# From forecasting and scenarios to social construction: changing methodological paradigms in futures studies

**Richard A. Slaughter**

*Richard A. Slaughter is President of the World Futures Studies Federation and Foundation Professor of Foresight at the Australian Foresight Institute, Swinburne University, Hawthorn, Victoria, Australia.*

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***Abstract*** *This paper looks at shifts that have occurred in underlying methodological paradigms in futures studies (FS) over the last several decades. It suggests a progression from forecasting to scenarios to social construction and seeks to account for the rise of the latter.*

## Introduction

As is now well known, all fields are affected by disciplinary paradigms that supply practitioners with powerful accounts of the important questions to be studied and the methods that are to be employed. Futures studies (FS) is no different in this regard. Those socialised into the discipline tend to pick up and use the prevailing prescriptions of the time and to work with these over extended periods.

When I first encountered FS in the 1970s the journals were filled with papers about forecasting. At that time this was clearly regarded as the key methodology. Since then, however, we have seen the rise of scenario building, or scenario planning, as it is sometimes called. The term "scenario" was coined by Herman Kahn. It was popularised by organisations such as GBN and it has long passed into public awareness, albeit in a highly simplified form.

I have always seen the point of scenarios. When done well (which may not be often) they can illuminate aspects of possible futures and then tie these back to assumptions, ways of thinking, decisions etc., in the here-and-now. Yet, over time, I have become less and less satisfied with them, especially conceived as a paradigmatic methodology. This paper is an attempt to explain why. It also attempts a preliminary exploration of an emerging methodological paradigm better suited, perhaps, to a maturing discipline and the wider twenty-first century context.

## Forecasting as a necessary contradiction

Before dealing with forecasting *per se* I must first deal briefly with the underlying notion of prediction. There are basically two views about this in the field. One, held most strongly by



Bell (1997), is that all forward-looking references involve prediction in some form. I take a different view, which I believe is held by a majority, that prediction in social systems is neither possible nor desirable. In other words, I want to restrict the term to only those situations that can be comprehensively mapped, measured and modelled, e.g. the movement of planets around the sun. I will leave aside questions of irreducible uncertainty here, and also those dealing with quantum physics. The point is, if you understand a system at the macro level you have a reasonable basis for predicting its future states up to some point.

Successful prediction conveys power. If you know an eclipse or a flood is coming you can make appropriate preparations. But the understandable desire to "predict the future" is in direct conflict with the view of people as agents and makers of history. Successful prediction across the board would render us as passive observers. Fortunately such full-scale "foreknowledge" is not available to us. But humans, being humans, shapers and now masters of this small planet, have a built-in need and capacity to direct, control and construct. The globe-spanning infrastructure that surrounds us today is conclusive evidence of that.

Within that broad domain are many interests, situations, that absolutely require some foreknowledge or, as I prefer to say, foresight. If you want to build a house that will withstand strong winds you need to make judgements about how to construct it and with what materials. Similarly, if you want to build a bridge, you must anticipate how it will be used and what stresses it will have to bear. As the twentieth century infrastructure developed, however, such physical problems were well understood (in most cases) by the applied discipline of engineering. The practice of forecasting then shifted somewhat to financial and economic matters: what would be the level of demand for the bridge, airport or power station? What return on investment (ROI) could be anticipated? In other words, how good an investment was it likely to be? Such questions have become all-too-familiar. They, too, have passed into wide public awareness such that they have sometimes appeared to be the only significant questions before us.

Forecasting flourished in the twentieth century because it attempted to come to grips with such questions and to provide investors, corporations and governments with tools for making decisions. A whole set of methodologies developed to support this initiative and, for a while, forecasting flourished. Yet the underlying dilemma about prediction and freedom of action was never fully resolved, with the consequence that forecasting lost legitimacy. Let me be clear: I am not saying that forecasting became redundant – far from it. It remains in wide use, necessary use, in countless instrumental contexts today. Rather, what has been lost, and probably lost forever, is the notion that forecasting can tell us much of value about how we should operate in the world and, more particularly, how we should solve some of the very serious problems facing humankind. Such questions are bound up with complex social and human issues, but forecasting fell silent when confronted with the human predicament.

## Scenarios and the exploration of divergence

When Herman Kahn developed the first formal scenarios at the Hudson Institute in the 1960s and 1970s he was drawing on human capacities that had existed from the dawn of time to consider, and respond to, the not-here and the not-yet. The context that concerned him, however, was that of the Cold War and, in particular, the strike/counter-strike ideology of the time. His works *On Thermonuclear War* (Kahn, 1960) and *Thinking About the Unthinkable* (1962) elevated the use of scenarios for military purposes way beyond its earlier use in simple war games. So, from the outset, the exploration of divergence was driven by military and strategic considerations. It took a little longer for this methodology to be domesticated and integrated into strategic planning and organisational decision-making. But, over a decade or two, that is what happened.

By the 1980s and 1990s a flourishing industry had developed around the commercial and government uses of scenarios. The point was, and remains, that a useful response to the irreducible uncertainties associated with forecasting was to shift the focus of anticipatory work to new ground. That is, to set aside hopes for accurate forecasts in favour of two other valuable gains: exploration of divergence and preparation for change.

This was a very successful move. It led to the widespread use of scenarios in many different contexts. Moreover, the tools involved were less esoteric than the maths that supported rigorous forecasts. You no longer needed a doctorate to use the new methods. All you really needed was a small group of willing participants, a whiteboard and a felt tip pen! The commonest methodological starting points for scenario building are conceptual exploration and simple group processes. Henceforth, anyone could become a scenarist. And indeed, nearly everyone did. A whole army of semi-trained scenario builders spread out through the boardrooms of commerce, the convocations of government and even, in some cases, the ivory towers of academia. The future had arrived! Or, rather, scenario building had. Since the approach was readily understood and easily mastered it spread out and assumed prominence as the central "keystone" methodology of futures work.

This was, it must be said, a huge success. People were now no longer just "talking scenarios" a lot of them were actually creating them. Even schoolchildren could get their heads around scenarios and pump them out on demand. In one sense, therefore, scenarios represent what could be considered the most successful example of the diffusion of a futures methodology. After all they have a number of very attractive features. These include:

- ease of use;
- a participatory method;
- direct relevance to specific situations; and
- intrinsic flexibility.

Moreover, at the upper end of the market, scenarios could bring a new sophistication to strategy and decision-making. Yet underlying this success there are a number of weaknesses that make scenarios a less than satisfactory method. I will mention just three.

First, while there are certainly interpretive elements in all scenario building, the focus is mostly on the external tracking of possible events and situations. In other words, these "future worlds" tend very strongly to foreground empirical elements and to hide, or obscure, non-empirical factors (see below). Second, standard approaches to scenario building tend to accept current social reality as unproblematic, as just "being there". They lack any notion of, or means of, operationalising critique or critical awareness. This means that scenarios are readily assimilated into existing power structures, with all their inequities and dysfunctions, without anyone being aware of the fact. (That, indeed, may be why they have been used so successfully in corporate environments.) Third, and possibly the most serious criticism of standard scenario building is that it allows, encourages, individuals and organisations to explore future divergence in a kind of "free-floating" way that bears little or no relation either to the actual dynamics of the global system (however conceived) or to the broader frameworks of understanding that are currently available. In other words, the practice of scenario building, scenario planning, has failed to reflect or embody the depth of insight and understanding of its most advanced practitioners (see Ogilvy, 1996; Tibbs, 2000)[1].

Yet there are signs of overstatement in the professional world of scenario building. A case in point is the oft-discussed Mont Fleur scenarios constructed in South Africa. Among those who have written about them is Kahane (2000) who states that:

> The Mont Fleur project contributed to the building of a common language for talking across groups about the opportunities and challenges facing the country. This shared understanding . . . eventually helped lead to the unprecedented "miraculous" transition from minority to majority rule in 1994.

But Don Beck, co-founder of Spiral Dynamics, looked at the situation quite differently and reached different conclusions. From a "spiral" perspective the participants in the process were operating out of what might be called "different worlds of reference". The failure to understand and deal with this "inner" dimension meant that, according to Beck (2002), "the scenario process in South Africa (has) failed in that they did not prepare the society for what was going to happen". Crucially, he adds "my key point is (that) until scenarios deal with the realities of the interiors, along with an understanding of natural habitats, then they will be useless and even dangerous" (Beck, 2002).

In summary, it appears that, at the instrumental level, scenarios can be useful. When done well they may also succeed at the level of strategy and high-level decision-making. Their weaknesses, however, make them a problematic methodology for dealing with the complex and ramified concerns of a world facing unprecedented demands and challenges. For this we will need to look in another direction entirely.

## Emergence of critical futures studies

Critical Futures Studies (CFS) emerged, in part, from a doctoral dissertation written during the period 1978-1982 – in other words, during the "fall" of forecasting and the beginning of the rise to ascendancy of scenario building (Slaughter, 1982). In the early days I simply read as much as I could and began to "map" what I saw as the futures domain. Of the two main centres of work – Europe and America – the latter was clearly dominant. Here were more futurists, SF writers, consultants etc. than there were in the whole of the rest of the world. At first I saw no problem with this. But as I gained familiarity with the material I saw a number of distinct difficulties with what I later termed the "American mainstream empirical tradition". To cut a long story short, I found that I could not proceed without developing a critique of that tradition. Specifically, I commented on:

- its superficiality and lack of depth;
- its failure to recognise the roles of language, power and embedded social interests;
- its lack of understanding of its own sources and grounding;
- its routine appropriation (not only in the USA) by the powerful;
- its over-confidence in easy prescriptions; and
- its lack of openness to other traditions and other "ways of knowing".

My aim had been to explore what I saw as the deep and systemic (yet obscured) relationships between FS and education. But the materials, approaches, methods and guiding ideas then available were simply not good enough. In order to propose changes in anything so protean and set in place as an education system, one would need much more powerful tools. So it was that, with the help of a first rate supervisor, I discovered a number of deeper sources of enquiry that cast new light on the problems and issues that arise in the futures domain. Since I have written about these elsewhere I will not repeat the story here (Slaughter, 1999). What I will say is that I emerged with a view of futures work that was both broad and deep. I'd seen that work that merely addressed the surfaces of the taken-for-granted, everyday, world had no chance whatever of dealing with the deeply-embedded cultural and human dilemmas that I was rapidly becoming aware of. What to do?

Since that time I have devoted myself to exploring the implications of CFS. It had become clear, for example, that behind the façade of everyday life were a host of structures, processes, factors, realities in fact, that should not be overlooked. Indeed, to understand the present it was necessary to cover two very different sub-domains of futures work. One is the past, and the question is: how did we get here? Why do we live in this particular world (and not the countless others that were once possible)? The other is the "depth" that is inherent in what we mean by "the present". In other words, I'd tripped over two routes to what one may call "the inner world". That was when I made what for me was a key discovery: that the "inner" world appears to precede and underpin the "outer" one! Or, to put it differently, personal, organisational and cultural worldviews, or "ways of knowing" give rise to the humanly constructed external world which, in turn, exists in a dynamic and ambiguous relationship with the world of nature.

**"The point is that the world 'out there' is framed, understood and conditioned through the world 'in here'. "**

The point is that the world "out there" is framed, understood and conditioned through the world "in here". It is a significant step toward disciplinary maturity for so many futures practitioners to have discovered this and to be applying it in many different ways. The earlier practice of declaiming from an assumed position of superior insight about the ills of the world and the remedies for them no longer commands widespread respect or support. Instead most futures writers, teachers, consultants and practitioners are becoming aware of the ways that language, culture, ideology, worldview and so on are universally complicit in our ways of knowing. The result is that there is no objective account of the world, no privileged heights of Olympian understanding to attain, no way to disentangle ourselves from processes of cultural framing and cultural production. (This is why many of the early "classics" of the field have become dated. They were written before the post-modern revolution and the rise of the interpretive dimension in futures work.)

In this view, what is crucial is not so much the pursuit of "outer" concerns that are, in some sense, "downstream" from the hidden sources. No, the central issue is: how can we gain sufficient clarity about the construction of our reality (realities) to be able to intervene in the coding of "the way things are" in a worldview, in deeply held values, in presuppositions and obscured social interests? Failure at this level seems to lead straight to dystopia – an "overshoot and collapse" world that had been described in FS during the early 1970s and in dystopian science fiction (Meadows *et al*., 1972; Atkisson, 1999).

So a central concern of CFS has little to do with prediction, forecasting or scenarios. It concerns the re-negotiation of meanings. This obviously means that futures work so understood is largely symbolic. Access to the field is through what Wendy Schultz rightly called "futures literacy". In time I came to see such literacy as necessarily coming prior to the tools and methodologies of the professional futures field. Indeed, I take the view that without the former the latter risks becoming "thin" and unproductive – which, strangely enough, is exactly the fate of most of the scenarios I have ever seen. They skate prettily enough around the surface but fail to deal in depth with the problematics of people, organisations, cultures in stress and transformation.

### Layered futures work

On the other hand it seemed that the critical approach I had slowly worked toward could shed some light both on the way things are as well as on the way they could be. This is not a predictive interest. Rather, it is an emancipatory one, exactly as Habermas suggested some years ago. The latter is not about control. It is about the rights, freedoms and capacities of self-constitution in social contexts. It became very clear, moreover, that much of the futures field at the time remained preoccupied with surfaces. Some of the most popular books simply skated over constitutive social realities and, it seemed to me, missed the point completely. So I termed this work "pop futurism". It was, and remains, frothy, insubstantial and ideal for the rapid visual clip or sound bite so beloved of the mass media[2].

Underlying this I saw that most well intended futures work around the world focused on real-world issues and problems. Planning departments, environmental protection agencies, strategising in organisations etc. This work was more serious, more focused, really just trying to deal with everyday concerns in appropriate and sensible ways. The main difficulty was that, given the global predicament, that is simply not good enough. I felt very strongly that we had to go deeper. What I found was that the deeper we go (into the constitution of "the way things are") the more demanding the work, certainly, but also the more penetrating are the insights, the more symbolic power emerges, the more options can be seen both in the inner and the outer world.

Productive futures work, however, is not, nor can it ever be, an individualistic enterprise. Over the years I suppose I have drawn on the work of hundreds, perhaps thousands, of other people, mainly through literature, but also through a global network of invaluable colleagues and friends. It is here that futures organisations such as the World Futures Studies Federation (WFSF) play a key role. It was at a conference organised by the latter that Sohail Inayatullah saw a presentation I gave about these various "layers" of futures work. It was part of his genius to see that this approach could

be rendered as a method. Thus was born one of the first methodological developments of the new "inner" perspective: causal layered analysis (CLA) (Inayatullah, 1998). Despite its somewhat forbidding name it can be distilled into a simple – but productive – workshop method that is already proving valuable in a wide range of circumstances.

### An emerging paradigm – the social construction of reality

It is interesting to see how the various threads and developments of various fields arise in different places, at different times, and now and then meet up later, yielding the possibility of a new synthesis, or a series of them. A source work on the social construction of reality (SCR) was published by Berger and Luckman in 1966 (Berger and Luckman, 1966). It intersected with other streams of innovation in sociology (such as the sociology of knowledge and studies of science and society) and certainly informed some components of critical futures work. But it was not until later that the centrality of SCR to advanced futures work became clear. I drew attention to some aspects of it in my initial formulations of CFS (Slaughter, 1982, 1999). Another who was drawn in this direction was Kate Miller. Her 1994 paper in the *WFSF Bulletin* provided a succinct and readable summary of the role of SCR within an advanced futures discourse (Miller, 1994). It remains surprising how few people have made this connection. The streams of discourse continue to flow in mainstream sociology with, for example, Ulrich Beck's recent books on globalisation and what he calls "world risk society", to which I will return below. But a substantive connection remains to be made. The rest of this paper is a tentative sketch of what that may involve.

One starting point is the term "social reality" itself. As Miller (1994, p. 4) puts it: "what is regarded by the public as social reality is a construction to which each member contributes by selecting from available information to develop a picture of the world". In their now-classic text on the subject, Berger and Luckman (1966, p. 104) consider some of the ways that societies are constituted by history, culture, institutions, roles etc. For example, they suggest that: "the relationship between knowledge and its social base is a dialectical one, that is, knowledge is a social product and knowledge is a factor in social change".

They consider the role of reification – the view that what has been created by humans has some sort of independent reality. Further, they suggest that when this occurs there has been a loss of memory of human authorship. Thus power slips away, is seen as external. The question is whether humans can retain the awareness "that, however objectivated, the social world was made by men – and therefore can be re-made by them" (Berger and Luckman, 1966, p. 106).

Such statements clearly resonate with some of the underlying purposes of CFS. But the relationship is much more than a vague resonance. The language and concepts that are so central to the SCR discourse feed directly and explicitly into the problematic which is central to both domains. Consider the following.

> The legitimation of the institutional order is . . . faced with the ongoing necessity of keeping chaos at bay. All social reality is precarious. All societies are constructions in the face of chaos. The constant possibility of anomic terror is actualised whenever the legitimations that obscure the precariousness are threatened or collapse (Berger and Luckman, 1966, p. 121)

**"Logically, then, this is where questions of power (especially definitional power, the power to exclude) are unavoidable."**

Here we can see one source of society's necessary resistance to change, its fearfulness of social innovation, its fury when confronted with certain symbolic challenges. It is exactly this territory that is the arena within which CFS operates. It is the social heartland, vital to the functioning of society on a day-to-day basis, yet contested in its very essence. Thus the strategies of social defence are very, very powerful. Logically, then, this is where questions of power (especially definitional power, the power to exclude) are unavoidable. It is worth re-emphasising here that I am not thinking of instrumental power (the power to re-shape the world externally) but symbolic power (the power to define the foundations of the social order).

Berger and Luckman (1966, pp. 123-6) describe various sorts of social legitimation as "machineries of universe-maintenance" and comment that "the success of particular conceptual machineries is related to the power possessed by those who operate them". Here is the nub of the issue: to what extent does CFS itself constitute a self-consistent, liberating and constructively powerful symbolic universe of its own? Is it coherent enough, is it sufficiently widely established, is it capable of being fully legitimated by sufficient numbers of thinking people to fulfil its potential as an agent of social progress and social re-construction?

I now want to add one further element before bringing this brief discussion to a close. One of the most interesting speech communities that has organised around the need to understand the global environmental predicament is that which is dedicated to describing empirically some of the impacts and costs that humanity is continuing to impose on the natural world. Among these is the Washington-based Worldwatch Institute which publishes yearly updates on global environmental issues (Brown *et al.*, 2001). These

volumes are clear, well researched and authoritative. They depict a world in stress and in peril and have countless educational uses. Yet something is missing. Beck (2000) describes this perspective as "naïve realism". Why naïve? Because "the unreflexive viewpoint forgets or suppresses the fact that its 'realism' is sedimented, fragmented, mass-media collective consciousness". Or again, because: "the definitional power of realism rests on exclusion of questions that speak more for the interpretative superiority of constructivist approaches" (Beck, 2000, p. 24).

He then outlines what he calls a "social-constructivist view". Here "talk of a 'world risk society' rests not on a (scientifically diagnosed) globality of problems but on 'transnational discourse conditions' ... which assert within public space the issues of a global environmental agenda" (Beck, 2000, p. 24). He then goes on to argue for a *rapprochement* between a reflexive realism and a social constructivist approach to the global predicament.

## Conclusion

The significance of social construction within the CFS view is as follows. It decisively moves debates about the currently threatened world and its many futures options away from the simpler and immediate arena of externals to the processes of self-understanding, self-constitution and mediation of power and meaning at these formative levels. Perhaps the central claim of CFS is that it is here, in the symbolic foundations of the social order that the wellsprings of the present lie, as well as the seeds of many possible alternative futures. If the latter is indeed the key guiding concept of futures work generally, then I doubt that it can be effectively operationalised without a steady shift into the areas I have described above and a much wider engagement (on the part of futures workers and others) in this powerful symbolic domain than hitherto.

This paper has argued that three paradigmatic methodologies have operated within FS over the past decades. Each of them is methodogically distinct. Forecasting was an attempt to assert control and a measure of certainty over an unknown future. Scenarios are an attempt to explore diversity within the forward view. The social construction of reality is an attempt to operationalise the deepest purposes of critical futures work in ways that consciously and deliberately lead toward more humanly viable futures than those currently in prospect. ■

**Notes**

1 For an outline of an impressive meta-framework for considering these questions, see Wilber (1996).

2 For numerous examples of "pop futurist" thinking see any issue of the World Future Society's magazine, *The Futurist*, WFS, Bethesda, MD, USA.

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