Comparing Political Futures: The Rise and Use of Scenarios in Future-Oriented Area Studies

Abstract

The predictive ability of scholars of politics has long been a subject of theoretical debate and methodological development. In theoretical debate, prediction represents a central issue regarding the extent to which the study of politics is scientific. In methodological development, much effort and resource has been devoted to a diverse range of predictive approaches, with varying degrees of success. Expectations that scholars forecast accurately come as much from the policy and media worlds as from the academy. Since the end of the Cold War, scenario development has become prevalent in future-oriented research by area studies scholars. This approach is long due critical re-assessment. For all its strengths as a policy tool, scenario development tends towards a bounded methodology, driving the process of anticipating futures along predetermined paths into a standardised range of options, and paying insufficient attention to theoretical and contextual understandings available within the relevant scholarly disciplines.

Key Words: area studies, forecasts, scenarios, methods, policy.

> *'Forecasts go wrong because forecasting is so difficult … According to one school of thought, the likelihood of error is so great that no respectable person would become involved. On this view, academics should stay well away from the future – rather as, until recently, they were advised to stay away from the present. This view is quite untenable'* (Cooper and Layard, 2002)*.*

The argument that scholars and analysts have no business dabbling in forecasts stands precariously when set against the questions asked of area studies specialists should their expertise be sought by governments, business, and the media. Experts in a particular area are expected to be adept at essaying likely future developments. To the researcher, future-

oriented analysis represents an important means of demonstrating the value of their work, particularly in a funding context where the externally validated approval of the relevance of academic research is becoming an ever more pertinent concern. From an epistemological perspective, however, forecasting is problematic, touching as it does on the claims which social science makes regarding its predictive ability.

From the perspective of political science in particular, the question of prediction stands at the centre of debates around the discipline's essential nature. For many observers the key distinction between natural and social sciences lies precisely in the area of prediction. Milton Friedman asserted more than half a century ago that 'the only relevant test of the *validity* of a hypothesis is comparison of its predictions with experience' (Friedman, 1953: 7-8). Bent Flyvbjerg's rejection of the naturalistic model for political science likewise sets up predictive ability as the key differential between the natural and the social sciences. He calls for 'a social science that matters', taking what he generalises as a sterile and isolated activity undertaken mostly for its own sake, and transforming it into an activity done in public, for the public, which provides insight into present and future, but not formal theory-based prediction (Flyvbjerg, 2001: 39). Other scholars offer a more optimistic evaluation of the accuracy of predictive models and theories, arguing, for example, that the scientific approach to international relations is well able to produce accurate predictions (Bueno de Mesquita, 1998, 2011; Ray and Russett, 1996: 467).

Against this background of expectation, epistemological debate, and analytical complexity, the scenario approach has, for the last two decades in particular, become a commonly used tool in area studies. Scenario planning ostensibly side-steps the debate over the relationship between social science and predictive theory by declaring that it does not offer prediction or

forecast, but rather a number of potential futures, each of which is possible depending on the behaviour and significance of the key drivers in play. The movement of scenarios from management literature into the social science and policy mainstream from the 1990s onwards coincided with, and complemented, the postmodern turn of the immediate post-Cold War era. Where all-encompassing metanarratives had been brought low, scenario planning offered a choice of narratives. Where political scientists and IR scholars had been widely criticised for failing to predict the collapse of the Soviet bloc and the end of the Cold War (Cox, 1998; Ray and Russett, 1996; Seliktar, 2004), scenario planning required the presentation of a range of futures, from straightforward continuity to that ubiquitous emblem of the scenario methodology, 'thinking the unthinkable' (Bishop et al., 2007: 11; Bradfield et al., 2005: 798; Kahn, 1962; Yergin and Gustafson, 1993: 10). Where, in the Anglo-Saxon world at least, the idea gained ground that universities needed to connect more with and learn more from the world of business and commerce, academics took the scenario planning approach pioneered by the Shell oil company in the 1970s and 1980s and applied it to both academic and policy work (Sylvan et al., 2004).

This article critiques the use of scenarios in future-oriented area studies research against the criteria which the scenario approach sets for itself, and in the light of the broader literature on the relationship between political science and forecasting. The literature on scenario development in the field of area studies has been markedly positive, unsurprisingly so given that most has been written by those who have adopted the method. I argue, however, that the scenario approach serves best when used normatively, tasked not simply with imagining futures, but rather with shaping and developing policy responses to it. Where, as is common in many scenario-based accounts of different countries, their use has not been normative, then the scenario method has served as 'something of a cop-out' (Smith, 1997: 2), blurring

the distinction between prediction and planning. Scenario analysis too often undermines its own apparent methodological rigour, offering self-contained narrative scenarios which belie claims to present complex interpretations superior to the linear predictions of earlier approaches. The results amount to a static and somewhat formulaic series of comparative case-studies; fictional futures constructed according to the imagined behaviour of different variables. I begin by surveying recent literature on the possibilities and pit-falls of prediction in political science, before turning in more detail to the rise of the scenario.

Future-oriented social science

Charles Taylor, amongst others, has argued that context and interpretation constitute so crucial a part of political action that the notion of abstract models consistently and accurately predicting political behaviour remains problematic, since 'narrowly scientific, reductive approaches to the human world always prove "terribly implausible"' (Rogers, 2008). Such a stance stems from the position that societies and polities do not operate according to stable calculable rules. Similarly, Bent Flyvbjerg's view is that intuition and context play such a key role for political actors as to render rule-based accounts of actions inadequate. He argues, on this basis, that the key differential between the social and the natural sciences lies in the former's inability to match the latter's predictive ability (Flyvbjerg, 2001). David Laitin, in a sharp critique of Flyvbjerg's thesis, contends that accurate prediction does not represent a 'necessary component of science', unless 'what is meant is meant by prediction is the ability of scholars in the field to make reasonably good probability estimates of individual behaviour'. This, Laitin argues, social scientists have long been able to do (Laitin, 2005: 120).

Broadly speaking, the successes of theoretical modelling are most notable when considering single policy outcomes within a relatively constrained timescale such as, for example, Bueno de Mesquita's lauded prediction of the Iranian succession in the 1980s (Bueno de Mesquita, 1984). Moving beyond individual or dyadic cases to the systemic level reduces predictive ability (James, 1995: 187). Similarly, in articles specifically addressing the question of prediction, strong cases have been made for the broad predictive force of some International Relations theories, such as democratic peace theory (Ray and Russett, 1996: 458-464), power cycle theory (Doran, 1999), and the geopolitical theory of state power (Collins, 1995). In these cases, however, the authors have been careful to point out the limitations of prediction. The theories concerned operate at the general rather than the specific level. Returning to the demand from policy-makers for accurate forecasting, Ray and Russett caution against being too ready to make the jump from generalising to strong policy recommendation (1996: 465). Doran similarly argues that for predictions to be politically useful, they require precision. Citing the Washington adage that 'to be right at the wrong time is to be wrong', he notes that although power cycle theory might confidently predict a shift in the relative power of a state, and provide an explanation as to why this will happen, it cannot say precisely *when* it will happen.

Neither side in this debate argues that the social sciences have the scientific capability to provide mechanistic predictions in all circumstances. Questions of precision and scale are crucial. Contributors to a symposium on the possibility of prediction in the social sciences – sparked, as much of the literature in this field is, by the largely unanticipated collapse of the Soviet system – appeared to represent the range of views for and against as set out above (Collins, 1995; Kuran, 1995; Tilly, 1995). However, as Edgar Kiser pointed out in his comments on the symposium's findings, apparently opposing positions appear less at odds

with each other when crucial questions of precision and scale are considered (Kiser, 1995: 1611-1612). Randall Collins' argument that theory-based prediction occurs successfully in the social sciences, carried with it the caveat that the range of temporal precision for macropolitical prediction ought to be measured in decades (Collins, 1995: 1552). In other words, large-scale political processes, such as at the level of countries or international systems, do not readily lend themselves to invariant closed-system modelling since they have a huge number of variables with great complexity in the relations between them (Tilly, 1995: 1594).

The broader the field of future vision, the more complex, difficult, and prone to generalisation forecasts become. As many writers on the predictive possibilities of political science point out (Cooper and Layard, 2002: 5; Doran, 1999: 11-13), the most basic predictions involve linearity and continuity, along the lines of, what is happening today will happen tomorrow, if it is happening more today than it was yesterday, then it is likely to happen even more tomorrow and the day after tomorrow. Forecasts are more reliable when focused on fields of study less prone to short-term instability. All fields of endeavour contain limitations within which to make forecasts, but in some fields harder limitations predominate and in others softer. For example, climate and lack of transport infrastructure represent relatively hard limits on the prospects for resource development in India. We know roughly when the rains will come and how long they will last. We can gauge relatively accurately the length of time necessary to construct a road. Whatever the surrounding circumstances, nothing much will change these facts. The limits on political developments on the other hand are softer. An apparently stable superpower can collapse with rapidity, leading political figures can be assassinated, and so on. In his pioneering methodological overview of predictive studies in the social sciences, Daniel Bell utilised the distinction made

by William Graham Sumner between *crescive* changes (those which follow largely autonomous processes) and *enacted* changes (those which stem from the less predictable moves of political actors), arguing that 'sociological analysis is more sure when it deals with crescive changes' such as demographic cycles, and broad societal developments (Bell, 1958: 358).

A related refinement to our conceptualisation of future-oriented analysis relates to opacity. Here the oft-maligned Rumsfeldian terminology provides a useful illustration. At a press briefing in 2002, US Secretary of Defense, Donald Rumsfeld, said:

> There are known knowns; there are things we know we know. We also know there are known unknowns; that is to say we know there are some things we do not know. But there are also unknown unknowns – the ones we don't know we don't know.

In the triumvirate of known knowns, known unknowns, and unknown unknowns, known unknowns constitute the pivotal category in terms of forecasting. By definition, known knowns bring factual certainty on which we construct forecasts. Similarly, by definition, unknown unknowns can scarcely be factored in, except as a caution that some unforeseeable variable might undermine almost any forecast. Even imaginable wildcards, such as assassinations and earthquakes, might be anticipated in gaming or, as discussed later, scenario planning, but rarely can they be forecast. Known unknowns, however, are those factors which forecasters can identify as important variables, but about which they possess insufficient information. The greater the opacity of a socio-political system, the more known unknowns exist. In an open socio-political system, pollsters publish accurate public opinion surveys, newspapers report political intrigue, and independent statistical agencies reveal socio-economic data. In a more closed or opaque system, the state might

control, cover up, or distort such information, making the task of the forecaster more difficult and more reliant on contextual knowledge and intuition.

Slavoj Žižek adds to Rumsfeld's triumvirate the missing but logical fourth variant – unknown knowns; in other words, those disavowed beliefs and suppositions which 'we pretend not to know about, even though they form the background of our public values' (Žižek, 2004). Although not stated in these terms, the central argument of Ofira Seliktar's book-length answer to the question 'why did so few predict the collapse of the Soviet Union?' is that 'unknown knowns' inhibited scholarly visions of future possibilities for the Soviet Union. In other words, a lack of awareness of, or refusal to acknowledge and question, the dominant paradigms within which forecasts were made, meant that those forecasts contained restricted conceptualisations of possible outcomes, and, in the Soviet case, failed to allow for the possibility of collapse (Seliktar, 2004: 5).

Returning to the question of the relationship between policy-makers and political scientists when it comes to future-oriented analysis, two further issues arise which affect the nature of that analysis. The first concerns timescales. Broadly speaking, short-term forecasts are more reliable than long-term forecasts, since as the tendencies towards an outcome develop, then analysts more easily see their likely outworking. The trumpeting of particular predictions as remarkable in their foresight should generally be checked against the temporal distance between prediction and event. Roger Boesche's lauding of de Tocqueville's 'astonishing' record of foretelling is undermined a little by the realisation that his 'most dramatic' prediction, of the 1848 revolution in France, was delivered in 1848 (Boesche, 1983: 79).

The link between confidence in forecasting and distance of projection into the future is not, however, as linear as might be expected when it comes to the impact of the forecast on both the actions of the policy-maker and the reputation of the analyst. Consider medium and long-term forecasting. There is truth in the notion that the further away your prediction, the more confident you can appear, since, as Keynes had it, 'in the long run we are all dead' (Keynes, 1923: 80), forecasts will be forgotten, and their relevance minimal. Were I to construct a detailed long-term forecast setting out how China in 2100 will be an arid poverty-stricken militarised dictatorship or a thriving technologically advanced associative democracy, then despite the radical implications of either outcome, no government, business, or international organisation would alter their behaviour as a result of such a long-term prediction. On the other hand, policy-makers do commission medium-term forecasts, projecting scenarios 10 to 20 years ahead, precisely in order to guide policy (European Commission Forward Studies Unit, 1997, 1998a, 1998b; Kuusi, Smith, and Tihonen, 2007). Medium-term forecasts represent a distinct task in comparison with short or long-term assessments. They situate their outcomes too far ahead to simply posit that simplest of all predictions – that today's world will continue, with appropriate linear adjustments, into tomorrow – but not so far ahead to allow for a more reckless speculative liberty.

The second issue of particular relevance to the relationship between forecasts and the policy world concerns purposive engagement with future events. Forecasts within the milieu of political science often contain a clear normative element. They may aim to influence policy choices by highlighting likely future trends, setting out a programme to follow in response to their forecast, or proselytising an aspirational vision of a future world. Such purposive engagement sets up the possibility of a self-fulfilling hypothesis, encouraging the

adoption of policies designed to confirm the forecast outcome (Bell, 1958: 364-65). In formal policy settings, of course, the tension between advocacy and objectivity is particularly acute.

Scenario Planning

From the late 1980s and early 1990s onwards, the use of multiple scenarios became increasingly prevalent in predictive writing in the field of area studies. A bibliographical search of the Web of Science Social Science Citation Index shows that from the end of the 1980s the use of the scenario approach increased markedly. Figure One illustrates this sharp increase in academic social science articles with 'scenario' in the title. Analysis of these articles' titles shows that much of this increase came in the fields of broad 'futurology', management, and energy studies. The lower line in Figure One, however, shows articles with 'scenario' and 'political / politics' in their abstract. Not only does this line indicate a similar increase from around 1990 onwards, but analysis of the titles of such articles (see Appendix One) shows that the scenario approach has been used widely in area studies for the past two decades. Appendix 1 lists 74 publications within area studies which develop future scenarios, with China, Europe, India, and Russia being prominent.

Figure One. Bibliographical search of Web of Science Social Science Citation Index for articles with 'scenarios' in the title and 'scenarios' and 'polit*' in the abstract.
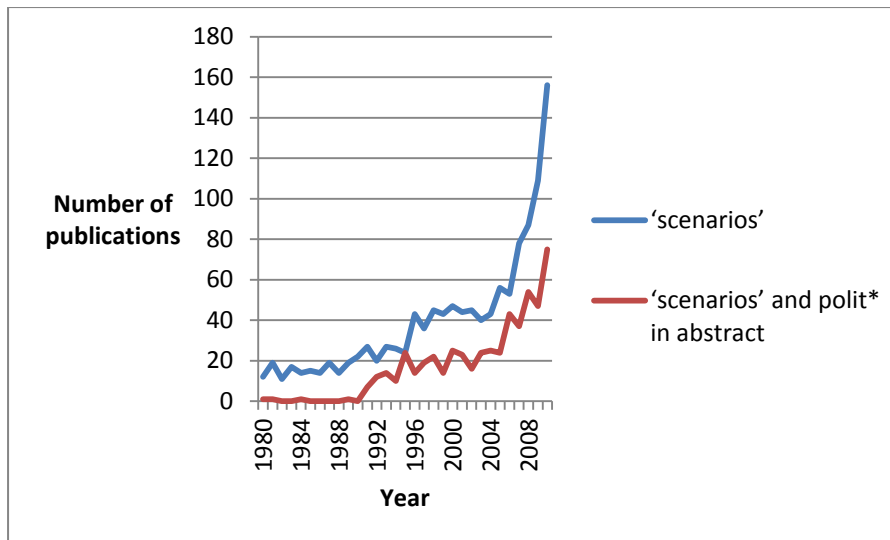
Source: Social Science Citation Index, Web of Science, 17 July 2011

A vast literature exists on the use of scenarios. Most of it sits within the fields of management (Ringland, 2006; Schwartz, 1996; Van der Heijden, 2005) and interdisciplinary 'future studies' – represented in such academic publications as *Journal of Future Studies*, *Futures: the Journal of Policy, Planning and Futures Studies*, and *International Journal of Forecasting*, as well as the latter's more stylistically popular stable-mate *Foresight: The International Journal of Applied Forecasting* (Bishop et al., 2007; Bradfield et al., 2005). Much of this literature is made up of the discipline-specific; methodological outlines and case-studies for businesses undertaking their own scenario-planning exercises (Ringland, 2006), or detailed analysis of the techniques for developing scenarios in future studies literature (Bishop et al., 2007; Miller, 2007). My concern here lies not with in-depth assessment of the literature on scenario studies, but specifically with the growth of and intepretations of scenario approaches within area studies forecasting. I engage with the wider scenarios literature only in relation to such forecasting. This engagement demonstrates that much of this scenario-based future-oriented political research amounts

to an adoption of the terms and tenets of the scenario technique, but with little in the way of deeper engagement with its literature or methodology, or with the literature on the nature of forecasting in political science set out in the first part of this article.

Although the growth of scenario-based writing in the field of area studies from the late 1980s and particularly the early 1990s onwards stems from the use of the technique in the world of business (Cornelius et al., 2005), its origins lie in the political forecasting of the early Cold War years. In the 1950s and 1960s, the US government poured resources into projecting the likely development of the world as the perceived threat of the Soviet Union and global Communism grew. Herman Kahn of the RAND Corporation – lauded as a genius by several observers (Aligica, 2007; Bishop et al., 2007: 11; Bradfield et al., 2005: 798; Bruce-Briggs, 2000; Hurley, 1968; Kahn and Agel, 1973) – developed scenario planning from its original military use. Coterminous with, and drawing on, the development of computers and of game theory, Kahn and others began to apply scenario analysis increasingly to the political and economic sphere, most famously in the 1967 book *The Year 2000*, which, in keeping with the increasingly dominant Unity of Science paradigm of that era, preferred a mechanistic and quantitative approach, dominated by demographic and economic data, to any socially contextual interpretation of developments. In *The Year 2000*, Kahn developed the notion of scenarios, offering alternative futures based around relative continuity, or 'surprise free', possibilities, complemented by 'some less likely but important possibilities' and 'ten far-out possibilities' (Kahn et al., 1967: 25, 55, 56). In the same volume, Kahn's co-author, Anthony J. Wiener, likewise instigated a common device in the scenario method by contributing a short story (Kahn et al., 1967: 352-356). Numerous examples of scenario-based predictive writing in the political sphere have similarly employed the technique of scenario-based narratives, written as they might be found in some future history book

(European Commission Forward Studies Unit, 1998b; Ogilvy et al., 2000; Yergin and Gustafson, 1993).

For a few years political scientists engaged with Kahn's scenario-based approach (Groom, 1969; Hurley, 1968; Levy, 1970; Ritchie-Calder, 1968), but by the 1980s scenarios scarcely featured in politics literature, being consigned instead to the realm of management and the broader field of 'future studies'. Why then did area studies scholars begin to re-engage with scenarios in the early 1990s? A key reason seems to have been a collective bout of questioning with regard to conventional approaches to forecasting, brought to a head by the largely unanticipated and revolutionary changes of the collapse of the Soviet empire and the end of the Cold War (Cox, 1998; Doran, 1999; Feder, 2002: 114; Seliktar, 2004).

The most conventional of approaches to forecasting had long been to simply ask an expert. However, although they may be related qualities, expertise, wisdom, foresight, and perspective do not always overlap. Expertise may be narrow and focused, overemphasising some factors, underplaying others, and so producing forecasts ill-suited to complex political processes at the country level. One response to the fallibility of the expert in prediction during the Cold War had been the Delphi method, which sought to mitigate the biases and blind-spots of individuals by using a large number of experts in an iterative process. The chief flaw in such a process was its inevitable tendency towards the middle point, with the more radical voices tamed by the majority (Schwartz, 2002: 18). Against the background of the end of the Cold War, methods which suffocated outlying forecasts under a blanket of more conventional, continuity-based approaches did not represent the answer. Against this background too, experts who had built forecasts around the metanarratives of historical development found themselves likewise out of step with events; the assumption of the

eventual triumph of the socialist worldview seemed notably unsuitable, but so too did established paradigms on the right concerning the impossibility of reform within the Soviet system (Seliktar, 2004). Mathematical modelling, which had benefited from the development of computers capable of data-rich and complex models, sought to cope with the discontinuities of the socio-political world with some success using rational-choice based approaches to specific problems (Stokman and Thomson, 1998). However, as noted earlier, broader, area studies forecasts of the 'whither China?' type are more problematic from the perspective of theoretical modelling.

As scholars in the social sciences began to reconsider approaches to forecasting (Cooper and Layard, 2002; Cox, 1998; Doran, 1999; Flyvbjerg, 2001; Hwang and Kugler, 1998; James, 1995; Kuran, 1995; Lipset and Bence, 1994), the scenario method appeared to offer a solution to these problems, promoting consideration of a range of options, from linear continuity to disparate discontinuities. They challenged metanarratives and paradigmatic conservatism by insisting on the telling of a range of different stories. They seemed to have an appropriate methodological rigour, with scenarios worked out in the light of key drivers, and often in consultation with a group of experts. What is more, in their use in the world of business – most famously at the oil company, Shell – they appeared to have succeeded in anticipating such phenomena as the oil price shock of 1974 and the end of the Cold War; something apparently beyond most academic experts (Cornelius et al., 2005: 98; Schwartz, 2002: 22-23; Yergin and Gustafson, 1993: 11). Finally, and slightly more disingenuously, multiple scenarios reduced the possibility of scholars being wrong. Coupled with the constant clarification that scenarios are not predictions, they provided experts with a degree of reputational security, and with it a desirable liberty in future-oriented writing.

Before considering the use of the scenario approach against its own criteria and in the light of the broader literature on the relationship between political science and forecasting, let us briefly set out its essential elements. The first and, from the point of view of the argument here, the most significant element of the scenario approach is that it is self-avowedly *not* predictive. Repeatedly scenario-based accounts assert, in the language of one of the most well-known exponents of the technique, that 'scenarios are not projections, predictions or preferences: rather they are coherent and credible alternative stories about the future' (Cornelius et al., 2005: 93). Their objective does not consist of deciding which scenario is likely to be correct in order to plan for it, but rather of helping to prepare for a range of alternative futures, embracing uncertainty and providing 'a language for talking about the future' (Yergin and Gustafson, 1993: 12). Peter Schwartz, perhaps the foremost practitioner of the scenario method, talks about anticipation, rather than prediction, of future events. In short, the scenario approach argues that since we cannot reliably predict, then anticipating widely, on the basis of solid research, offers a powerful tool for dealing with possible futures (Schwartz, 2002: 26).

The common reference within the scenario literature to stories and narratives draws attention to a focus on causal processes and potential turning points. Scenarios commonly identify key drivers, and imagine the impact of a range of uncertainties in relation to them. In doing so, the standard range of scenarios does not differ much from that established by Kahn in the 1960s: relative continuity, less linear but important variants, and 'the unthinkable' – or 'way out' – scenarios. The standard application of the scenario approach to future political developments involves establishing between three and five scenarios,

with the paths to these outcomes set out on the basis of the actions of or developments in identified key drivers. Table One provides examples of the range of scenarios arrived at in future-oriented political research.

Table One. Examples of scenarios in relation to particular areas

Area	Source	Scenarios
Japan, the United States and the Asia-Pacific	Cronin, 1992	1. constructive globalisation of Japan 2. heightened economic rivalry in Asia 3. Japan-dominated Asia-Pacific region
Russia	Yergin and Gustafson, 1993	1. Muddling down (continuity) 2. Two-Headed Eagle (centrist) 3. Time of Troubles (chaos and reaction) 4. Russian Bear (military dictatorship) 5. 'Chudo' (economic miracle)
Korea	Pollack and Lee, 1999	1. integration and peaceful unification 2. collapse and absorption 3. unification through conflict 4. disequilibrium and potential external intervention
China	Ogilvy et al., 2000	1. China Web (decentralisation) 2. the New Mandarins (family/clan networks

		in control)
		3. the Thief of Beijing (military dictatorship)
European Union	Bertrand et al. 2000	1. triumphant markets
		2. turbulent neighbourhoods
		3. the hundred flowers (flourishing national identities)
		4. shared responsibilities
		5. creative societies
Israeli-Palestinian Relations	Sylvan et al., 2004	1. two-state solution
		2. negotiated agreement, status quo plus territoriality, and Palestinian autonomy
		3. no negotiated settlement, status quo territory, and Palestinian independence
		4. no negotiated settlement, territorial status quo, Palestinian autonomy
		5. no negotiated settlement, status quo plus territoriality, Palestinian autonomy

Critiquing scenarios

Having set out the attractiveness of scenarios to future-oriented scholars and analysts, established the growth of this particular method from the 1990s onwards, and outlined the approach's central features, I turn now to a critique of the use of scenarios from the perspective of their own criteria, before concluding by returning to the wider questions

surrounding the relationship between social science and forecasting discussed in the first part of this article.

In terms of its own criteria, the scenario approach clearly has strengths; however, despite its wide use, its appropriateness for scholarly discussion of potential futures has rarely been critiqued. It is not my purpose in this paper to criticise the effective use of scenario planning in the business world (Ringland, 2006), or its appropriate extension to policy-making (Ogilvy, 2002). Scenario planning in this sense refers to a structured, facilitated, and normative process which identifies a problem – such as the future strategy of a company or a government –, develops potential scenarios, and then works out appropriate and desirable responses to these alternative futures to be taken by the participants' company, government, and so on. When adopted by area studies scholars and analysts, however, the scenario framework and terminology are employed, but absent a specifically identified problem, provision for facilitated development, or context for delivering a normative response. Stanley Feder argues that scenarios could usefully be employed more in political science, but from the perspective of students sharpening critical thinking; in other respects he likewise favours the use of scenarios in planning (Feder, 2002: 121).

Any critique of the scenario approach in area studies forecasting must early and squarely consider its central claim, that scenarios are not predictions but rather anticipations of alternative futures. Such a claim would seem to make it difficult to employ the most obvious criticism of future-oriented analysis, namely, that the predictions of the analyst turned out to be wrong. However, it is not unusual for advocates of the scenario approach to treat 'correct' scenarios as successful predictions to be lauded. Indeed, returning to the widespread adoption of scenario planning by scholars in the early 1990s, one of the reasons

often cited for this was that the scholarly community had apparently failed to foresee the end of the Cold War, whereas scenario planners had done so (McCorduck and Ramsey, 1997: v; Schwartz, 2002: 23; Yergin and Gustafson, 1993: 11). The scenario planning team from Shell themselves, having emphasised that scenario planning 'differs fundamentally from forecasting in that it accepts uncertainty', then proceed to celebrate the 'legendary example[s]' of their team in anticipating major changes such as the oil price shock of the 1970s, European integration, and the collapse of the Soviet Union (Cornelius et al., 2005: 94, 98). Scenarios are often treated as successful predictions, despite the fact that by definition the number of 'wrong' scenarios must outweigh the number of 'correct' scenarios. Of course, one must respect the insistence of scenario developers that 'the test of good scenario planning is not whether the scenario accurately predicts the future', since in a formal scenario development setting the intention is to use the process to enhance decision-making amongst those engaged in that process (Ogilvy, 2002: 9). Such though is rarely the case within the academic literature which is the focus of this paper.

Related to this question of the predictive role of scenarios is their utility to policy makers. I have argued that one of the key reasons for scholars to engage with forecasting is to respond to the expectation from policy-makers that our expertise can provide valuable insight into potential futures. The often stated view that scenarios represent a more useful tool in this endeavour than do conventional forecasts is worthy of challenge. The foreword of Yergin and Gustafson's *Russia 2010* illustrates the point.

> 'Which future will it be? ... Whatever the outcome, *Russia 2010* provides us with the
>
> signposts for the future and decreases the likelihood that we will be surprised by the

direction of events in that critically important part of the world' (Yergin and Gustafson, 1993: xviii).

It is a strange signpost that stands at a crossroads and tells the traveller that all four directions are the way to go. Too many alternatives might as easily be said to obscure as to illuminate the path ahead as the potential variables, rates of change, preferences, and conjectured discontinuities multiply (Miller, 2007: 345). From the perspective of social scientists engaging with possible futures, the provision of a set of alternative options, coupled with the scenario method's insistence that it not be concerned with deciding which is the more likely, serves to undermine their accumulated expertise. As a reviewer of Buzan et al.'s *The European security order recast: scenarios for the post-Cold War era* (1990) had it, the authors' 'failure to take a solid position on the central question ... detracts from their analysis' (Krause, 1991: 438).

Much of the merit of the scenario approach lies not so much in its output but in the *process* of developing scenarios. The standard methodology employed by experts in scenario planning includes several days of workshops, where those with a stake in the identified problem develop the outline scenarios and identify the key drivers, before a smaller group draws up well-researched narratives, which are then brought back to the whole group so that appropriate strategies can be agreed to meet the various feasible futures (Ogilvy, 2002: 176). This process must result in an increased understanding and detailed knowledge of the problem at hand for all involved. However, the use of the scenario approach in published academic work removes many of the advantages of process engagement and delivers instead the product of the process – often undertaken by one or two isolated experts with no direct role in 'solving' the 'problem' – to an external reader. Furthermore, this 'product',

particularly in the form of the scenario narratives, proves to be an inflexible output unsuited to the very complexity and interconnectedness of the world with which the scenario approach claims to deal. Each scenario is constructed on the basis of the behaviour of key drivers and actors, and a narrative is written which sets out the scenario in question – sometimes in the style of 'history from the future', complete with fictional names and specific imagined events (European Commission Forward Studies Unit, 1998b; Ogilvy et al., 2000; Yergin and Gustafson, 1993). The tying of the behaviour of key drivers to particular scenarios creates inflexibility, presuming that a driver behaving in one particular way must lead to the scenario in question. In effect the scenarios are silos; once built they do not interact with other scenarios.

A recent example illustrates: Andrew Kuchins' book *Alternative Futures for Russia to 2017* (2007) contains a number of startlingly accurate anticipations of events which have since happened, notably the forced removal of the Mayor of Moscow from office faced with allegations of corruption, the extension of the presidential term, and a resurgence of terrorist attacks in Moscow, instigated from the North Caucasus. The difficulty with each of these is that they are placed in the 'wrong' scenarios, with each one occurring in scenario narratives based around the collapse of the Putin regime. Without getting tied down in the detail – and to be fair to Kuchins, we have not yet reached 2017 and so which scenario most closely represents reality remains a relatively open question – there is a methodological difficulty with the scenario approach in its anticipation that particular events and movements on the part of key drivers lead to particular scenarios. Its advocates argue that it is possible to look for early indicators, movements in relation to the key drivers, which point in the direction of a particular scenario developing (Ogilvy et al., 2000: 148). In this way, the scenario method tends to tie specific happenings to a particular scenario. Positing that

happening X leads to scenario Y rather than to scenario Z represents the sort of conventional linear forecast, replete with oversimplified causal processes, which scenarios are ostensibly designed to avoid.

Sylvan et al. (2004), in constructing scenarios for Israeli-Palestinian relations, recognised the methodological difficulty of developing scenarios along causal chains and so departed a little from standard scenario methodology precisely to address this problematic question of the causal relationship between variables (drivers) and outcomes (scenarios). Constructing a rule-based computer model including a range of causal 'if-then' possibilities enabled the authors to explore various combinations of possible movements in the key drivers. Nonetheless, when later returning to reflect on the process and its outcomes, the experts involved came to the conclusion that several faulty 'if-then' causal links had been included, argued that the process of developing scenarios had distorted their views, and rationalised descrepancies between real-world outcomes and scenarios using the same arguments that experts habitually employ in relation to forecasting errors (Sylvan et al., 2004).

Conclusion

My critique of the scenario approach according to its own criteria has argued that it has particular merit as a structured and facilitated process involving participants engaged in developing policy and strategy. However, readers of articles, reports, and books based around scenarios miss out on this process, where scenario planning's central value lies. As a tool in the hands of scholars and experts then, the scenario approach has a number of difficulties. Its insistence that scenarios are not predictions is undermined by the scenario literature itself, reduces the usefulness of scenarios to policy-makers, and makes poor use of

the expertise available. The scenarios themselves tend towards inflexibility, creating 'silo scenarios' with no interaction between them, and reducing complex causal processes to a limited set of narratives.

The concluding section of this paper considers the scenario approach in the light of forecasting in the social sciences. From the perspective of social scientists engaging with future-oriented research, scenarios formally represent a step back from the idea that prediction is possible. They start from the premise that 'predictive forecasting is almost impossible where the problem forces us to deal with complex interactions of incommensurate driving forces and events' (Schwartz, 2002: 22). Assuming this to be the case, then they believe that the best we can hope for is to anticipate a range of future possibilities. In the business and policy world in particular, covering the broad range of potential futures in order to at least conceptualise the coming years makes some sense. However, the scenario approach downplays the achievements of the social science disciplines from both sides of the positivist and interpretivist debate. For the positivist, the insistence that we cannot accurately forecast, and so must treat equally a range of potential outcomes, gives too little weight to broader predictive theories and models, such as democratic peace theory, power cycle theory, and the expected utility model, to name but three approaches whose predictive rigour has been tested in the literature and found to be effective (Bueno de Mesquita, 1998; Collins, 1995; Doran, 1999; Ray and Russett, 1996; Taagepera and Shugart, 1993).

For the interpretivist, for whom insistence on the unpredictability of human affairs and the impossibility of theory-based prediction represents an attractive component of the scenario approach, the scenario methodology mandates too inflexible a process and product,

building a set of discrete scenarios with little scope for interaction between them. A series of fictional, albeit feasible, comparative cases results, structured according to the classical comparative politics approach, beginning with differences in outcomes and positing independent variables as the explanatory factors (Tarrow, 2010: 238). Causality represents a complex enough problem in comparative politics when dealing with known outcomes, where the difficulties of ensuring observation of all relevant variables, identifying the differences between them, and demonstrating causality are familiar. The scenario approach seeks to 'read back' the causal process not from one but from a plurality of imagined outcomes. As noted earlier, the complexity of analytical assumptions means that even identifying potential changes in the actions of key variables provides little useful insight with regard to their causal effect, in the sense of which broad scenario would result from which action. In some cases these narratives contain a degree of imagined detail which, although understandable as a device for developing strategic responses in a facilitated scenario planning process, implies a level of insight not justified by the methodology used (European Commission Forward Studies Unit, 1998b; Ogilvy et al., 2000; Yergin and Gustafson, 1993). Finally, if unspoken paradigms hindered forecasters of the Cold War years from 'thinking the unthinkable', and so blinded them to the possibilities of the radical change which in fact occurred in 1989-91, then the scenarios themselves have a paradigm which obstructs our view of potential futures; it is that the unlikely should be considered as of equal weight as the likely.

The scenario approach places future-oriented research, analysis, and accumulated knowledge within a bounded methodology which drives the process of anticipating future developments along predetermined paths into a standardised range of options, paying too scant attention to the paths preferred by the theoretical and contextual understandings

available within the relevant scholarly disciplines. Within this critical summary of the scenario approach from the perspective of the political scientist, two broad conclusions can be drawn. First, and most straightforwardly, scenarios are an appropriate tool for problem-based policy analysis rather than political analysis *per se*. Encouraged perhaps by the increasing demand from funders and policy-makers for research to have a policy impact, scholars, most notably in the field of area studies, in the post Cold War decades have used scenario development as a readily accessible framework within which to indicate the potential policy implications of their research findings. The adoption of scenarios as the method of choice for future-oriented academic research has too often been accompanied by a failure to engage with the methodological implications of scenario analysis from a social scientific perspective. Second, the use of scenarios undermines both the individual expertise of scholars and the theoretical advances in their disciplines by insisting on an overtly non-predictive stance which emphasises the possibility of all feasible outcomes. Area studies scholars, however, combine a contextual understanding of their area with disciplinary expertise in the social sciences, including political science. Such awareness of the predictive possibilities of social science, coupled with the interpretivist approach of the area specialist, offers a way forward for a more assertive, and risky, future-oriented analysis, moving beyond the standardised framework of multiple scenarios and towards appropriately bounded predictions of likely political outcomes.

Appendix One. Books and articles in the field of political science / political studies using the scenario approach, 1976-2012, by year of publication.

1976   Eto, S. '3 Pessimistic scenarios for Japan', *Worldview,* 19(11), 28-30.

1979   [Anon] 'Yugoslavia after Tito – scenarios and implications', *Osteuropa,* 29(7), 596-99.

1979   Hodara, J. 'Latin-American order – 5 scenarios', *Latin American Research Review,* 14(2), 180-97.

1979   Kahn, H. '3 scenarios for Japan's role in the 80s', *Duns Review,* 114(1), 70-72.

1980   Hodder-Williams, R. 'Political scenarios and their economic implications', *Journal of Commonwealth and Comparative Politics,* 18(1), 55-68.

1987   Collins, P. 'Scenarios for South-Africa', *International Journal on World Peace,* 4(3), 34-36.

1989   Inoguchi, T. '4 Japanese scenarios for the future', *International Affairs,* 65(1), 15-28.

1990   Buzan, B. *The European security order recast: scenarios for the post-Cold War era,* London, Pinter.

1990   Gordon, L. and Nazimova, A. 'Perestroika in historical perspective – possible scenarios', *Government and Opposition,* 25(1), 16-29.

1990   Saraf, R. P. *Political and social realities in modern India: a study in post-independence scenario,* Delhi, Indian Bibliographies Bureau.

1991   Hyde-Price, A. G. V. *European security beyond the cold war: four scenarios for the*

year 2010, Sage Publications.

1991   Kjolberg, A. 'Scenarios and security politics', *Internasjonal Politikk,* (2), 147-56.

1991   Sharma, S. P. *Political promises and performance: some reflections on the socio-political scenario of India across the eighties,* New Delhi, Ashish Pub. House.

1992   Cronin, R. P. *Japan, the United States, and prospects for the Asia-Pacific century: three scenarios for the future,* Singapore.

1993   Wehling, F. '3 Scenarios for Russia Middle-East policy', *Communist and Post-Communist Studies,* 26(2), 182-204.

1994   Goure, L. 'The Russian Federation – possible disintegration scenarios', *Comparative Strategy,* 13(4), 401-17.

1994   Bundy, B. K., Burns, S. D. and Weichel, K. V. *The future of the Pacific Rim: scenarios for regional cooperation,* Westport; London, Praeger.

1994   Van Zon, H. *Alternative scenarios for Central Europe: Poland, Czech Republic, Slovakia, and Hungary,* Aldershot, Avebury.

1996   Baum, R. 'China after Deng: Ten scenarios in search of reality', *China Quarterly,* (145), 153-75.

1996   Hasson, S. *The cultural struggle over Jerusalem: accommodations, scenarios and lessons,* Jerusalem, Floersheimer Institute for Policy Studies.

1996   Rosell, S. A. 'Changing maps: scenarios for Canada in an information age', *International Affairs,* 72(4), 675-90.

1997   Hamarneh, M. B., Hollis, R. and Shikaki, K. l. *Jordanian-Palestinian relations: where*

to?: four scenarios for the future, London, Royal Institute of International Affairs.

1997   Jäger, T *Europa 2020: Szenarien politischer Entwicklungen* (*Europe 2020 –*

Scenarios of political developments) Opladen Leske and Budrich.

1997   List, M. 'Which Europe do you want? Five scenarios for the Europe of tomorrow -

German - Tindermans-Grp', *Politische Vierteljahresschrift,* 38(3), 594-612.

1997   Manning, R. A. 'The United States and the endgame in Korea – Assessment,

scenarios, and implications', *Asian Survey,* 37(7), 597-608.

1997   Mikheev, V. V. 'Russian-Chinese strategic cooperation: scenarios, perspectives and

consequences for global and Asian security', *Korean Journal of Defense Analysis,*

9(2), 165-186.

1997   Myers, D. J. 'Caracas: new scenarios for local power – Spanish – Vallmitjana, M',

Latin American Research Review, 32(1), 109-23.

1997   Weidenbaum, M. 'Three scenarios on the future of China', *Society,* 34(4), 43-47.

1998   *India and the changing geopolitical scenario,* Delhi, Centre for Indian Political

Research and Analysis.

1998   Damdelen, M. *Scenarios to the Cyprus problem, European Union and sustainable*

peace.

1998   Hammond, A. *Which world?: scenarios for the 21st century: global destinies,*

regional choices, London, Earthscan.

1998   Kolosov, V. A. and Turovskii, R. F. 'Fall and winter elections of regional executive

heads – scenarios for change', *Russian Politics and Law,* 36(2), 67-85.

1998   Noland, M., Robinson, S. and Liu, L. G. 'The costs and benefits of Korean unification

– alternate scenarios', *Asian Survey,* 38(8), 801-14.

1998   Perthes, V. *Scenarios for Syria: socio-economic and political choices,* Baden-Baden,

Nomos.

1998   Stein, J. G., Barnett, M., Frankel, B., Gause, G., Gerner, D. J., Herrmann, R.,

Jentleson, B. W., Kaye, D. D., Lebow, R. N., Lynch, M., Solingen, E., Spiro, D. E.,

Sylvan, D. A. and Weber, S. 'Five scenarios of the Israel-Palestinian relationship in

2002: Works in progress', *Security Studies,* 7(4), 195-212.

1998   Zhao, S. S. 'Will China democratize? Three scenarios', *Journal of Democracy,* 9(1),

54-59.

1999   Behrendt, S. 'Scenarios for Syria. Socio-economic and political choices',

Internationale Politik, 54(5), 75-78.

1999   Belov, O. F., Honcharenko, O. M., Parakhonskii, B. A. and Weretelnyk, R. *Ukraine*

2000 and beyond: geopolitical priorities and scenarios for development, Kyiv, NISS.

1999   Blazyca, G. 'Polish socioeconomic development in the 1990s and scenarios for EU

accession', *Europe-Asia Studies,* 51(5), 799-819.

1999   Pollack, J. D., Lee, C. M. *Preparing for Korean unification: Scenarios and*

implications, Santa Monica, CA: RAND.

2000   Bertrand, G., Michalski, A. and Pench, L. R. *European futures: five possible scenarios*

for 2010, Cheltenham, UK, Edward Elgar Pub.

2000   Bertrand, G. and Rood, J. Q. T. *Scenarios Europe 2010-2020 possible futures for the*

union, Antwerpen, Departement Politieke en Sociale Wetenschappen, Universiteit Antwerpen – UIA.

2000   Cooper, R. N. 'China's futures: scenarios for the world's fastest growing economy, ecology, society' *Foreign Affairs,* 79(4), 150-58.

2000   Greeuw, S. C. H. *Cloudy crystal balls: an assessment of recent European and global scenario studies and models,* Copenhagen, European Environment Agency.

2000   Kokko, A. and Sjoholm, F. 'Some alternative scenarios for the role of the state in Vietnam', *Pacific Review,* 13(2), 257-77.

2000   Ogilvy, J. A., Schwartz, P. and Flower, J. *China's futures: scenarios for the world's fastest growing economy, ecology, and society,* San Francisco, Jossey-Bass.

2001   Galeotti, M. and Synge, I. M. *Putin's Russia: scenarios for 2005,* [London], Jane's Information Group.

2001   Thorlakson, L. *Federalism and the European Union: representation, party competition and scenarios for political development*, University of Nottingham, Centre for the Study of European Governance.

2002   Dohn, L. 'The future of the Austrian democracy – Trends, prognoses and scenarios', *Politische Vierteljahresschrift,* 43(1), 195-97.

2002   Doornbos, M. 'Somalia: alternative scenarios for political reconstruction', *African Affairs,* 101(402), 93-107.

2003   Heikka, H. *Grand strategies and the northern dimension of European security: four scenarios for 2010,* Helsinki, Ulkopoliittinen instituutti.

2003   Peschard-Sverdrup, A. B. *Forecasting Mexico's democratic transition: scenarios for policymakers,* Washington, D.C., CSIS.

2003   Vainiene, R. *Belarus: reform scenarios,* Warsaw, Stefan Batory Foundation.

2004   *Armenia 2020: A strategy paper for development and security,* Yerevan: Armenian Centre for National and International Studies.

2005   *Jerusalem in the future: scenarios and a shared vision,* Jerusalem, Friedrich Ebert Stiftung.

2005   Overland, E. F. 'Where is yesterday's Russia? Five scenarios of Russian and Norwegian relations in 2030', *Internasjonal Politikk,* 63(5), 601-07.

2006   Hwang, J., Kim, H., Jun, B. K. and Cho, M. C. 'Possible scenarios for China's future relations with North Korea: South Korean perspective', *Korean Journal of Defense Analysis,* 18(3), 121-41.

2006   Tetlock, P. E., Lebow, R. N. and Parker, G. *Unmaking the West: "what-if" scenarios that rewrite world history,* Ann Arbor, University of Michigan Press.

2007   Brug, W. v. d. and Eijk, C. v. d. *European elections and domestic politics: lessons from the past and scenarios for the future,* Notre Dame, Ind., University of Notre Dame Press.

2007   Kuusi, O., Smith, H. and Tiihonen, P. *Russia 2017 : three scenarios,* Helsinki, Parliament of Finland, The Committee for the Future.

2007   Montoya, R. 'Socialist scenarios, power, and state formation in Sandinista Nicaragua', *American Ethnologist,* 34(1), 71-90.

2007   Morgenstern, S. and Castagnola, A. 'Functions, procedures and scenarios: an

analysis of legislative power in Latin America', *Journal of Latin American Studies,*

39, 682-83.

2007   Nasrallah, R. *Is a viable democratic Palestine possible?: future scenarios for*

Palestine, Jerusalem, Floersheimer Institute for Policy Studies.

2008   John, W. *Pakistan: four scenarios,* New Delhi, India, Pentagon Press in association

with Observer Research Foundation.

2008   Zhuplev, A. 'Economic internationalization of Russia: roots, trends, and scenarios',

International Political Science Review, 29(1), 99-119.

2009   Gorenburg, D. 'Russia's political future: scenarios and projections', *Russian Politics*

and Law, 47(6), 3-6.

2009   Helly, D. and Baldo, S. A. *Post-2011 scenarios in Sudan: what role for the EU?,* Paris,

EU Institute for Security Studies.

2009   Krepinevich, A. F. *7 deadly scenarios: a military futurist explores war in the 21st*

century, New York, Bantam Books.

2009   Li, M. Q. 'Capitalism, climate change and the transition to sustainability: alternative

scenarios for the US, China and the world', *Development and Change,* 40(6), 1039-

61.

2009   Melville, A. and Timofeev, I. 'Russia 2020: alternative scenarios and public

preferences', *Russian Politics and Law,* 47(6), 7-33.

2010   Fishman, R. M. 'Rethinking the Iberian transformations: how democratization

scenarios shaped labor market outcomes', *Studies in Comparative International Development,* 45(3), 281-310.

2011   Carmignani, F. and Chowdhury, A. 'Four scenarios of development and the role of economic policy', *Journal of Development Studies,* 47(3), 519-32.

2011   Lipman, A. and Petrov, N. *Russia in 2020: scenarios for the future* Washington D.C.: Carnegie Endowment for International Peace

2012   Maleki, A. *Iranian foreign policy past, present and future scenarios* London: Routledge

Aligica, P. D. Œ. (2007). *Prophecies of doom and scenarios of progress: Herman Kahn, Julian Simon, and the prospective imagination*. New York: Continuum International Pub. Group.

Bell, D. (1958). Ten theories in search of reality: the prediction of Soviet behaviour in the social sciences. *World Politics, 10*(3), 327-365.

Bertrand, G., Michalski, A., and Pench, L. R. (2000). *European futures: five possible scenarios for 2010*. Cheltenham, UK ; Northampton, MA, USA: Edward Elgar.

Bishop, P., Hines, A., and Collins, T. (2007). The current state of scenario development: an overview of techniques. *Foresight, 9*(1), 5-25.

Boesche, R. (1983). Why could Tocqueville predict so well? *Political Theory, 11*(1), 79-103.

Bradfield, R., Wright, G., Burt, G., Cairns, G., and Van Der Heijden, K. (2005). The origins and evolution of scenario techniques in long range business planning. *Futures, 37*(8), 795-812.

Bruce-Briggs, B. (2000). *Supergenius: the mega-worlds of Herman Kahn*. New York: North American Policy Press.

Bueno de Mesquita, B. (1984). Forecasting political decisions. *PS: Political Science, 17*, 226-236.

Bueno de Mesquita, B. (1998). The end of the Cold War – predicting an emergent property. *Journal of Conflict Resolution, 42*(2), 131-155.

Bueno de Mesquita, B. (2011). A new model for predicting policy choices: preliminary tests. *Conflict Management and Peace Science, 28*(1), 65-85.

Buzan, B. (1990). *The European security order recast: scenarios for the post-Cold War era*. London: Pinter.

Collins, R. (1995). Prediction in macrosociology - the case of the Soviet collapse. *American Journal of Sociology, 100*(6), 1552-1593.

Cooper, R. N., and Layard, R. (2002). *What the future holds: insights from social science*. Cambridge, Mass. ; London: MIT Press.

Cornelius, P., Van de Putte, A., and Romani, M. (2005). Three decades of scenario planning in Shell. *California Management Review, 48*(1), 92-109.

Cox, M. (1998). *Rethinking the Soviet collapse: sovietology, the death of communism and the new Russia*. London: Pinter.

Cronin, R. P. (1992). *Japan, the United States, and prospects for the Asia-Pacific century: three scenarios for the future*. New York, Singapore: St. Martin's Press; Institute of South-East Asian Studies.

Doran, C. F. (1999). Why forecasts fail: the limits and potential of forecasting in international relations and economics. *International Studies Review, 1*(2), 11-41.

European Commission Forward Studies Unit. (1997). *The future of North-South relations: towards sustainable economic and social development*. Luxembourg: European Commission.

European Commission Forward Studies Unit. (1998a). *The Mediterranean society: a challenge for Islam, Judaism and Christianity*. London: Kogan Page.

European Commission Forward Studies Unit. (1998b). *Shaping actors, shaping factors in Russia's future*. London: Kogan Page.

Feder, S. A. (2002). Forecasting for policy-making in the post-Cold War period. *Annual Review of Political Science, 5*, 111-125.

Flyvbjerg, B. (2001). *Making social science matter: why social inquiry fails and how it can succeed again*. Cambridge: Cambridge University Press.

Friedman, M. (1953). *Essays in positive economics*. Chicago; London: University of Chicago Press.

Groom, A. J. R. (1969). Review. *International Affairs, 45*(2), 330-331.

Hurley, N. P. (1968). Review: The future and the nearsighted Faust. *Review of Politics, 30*(4), 521-523.

Hwang, Y.-B., and Kugler, J. (1998). The likelihood of major conflict in East Asia and the Korean Peninsula: a power parity perspective. *World Affairs, 161*(2), 99-111.

James, P. (1995). Structural realism and the causes of war. *Mershon International Studies Review, 39*(2), 181-208.

Kahn, H. (1962). *Thinking about the unthinkable*. New York: Horizon Press.

Kahn, H., and Agel, J. (1973). *Herman Kahnsciousness; the megaton ideas of the one-man think tank*. New York: New American Library.

Kahn, H., Wiener, A. J., and Hudson Institute. (1967). *The year 2000; a framework for speculation on the next thirty-three years*. New York: Macmillan.

Keynes, J. M. (1923). *A tract on monetary reform*. [S.l.]: Macmillan.

Kiser, E. (1995). What can sociological theories predict - comment. *American Journal of Sociology, 100*(6), 1611-1615.

Krause, K. (1991). Review of the European security order recast – scenarios for the post-Cold-War era – Buzan, B, Kelstrup, M, Lemaitre, P, Tromer, E, Waever, O. *Canadian Journal of Political Science-Revue Canadienne De Science Politique, 24*(2), 437-438.

Kuchins, A. (2007). *Alternative futures for Russia to 2017: a report of the Russia and Eurasia program*. Washington, D.C.: Center for Strategic and International Studies.

Kuran, T. (1995). The inevitability of future revolutionary surprises. *American Journal of Sociology, 100*(6), 1528-1551.

Kuusi, O., Smith, H., and Tihonen, P. (Eds.). (2007). *Russia 2017: three scenarios*. Helsinki: Parliament of Finland.

Laitin, D. D. (2005). The perestroikan challenge to social science. In K. R. Monroe (Ed.), *Perestroika! The raucous rebellion in political science* (pp. 115-135). New Haven, Conn.; London: Yale University Press.

Levy, M. J. (1970). Ever and future jungle. *World Politics, 22*(2), 301.

Lipset, S. M., and Bence, G. (1994). Anticipations of the failure of Communism. *Theory and Society, 23*(2), 169-210.

McCorduck, P., and Ramsey, N. (1997). *The futures of women: scenarios for the 21st century*. New York: Warner Books.

Miller, R. (2007). Futures literacy: a hybrid strategic scenario method. *Futures, 39*, 341-362.

Ogilvy, J. A. (2002). *Creating better futures: scenario planning as a tool for a better tomorrow*. New York, N.Y. ; Oxford: Oxford University Press.

Ogilvy, J. A., Schwartz, P., and Flower, J. (2000). *China's futures: scenarios for the world's fastest growing economy, ecology, and society*. San Francisco: Jossey-Bass.

Pollack, J. D., and Lee, C. M. (1999). *Preparing for Korean unification: scenarios and implications*. Santa Monica, CA: RAND.

Ray, J. L., and Russett, B. (1996). The future as arbiter of theoretical controversies: predictions, explanations and the end of the Cold War. *British Journal of Political Science, 26*(4), 441-470.

Ringland, G. (2006). *Scenario planning: managing for the future* (2nd ed.). Chichester, England: Wiley.

Ritchie-Calder, L. (1968). Review. *Political Science Quarterly, 83*(4), 663-665.

Rogers, B. (2008). Charles Taylor. *Prospect*.

Schwartz, P. (1996). *The art of the long view: paths to strategic insight for yourself and your company*. New York ; London: Currency Doubleday.

Schwartz, P. (2002). The river and the billiard ball: history, innovation, and the future. In R. N. Cooper, and Layard, Richard, (Ed.), *What the future holds: insights from social science* (pp. 17-28). Cambridge, Mass. ; London: MIT Press.

Seliktar, O. (2004). *Politics, paradigms, and intelligence failures: why so few predicted the collapse of the Soviet Union*. Armonk, N.Y. ; London: M.E. Sharpe.

Smith, D. A. (1997). *Eurofutures: five scenarios for the next millennium*. Oxford: Capstone.

Stokman, F. N., and Thomson, R. (1998). The predictability of foreign policy: the British EMU policy. In M. C. Castermans-Holleman, J. Smith, G. J. H. v. Hoof and P. R. Baehr (Eds.), *The role of the nation-state in the 21st century: human rights, international organisations and foreign policy: essays in honour of Peter Baehr*. The Hague ; London: Kluwer Law International.

Sylvan, D. A., Keller, J. W., and Haftel, Y. Z. (2004). Forecasting Israeli-Palestinian relations. *Journal of Peace Research, 41*(4), 445-463.

Taagepera, R., and Shugart, M. S. (1993). Predicting the number of parties: a quantitative model of Duverger's mechanical effect. *American Political Science Review, 87*(2), 455-464.

Tarrow, S. (2010). The strategy of paired comparison: toward a theory of practice. *Comparative Political Studies, 43*(2), 230-259.

Tilly, C. (1995). To explain political processes. *American Journal of Sociology, 100*(6), 1594-1610.

Van der Heijden, K. (2005). *Scenarios: the art of strategic conversation* (2nd ed.). Chichester: John Wiley and Sons.

Yergin, D., and Gustafson, T. (1993). *Russia 2010: and what it means for the world*. New York: Random House.

Žižek, S. (2004, 21 June). What Rumsfeld doesn't know that he knows about Abu Ghraib. *In These Times, 28,* 32.