September 1988 for the tenth annual conference of the World Futures Studies Federation, not one, to my knowledge, harboured the slightest suspicion about the tragic events which would occur there a scant nine months later. Such 'system breaks' have regularly confounded forecasting and prediction, and they will continue to do so.

However, futures *can* be intuited, imagined and, to a limited extent, created. Their outlines can be constructed through imagination, stories, myths, scenarios and the implementation of practical policies and choices. The key point is that it is the search for forecasting *accuracy* which generates the basic ambiguity. This search is a will-o'-the-wisp which can produce useful insights in some fields, but misses the point in others.[15] The point, after all, is not to foresee *the* future (singular) since this is an impossibility. It is rather to provide a context in the present for the choices and decisions which will help to *create* some aspects of the future (and avoid others). That is why some organizations have realized that 'the focus of planning has . . . changed from forecasting accuracy to responsiveness to change.'[16] It is precisely this shift which QUEST facilitates. It explicitly recognizes that 'accuracy' is not a criterion which can readily be sustained in the face of future uncertainty. So instead of going all-out for the 'correct' snapshot, it provides a systematic way of creating a broad-brush picture which is divergent, relevant and helpful. Underlying this approach is another major point: futures scanning is not a 'one-off' activity. It is, rather, *a continuous process* which also involves monitoring, analysis, decision making and adjustment. In other words, futures scanning is an important part of strategic management. Forecasts can *fit into* such a process but they cannot substitute for it. This is explicitly recognized by Godet whose notion of *la prospective* includes qualitative components and incorporates similar propositions.[17]

So QUEST appears to embody an important shift of perception. It is a shift away from the contradictions of attempting to 'know the future' towards dealing with those of its challenges which are visible in the present via a range of iterative and exploratory processes. QUEST has been widely adopted partly because of its *structural* simplicity (arising from two standard futures tools), partly because its procedural complexity makes it inherently flexible but, most important, because it is free of the forecaster's conceit (ie to 'know' the future) and is therefore more useful. It is this *practicability* and *relevance* to the unique dynamics of an organization which is, perhaps, its strongest attraction. This view receives support from other observers.

In his authoritative work on issues management, Joseph Coates outlines some of the many attributes of foresight. These include:

- exploring the effects of extending current policies;
- widening the range of policy choices;
- providing early warning about otherwise unanticipated difficulties;
- alerting to new opportunities;
- testing the consistency of policies internally and externally; and
- providing a context for planning.[18]

Significantly, he then adds the comment that 'foresight is a process, not a technique'.[19] This reinforces the suggestions made above. The keys to understanding and creating futures are not to be found exclusively in the realm of professionalized technique. Rather, they reside in the whole *range* of futures scanning and futures shaping processes—in novels, images, debates, discourses, campaigns, conferences, journals and workshops. If this argument is valid, then we have the grounds for a significant shift of emphasis in applied futures methodology—a shift away from professionalization towards more convivial institutions and processes of foresight.[20]

One consequence may be that techniques and approaches which developed in, and for, particular contexts could be adapted and used more widely.

Extensions of QUEST

When Darwin visited the Galapagos Islands, he observed a number of closely related species of finches which, he reasoned, had developed from a single stock to colonize different island niches. Something similar appears likely with QUEST. Figure 3 summarizes what appear to be the three main lines of development. These are now discussed briefly.

Continued evolution of the basic model

Many permutations are possible using the basic model. I have suggested that this is one source of its great flexibility. As new practitioners bring their own expertise to bear on it, and as they introduce it into new environments, it seems likely that the process of evolution and differentiation will continue.

The appeal of the basic model is likely to be perennial because it is inexpensive, quick and productive. Moreover, the need to adopt processes of environmental scanning more widely will grow as rapid structural change continues to undermine many taken-for-granted assumptions and practices. There is no end in sight to this process of undermining, crisis and adjustment because there is no end in sight to the processes of technical innovation, economic dynamism and other environmental changes which are driving them.[21] So I expect more and more organizations to adopt methods of this kind and to use them regularly. Hence there appears to be a growing built-in demand for this kind of work. The basic model will continue—albeit with many local variations.

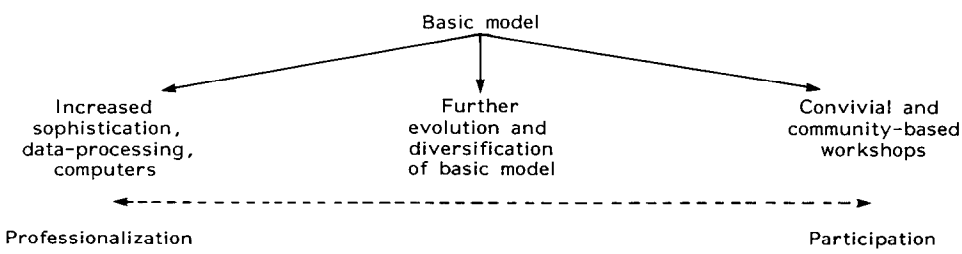

Figure 3. Extensions of QUEST.

Greater sophistication, with data processing

Some leading members of the environmental scanning community have taken the QUEST methodology a stage or two further by elaborating it conceptually and linking the approach with computer simulation models. For example, Enzer uses a spreadsheet program to model key social and economic indicators. He retains the cross-impact matrix to assess and resolve uncertainty. The resulting scenarios are subjected to policy analysis and re-iterated. Another example is provided by Mecca whose PASS (Policy Analysis and Simulation System) permits decision makers to combine human decision making with highly sophisticated modelling and simulation techniques.[22] Key aspects of future environments can therefore be explored without covering up uncertainties and without becoming over-reliant on problematic forecasts. The most methodologically and conceptually advanced variant in this field appears to be that described by Godet.[23]

These approaches are certain to be used more widely by the corporate sector for the reasons given above. They will continue to evolve and some may become more widely available in commercial packages. However, the conceptual and group process aspects of QUEST-type exercises means that specialist consultants will still be needed. A stimulus to further development could occur if 'expert systems' and 'artificial intelligence' live up to their promise. But I, for one, am not prepared to try and forecast the outcome.

Convivial versions of QUEST

Nanus has clearly stated that the original version of QUEST was explicitly developed to deal with problems faced by large organizations. However, the problems faced by smaller organizations, groups and individuals are not dissimilar. We all need to deal with uncertainty, complexity and rapidly changing environments. So there is clearly scope to modify QUEST for more convivial and informal uses—for example with schools, community groups and other small organizations. In these cases it is likely that the methodology will need to be simplified; some steps will be redundant, while other stages may need to be added. The futures imaging workshops which have been developed by a number of futurists may be combined with elements of QUEST to provide a wide spectrum of choices.[24]

The outputs of more convivial versions will be different. They will be less 'strategic' and more personal, reflecting the wider range of interests and applications at this level. Many will be radical and/or visionary. Professional futurists should welcome such developments. While the corporate sector has legitimate and continuing interests in the futures field, futures scanning processes like QUEST clearly have many unexplored applications in the public domain. It is here that the greatest expansion could occur.

Conclusion

Most people are aware of 'environmental turbulence' and the dilemmas it poses for planning, forecasting and decision making at every level. Fewer, perhaps, are aware that the resolution of systemic malfunctions requires new metatheoretical approaches and tools.[25]

As the second quote at the head of this article suggests, it is crucial that we collectively alter the long-standing, and increasingly expensive, balance between crude experience and futures scanning. This may occur to the extent that we deal with some issues that I have outlined here—misconceptions about futures study, the inhibiting effects of professionalization and untenable conceptions of futures work. The creation of true institutions and processes of foresight designed for broad-spectrum futures scanning will facilitate many adaptive innovations. These, in turn, can ensure that social and organizational learning is less dangerous and disruptive.[26]

Many have intuitively balked at the notion that 'the future' can be 'known' in any hard or 'scientific' sense.[27] It is a contradictory and impossible quest. It has caused confusion about 'what futures people do', inhibited the development of the field and impaired its long search for legitimation and support.

However, if we abandon the notion that futures work is centrally concerned with forecasting and prediction then the social utility of other types of futures scanning can be demonstrated and explored. The proliferation of different versions of QUEST may be part of this process; a process in which the futures field gives up some of its earlier overstated claims and demonstrates its capacity to respond to a range of needs on a number of levels and in many different social contexts.

Notes and references

1. See R. Slaughter, 'Towards a critical futurism', *World Future Society Bulletin, 18*(4), 1984, pages 19–25, and *18*(5), 1984, pages 11–21.
2. See B. Nanus, 'QUEST—Quick environmental scanning technique', *Long-Range Planning, 15*(2), 1982, pages 39–45.
3. The importance of background knowledge and familiarity with the techniques employed is rightly emphasized in J. Coates *et al*, *Issues Management* (Washington, DC, Lomond, 1986).
4. B. Nanus, 1988 personal communication.
5. Apart from Professor Nanus's work, I have also found accounts by Thomas Mecca and Diane Campbell-Hunt particularly useful. See: T. Mecca and C. Adams, 'ED QUEST: an environmental scanning process for education agencies', *WFS Bulletin*, May/June 1982, pages 7–12; and D. Hunt, 'The use of futures scanning to assist strategic thinking in some New Zealand public sector organisations', seminar paper at the University of Melbourne, April 1988.
6. This occurred at a University of Melbourne workshop on 'Strategic Issues in Higher Education'. Our solution was to *begin* with the higher education sector and to move progressively towards individual institutions. This worked well in the end, but made the earlier stages more demanding. The workshop was outlined in R. Slaughter. 'ED QUEST in context', Centre for Applied Research on the Future, University of Melbourne, February 1989.
7. The most comprehensive I have seen is by T. Mecca, 'ED QUEST: a process for linking environmental changes with strategic management', (Greenwood, NC, Institute for Future Systems and Research, undated). I should like to acknowledge his generosity in making available to us copies of this and associated documents concerning QUEST.
8. This listing is similar to one given by Dr Enzer in one of his duplicated handouts.
9. See W. Bell and J. Olick in 'An epistemology for the futures field', *Futures, 21*(2), 1989, pages 115–135.
10. See R. Slaughter, 'Probing beneath the surface—a review of a decade's work', *Futures, 21*(5), 1989, pages 447–465, for one version of this 'map'.
11. Perceptive critics have long recognized the way that forecasting has been used on behalf of the most powerful and privileged groups. See I. Miles, 'The development of forecasting', in T. Whiston (editor) *The Uses and Abuses of Forecasting* (London, Macmillan, 1979), pages 5–41.

12. See Sir K. Alexander, 'The uncertainties of economic forecasting', *Futures, 20*(3), 1988, pages 307–312, for a recent overview. Godet makes a number of pertinent suggestions for dealing with the 'crisis' in forecasting in M. Godet, *Scenarios and Strategic Management* (Guildford, UK, Butterworths, 1986). However the problems faced by forecasting *per se* may remain fundamentally irresolvable for the reasons given in this article.
13. See R. Moyer, 'The futility of forecasting', *Long Range Planning, 17*(1), 1984, pages 65–72.
14. B. de Jouvenel brought clarity to this issue when he noted the differences between *facta* and *futura* in *The Art of Conjecture* (London, Weidenfeld and Nicolson, 1967). This distinction is taken further by Bell and Olick, *op cit*, reference 9, who suggest that 'positing the future, rather than knowing it, is possible, using extrapolative and non-extrapolative methods . . .' (page 131). In this approach it seems that 'reflexive surrogate knowledge' is the best we can hope for.
15. Most forecasters seem to accept the need to regard their raw data as *a starting point* for analysis, and therefore avoid the dangers of reductionism and naive prediction. For example, see P. Ruthven *et al, Business Strategy: The Implications of Industry Lifecycles for Strategic Planning* (Melbourne, The Ibis Group, 1987).
16. Quoted in *Future Survey*, November 1988, page 13, in a summary of 'Planning for uncertainty: a case study', from *Technological Forecasting and Social Change, 33*(2), 1988, pages 119–148.
17. See Michel Godet's demanding but rewarding book (*op cit*, reference 12); also his article 'Reducing the blunders in forecasting', *Futures, 16*(2), 1983, pages 181–192.
18. Coates, *op cit*, reference 3.
19. *Ibid*, page 11.
20. The need for such institutions has been recognized by leading futures thinkers for some time (eg de Jouvenel, *op cit*, reference 14). A few—such as the Congressional Clearing House on the Future—have achieved prominence. However, others remain marginal. Australia's Commission for the Future has been a disappointment so far. It lacks a research base and seems preoccupied with 'issues' at a relatively superficial level. K. Eric Drexler's 'Foresight Institute' may indicate a different approach which, in this case, is linked with a specific group of developments under the heading of nanotechnology. One could not accuse Drexler of superficiality, but it is regrettable that the *principle* of 'foresight' is compromised by a prior commitment to a powerfully destabilizing set of future innovations. A decisive rejoinder to this approach is provided by Stephen Hill in his excellent and penetrating book, *The Tragedy of Technology* (London, Pluto Press, 1988).
21. The often overlooked corollary is that the resulting instabilities may well be irresolvable without a deeper analysis of the metaproblem, ie the sources of disruption in worldviews, paradigms, methods of enquiry and ways of knowing which we have inherited from the scientific and industrial revolutions. See Hill, *op cit*, reference 20; and Slaughter, *op cit*, reference 10.
22. T. Mecca, *Policy Analysis and Simulation System* (Greenwood, NC, Institute of Future Systems and Research, 1988).
23. Godet, *op cit*, reference 17.
24. For example, see J. Macy, *Despair and Personal Power in the Nuclear Age* (Philadelphia, PA, New Society Publishers, 1983); R. Jungk, *Future Workshops* (London, The Institute for Social Inventions, 1987); and the series of workbooks and monographs produced by Warren Ziegler of Futures Invention Associates, Colorado, USA. Also see R. Slaughter, *Futures Tools and Techniques* (Melbourne, Futures Study Centre, 1987) for a sample of workshop exercises and starting points.
25. See Slaughter, *op cit*, reference 10. Also R. Slaughter, *Recovering the Future* (Melbourne, Graduate School of Environmental Science, Monash University, 1988).
26. One of the most perceptive works on this key area remains D. A. Michael, *On Learning to Plan—and Planning to Learn* (San Francisco, CA, Jossey-Bass, 1973).
27. I have maintained for some time that the attempt to constitute futures enquiry as a science which permits prediction is misguided. See Slaughter, *op cit*, reference 1.