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The Future as Arbiter of Theoretical Controversies: Predictions, Explanations and the End of the Cold War

JAMES LEE RAY AND BRUCE RUSSETT*

Some analysts assert that a failure by the discipline of international relations to predict the end of the Cold War reinforces their conviction that predominant theories as well as systematic empirical analyses of international politics have proved fruitless. Accurate predictions are an important product of useful theory, partly because predictions cannot be modified in order to accommodate the events upon which they focus, since the outcomes to be accounted for are unknown. But predictions are contingent statements about the future, not unconditional assertions, which might more accurately be labelled prophecies.

Three related streams of work – a political forecasting model that relies on rational choice theory, insights and information provided by traditional area specialists, and democratic peace theory – together constitute an emerging basis for making accurate predictions about the political future, and deserve attention in any evaluation of the utility of systematic empirical analyses of politics. Moreover, the systematic empirical approach is not entirely bereft of potential to provide a better understanding of the end of the Cold War. The democratic peace proposition suggests that if the autocratic protagonist in a confrontation becomes more democratic, tensions should be significantly reduced. This implication of democratic peace did not go unnoticed in the years before the Cold War ended.

‘The role of theory’, according to John Lewis Gaddis, ‘has always been not just to account for the past or to explain the present but to provide at least a preview of what is to come’.¹ Having reviewed the recent performance of international relations theorists, Gaddis also points out, correctly, that the vast majority of those theorists failed to predict the end of the Cold War. But then he argues further that star-gazers, readers of entrails and other ‘pre-scientific’ methods were as effective in providing foreknowledge of the fundamental transformations that took place from 1989 to 1991 as allegedly ‘scientific’ methods were.² His critique ultimately becomes an indictment not only of the inadequacies of

* Political Science Department, Florida State University; Political Science Department, Yale University, respectively. We are grateful to Janice Bially, John Lewis Gaddis, John Mueller, William Odom, R. J. Rummel, Steve Smith, Harvey Starr, John Vasquez and Alexander Wendt for comments, to Ram Krishnan for research assistance, to the United States Institute of Peace for support of the first author, and to the John D. and Catherine T. MacArthur Foundation for support of the second author.

¹ John Lewis Gaddis, ‘International Relations Theory and the End of the Cold War’, *International Security*, 17 (1992/93), 5–58, at p. 10.

² Gaddis, ‘International Relations Theory,’ p. 18. Gaddis’s sharpest criticisms are directed at North Americans pursuing a social scientific research agenda; we therefore respond primarily by reference to that literature.

predominant theories of international relations, but of 'scientific' methods for predicting international affairs in general. We disagree with that indictment.

Gaddis's opinions on these matters are hardly unique, nor based solely on the absence of accurate predictions regarding the end of the Cold War. Yosef Lapid referred over five years ago to the 'demise of the empiricist–positivist promise for a cumulative behavioral science', and to the 'ruins of the positivist project'.³ In 1990, *International Studies Quarterly* devoted a special issue to 'Dissidence in International Studies' containing several examples of postmodern, deconstructionist, discourse analyses.⁴ Donald Puchala, in an essay entitled 'Woe to the Orphans of the Scientific Revolution', defended the thesis implicit in that picturesque title by declaring that international relations theory 'does not, because it cannot in the absence of laws...invite us to deduce, and *it does not permit us to predict*'.⁵

Yet the scientific (or quantitative, or systematic empirical) approach to political science or the subfield of international politics survived – and even flourished through – earlier celebrations of its demise. David Easton, for example, praised the 'post-behavioral revolution' in political science long ago.⁶ Our central claim here is that current reports of the death of the scientific study of international politics are also exaggerated. In support of that claim, we will discuss several issues regarding the use of predictions in the evaluation of different, competing approaches to international politics. We then evaluate the ability of the scientific approach to international politics to produce accurate predictions about political events in general, and about the end of the Cold War in particular. We conclude that the thesis regarding the demise of the systematic empirical study of international politics advanced by Gaddis and others ignores a substantial body of work which we believe justifies a more positive judgement.

PREDICTIONS, EXPLANATIONS AND USEFUL THEORY

Gaddis asserts that theories should highlight patterns from the past in a way that makes them useful guides to the future.⁷ Hans Morgenthau argued that 'realism' would allow analysts not only to foresee but to influence the future.⁸ No less

³ Yosef Lapid, 'The Third Debate: On the Prospects of International Theory in a Post-Positivist Era', *International Studies Quarterly*, 33 (1989), 235–54, at p. 236.

⁴ Richard K. Ashley and R. B. J. Walker, eds, 'Speaking the Language of Exile: Dissidence in International Studies', Special Issue of *International Studies Quarterly*, 34 (1990), 259–416.

⁵ Donald J. Puchala, 'Woe to the Orphans of the Scientific Revolution', in Robert Rothstein, ed., *The Evolution of Theory in International Relations* (Columbia: University of South Carolina Press, 1991), p. 79 (emphasis added). Puchala here, like Gaddis, condemns not just contemporary theories in the field of international politics, but also, as the title clearly implies, 'scientific' approaches to that subject matter.

⁶ David Easton, 'The New Revolution in Political Science', *American Political Science Review*, 63 (1969), 1051–61.

⁷ Gaddis, 'International Relations Theory', p. 6.

⁸ Hans Morgenthau, *Politics Among Nations* (New York: Knopf, 1948), pp. 4–5.

an authority on science than Stephen Hawking declares that 'a good theory ... must make definitive predictions about the results of future observations'.⁹ Similarly, Robert Keohane in his essay on 'Theory of World Politics' emphasizes that foreknowledge is one of the most important products of good theory.¹⁰

But J. David Singer, a founder of the quantitative approach to international politics, argues that prediction demands less of a theory than does explanation, or even description. He points out, for example, that it is relatively simple to predict that pressure on the accelerator of a car will increase its speed. Explaining why that is the case is a more demanding task, in his view.¹¹ Joining Singer in this sceptical attitude about the utility of accurate predictions as an 'acid test' of the validity and quality of theories are rather strange bedfellows: an array of 'anti-' or 'post-positivists', and more currently of postmodernists who disagree with the idea that hypotheses can be tested by comparing their implications with experience. In the postpositivist view, there is no way of describing or observing the 'real world' in a way that is independent of the theory that produced the hypothesis. This means that no one can 'objectively' observe the correspondence between theory-based predictions and happenings in the 'real world'. 'There are no 'brute' facts – no facts prior to interpretation ... *Facts are always theory-dependent*'.¹² Postmodernists 'consider both [causality and prediction] uninteresting ... They argue [that] the requirements of temporal priority and independent, external reality assumed by these concepts are dubious'.¹³

Some postmodernists also feel that any correspondence between theory-based predictions and 'real world' events will be doubly misleading, not only because the perceived correspondence will be produced spuriously by theory-driven perceptions of the 'facts' in question, but also because any correspondence that is perceived will also be in part the result of a self-fulfilling prophecy. That is, being aware of the theory, people will behave in the way it predicts because they believe in its validity, or because they think that the common expectations produced by it in the culture in which they operate make

⁹ Stephen Hawking, *A Brief History of Time: From the Big Bang to Black Holes* (New York: Bantam, 1988), p. 9. Gaddis, 'International Relations Theory', cites both Hawking and Morgenthau in support of this view.

¹⁰ Robert O. Keohane, 'Theory of World Politics: Structural Realism and Beyond', in Ada Finifter, ed., *Political Science: The State of the Discipline* (Washington, DC: American Political Science Association, 1983).

¹¹ J. David Singer, 'The Level-of-Analysis Problem in International Relations', *World Politics*, 14 (1961), 77–92.

¹² Martin Hollis and Steve Smith, *Explaining and Understanding International Relations* (New York: Oxford University Press, 1990), pp. 54–6 (emphasis added). Hollis and Smith here are reporting the view of W. V. Quine, 'Two Dogmas of Empiricism', in W. V. Quine, ed., *From a Logical Point of View* (New York: Random House, 1961).

¹³ Pauline Marie Rosenau, *Post-Modernism and the Social Sciences* (Princeton, NJ: Princeton University Press, 1992), p. 212.

it 'rational' to behave as the theory predicts.¹⁴ Related to this idea is the postmodernist belief that theoretical predictions constitute a form of political oppression. In this view, communities of people ought to be allowed to supply their own meaning and truth for themselves. Any attempt to generalize across communities involves the destruction of differences. Such generalizations are in effect 'hegemonic power plays'.¹⁵ In the opinion of Richard Ashley, 'Any knowledgeable practice that participates in the inscription of sovereign voice and the narrative structure of history – and the conduct of social theory is certainly one such practice – is an arbitrary practice of power'.¹⁶

EVALUATING THEORIES: THE CASE FOR PREDICTIVE ACCURACY AS A CRITERION

In contrast, A. F. K. Organski and Samuel Eldersveld, for example, find 'troubling' the persistent view that the capacity to predict is of little consequence because explanation is the real commitment of the social sciences.¹⁷ One of the origins of such discomfort is the influential argument of Carl Hempel that 'the logical structure of a scientific prediction is the same as that of a scientific explanation'.¹⁸ This argument implies that explanations and predictions should both be defined as contingent statements, and contrasted with 'prophecies', or assertions about the future prefaced by no conditions or contingencies.¹⁹ It is true, as Singer has argued, that 'any informed layman' can predict that if

¹⁴ John Vasquez, 'The Promises and Pitfalls of Post-Modernist Approaches to International Politics' (paper given at the Annual Meeting of the International Studies Association, Washington, DC, 30 March 1994). Some of the works cited by Vasquez are: Peter L. Berger and Thomas Luckman, *The Social Construction of Reality* (New York: Doubleday, 1966); Michael Foucault, *The Archaeology of Knowledge* (New York: Pantheon, 1972); Jean-Françoise Lyotard, *Post-Modernism and the Social Sciences* (Princeton, NJ: Princeton University Press, 1992).

¹⁵ Vasquez, 'The Promises and Pitfalls', p. 4.

¹⁶ Richard K. Ashley, 'Living on Borderlines: Man, Poststructuralism, and War', in James Der Derian and Michael Shapiro, eds, *International/Intertextual Relations: Postmodern Readings in World Politics* (Lexington, Mass.: Lexington Books, 1989), p. 280.

¹⁷ A. F. K. Organski and Samuel Eldersveld, 'Modelling the EC: Conclusion', in Bruce Bueno de Mesquita and Frans Stokman, eds, *European Community Decision Making: Models, Applications and Comparisons* (New Haven, Conn.: Yale University Press, 1994). Such a view has been expressed recently, for example, by J. David Singer, 'Prediction Versus Explanation as Standards of Scientific Progress' (paper given at the Annual Meeting of the American Political Science Association, New York City, September 1994); James N. Rosenau, 'Signals, Signposts and Symptoms: Anticipating and Explaining Major Historical Breakpoints' (paper given at the Annual Meeting of the American Political Science Association, New York, September 1994).

¹⁸ Carl Hempel, 'The Function of General Laws of History', in Carl Hempel, ed., *Aspects of Scientific Explanation* (New York: The Free Press, 1965), p. 234.

¹⁹ David Dessler, 'What International Relations Theorists Can Learn from the Natural Sciences' (paper given at the Annual Meeting of the American Political Science Association, New York,

pressure is applied to an accelerator of a car, it will increase its speed.²⁰ But the prediction will be wrong if the car has run out of fuel. The contingency 'if the tank contains petrol', or any other contingency that would improve the explanation might also usefully be considered part of a more complete or accurate prediction.

This is not to say that we accept unconditionally Hempel's argument that explanations are identical in structure to predictions, nor are we advocating what some would term a 'naive falsificationist' view that scientists are analogous to bookkeepers who can mechanically tally up the extent to which the predictions based on a theory are supported by events in the real world. We acknowledge, for example, that scientists can be and often are influenced by predominant 'paradigms' or 'research programmes' in ways that make them quite different from accountants adding and subtracting columns of numbers.²¹ We are also aware of, and in partial agreement with, scientific 'realists' who contend: that explanations focus on causal mechanisms and processes; that many intuitive notions about explanations and causality do not fit into Hempel's arguments regarding the symmetry between explanations and predictions; that many successful explanatory schemes do not necessarily provide a basis for accurate predictions; and that in general explanations cannot be equated with predictions, or vice versa.²² But the Hempelian and the 'realist' conceptions of explanation (and prediction) are not in irreconcilable competition with each other. 'The two

(Footnote continued)

September 1994). 'World War III will begin at 2 p.m. on 11 October 1997' would be an example of a prophecy as opposed to a prediction.

²⁰ Singer, 'The Level of Analysis Problem', pp. 79–80.

²¹ Thomas Kuhn, *The Structure of Scientific Revolutions* (Chicago: University of Chicago Press, 1962); Imre Lakatos, 'Falsification and the Methodology of Scientific Research Programmes', in Imre Lakatos and Alan Musgrave, eds, *Criticism and the Growth of Knowledge* (Cambridge: Cambridge University Press, 1970).

²² Ian Shapiro and Alexander Wendt, for example, cite an article by Philip Kitcher as an authoritative source on 'the incoherence of explanatory–predictive symmetry'. See Ian Shapiro and Alexander Wendt, 'The Difference that Realism Makes', *Politics and Society*, 20 (1992), 197–223, at p. 222; Philip Kitcher, 'Explanatory Unification and the Causal Structure of the World', in Philip Kitcher and Wesley Salmon, eds, *Scientific Explanation: Volume XIII, Minnesota Studies in the Philosophy of Science* (Minneapolis: University of Minnesota Press, 1989). But in that same volume Merrilee Salmon ('Explanation in the Social Sciences', p. 408) having reviewed the controversy regarding Hempel's views on 'nomological' explanations (and predictions of the same structure) concludes: 'Despite protests of the critics of causal and nomological explanation in the social sciences, the best approximations to a satisfactory philosophical theory of explanation seem to embrace successful explanations in the social sciences as well as successful explanations in the physical sciences. None of the critics, I believe, has demonstrated that the admitted differences between our social environment and our physical environment compel us to seek entirely different methods of understanding each.' On this controversy, see also Russell Keat and John Urry, *Social Theory as Science* (London: Routledge & Kegan Paul, 1982); Alexander Wendt, 'The Agent-Structure Problem in International Relations Theory', *International Organization*, 41 (1987), 335–68; Roy Bhaskar, *A Realist Theory of Science*, 2nd edn (London: Routledge & Kegan Paul, 1978).

explanatory modes are complementary; a full science will recognize both'.²³

While we acknowledge, then, that explanation may be in general a more demanding or important task for theory (and theoreticians) than prediction, we are also inclined to argue that in one important respect, at least, predictive accuracy is a more stringent criterion. Explanations may be – but predictions cannot be – modified, consciously or subconsciously, in order to accommodate the events upon which they focus, since the outcomes to be accounted for by predictions are unknown. This makes the future an important, even irreplaceable, arbiter between contrasting claims based on competing theoretical or epistemological approaches. In other words, we have no quarrel with those who insist that 'understanding', not prediction is the main purpose of science. But 'prediction can be a purpose too ... It is the *test* of a theory, whatever the purpose'.²⁴

We adopt such an argument even though we agree with postpositivists, postmodernists, and hermeneutically inclined analysts that there are no 'facts' out there in the real world to be observed independently of theoretically derived expectations and inclinations. Since human beings cannot be totally objective, even the most seemingly innocuous descriptive observations about international politics are 'theory-laden'. Consider the assertion that 'Germany initiated the Second World War in 1939 by attacking Poland'. It involves anthropomorphizing the states in question ('Germany' and 'Poland') in a way which is not only theoretically based, but objectionable to some scholars of international politics. The phrase 'Second World War' is ethnocentric. It might, more objectively, be referred to as the second phase of a European Civil War.²⁵ To designate the point in time as '1939' is equally ethnocentric, accepting the Gregorian calendar as opposed to the Chinese or Hebraic methods of assigning numbers to the passing years. Potentially even more substantial issues raised by this statement include whether Germany really was responsible for initiating the Second World War, or when it really began.

²³ David Dessler, 'Beyond Correlations: Toward a Causal Theory of War', *International Studies Quarterly*, 35 (1991), 337–55, at p. 346. Shapiro and Wendt, 'The Difference that Realism Makes', p. 212, assert that 'realists are not hostile to logical empiricists' reliance on predictions of empirical regularities as evidence for the validity of claims', while Alexander Rosenberg observes in a similar vein that 'among philosophers of science in recent years at any rate, the most central debate, between realism and antirealism, is about whether prediction of observations is merely necessary for knowledge, as realists hold, or all we need from science, as antirealists hold'. See *Economics – Mathematical Politics or Science of Diminishing Returns?* (Chicago: University of Chicago Press, 1992), p. 51. For a more extended and somewhat less conciliatory discussion of this issue, see James Lee Ray, *Democracy and International Conflict* (Columbia: University of South Carolina Press, 1995), chap. 4.

²⁴ W. V. Quine, *Pursuit of Truth*, rev. edn (Cambridge, Mass.: Harvard University Press, 1992), p. 2. Quine also notes that 'A sentence's claim to scientific status rests on what it contributes to a theory whose checkpoints are in prediction' (p. 20).

²⁵ 'It makes more and more sense, the farther in time we are from them, to view World Wars I and II as a single European civil war ...' See John Lewis Gaddis, *The United States and the End of the Cold War* (New York: Oxford University Press, 1992), p. 5.

But to go from a valid assertion that observations of facts about the 'real world' are inevitably theory-laden to the conclusion that one cannot usefully compare derivations from theories to the results of empirical observations is to press a valid point to an extreme which is unnecessary. 'Difficult cases make bad law'. Analogously, it is a mistake to conclude from the impossibility of making 'neutral' or 'objective' observations of the real world that it will be impossible to achieve any meaningful degree of consensus about whether predictions derived from a theory are accurate or valid. In short, we acknowledge that observations are inevitably theory-*laden*; they are not, however, theory-*determined* to the degree that comparing observations to theoretical expectations is a pointless exercise.²⁶

Admittedly, it is possible that a majority of observers will form a theoretically based consensus around ideas that only *appear* to be validated, because the social actors being observed are infused with the same theoretical notions and behave accordingly. But especially if one considers the number of null findings that never see the light of published day, then the proportion of empirical analyses that fail to support the hypothesis in question suggests that most of them are not self-fulfilling prophecies. In addition, many analyses address the past, sometimes more than two millennia ago. Since the theories in most cases did not exist during the times on which such analyses focus, there is no danger that they will be confirmed in a self-fulfilling way. Similarly, the geographic scope addressed by predictions in the field of international politics, at least, militates against the self-fulfilling prophecy. Such points are even more compelling in the light of the significant number of competing, diametrically opposed propositions in the field of international politics, even though their adherents share epistemological commitments to systematic empiricism.

In response to the fear that accurate predictions (or the theories on which they are based) constitute a form of oppression, we would not deny that those who attempt to predict political events typically have an interest in having an impact on them. In fact, scientifically oriented analysts will often proclaim proudly that their work is 'policy-relevant'. Nor is it possible to deny that the knowledge producing accurate forecasts of political processes or events can fall into the hands of people who will use it for nefarious purposes. But to eschew the pursuit of scientific knowledge because of its potential for exploitation for undesirable ends is a step towards ensuring that fate for such knowledge. In other words, if 'good' people (by definition) avoid the generation of scientific knowledge on the grounds that it can serve undesirable ends, then only 'bad' people will produce such knowledge. 'Although science may or may not require prediction, we do. It is a large part of what we look to science for. It is what we need to ameliorate the human condition or at any rate to prevent further deterioration'.²⁷

Fortunately, too, science as a human endeavour is opposed in principle to the

²⁶ 'Observation, however, is not *determined* by theory or discourse; unlike some 'strong' interpretivists, realists contend that well-established theories do refer to, and are constrained by, external reality'. (Shapiro and Wendt, 'The Difference that Realism Makes', p. 211.)

²⁷ Rosenberg, *Economics*, p. 51.

imposition of ideas by *authority*, or by the power inherent in formal authoritative roles. An essential character of scientific evidence is that it be reproducible – that anybody, but *especially* critics or opponents of ideas espoused by scientists, should be able to reproduce the results or evidence in support of those ideas on her or his own, independently. Admittedly this is an ideal often not attained in the ‘real world’. But even approximations of the idea provide some protection against the use of scientific knowledge for oppressive purposes.

PREDICTING THE POLITICAL FUTURE

The assertion by John Gaddis that the field of international politics has failed to provide a basis for making accurate predictions about political events (such as the end of the Cold War) is based on a thorough review of theoretical and empirical work in the field. But he does not mention a set of related streams of research and theory that justifies, we believe, a more optimistic evaluation of the field’s ability to deliver accurate predictions.²⁸ The streams of research to which we refer are, specifically: a rational choice approach to political forecasting; the wisdom and insights of traditionally trained country and regional specialists upon which that approach relies; and the developing body of work devoted to an elaboration and evaluation of the democratic peace proposition.

The origins of the political forecasting model based on rational choice theory can be traced to *The War Trap* by Bruce Bueno de Mesquita.²⁹ The theory introduced there was refined in 1985,³⁰ and served in turn as the basis for a model designed to produce forecasts of policy decisions and political outcomes in a wide variety of political settings. ‘The expanded domain of the theory required no modification of the formal mathematical structure of the model, although it did require additional definitions to make it useable outside the international context’.³¹ The original forecasting model³² has been updated in a way which is closely linked to the international interactions model presented in *War and*

²⁸ In their otherwise excellent review of many of the same epistemological issues that serve as our focus here, Hollis and Smith, *Explaining and Understanding*, also fail to cite most of the sources to which we are about to turn our attention.

²⁹ Bruce Bueno de Mesquita, *The War Trap* (New Haven, Conn.: Yale University Press, 1981).

³⁰ Bruce Bueno de Mesquita, ‘The War Trap Revisited: A Revised Expected Utility Model’, *American Political Science Review*, 79 (1985), 156–77.

³¹ Bruce Bueno de Mesquita, ‘The Game of Conflict Interactions: A Research Program’, in Joseph Berger and Morris Zelditch, eds, *Theoretical Research Programs* (Stanford, Calif.: Stanford University Press, 1993).

³² Described in Bruce Bueno de Mesquita, ‘Forecasting Political Decisions’, *PS: Political Science and Politics*, 17 (1984), 226–36, and in Bruce Bueno de Mesquita, David Newman and Alvin Rabushka, *Forecasting Political Events* (New Haven, Conn.: Yale University Press, 1985).

Reason,³³ and described in detail in a recent edited volume on the European Union.³⁴

This 'expected utility' forecasting model has now been tried and tested extensively. It has been utilized to make predictions regarding over 2,000 policy decisions and outcomes of political interactions taking place in over sixty different countries.³⁵ For example, a recently declassified Central Intelligence Agency (CIA) publication reveals that in May 1983 a forecast based on the model asserted that after the People's Republic of China claimed the China seat at the Asian Development Bank, Beijing would modify its position to permit some Taiwanese participation in the bank. As this publication acknowledges, 'At the time, even PRC [People's Republic of China] statements that hinted at a "two Chinas" attitude were considered impossible'.³⁶ The rise to power of Hashemi Rafsanjani in Iran was predicted in an article published in 1984 at a time when Rafsanjani was widely viewed as an unimportant figure, and the Ayatollah Khomeini had officially designated Ayatollah Montazeri as his successor.³⁷ In October 1988, the model was used to generate an accurate prediction that Daniel Ortega and the Sandinista government would be defeated in the election of 1990.³⁸ In February 1989, an analysis based on the same model 'predicted that China was facing a period of severe political instability in which relative hard-liners were likely to slow or stop economic and political reforms and in which students and other reform-minded interests would face severe repression'.³⁹ In June 1989 that severe repression occurred in Tiananmen Square. Also, in the late 1980s, a study based on this model suggested critical elements of a strategy that led to successful elections in Cambodia. That study is now declassified and an executive summary completed in 1989 predicted the essential elements of a peace agreement signed in November 1991. An article published in 1991 accurately predicted the admission of two Koreas into the

³³ Bruce Bueno de Mesquita and David Lalman, *War and Reason* (New Haven, Conn.: Yale University Press, 1992).

³⁴ See in particular Bruce Bueno de Mesquita, 'Political Forecasting: An Expected Utility Method', in Bruce Bueno de Mesquita and Frans Stokman, eds, *European Community Decision Making* (New Haven, Conn.: Yale University Press, 1994).

³⁵ Bueno de Mesquita, 'The Game of Conflict Interactions'. Most of the forecasts have been produced by a corporation called Decision Insights, established by Bueno de Mesquita, Jacek Kugler and A. F. K. Organski in 1981 under the name of Policon.

³⁶ Stanley Feder, 'Factions and Policon: New Ways to Analyze Politics', *Studies in Intelligence* (recently declassified article in a classified publication; in H. Bradford Westerfield, ed., *Inside CIA's Private World: Declassified Articles from the Agency's Internal Journal, 1955-1992* (New Haven, Conn.: Yale University Press, 1995)).

³⁷ Bueno de Mesquita, 'Forecasting Political Decisions'.

³⁸ Bruce Bueno de Mesquita and Grace Iusi-Scarborough, 'Forecasting the Nature of Political Settlement in Nicaragua' (paper for the Conference on Nicaragua: Prospects for a Democratic Outcome, sponsored by the Orkand Corporation, Washington, DC, October 1988).

³⁹ Bueno de Mesquita, 'The Game of Conflict Interactions'.

United Nations.⁴⁰ And a report completed on 19 August 1991 predicted that the coup in the Soviet Union would soon fail.⁴¹

The 'expected utility' model has also been utilized successfully in a wide variety of private sector settings. A non-profit organization in Washington, DC, for example, relies on it in its efforts to lobby the US Congress when it makes decisions regarding the funding for family planning programmes; the organization reports that it has provided precise and ultimately accurate projections about the amount of funds that will be provided by Congress for family planning. It has also been utilized by a large, international consulting firm in its work involving General Agreement on Tariffs and Trade (GATT) negotiations. This firm is provided with projections regarding which negotiating strategies are most likely to result in desired outcomes. Another consulting firm has utilized the model to develop forecasts about the impact of various international bargaining processes, such as those which occur within the Organization of Petroleum Exporting Countries (OPEC), on the price of oil. Price projections based on the model are reportedly 'unbelievably accurate'.⁴²

We recognize the shortcomings of this evidence. Many (but not all) of the forecasts were not publicly available before the predicted events occurred. Most of the predictions have either been classified, or provided for exclusive use by private-sector clients. The secrecy surrounding many of the predictions and forecasts based on this model has, understandably, generated suspicions about it. But we also would argue that the evidence in the form of testimonials from government and private-sector clients is not *entirely* useless. Clearly, it is not systematic scientific evidence. However, even in this article in which we defend the utility of a scientific approach to the study of international politics, we would not insist that scientifically generated evidence is the *only* kind worthy of serious consideration. So that when Stanley Feder, an analyst in the Office of Research and Development in the CIA, asserts that this model 'has been gaining increased acceptance at the agency and has resulted in accurate predictions in 90 percent of the situations in which it has been utilized',⁴³ his assertion might be thought of as roughly analogous to interviews (confidential in some cases) with decision makers involved in crucial policy-making processes regarding their insights, thoughts, motives, etc., as a basis for achieving a better understanding of those processes. (Feder is less anonymous than the 'informed sources' often cited by journalistic accounts of international political events, another type of evidence not be ignored entirely, in our opinion.)

⁴⁰ Bruce Bueno de Mesquita and Chae-Han Kim, 'Prospects for a New Regional Order in Northeast Asia', *Korean Journal of Defense Analysis*, 3 (1991). This article appeared after the vote in the United Nations, but the editor notes on the first page that it had been submitted and accepted before the vote.

⁴¹ 'Outcome of the Soviet Coup and its Political Aftermath' (Decision Insights Incorporated Assessment, 19 August 1991).

⁴² This statement was made in a telephone conversation with the chairman of the consulting organization in question. In the preceding eighteen months, Decision Insights had provided political forecasting and strategic planning services to more than thirty-seven private-sector clients.

⁴³ James Lee Ray, *Global Politics*, 6th edn (Boston, Mass.: Houghton Mifflin, 1995), p. 147.

Furthermore, the structure of the expected utility model and an increasing number of predictions based on it have been, and are, publicly accessible. The structure has been described at length in several published sources.⁴⁴ A substantial number of predictions based on this model have either been available ahead of time, or at least sent in for publication or presented at a conference before the predicted outcomes actually occurred.⁴⁵ Even predictions published after the event in question would be difficult to fiddle with for the sake of making them come out right, because of the necessity of adhering to the procedures publicly available and consistently adhered to in literally thousands of cases. This suggests that predictions published after the fact deserve *some* credence, and several important examples of such predictions are also available for scrutiny.⁴⁶ In short, the amount of publicly available information and evidence regarding this model and the accuracy of its forecasts is sufficiently substantial, it seems to us, to make it deserving of serious consideration as a 'scientific' enterprise.

Admittedly, rational choice approaches in general have provoked substantial criticism and suspicion recently because of their ostensible shortcomings in

⁴⁴ Bueno de Mesquita, 'The Game of Conflict Interactions'; 'Forecasting Political Decisions'; 'Political Forecasting'; Bruce Bueno de Mesquita, 'Multilateral Negotiations: A Spatial Analysis of the Arab-Israeli Dispute', *International Organization*, 44 (1990), 317–40. Manuel Oroszco, currently a graduate student at the University of Texas, replicated the software that produced analyses reported in Bueno de Mesquita, Rabushka and Newman, *Forecasting Political Events*. Bueno de Mesquita offers his own exposition of the record of success achieved by his approach in 'The Benefits of a Social Scientific Approach to Studying International Affairs', in Ngaire Woods, ed., *Explaining International Affairs Since 1945* (Oxford: Oxford University Press, 1996).

⁴⁵ For example, Bueno de Mesquita, 'Forecasting Political Decisions'; 'Multilateral Negotiations'; Bueno de Mesquita and Iusi-Scarborough, 'Forecasting the Nature of Political Settlement'; Bueno de Mesquita, Newman and Rabushka, *Forecasting Political Events*; Bueno de Mesquita and Kim, 'Prospects for a New Regional Order'; Bruce Bueno de Mesquita and A. F. K. Organski, 'A Mark in Time Saves Nein' (Conference on European Integration, Groningen, The Netherlands, May 1990), later published in *International Political Science Review*, 13 (1992), 81–100; Patrick James, 'Rational Choice? Crisis Bargaining Over the Meech Lake Accord' (paper presented at the Annual Meeting of the Canadian Political Science Association, Charlottetown, Prince Edward Island, June 1992); Jacek Kugler, 'The Politics of Foreign Debt in Latin America: A Study of the Debtors' Cartel', *International Interactions*, 13 (1987), 115–44; James D. Morrow, Bruce Bueno de Mesquita and Samuel Wu, 'Forecasting the Risks of Nuclear Proliferation: Taiwan as an Illustration of Method', *Security Studies*, 2 (1993), 311–31; David Newman and Brian Bridges, 'North Korean Nuclear Weapons Policy: An Expected Utility Study', *Pacific Focus*, 9 (Fall 1994), 61–80; A. F. K. Organski and Bruce Bueno de Mesquita, 'Forecasting the 1992 French Referendum', in Roger Morgan, J. Lorentzen and A. Leander, eds, *New Diplomacy in the Post-Cold War World* (New York: St Martin's Press, 1993); Samuel Wu and Bruce Bueno de Mesquita, 'Assessing the Dispute in the South China Sea: A Model of China's Security Decision Making', *International Studies Quarterly*, 38 (1994), 379–403.

⁴⁶ See especially several chapters in Bueno de Mesquita and Stokman, *European Community Decision Making*; Jacek Kugler, Lewis W. Snider and William Longwell, 'From Desert Shield to Desert Storm: Success, Strife, or Quagmire?' *Conflict Management and Peace Science*, 13 (1994), 113–48.

political science⁴⁷ as well as economics.⁴⁸ But the rational choice approach discussed here is different from rational choice approaches in general in ways that may be crucial to its success and potential.⁴⁹ For example, rational choice approaches in international politics are often criticized for their reliance on the unitary actor assumption, especially when it is applied to states. One of the key characteristics of the approach under consideration here, however, is that it rests on a general bargaining model that can treat states as unitary actors⁵⁰ or analyse bargaining among subnational actors, even individual leaders.⁵¹

In addition, this particular rational choice approach combines the parsimony characteristic of its breed with a comprehensive, detailed look at the interactions involved in the negotiating processes upon which it focuses. Each pair of players involved in those processes is analysed individually, and from the separate points of view of each player in every pair, in precise, consistent and comprehensive ways that are practical only with the aid of computers. Psychological factors ignored or glossed over by other approaches are emphasized in this expected utility model; for example, estimates are made from the basic data (discussed in the Appendix) about each player's attitude towards risk, and the impact these attitudes have on each player's perceptions of the others.⁵²

This expected utility approach also benefits from the virtues of computer simulations. Once the original data have been processed and analysed, 'what if' questions can be addressed systematically. One of the more important questions of this sort is, 'What if the data are faulty?' In such a context, the original data can be modified to see how sensitive the bargaining, negotiation or competitive process is to the estimated values of various data points. In this sense, this

⁴⁷ Donald P. Green and Ian Shapiro, *Pathologies of Rational Choice Theory: A Critique of Applications in Political Science* (New Haven, Conn.: Yale University Press, 1994).

⁴⁸ Rosenberg, *Economics*. According to J. David Singer, "'Rational choice" explanations for the behavior of political elites in general, and statesmen in particular ... [are] not only redolent of failed models that litter the landscape of modern economics, but dramatically at odds with the more solid findings in psychology.' See 'The Evolution of Anarchy vs. the Evolution of Cooperation', *Politics and Life Sciences*, 13 (1994), 26–8 at p. 28.

⁴⁹ The discussion that follows owes much to the recent critiques of rational choice approaches by Green and Shapiro, *Pathologies of Rational Choice*, as well as that by Rosenberg, *Economics*, which, in general, we might add, have much to recommend them. It probably should be pointed out here that the focus of *Pathologies of Rational Choice* is on American Politics (so it does not address Bueno de Mesquita's rational choice approach explicitly), and that Rosenberg's volume is dedicated to (among others) Bruce Bueno de Mesquita.

⁵⁰ See Bueno de Mesquita, *The War Trap*; 'The War Trap Revisited'; Bueno de Mesquita and Lalman, *War and Reason*.

⁵¹ For example, Bueno de Mesquita, Newman and Rabushka, *Forecasting Political Events*; Feder, 'Factions and Policon'; Bueno de Mesquita and Iusi-Scarborough, 'Forecasting the Nature of Political Settlement'.

⁵² Bueno de Mesquita, 'Political Forecasting,' and Woosang Kim and Bueno de Mesquita, 'How Perceptions Influence the Risk of War', *International Studies Quarterly*, 39 (1995), 51–65.

expected utility model also shares important similarities with the ‘artificial life’ approach to the study of complex systems – where unit-level behaviour that is assumed to be a function of a few simple rules is analysed through multiple iteration simulations.⁵³

Rational choice approaches in political science and economics have come under much criticism recently (and rightly so, in our opinion) because of their protagonists’ apparent reluctance to confront their mathematical creations with empirical data.⁵⁴ But the rational choice forecasting approach in question here is virtually *always* confronted with data about the ‘real world’; its major purpose is to produce predictions, as well as strategic advice, which are then evaluated in the light of precisely defined empirical outcomes.

Rational choice approaches have also generated much hostility in the subfield of comparative politics, especially among area specialists. David Laitin recently acknowledged, ‘a specter is haunting comparative politics; it is the specter of pure theory’. By pure theory, he meant rational choice theory.⁵⁵ Asian specialists Chalmers Johnson and E. B. Keehn have recently worried that

when applied to other cultures rational choice theory is not merely often wrong but it also tells us surprisingly little about the subjects it purports to study. Its simplification of human behaviour, inability to conceive of institutions as anything more than rules that are extensions of behaviourism, and its total lack of interest in culture and social meaning suggest that political scientists have adopted some of the worst tendencies of economists.⁵⁶

But area studies specialists and ‘experts’ on individual countries are crucial to the expected utility approach described here. The model relies on information regarding the players, their power, their preferences and their priorities within the political context or situation being analysed. These data are based on the impressions of area specialists or experts on individual countries, regions,

⁵³ Mitchell Waldrop, *Complexity: The Emerging Science at the Edge of Order and Chaos* (New York: Simon & Schuster, 1992); John Horgan, ‘From Complexity to Perplexity’, *Scientific American*, 272 (1995), 104–9; Curt Supplee, ‘Computer Program May Give Insight to How Societies Evolve’, *Washington Post*, May 1995 (reprinted in the *Tampa Tribune*, 5 May 1995).

⁵⁴ ‘A theory of politics has no payoff if its hypotheses do not survive empirical scrutiny. In this light, it is surprising that both defenders and critics of rational choice theory have paid so little attention to empirical testing’ (Green and Shapiro, *Pathologies of Rational Choice Theory*, p. 32). ‘Over a ten year period the proportion of papers in the *American Economic Review* that elaborated mathematical models without bringing the models into contact with data exceeded 50 percent and ... a further 22 percent involved indirect statistical inference from data previously published’ (Rosenberg, *Economics*, p. 66). Another 15 per cent of articles in the *American Economic Review* during this period, according to Rosenberg, involved neither mathematical formulation nor data.

⁵⁵ David Laitin, ‘The Return of the Son of the Bride of the Future of Comparative Politics’ (APSA-CP, *Newsletter of the American Political Science Association’s Organized Section in Comparative Politics*, 5 (1994), p. 4). Laitin goes on to observe that ‘having a specialist for every piece of international real estate may soon seem as arcane as having a specialist for every planet in the astronomy department’ (p. 4).

⁵⁶ Chalmers Johnson and E. B. Keehn, ‘A Disaster in the Making: Rational Choice and Asian Studies’, *The National Interest*, No. 36 (1994), 14–22, at p. 18.

political leaders or relevant political systems. The experts themselves translate their impressions into numerical estimates of the kind exemplified in the Appendix, which contains a brief description of an analysis of the prospects for the passage of the North America Free Trade Agreement (NAFTA) in the US Congress.⁵⁷ In short, area experts and country specialists provide wisdom and insights that enhance the potential of the expected utility forecasting model to generate accurate predictions about the political future.

This approach to political forecasting is not, however, totally dependent on area expertise for its success. It is not akin to the Delphi method, nor is it simply an atheoretical computational algorithm for aggregating the opinions of experts. (In fact, quite often only one expert is consulted.) The experts are in fact virtually never asked what they believe will happen with regard to the political events and interactions being analysed. They often disagree with the projections based on the information they provide. Stanley Feder asserts that 'a number of predictions [by Policon] have contradicted those made by the intelligence community, nearly always represented by the analysts who provided the input data. In every case, the Policon forecasts proved to be correct.'⁵⁸

The evidence regarding the validity of the expected utility approach to forecasting political events is not definitive. There is a lot of room for increased confidence in it if and when it is utilized by larger numbers of people less closely associated with its originators, and if it proves possible to arrange more systematic (and unclassified) comparisons of its performance with that of potential competitors. However, we would argue in a Lakatosian fashion that in terms of the range of issues and political settings to which it has been applied, and the body of available evidence regarding its utility and validity, it may be superior to any alternative approaches designed to offer specific predictions and projections regarding political events, and that it should not be rejected until and unless something better comes along. Moreover, in the light of that evidence, assertions that current international relations theory or systematic empirical approaches offer no better guide to the future than 'star-gazers' or 'readers of entrails' or that 'international relations theory ... does not allow us to predict' need to be modified.⁵⁹

⁵⁷ 'Through the judicious use of modelling and area expertise, it is possible to derive issue-specific analyses that are more reliable and more informative than can be achieved through modelling alone or through area expertise by itself.' (Bueno de Mesquita, 'Multilateral Negotiations', p. 340.)

⁵⁸ Feder, 'Factions and Policon'. Policon is the name of the original corporation founded by Bueno de Mesquita and his associates (see fn. 34).

⁵⁹ Gaddis, 'International Relations Theory', p. 18; Puchala, 'Woe to the Orphans', p. 79. Even John Lewis Gaddis might now agree with our statement. Gaddis and Bruce Bueno de Mesquita have discussed in some detail what amounts to a simulation of the history of the Cold War based on Bueno de Mesquita's model, in a paper with a working title of 'The End of the Cold War as an Emergent Property: Complexity in International Affairs'. These conversations have led Gaddis to conclude (in an e-mail message to Bueno de Mesquita on 8 February 1995) that 'as I understand it, what you've done is to confirm Axelrod's "evolution of cooperation" model in iterated prisoners' dilemma games,

PREDICTING THE END OF THE COLD WAR IN PARTICULAR

It is true, as John Gaddis points out, that few scholars of international relations specifically forecast the end of the Cold War in the years before its demise.⁶⁰ Gaddis absolves international relations theorists of the need to produce deterministic predictions or even contingent predictions, asking that they offer 'only a probabilistic forecast', with a 'specification in advance' of one of several outcomes as 'likely'.⁶¹ We concur in his assumption that probabilistic statements rather than deterministic laws or point predictions are the proper goal of social science, but we would also insist that it is necessary to embed those probabilistic statements within a specific set of contingencies. We will argue here that in fact international relations theory was not entirely bereft, as Gaddis charges, of probabilistic statements with appropriately specified contingencies which amounted to an accurate prediction regarding the end of the Cold War.

Realism and neorealism have come in for severe criticism regarding their record for forecasting the end of the Cold War. Admittedly, 'the competing predictions of realist theories make realism difficult to falsify. Almost any outcome can be made consistent with some variant of realist theory'.⁶²

(Footnote continued)

and then extend it beyond where he went to show how what looks like a robust system over time (a 'long peace'?) can suddenly break down. You've shown that this can happen not through war or mutual convergence, which always seemed to be the only choices while the Cold War was going on, but by one side's suddenly shifting to the other's point of view. That strikes me as an important advance over earlier approaches to predictive modelling because it takes into account the emergent properties of complex adaptive systems. It's getting closer to how historians think.' This is from a copy of this e-mail correspondence (sent via e-mail) to James Ray by John Gaddis, in which Gaddis also acknowledges that 'there has been a sort of BdM-JLG convergence' (8 February 1995).

⁶⁰ Decision Insights, however, did produce forecasts of the break-up of the Soviet Union shortly after the coup attempt of August 1991. John Mueller also asserted in 1986 that 'we may be coming to the end of the world as we know it. The predominant characteristic of international affairs over the last 40 years has been competition and confrontation between the United States and the Soviet Union, and there is a great deal in the present situation to suggest that this condition could be on the verge of terminal improvement; the incentives for the Soviet Union to reduce its commitment to worldwide revolution are considerable. This could eventually result in the end of the cold war' ('Containment and the Decline of the Soviet Empire', paper presented to the Annual Convention of the International Studies Association, Anaheim, California, March 1986, p. 1). This paper is informed by international relations theory to some extent, particularly in its conclusion about the low probability of an international war between the United States and the Soviet Union. It might be fair to say, however, that its impressive prescience regarding the demise of the Cold War is based more on wisdom, intuition and a pragmatic logic of cost-benefit analysis than a well-developed explicit theory of international politics.

⁶¹ Gaddis, 'International Relations Theory', p. 18 (emphasis in the original).

⁶² Richard Ned Lebow, 'The Long Peace, the End of the Cold War, and the Failure of Realism', in Lebow and Thomas Risse-Kappen, eds, *International Relations Theory and the End of the Cold War* (New York: Columbia University Press, 1995), pp. 23–56, at p. 24. In the same volume, Kenneth Oye ('Explaining the End of the Cold War: Morphological and Behavioral Adaptations to the Nuclear Peace?' pp. 57–84, at p. 58) states, 'Because realism is underidentified, it cannot be tested with reference to the end of the Cold War or any other sequence of events'.

Retrospectively, a realist story can be told to explain the end of the Cold War in some partial manner. William Wohlforth provides a particularly persuasive example, but with a weakness that stems from its flexibility. By emphasizing *perceptions* of power, and its 'significant non-material elements', as well as the wide range of options available or suggested to policy makers by those perceptions of power, Wohlforth does construct a plausible realist account of the end of the Cold War.⁶³ Our doubts about its utility involve questions about its falsifiability well expressed by Wohlforth himself: 'Realist theories can be made more determinant, but only in *ex post* explanation rather than *ex ante* prediction. Realist theories are terribly weak. They are too easy to confirm and too hard to falsify. They do not come close to the ideal of scientific theory.'⁶⁴ These doubts are similar to those posed perennially about Morgenthau's emphasis on the actions of nations based on the national interest defined in terms of power.

Even a realist like Wohlforth acknowledges that neorealism or structural realism (as opposed to realism) is hard-pressed to account for the changes that marked the years from 1989 to 1991. In the terminal stages of the Cold War, Gorbachev's actions went beyond what one would have expected from a neorealist perspective. He 'confounded neorealist expectations when he discarded the Brezhnev Doctrine, allowed revolutions overthrowing Eastern European communist regimes, and accepted the demise of the Warsaw Pact. Even less can one account for American behaviour within a neorealist framework.

According to neorealist assumptions, the United States should have taken advantage of Soviet weakness with an aggressive foreign policy and efforts to compound Soviet difficulties so as to make the Soviet Union as weak as possible. Instead, the United States extended to the Soviet Union ... large-scale financial aid ... and even supported Gorbachev's efforts to hold the Soviet Union together.⁶⁵

⁶³ In defence of the idea that this account is consistent with realism it might be pointed out that David Sanders provides an account based on realism of the withdrawal of Great Britain from its colonies in the late 1940s and the 1950s with some similarities to Wohlforth's realistic account of the withdrawal of the Soviet Union from Eastern Europe (see *Losing an Empire, Finding a Role* (London: Macmillan, 1990), esp. pp. 265–9). However, unlike Wohlforth, Sanders emphasizes that realism calls for ensuring that the evacuated areas are left in the hands of the 'firmest and most trustworthy ally' (p. 267), something the Soviets did not accomplish. And like Wohlforth, Sanders provides this realistic account of a withdrawal from imperial holdings only well after the fact.

⁶⁴ William Wohlforth, 'Realism and the End of the Cold War', *International Security*, 19 (1994/95), 91–129, at p. 93. It is only fair to point out that Wohlforth goes on to argue that the strength of realist theories is only evident 'when they are compared to the alternatives, which suffer from similar or worse indeterminacy but do not possess comparable explanatory power' (p. 93). We intend to compare realism not only to some ideal standard, but also to a specific alternative.

⁶⁵ Rey Koslowski and Friedrich V. Kratochwil, 'Understanding Change in International Politics: The Soviet Empire's Demise and the International System', in Lebow and Risse-Kappen, eds, *International Relations Theory*, pp. 127–65, at pp. 129 and 131–2. Similarly, Gaddis asserts that 'the second most "powerful" state on the face of the earth did voluntarily give up power, despite the insistence of international relations theory that this could never happen'. See John Lewis Gaddis,

Neorealism posits the distribution of power in the international system as the fundamental driving force behind whatever changes might occur in international relationships. Yet changes in the distribution of power within the international system were substantially a *result rather than a cause of the end of the Cold War*. Both the general Soviet–American military balance and the nuclear balance in particular – the essential features of the bipolar system – remained in place while the most dramatic changes in Soviet policy and in the US–Soviet relationship occurred. ‘Until 1989 [Gorbachev] made no major cuts in defense spending. Between 1985 and 1989, defence consumed about the same percentage of gross national product as it had under Brezhnev. After 1989 it consumed more.’⁶⁶ In other words, the dramatic changes in Soviet–American relations took place even though the distribution of power in the system remained quite stable.

So the criticisms by Gaddis and others about the inability of predominant international relations theories to cope with or account for the end of the Cold War apply quite persuasively to realism or neorealism.⁶⁷ Some other theories – realist and non-realist – lend themselves to stories that have some plausibility, but only after the fact, applying selective versions of theoretical traditions as they might have predicted the end of the Cold War. Hardly any, however, were told before the events in question, actually making the prediction.⁶⁸ Those few that did were of the ‘sooner or later’ variety with little specification of time frame or contingency. At best, events can be said to ‘confirm’ such propositions only with a *post hoc propter hoc* account. A forecast with such vague content as to

(*F* note continued)

‘How the Cold War’s end dramatizes the failure of political theory’, *Chronicle of Higher Education*, 38 (22 July 1992), A44. And Lebow, ‘The Long Peace’ (p. 41), argues that ‘the most fundamental tenet of realism is that states act to preserve their territorial integrity. Gorbachev’s decision to abandon Eastern Europe’s communist regimes wittingly called the integrity of the Soviet empire into question. It triggered demands for independence from the Baltics to Central Asia that led to the demise of the Soviet state’. Thinking about whether Gorbachev’s behaviour was both pivotal and not to be expected from other possible Soviet leaders constitutes a useful counterfactual exercise to help sort out the role of systemic forces in constraining leaders. On such exercises, see Philip Tetlock and Aaron Belkin, eds, *Counterfactual Thought Experiments in World Politics: Logical, Methodological, and Psychological Perspectives* (Princeton, NJ: Princeton University Press, 1996, forthcoming).

⁶⁶ Lebow, ‘The Long Peace’, p. 39. Also Fred Chernoff, ‘Ending the Cold War: The Soviet Retreat and the US Military Buildup’, *International Affairs*, 67 (1991), 111–26.

⁶⁷ John Mueller of the University of Rochester expressed the following in a September 1994 personal communication to us: ‘Insofar as anyone can figure out what realism in its various forms (neo, structural, quasi, crypto, semi, defensive, last-ditch, kinky, etc.) actually was, therefore, it seems to me it was (I like the past tense here) not only flawed in that it was incapable of predicting the end of the Cold War, but that it had a negative, even blinding or at least blinkering, effect in that it caused people for decades to focus on the wrong dynamic and to be incapable of seeing what was going on. It ignored domestic issues willfully and to its ultimate peril’.

⁶⁸ Various examples are reviewed by contributors to Pierre Allan and Kjell Goldmann, eds. *The End of the Cold War: Evaluating Theories of International Relations* (Dordrecht: Martinus Nijhoff, 1992). In his chapter, ‘The Events in Eastern Europe and the Crisis in the Discipline of International Relations’, Philip Evarts does a particularly devastating job of compiling forecasts that turned out very wrong.

time or contingency can never be falsified; the prophet can always claim 'not yet, but keep waiting'.⁶⁹

There is, however, a burgeoning sector of international relations theory less vulnerable to such criticism, namely that which focuses on the democratic peace proposition, or the idea that democratic states have not and are not likely to initiate international wars against each other. The arguments and evidence for the democratic peace proposition are impressively diverse; they are epistemological,⁷⁰ philosophical,⁷¹ historical,⁷² experimental,⁷³ anthropological,⁷⁴ and statistical in nature.⁷⁵ The proposition receives empirical support not just in the nineteenth- and twentieth-century international system where it first became evident, but in some earlier eras and in ethnographic material on pre-industrial societies.⁷⁶ As a research programme, it has spun off hypotheses, and evidence,

⁶⁹ This is the characterization by Kjell Goldman, 'Bargaining, Power, Domestic Politics, and Security Dilemmas: Soviet "New Thinking" as Evidence', and Isabelle Grunberg and Thomas Risse-Kappen, 'A Time of Reckoning? Theories of International Relations and the End of the Cold War', in Allan and Goldman, eds, *The End of the Cold War*. This is certainly not to imply that such a forecast should, by contrast, have taken the form of a point prediction.

⁷⁰ R. J. Rummel, *The Dynamic Psychological Field: Vol. 1, Understanding Conflict and War* (New York: Sage Publications, 1975).

⁷¹ Michael Doyle, 'Liberalism and World Politics', *American Political Science Review*, 80 (1986), 1151–70.

⁷² Spencer R. Weart, 'Peace Among Democracies and Oligarchic Republics', *Journal of Peace Research*, 31 (1994), 229–316; James Lee Ray, 'Wars Between Democracies: Rare, or Non-Existent?' *International Interactions*, 18 (1993), 251–76, John Owen, 'How Liberalism Produces Democratic Peace', *International Security*, 19 (1994), 87–125.

⁷³ Alex Mintz and Nehemia Geva, 'Why Don't Democracies Fight Each Other?' *Journal of Conflict Resolution*, 37 (1993), 484–503.

⁷⁴ Carol R. Ember, Melvin Ember and Bruce M. Russett, 'Peace Between Participatory Polities: A Cross-Cultural Test of the "Democracies Rarely Fight Each Other" Hypothesis', *World Politics*, 44 (1992), 573–99; Neta Crawford, 'A Security Regime among Democracies: Cooperation Among Iroquois Nations', *International Organization*, 48 (1994), 345–85.

⁷⁵ Stuart Bremer, 'Dangerous Dyads: Conditions Affecting the Likelihood of Interstate War, 1816–1965', *Journal of Conflict Resolution*, 36 (1992), 309–41; Zeev Maoz and Bruce Russett, 'Normative and Structural Causes of Democratic Peace, 1946–1986', *American Political Science Review*, 87 (1993), 624–38. These and additional sources in each of these categories are reviewed in Bruce Russett, *Grasping the Democratic Peace: Principles for a Post-Cold War World* (Princeton, NJ: Princeton University Press, 1993), and Ray, *Democracy and International Conflict*. Also see John Oneal, Frances Oneal, Zeev Maoz and Bruce Russett, 'The Liberal Peace: Interdependence, Democracy, and International Conflict, 1950–1986', *Journal of Peace Research*, 32 (1996).

⁷⁶ Raymond Cohen, 'Pacific Unions: A Reappraisal of the Theory that "Democracies Do Not Go to War With Each Other"', *Review of International Studies*, 20 (1994), 207–23; Christopher Layne, 'Kant or Cant: The Myth of Democratic Peace', *International Security*, 19 (1994), 5–49 and David Spiro, 'The Insignificance of the Liberal Peace', *International Security*, 19 (1994), 50–86; argue that the democratic peace proposition fails on conceptual, historical, or statistical grounds. We believe we refute these arguments in Russett and Ray 'Why the Democratic-Peace Proposition Lives', *Review of International Studies*, 21 (1995), 319–23; and Russett, 'The Democratic Peace: And Yet It Moves', *International Security*, 19 (1995), 164–77. In his reply in the same issue of *International Security*, Layne (pp. 175–7) makes the novel charge that Russett is guilty of practising postmodernism.

that democracies will be more likely to ally with one another; that the legal systems of democratic states will recognize and enforce each other's law in their own systems; that in disputes between democratic states the parties will be more accommodative, and more likely to accept third-party intervention for conflict management or binding third-party settlement; that states with competitive elections generally have lower military expenditures, which in relations with other democracies promote co-operation; and that as the politically relevant international environment of democracies becomes composed of more democratic and internally stable states, democracies tend to reduce their military allocations and conflict involvement.⁷⁷

The democratic peace proposition is also supported by theoretical analyses, some of them formal in nature.⁷⁸ Moreover, in a work with important theoretical ties to the political forecasting model we have discussed, there is a formal argument developed by Bruce Bueno de Mesquita and David Lalman:

Whenever democracies confront one another, it is common knowledge that each has unusually high confidence that the other is likely to be constrained to be averse to the use of force. And that common knowledge about the magnitude of the prior belief encourages states under all but the most unusual circumstances to negotiate with one another or to accept the status quo.⁷⁹

⁷⁷ Randolph Siverson and Juliann Emmons, 'Birds of a Feather: Democratic Political Systems and Alliance Choices', *Journal of Conflict Resolution*, 35 (1991), 285–306; Anne-Marie Burley (Slaughter), 'Law among Liberal States: Liberal Internationalism and the Act of State Doctrine', *Columbia Law Review*, 92 (1992), 1907–96; Jacob Bercovitch, 'International Mediation and Dispute Settlement: Evaluating the Conditions for Successful Mediation', *Negotiation Journal*, 7 (1991), 17–30; Michael Brecher, *Crises in World Politics: Theory and Reality* (Oxford: Pergamon, 1993); William Dixon, 'Democracy and the Peaceful Settlement of International Conflict', *American Political Science Review*, 88 (1994), 14–32; Gregory A. Raymond, 'Democracies, Disputes, and Third-Party Intermediaries', *Journal of Conflict Resolution*, 38 (1994), 24–42; Michele Garfinkel, 'Domestic Politics and International Conflict', *American Economic Review*, 84 (1994), 1294–1309; Zeev Maoz, *Domestic Sources of Global Change* (Ann Arbor: University of Michigan Press, 1996).

⁷⁸ David Lake, 'Powerful Pacifists: Democratic States and War', *American Political Science Review*, 86 (1992), 24–37; Kenneth Schultz and Barry Weingast, 'The Democratic Advantage: The Institutional Sources of State Powers in International Competition' (paper given at the Annual Meeting of the American Political Science Association, September 1994); Bruce Bueno de Mesquita, Randolph M. Siverson and Gary Woller, 'War and the Fate of Regimes: A Comparative Analysis', *American Political Science Review*, 86 (1992), 638–46; Bruce Bueno de Mesquita and Randolph M. Siverson, 'War and the Survival of Political Leaders: A Comparative Study of Regime Types and Political Accountability', *American Political Science Review*, 89 (1995), 841–55; James D. Fearon, 'Domestic Political Audiences and the Escalation of International Disputes', *American Political Science Review*, 88 (1994), 577–92. One implication of these works considered together is that democratic states might avoid war against each other because they are formidable opponents in war, and because democratic states are particularly vulnerable to a loss of power in the wake of a lost war. See Ray, *Democracy and International Conflict*, chap. 1.

⁷⁹ Bueno de Mesquita and Lalman, *War and Reason*, pp. 156–7.

Advocates of the democratic peace proposition did not anticipate with any precision the timing of changes in Soviet policy that marked the last days of the Cold War. Like neorealism, democratic peace theory does not attempt to explain or predict transitions in domestic political regimes, and neoliberalism did no better in forecasting the initial Soviet domestic changes. All assume that such transitions are matters to be dealt with by specialists on the domestic politics of states in the international system, i.e., comparative politics specialists, or in this case, Sovietologists. Hardly anyone predicted far in advance that the key contingency for a democratic peace – a more democratic Soviet Union – might transpire.

We summarize our interpretation of the actual *events* marking the end of the Cold War as follows. In 1986, Mikhail Gorbachev set in motion a process of domestic liberalization and the reduction of international tension, both of which gathered force in subsequent years. Not later than November 1989 the bipolar Cold War system can be termed defunct, with the fall of the Berlin Wall and the peaceful acceptance by the Soviet leadership of the collapse of its political and military control over Eastern Europe. By this interpretation, the dissolution of the Soviet Union at the end of 1991 was merely the ‘ratification’ of the end of the Cold War. The internal character of the Soviet system moved importantly towards democracy during the 1986–89 period, though some of the greatest changes occurred only in 1991.

Establishing the validity of a neoliberal story regarding the end of the Cold War would require at a minimum persuasive evidence that the Soviet Union in fact did become more democratic during these crucial years. A detailed historical analysis of political developments in the Soviet Union is clearly beyond the scope of this effort. However, we can point out that both the Polity III codings and the annual Freedom House ratings judged that substantial movement in the direction of democracy in the Soviet Union (and ultimately Russia) did take place between 1986 and 1991.⁸⁰ A remarkable feature is thus that when the Soviet Union did break up, a reasonably *democratic* Russian government permitted it to happen, *peacefully*. (Most observers would concur that Russia has become less democratic since 1991.)

Indeed, any understanding of the change in the Soviet Union’s international behaviour *before its dissolution*, and reciprocated by the West, demands

⁸⁰ In Polity III, the Soviet Union received a score of 0 on the institutionalized democracy index (on a scale from 0 to 10) in 1986, a score of 5 in 1989, and 7 in 1991. On the institutionalized autocracy index (also a 0 to 10 scale), it had a score of 7 in 1986, 1 in 1989, and 0 in 1991. On the Freedom House indicators, the Soviet Union received the worst (least democratic) possible scores on political rights and on civil liberties (that is, 7s) in 1986, and moved to scores of 6 and 5 by 1988; at the end of 1990 it was coded as 3 on both scales. Keith Jagers and Ted Gurr, ‘Transitions to Democracy: Tracking Democracy’s Third Wave with the Polity III Data’, *Journal of Peace Research*, 32 (1995), 469–82; Raymond D. Gastil, *Freedom in the World: Political Rights and Civil Liberties*, 1988–1989 (New York: Freedom House, 1989); R. Bruce McCole, *Freedom in the World: Political Rights and Civil Liberties, 1991–1992* (New York: Freedom House, 1992).

attention to the three legs on which the liberal Kantian vision of *Perpetual Peace* stands: (1) movement toward democracy in the Soviet Union, with consequent changes in free expression and the treatment of dissidents at home, in the East European satellites, and in behaviour toward Western Europe and the United States; (2) the desire for economic interdependence with the West, impelled by the impending collapse of the Soviet economy and the consequent perceived need for access to Western markets, goods, technology and capital, which in turn required a change in Soviet military and diplomatic policy; (3) the influence of international law and organizations, as manifested in the Conference on Security in Central Europe (CSCE) and the human rights basket of the Helsinki accords and their legitimation and support of political dissent in the communist states.

In the light of this experience, it seems to us that acceptable standards of social science prediction (not prophecy) would require a prior set of statements somewhat along the line of the following: certain contingencies, such as economic stagnation or decline, or rising ethnic and national tensions within the Soviet Union, are likely (not certain) to occur. Such a contingency would in turn be likely (not certain) to force the leaders of a still-intact Soviet Union to seek (and obtain) a very substantial reduction in East–West conflict that we could appropriately term a peaceful ‘end of the Cold War’. Whereas a strong causal relationship from democratization to the end of East–West conflict might be difficult to establish, a further condition for a ‘democratic peace’ prediction would be that the end of conflict should closely follow or coincide with some significant democratization. The end of the conflict should not come first. Such a prediction would not necessarily first require a full collapse of the previous system.

By these – possibly high – standards, hardly anyone did very well. Predictions that economic stagnation or rising ethnic conflict might occur were common, and also that they would likely force some sort of change in the Soviet economic and/or political system. But few predicted substantial liberalization of the system. Zbigniew Brzezinski edited an early book addressing the likelihood of major change in the Soviet political system. The great majority of the twenty contributors to the symposium either made no clear-cut prediction at all, or came down as considering conservative adaptation, degeneration or collapse as most likely at some time in the future. Only three – Jayantanuja Bandyopadhyaya (a scholar from India), Joseph Clark and Arrigo Levi (an American and an Italian journalist respectively) – considered ‘renovative transformation’ (substantial liberalization) as a serious possibility.⁸¹ Later, some creators and supporters of Reagan administration policies in the early 1980s anticipated that pressures of an intensified arms race on the Soviet economy could ultimately force the Soviet Union to behave more co-operatively – but few specified how that might happen, or under what type of political regime.

⁸¹ Zbigniew Brzezinski, ed., *Dilemmas of Change in Soviet Politics* (New York: Columbia University Press, 1969). Summary characterizations of each contributor’s position appear on p. 157.

Some theories (and theorists) did predict the demise of the Soviet Union as such. Helene d'Encausse published *Decline of an Empire: The Soviet Socialist Republics in Revolt* in 1979. Randall Collins delivered a paper in 1980 with a 'geopolitical theory' based on five main principles, each of which 'pointed in the same way: collapse of the Russian empire'.⁸² But by the criteria above these works fail on at least two counts. First, the Cold War came to an end before the Soviet Union collapsed. Secondly, theories of this type generally anticipated a violent end to the Cold War. Collins acknowledges, for example, that his geopolitical theory predicted that 'ultimately the world simplifies down to two rival empires which engage in a "showdown" war ... carried out with unprecedented ferociousness and cost'.⁸³ Wohlforth acknowledges that 'realists of all types tended to associate large-scale international changes with war. In particular, those who did contemplate Soviet decline in the context of the Cold War tended to assume that Moscow would not face decline gracefully'.⁸⁴

An alternative basis for anticipating the end of the Cold War emphasizes the impact of internal regime changes on relationships among states. Its contemporary origins can be traced to Karl Deutsch's work on pluralistic security communities, now being recognized as perhaps the principal alternative paradigm to realism.⁸⁵ This work was an important precursor to the democratic peace proposition, with its emphasis on peaceful relationships, especially among democratic states. Harvey Starr points out the connections between Deutsch's work and the international interaction model developed by Bueno de Mesquita and Lalman.⁸⁶ And as Bueno de Mesquita and Lalman themselves declare in defence of that model:

The predominant realist or neorealist viewpoint suggests that broad international structural characteristics ... not the individual qualities of decision makers or particular domestic political institutions of states, [are] the essential explanatory factor in international affairs ... Recent Soviet developments make more sense if understood from a domestic viewpoint than from a realist viewpoint, which interprets demands and foreign policy actions strictly in their international context. Internal imperatives, rather than external constraints, seem to have shaped the revolution in Soviet foreign policy ...⁸⁷

⁸² Helen d'Encausse, *Decline of an Empire: The Soviet Socialist Republics in Revolt* (New York: Harper & Row, 1979). Collins's paper is cited in Randall Collins and David Waller, 'What Theories Predicted the State Breakdowns and the Revolutions of the Soviet Bloc?' *Research in Social Movements, Conflicts, and Change*, 14 (1992), 31–47, at p. 34.

⁸³ Collins and Waller, 'What Theories?' p. 33.

⁸⁴ Wohlforth, 'Realism and the End of the Cold War', pp. 102–3.

⁸⁵ Karl Deutsch *et al.*, *Political Community and the North Atlantic Area* (Princeton, NJ: Princeton University Press, 1957); Emanuel Adler and Michael Barnett, *Pluralistic Security Communities: Past, Present and Future* (Madison: University of Wisconsin, Global Studies Research Program, 1994); Alexander Wendt, 'Collective Identity Formation and the International State', *American Political Science Review*, 88 (1994), 384–98.

⁸⁶ Harvey Starr, 'Democracy and War: Choice, Learning and Security Communities', *Journal of Peace Research*, 29 (1992), 207–14, at p. 211.

⁸⁷ Bueno de Mesquita and Lalman, *War and Reason*, pp. 248–9.

In other words, neorealism and democratic peace theory (or neoliberalism) are affected quite differently by arguments and evidence that the Cold War relationship between the United States and the Soviet Union was changed dramatically by reforms internal to the Soviet regime. The democratic peace proposition clearly implies that if major regime transitions do occur they can fundamentally alter the pattern of relationships between states.

Typically, if physical scientists offer propositions about the future of the 'real world', they must be specifically qualified. Their ability to predict in an unconditional way is limited. For example, physical scientists cannot predict with consistent accuracy where and when the next large earthquake will occur (or when the Big One will hit southern California), nor exactly when and where, next year, a hurricane will strike North America. Yet it would clearly be unjustified to conclude that the inability to predict in this fashion demonstrates that geologists or meteorologists have no real understanding of phenomena such as earthquakes or hurricanes, or that their theories regarding them are 'bankrupt'.

Similarly, we would argue, it is unfair to argue that the absence of predictions about the end of the Cold War by advocates of the democratic peace proposition demonstrates their (or their theory's) inadequacies. It is more important that democratic peace theory could generate probabilistic forecasts about the Cold War, contingent upon regime transitions. Specifically, it leads to us to expect that *if* the autocratic half of an antagonistic pair of states becomes more democratic, then the relationship between those states will improve. Thus one could readily derive the proposition that if the Soviet Union becomes more democratic, the Cold War will probably end.⁸⁸

Finally, a prediction (that is, a contingent statement about the future, as opposed to either a prophecy or a *post hoc* explanation) specifically regarding the end of the Cold War is not merely a logical possibility existing only in the abstract. Writing in 1980, one of us ended his discussion of the democratic peace proposition by asking whether the 'experience of OECD countries gives us any basis for hope that "stable peace", based on something more just than dominance or more stable than mutual deterrence, can be achieved in other parts of the world or by the OECD countries with other states'. Addressing the question of whether 'relations with the Soviet Union could ever be like those within a security community,' he concluded that 'stable peace could be possible only if the

⁸⁸ James Lee Ray, 'Promise or Peril? Neorealism, Neoliberalism, and the Future of International Politics', in Charles Kegley Jr, ed., *Controversies in International Relations Theory* (New York: St Martin's Press, 1995), p. 350. Interesting testimony regarding the logic of such a derivation from democratic peace theory can be found in a passage (first published in a 1987 article) by John Lewis Gaddis: 'Michael Doyle has recently pointed out [that] there is a historical basis for arguing that liberal democracies tend not to go to war with one another. This raises the question: could the extension of democracy – especially within the superpower that has not, until now, had much of it – bring an end to the Cold War? Stranger things have happened'. (See Gaddis, *The United States and the End of the Cold War*, p. 140.)

government of the Soviet Union were to evolve into something more democratic than the current “state socialism”. None the less, he shared with other analysts the error of treating that key contingency of liberalization as unlikely – and particularly because of the potential for ethnic conflict.⁸⁹

Other than the perceived unlikelihood of the contingency, why was such a prediction not shouted from the housetops, or taken up by other advocates of the democratic peace proposition? After all, the basic idea had been around for two decades or more (not counting Immanuel Kant and Woodrow Wilson). The problem was that only quite lately did enough people – including many of its advocates – conclude that the evidence for the democratic peace proposition was in fact correct. It took time for the necessary scientific process of specifying the theory and gathering empirical evidence. The theory had to be tested for the influence of confounding variables like wealth and alliance ties, and the underlying logic of the process had to be spelled out. For this very reason many social scientists who are now believers in the democratic peace were initially agnostic or even atheist.⁹⁰ And well they might have been. The twentieth century

⁸⁹ ‘The prospects for liberalization in the Soviet Union are complicated, because it is not just the matter of political control by the current leaders that is at issue – or even just the maintenance of Socialism vs. some restoration of capitalist institutions. The very unity of the USSR itself is at stake. A major barrier to liberalization of the Soviet government is the suppressed desire of ethnic groups or “nationalities” for self-determination. Liberalization could revive these potential separatist movements, bringing the potential fissioning of the world’s last great colonial empire’. Both this passage and the one above are from Bruce Russett, ‘Causes of Peace’, in Caroline M. Stephenson, ed., *Alternative Methods for International Security* (Washington, DC: University Press of America, 1982), p. 191. Both repeat verbatim material that appeared in the more widely available book by Bruce Russett and Harvey Starr, *World Politics: The Menu for Choice* (San Francisco: W. H. Freeman, 1981), p. 442. Writing in mid-1988, he treated the key contingency as more plausible: ‘As Soviet ideology and practice begins to shift, the distinction between ruling elites and their people loses some of its force. If both sides see each other as in some sense truly reflecting the consent of the governed, the transformation of international relations begins’. (Bruce Russett, ‘Democracy and Peace’, in Russett, Harvey Starr and Richard Stoll, eds, *Choices in World Politics* (New York: Freeman, 1989), p. 259.)

⁹⁰ We believe this accurately characterizes many scholars cited here as ultimately contributing to the theory and evidence for the democratic peace, including Bremer, Bueno de Mesquita, Dixon, Maoz and Ray himself. Policy makers also were appropriately cautious both in taking up the democratic peace proposition and in applying it to the Soviet Union. Nevertheless, by April 1989 US Secretary of State James Baker was saying, ‘And a kind of democratization – something, I think that’s far from democracy, but, nevertheless, a kind of democratization, has begun’, and GIST, an unauthored State Department publication which generally follows the tone and observations of high-ranking officials, said a month later that should moves towards internal democratization ‘continue and become irreversible fact, the basic nature of the US–Soviet relationship could be altered profoundly, but we are not there yet’ (US Department of State, Bureau of Public Affairs, S1.128: Un 5/2/1989) Both quotations are from Ann Mason, ‘The End of Cold War Thinking: A Study of Change and Learning in Foreign Policy Belief Systems’ (forthcoming doctoral dissertation for Yale University). By early 1992 Baker had thoroughly bought into the idea of a democratic peace with Russia (see Russett, *Grasping the Democratic Peace*, pp. 128–9). The late Deputy Assistant Secretary

has seen quite enough instances of going from 'imaginatively generalizing'⁹¹ to strong policy recommendations without getting the facts and logic right. Who wants to wind up in the dustbin with Lenin, having done incalculable harm to humanity?

CONCLUSION: SCIENTIFIC PREDICTION IS POSSIBLE

The scarcity of accurate predictions by scholars of international politics regarding the end of the Cold War has apparently reinforced scepticism in some circles regarding the utility of the 'scientific' or systematic empirical approach to the field. That scepticism is, in part, on firm ground, since an ability to provide foreknowledge is one important attribute of useful theories, and advocates of systematic empiricism have had several decades now to help develop such theories. This is not to say that accurate predictions are the sole aim of 'science', or even the most important or stringent criterion by which theories can be evaluated. But the future can serve as an important arbiter between competing theoretical (and epistemological) approaches to the study of international politics, because predictions, unlike explanations, cannot be modified in order to make them conform to the (unknown) outcomes they address.

John Lewis Gaddis, among others, has seized upon the nearly complete absence of accurate predictions regarding the demise of the Cold War as evidence of the bankruptcy of predominant theoretical approaches in the field, as well as of scientific or systematic empirical analyses. Our thesis here accepts predictive accuracy as an important criterion by which to evaluate theories and systematic empiricism, and argues that there are three related streams of research in the field that justify a more optimistic evaluation of theory in the field of international relations, as well as systematic empirical methods of developing and evaluating theory. In short, we believe that a rational choice approach to political forecasting, the inputs relied upon by that approach from country and regional specialists, and the expanding body of work focusing upon the democratic peace proposition have collectively demonstrated an ability to produce accurate forecasts about political events in general, and even to provide a basis for anticipating the end of the Cold War.

(Footnote continued)

of Defense for European and NATO Affairs recently observed: 'One of the most powerful [propositions] to come out of international relations research in decades is the notion that democracies do not go to war with each other. This proposition has had a substantial impact on public policy ... There are very few propositions in international relations that can be articulated this cleanly and simply, but when you have one, you can really cut through the clutter of the bureaucratic process and make an impact' (Joseph Kruzel, 'More a Chasm Than a Gap, But Do Scholars Want to Bridge It?' *Mershon International Studies Review*, 38 (1994), 179–81, at p. 180).

⁹¹ Puchala, 'Woe to the Orphans', p. 57.

Many criticisms of rational choice approaches in economics and political science are justified. However, the approach to political forecasting discussed here differs from rational approaches in general in several ways that contribute to its apparent success as a forecasting tool. It can and does treat states as unitary rational actors, but it also can be utilized to analyse interactions between subnational groups, or even individuals. Some rational choice models suffer from excessive simplicity. The rational choice approach to forecasting discussed here is based on parsimonious assumptions and rules, but it takes advantage of the information-processing capabilities of computers to analyse bargaining, negotiating and competitive processes in considerable detail, analysing (for example) such processes from the points of view of each pair of actors involved. Rational choice approaches tend to overlook psychological factors, but this expected utility approach integrates attitudes towards risk, and the impact of these attitudes on perceptions with the more purely logical calculations that constitute the heart of the model. Computer simulation techniques allow this approach more flexibility than many models based on mathematical calculations. The original, as well as the processed, data can be modified in order to run 'experiments', or to address counter-factual questions. Finally, this rational choice approach takes into account political context through its reliance on traditionally trained area and country experts to supply the original data on which its forecasts are based. These strategies and characteristics have allowed this approach to political forecasting to produce a substantial history of success. Some of that history is not publicly available for scrutiny, but the number of predictions and forecasts that are accessible, combined with the substantial information about the model's structure in published sources, make it worthy, we believe, of serious consideration as a 'scientific' enterprise.

Since social science is necessarily a probabilistic rather than a deterministic exercise, the failure to produce an accurate forecast about one particular event is not sufficient to discredit any theory in any field, and the absence of predictions by realists and neorealists about the end of the Cold War should not be considered definitive contrary evidence. Nevertheless, that absence, and the tendency of realism and neorealism to create expectations of a violent end to the Cold War, can fairly be considered evidence tending to weaken confidence in such theoretical approaches to international politics. The theoretical approach producing the democratic peace proposition, in contrast, leads to an expectation of the peaceful demise of the Cold War if the autocratic antagonistic in that confrontation becomes more democratic. The Soviet Union did become more democratic in the years from 1985 to 1991, and the emphasis on the impact of domestic political regimes on foreign policies as well as international interactions that is a fundamental attribute of the democratic peace proposition seems well-founded in the light of the way the Cold War came to an end. Even in advance of the dramatic events of 1989 to 1991, at least one advocate of the democratic peace proposition pointed out the implications for the course of the

Cold War of substantial changes in the domestic political system of the Soviet Union.⁹²

That ultimately justified prediction (defined as a statement about the future based on specified contingencies) is one reason for rejecting a blanket condemnation of theoretical approaches in the field of international politics. Systematic empirical evidence in support of the democratic peace proposition provides an important basis for hope regarding the utility of scientific analyses in that field. The evidence regarding the potential of a political forecasting approach based on a rational choice model that relies extensively on the wisdom and insights of traditionally trained social scientists and historians suggests that political events in general are on the way to becoming more predictable. In short, the scientific, or systematic empirical approach to international politics is not dead, and evidence regarding its ability to produce accurate predictions about the political future is one of its more encouraging signs of life.

APPENDIX
THE CORE EXPECTED UTILITY MODEL – AN EXAMPLE

Preliminary analysis of the fate of the North American Free Trade Agreement (NAFTA) in July 1993 revealed that only the issue of protection for American workers was likely to evoke a sufficiently strong coalition to result in the defeat of the proposal in Congress. So, subsequent analyses focused on the question of ‘what are the attitudes of the relevant groups towards the level of regulative controls that should be imposed to protect labor from the consequences of NAFTA.’ (Rejecting NAFTA was one option favoured by some groups.) The forecast from the first analysis of this issue (for 23 July 1993) was ‘NAFTA will be approved by Congress after negotiations are completed’ (Decision Insights Special Assessment Report, 23 July 1993).

As the date for the vote in Congress approached, the following observations and prognostications regarding NAFTA were published in the *New York Times*:

‘So far, only about one-quarter of the Democrats in the House have promised to vote for the trade measure, far too few for it to pass.’ (3 October 1993)

⁹² One anonymous reviewer of this article argues that ‘Wohlforth’s realist account – that if a state perceives its power is radically declining it may retrench without resorting to conflict – the authors reject. Their own claim they call “conditional prediction”. Wohlforth’s assertion they call “*ex post facto*” explanation. What’s the difference?’ We feel there are three important differences. The first is that the predominant thrust of realism, as Wohlforth admits, leads to an expectation that the Cold War would end violently, even if, or perhaps especially if, the power or capability of one of the protagonists should change dramatically. The second is that Wohlforth’s realist account depends on a change in the distribution of power between the United States and the Soviet Union which arguably occurred only after the end of the Cold War. It seems to us that political changes within the Soviet Union more clearly preceded a change in the Cold War relationship than did the change in the military–industrial capabilities of the Soviet Union. The final difference is that Wohlforth’s explanation was offered after the end of the Cold War, while Russett’s admittedly contingent assertion occurred well before the events of 1989 to 1991. That is a distinction of some importance. It might also be prudent to acknowledge here that the democratic peace proposition implies that political changes in Russia in the autocratic direction, which some current accounts suggest are already under way, would have negative effects on its relationship with the United States. (See Alessandra Stanley, ‘Russia’s new rulers govern, and live, in neo-Soviet style’, *New York Times*, 23 May 1995, Section 1, pp. 1, 4.)

'The House is scheduled to vote on the agreement on November 17, with no clear majority in sight.' (17 October 1993)

'The White House acknowledges that if the vote were taken now, Mr. Clinton would lose.' (3 November 1993)

'The best bet is that Mr. Clinton will either prevail by a few votes ... or lose by ... 30 or 40 votes ... The outcome seems to rest on the votes of about two dozen undecided representatives.' (15 November 1993)

One day after the vote, the *New York Times* reported:

'The surprisingly large margin, 16 votes more than needed to approve the legislation, could not have been imagined as recently as last weekend. As late as this afternoon, the Administration's headcounters ... said victory was not a certainty.' (18 November 1993)

A final analysis by Jacek Kugler on 2 November 1993 based on the expected utility model utilized the data shown in Table 1, provided by Harry Pachon from the Thomas Rivera Center at the Claremont Graduate School, Claremont, California.

The expected utility model estimates each political actor's anticipated gains or losses from challenging the policy positions preferred by the other actors involved in the process, as well as the anticipated gains or losses resulting from a decision not to challenge the policy positions of others. Those estimates are based on the calculations of the expected utility to each actor for challenging or not challenging each other actor's position on the issue at hand. The expected utility for a challenge by player i to player j regarding its position is stipulated to equal:

$$[R_j * (P_i * V_i)] + [(1 - P_i) * (C_i)] + [(1 - R_j) * (V_i)]$$

where: R_j = the probability that j will resist; P_i = the probability that i will prevail (this term reflects the probability that third parties will intervene in any confrontation between i and j); V_i = the value of victory for i ; C_i = the cost of losing for i .

The probability that j will resist is a function of its expected utility for resisting, which is calculated in a fashion analogous to that for calculating that i will challenge j . The probability that i will prevail (P_i) is a function of its capabilities and priorities (or the salience of the issue at hand), compared to the capabilities and the priorities (salience) for j . If i 's capabilities and/or the salience of the issue are greater for i , then the more likely i is to prevail. The value of a victory (V_i), as well as the cost of losing (C_i) are primarily a function of the difference between the positions or preferences of i and j . The greater that difference, the greater the value of victory, and the higher the cost of a loss.

The expected utility for i to challenge j is then compared to the expected utility to i for not challenging j 's policies; i is anticipated to select the option with the greater expected utility. The utility for not challenging the status quo is stipulated to equal:

$$[SQ * U_i] + (1 - SQ) * [A_j * (U_b^i) + (1 - A_j) * (U_w^i)]$$

where: SQ = the probability that no change will occur in the status quo; U_i = the value i attaches to the status quo; A_j = the probability that j will alter its policies to become more similar to policies preferred by i ; U_b^i = the value attached by i to alterations in j 's policies for the better; U_w^i = the value attached by i to changes in j 's policies for the worse.

The probability that no change will occur in the status quo (SQ) depends on the strength of the potential coalitions in favour of bringing about a change in it. The value that i attaches to the status quo (U_i) reflects the difference between i 's preferred policy position and the status quo. The more similar they are, the greater the value that i attaches to the status quo. The probability that j will alter its policies to become more similar to those preferred by i depends primarily on the outcomes of challenges to j by third parties in favour of such alterations. If those challenges are likely to be successful, then there is a greater probability that there will be such alterations in j 's policies. Finally, the values attached by i to changes in j 's policies

TABLE 1 *Data for the Expected Utility Model*

Actors	Capabilities	Preferences	Salience
Perot	20	90	100
Rep. Ideologues	5	80	100
Labour	40	70	100
Environmental opposed	10	70	95
Caribbean states	5	70	100
Canada	15	70	90
Black Caucus*	10	70	90
Environmental mods.	30	30	90
Hispanics-undecided	5	30	95
Florida Agriculture	20	30	90
Democrats-undecided*	25	27	75
Clinton*	100	25	95
Northeast states	50	25	80
Democrats-northeast*	40	25	90
Freshmen Democrats*	25	25	75
Hispanics-pro*	10	20	100
Foley*	55	20	90
Business	70	10	95
Salinas	20	10	100
Media-pro	40	10	90
Gingrich*	35	10	85

*Final analysis was based on these groups.

for the better (U_b^i) or for the worse (U_w^i) are a reflection primarily of the differences between the policies of i and j , and the direction of those changes. In general, the greater those differences, the higher the value that i will attribute to changes by j .

All these calculations are modified according to an assumption that political actors base their decisions on perceptions that may be distorted by their attitudes towards risk. The model estimates each actor's willingness to take risks, and the extent to which attitudes towards risk distort its cost and benefit calculations.⁹³ These estimates are based primarily on the deviation of each actor's preferred position from the safest, or median, position. Actors whose position is close to the 'average' preferred by all the other actors are assumed to be more risk-averse. Actors with more extreme positions are assumed to place a higher value on preferred policy outcomes (and less on victory, or avoiding losses), and so are assumed to be more risk-acceptant.

The model arrives at a forecast regarding the likely outcome of bargaining, negotiation and/or conflict processes with analyses that focus on interactions between each pair of actors, who in turn are assumed to consider all alternatives paired against each other. The predicted outcome is the 'median voter position',⁹⁴ which is a function of the positions, capabilities and priorities of each of the actors involved in the process. In effect, each actor has 'votes' that are a reflection primarily of the capabilities of the actors, and the importance they attach to the issue at hand.

⁹³ The formula on which these estimates are based can be found in Bueno de Mesquita, 'Political Forecasting: An Expected Utility Method,' p. 86.

⁹⁴ Duncan Black. *The Theory of Committees and Elections* (Cambridge: Cambridge University Press, 1958).

The bargaining or negotiation process is assumed to continue as long as the actors as a group perceive that the gains from the process have the potential to outweigh the costs of continuing that process. When the costs of negotiation are perceived by a predominant coalition to be greater than probable gains, negotiations cease. The model then produces a forecast that the position preferred by the 'median voter' will correspond to the actual outcome of the political process being analysed.

In the example here, the final analysis was based on the data pertaining to the starred groups in the list of actors above. (The other groups were included in related analyses in order to determine their potential impact on positions taken by those more directly involved in the final vote.) The results of that analysis served as the basis for a report completed on 10 November addressed to the question, 'What will be the outcome of the congressional vote on NAFTA?' The conclusion of that report was 'NAFTA will pass'. (Decision Insights Special Assessments Report, 10 November 1993.) On 17 November 1993, NAFTA was passed by a margin of sixteen votes in the House. (It passed the Senate shortly thereafter.)