International Interactions, Vol. 15, Nos. 3/4, pp. 197-201
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Printed in the United States of America

RATIONAL CHOICE MODELS AND INTERNATIONAL RELATIONS RESEARCH

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(Received for Publication February 22, 1989)

Rational choice modeling, especially in the areas of security studies and international political economy, is currently enjoying a revival of sorts in international relations research. In the beginning (i.e., the late 1950s and the early 1960s), there was Schelling's (1960) STRATEGY OF CONFLICT, related modeling attempts by Ellsberg (1959, 1961), Kaplan (1957,1958), and a few others, and well-directed criticisms by Rapoport (1964). But for many years thereafter, the fields first tilled by the early practitioners of this methodology more or less lay fallow. Recently, however, all of this has changed. Testimony to the revival of rational choice modeling in international relations research is this volume which contains a number of articles representative of this genre.

The recent revitalization of this particular brand of research in international relations is due to a number of factors. First, the publication of Bruce Bueno de Mesquita's (1981) THE WAR TRAP, Robert Axelrod's (1984) THE EVOLUTION OF COOPERATION, and a few other works has brought forth a renewed interest in studying interstate conflict and cooperation, and a greater appreciation of the benefits of using decision theory and game-theoretic models to do so.

Second, several technical advances in the field of game theory have exorcised some of the devils that plagued earlier modeling attempts. (A summary of recent developments can be found in Roth, 1985.) For example, various refinements in the notion of an equilibrium outcome (see, *inter alia*, Brams and Wittman, 1981; Fraser and Hipel, 1979; Kilgour, 1984, 1985; Kreps and Wilson, 1982; and Selten, 1975) have brought to these models a dynamic element heretofore absent (Zagare, 1986). As a consequence, many of the more recent applications of this methodology in international relations research by contributors such as Alt, Calvert, and Humes (1988), Brams (1985), Brams and Kilgour (1988), Bueno de Mesquita and Lalman (1986, 1988), Conybeare (1984, 1987), Grieco (1988a, 1988b), Intriligator and Brito (1981, 1984), Lake (1988), McGuinnis (1986), Morgan (1984), Morrow (1985, 1986), Niou and Ordeshook (1986, 1987), O'Neill (1986), Powell (1987, 1988), Snidal (1985a, 1985b, 1985c), Wagner (1982, 1983, 1987), and several of the contributors to this volume have been characterized by a closer correpondence between the models developed and the real world of international politics.

A related reason for the revival of the rational choice approach in international relations research has been the growing—though sometimes grudging—recognition that the underlying structure of the vast majority of these models is consistent with the standard working assumptions of the field. Thus, rather than constituting a fringe component of the discipline, theoretical research flowing from these models is now seen to be central to many traditional and emerging research topics. Robert Jervis (1988: 318), for instance, notes the general compatibility of game theory and political realism in a review of recent research on international cooperation: "both are structural, strategic, and rational." That rational choice modeling is increasingly being viewed as part of the mainstream of international relations research is further reflected by the fact that these models sometimes serve as a ready target for critics of the prevailing paradigm (Keohane, 1983).

Finally, there has also been an increased sensitivity among international relations researchers to the inherent advantages of, and the need for, formal modeling in general and deductive theorizing in particular (Achen and Snidal, 1989; Krasner, 1985: 142-43; Kugler and Zagare, 1987; Rosenau, 1973). The benefits of deductive models are well-known and need be mentioned here only briefly.

To begin with, because they start with a small set of assumptions and rigorously defined terms, deductive models permit the derivation of statements which, when operationalized, are testable. The relationship between the premises and the conclusions of such models thereby provide an explanation of why something must be the case. As Kaplan (1964: 339) long ago pointed out: "the explanation shows that, on the basis of what we know, the something could not be otherwise. Whatever provides this element of necessity serves as an explanation. The great power of the deductive model is the clear and simple way in which necessity is accounted for."

Another advantage of the deductive approach stems from the fact that the assumptions upon which these models rest provide a set of limiting conditions for the conclusions of the model. The conclusions, in turn, try to answer the question of what will happen *if* these conditions are met. This allows an analyst to examine contrary information using known standards of evaluation. Does the evidence run against both the assumptions and the conclusions of the model, or is it merely a case which occurs outside the set of assumptions? In the former instance, the assumptions must be reevaluated. If not, new relationships, not based on the model, must be developed.

Riker's (1962) well known deduction about the optimal size of minimal winning coalitions is a case in point. The "size principle" depends directly upon the zero-sum and perfect information assumptions, among others. Thus, larger than minimal winning coalitions might be expected to occur if either nonzero-sum conditions exist or if information is not perfect, but not otherwise. The unambiguous nature of a deduction such as this one stands in stark contrast to the murky and equivocal characteristics of much of contemporary international relations theorizing (e.g., balance of power theory). For this and related reasons, international relations researchers are beginning to appreciate the analytic power of the deductive method.

Surprisingly (to me at least), one aspect of the rational choice paradigm which has engendered a great deal of controversy is the rationality assumption itself. Much of this debate, however, is due to an inexplicable confusion over exactly what rational behavior implies. Because many of the early rational choice models postulated a very simple world in which decision-makers with complete information never misperceived their environment, it was frequently inferred that rational behavior depended upon the possession of

this commodity. And because these models sometimes employed sophisticated mathematical tools for deducing optimal behavior, it was sometimes inferred that rational behavior somehow requires an actor to possess "an infinite calculating ability" (Snyder and Diesing, 1977: 341). Consequently, rational choice models are frequently rejected because real world decision-makers almost always fall short of these Olympian standards.

In actual fact, though, complete information and a computer-like ability to weigh the pros and cons of each potential course of action before reaching a decision are neither necessary nor sufficient conditions of rational choice. Rather, rationality requires only that a decision maker possess connected and transitive preferences over the set of outcomes as he or she perceives them, and the ability to link the perceived choices to their presumed consequences. Thus, the rational decision maker assumed by these models may misperceive another actor's intentions, may make mistakes, may be influenced by emotional, affective, or psychological variables, and may have neither perfect nor complete information (Zagare, 1990). In other words, given the minimal requirements of rationality, normal, fallible human beings can indeed be the subject of the kind of models contained herein.

One important implication of this limited definition of rational man is that the models which have been developed to study his (or her) behavior are not necessarily inconsistent—as they are often viewed—with either macro structural models of the international system or with micro models rooted in human cognition or frailty. Occupying a middle ground between the position that the system determines all significant international behavior and the seemingly incompatible point of view that man creates his own environment, rational choice models can be used to examine the choices implied by either different systemic or perceptual configurations, or combinations thereof.

It is in this spirit of bridge building that the articles collected in this volume are offered to the international relations research community. The individual articles speak for themselves so there is no need to preview them here. Still, it should be pointed out that, as a whole, they reflect the great diversity of research foci within the paradigm. To be sure, the essays all deal with one aspect or another of international conflict. Yet, individual contributions may be found in which a rational choice model is either developed, extended, applied, criticized, or tested. This is, perhaps, still another reason why interest in this approach has once again been rekindled. The rational choice paradigm now more than ever constitutes a progressive research program with many of the characteristics of a maturing science.

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