

**Formal Models of Mediation and Intervention: A Stocktaking and
Analysis of the Implications for Policy**

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"I look at how much better we do now than when I was a graduate student," says T. Clifton Morgan, a professor of political science at Rice University. "Our understanding of basic relationships, and our ability to put theoretical pieces together and come up with explanations that seem to work in case after case -- I really do think that the development of that over the last 20 years has been phenomenal. "

"Donald Rumsfeld doesn't know I.R. theory from a hill of beans," says Mr. Art. "But there are a lot of people in government who have gone to graduate school. Ideas have a way of filtering into policy making."

International-relations theory can identify and frame important questions, but Pentagon and State Department officials will probably always be more interested in detailed case studies, prepared by area-studies experts. Theorizing about the causes of war might occasionally generate clean, law-like propositions that appeal to policy makers. But more typically, the discipline generates broad patterns that can be applied to particular cases only with a great deal of caution.

"We have to recognize that there are limits to the predictive powers of political science," says Mr. Art. "That's not an excuse to be sloppy. It's just to say that we don't have unified grand theories of many phenomena, especially not something as complex as war. None of us can predict the consequences of what will happen in the Middle East. Maybe this is why policy makers don't pay much attention to academics." (*Chronicle of Higher Education*).¹

¹ Quoted in Glenn, D. "Calculus of the Battlefield Do game theory and number crunching -- the New Math of international relations -- shed light on the conflict with Iraq?" *The Chronicle* (November 8, 2002) <http://chronicle.com/free/v49/i11/11a01401.htm>. See also interview with Jack Levy at <http://chronicle.com/colloquyive/2002/11/war/>

1. Introduction

This paper is a stocktaking exercise in which we evaluate formal models of third party intervention and mediation in order to determine what can be done to improve the possibilities that such techniques can have a broader policy-relevant audience and impact. We do so in three stages. First, we consider a list of claims in the literature regarding the range of interveners; the levels of analysis they consider and areas of consensus and division regarding findings on their level of effectiveness. Related findings regarding the techniques they employ are also discussed. This first stage is intended to provide a profile of the current literature in order to identify gaps, controversies, and areas of consensus in “intervention theory” as a research programme.

Second, we examine the formal modeling of intervention in terms of its effectiveness as a research programme with a common set of research questions, appropriate levels and units of analysis and empirical content. Here we consider the methodological divisions and similarities in the literature and the strengths and weaknesses of formal modeling. More specifically we will consider what, if any, efforts have been made within formal modeling to confront key objectives within the broader research programme: accumulation (building on previous findings and modifying or discarding arguments for which empirical support is lacking); integration (drawing on alternative methodologies that provide similar findings in a different context) and synthesis (using a multi-level of analysis approach).

We hypothesize that formal modeling has succeeded to a limited extent in addressing accumulation, but it has not successfully addressed integration or synthesis.

We argue that if formal modeling is to be rendered accessible to policy makers and non-experts, more effort should be made to address questions of integration and synthesis. Examples in support of such an approach are provided.

In the third section of the paper we draw out the implications of analysis for policy relevant research. We suggest that by addressing the aforementioned issues of accumulation, integration and synthesis, formal modeling can have a substantial policy relevant impact.

We conclude with some suggestions for future research.

2. Evaluating Third Party Intervention

We begin with an attempt to understand the meaning of third party intervention and why its policy relevance is important. It should be obvious that intervention is not just about mediating civil wars. In practice, the primary responsibility of a third party is usually to prevent destructive conflict through a variety of non-coercive political channels and actions. This view is consistent with the principles of "preventive diplomacy" and deterrence wherein the key strategic goal is the active participation of a third party to de-escalate conflict before it becomes violent or to prevent the recurrence of such violence (Carment and Harvey 2000). Such an approach may prove ineffective after hostilities break out and violence is widespread. In reality, there is little agreement within the discipline on the kinds of bargaining strategies necessary for the termination of conflicts. Critics have suggested that coercive and unilateral forms of intervention serve only to erode international norms of mutual restraint among states. Others, more provocatively, have argued that the quickest way to terminate an intrastate ethnic conflict

with fewest casualties is to favour the stronger side in any conflict (more often than not the state-centre) (Regan 1996, Licklider 1995, Carment and Rowlands 1998).

Dean Pruitt's, "The Tactics of Third-Party Intervention" discusses the processes by which third parties can contribute to conflict resolution with intransigent parties.² He discusses the Oslo talks between Israel and the Palestine Liberation Organization; the London talks that established Zimbabwe; intermediaries, chains, and track-two diplomacy; the Northern Ireland peace process; the importance of secrecy; and chain shortening and final negotiations. He contends that third parties need to use heavier tactics in protracted conflicts using a series of interlinked steps of "chain-shortening": serious conflicts are often moved to the verge of settlement by chains of intermediaries building on track-two diplomacy. The chains tend to get shorter as intermediaries drop out. Secrecy is usually essential for resolving these severe conflicts. He concludes that long-standing ethnic conflicts can frustrate the best efforts of even the most powerful interlocutors, but if third parties remain patient and on the lookout for the ripe moments, then these tactics can be highly effective.

Pruitt's research highlights a basic problem in the literature. There is a significant conceptual and theoretical problem of identifying the independent effects of individual strategies.³ Some see the process as one of bargaining with belligerents in a series of interlinked series of more forceful strategies, while others see them as being

² "The Tactics of Third-Party Intervention." *Orbis* 44 (2). SPR 2000: 245-54.

³ For the purposes of this investigation, third parties whether they are states or multilateral actors, are those which have an interest in creating a stable environment in which peace can be nurtured and in developing a durable framework for a lasting negotiated settlement. These strategies can be augmented by coercive efforts which are essentially concerned with the recurrence, cessation and prevention of violence. In practice, third party strategies are rarely mutually exclusive. For example, in Bosnia, initial mediation by the UN was complemented by UN peacekeeping and eventually NATO peace support activities. For example, consider that during the life cycle of the conflict in Bosnia third party strategies included mediation, peacekeeping, peace enforcement, observation and adjudication.

applied concurrently. These differences are in part due to conceptual confusion regarding the term intervention. Intervention does not refer simply to the physical presence of a "managing agent" intent on using coercion to dissuade belligerents from using force to solve their differences (Dixon 1996:358). Nor has intervention been confined to involvement by states or organizations through military means. Third party intervention encompasses a broad range of techniques, although it is hard to find agreement on what these might be (Bercovitch 1996).⁴

For example, Fisher (1995) draws a line between those strategies which are clearly pacific (such as conventional peacekeeping, track two diplomacy and consultation) and those which are not (such as peace enforcement).⁵ He argues that the choice of third party strategy is dependant on the nature of the strategies with which it must interact, and therefore there is no single best approach.⁶ In a similar vein, Wall and Druckman (2003) focus on mediation in peacekeeping missions and the role of dispute

⁴ In their evaluations of a range of cases, Regan (1996) Bercovitch (1996) Dixon (1996) Singer (1966) Tillema (1989) Haas (1993) and Carment & James (1997a) conclude that, in any given conflict, third parties will generally employ as many different strategies as possible, including economic and military initiatives. Regan's typology provides insight into the impact that the status of the intervener and the party against whom action is directed have on successful outcomes. He concludes that mixed strategies by powerful interveners on behalf of a government are more likely to lead to a cessation of hostilities. In his assessment of the United Nation's conflict management record, Esman (1995) defines intervention to include good offices, mediation, peacemaking, peacekeeping, protection of human rights, humanitarian assistance and stigmatization of rogue governments. Esman's typology is analytically useful but far too broad in scope for the comparison of effective strategies. For example, calls for condemnation by the General Assembly would fall under the rubric of intervention even though the UN need not take any follow-up action. Intervention into intrastate ethnic conflicts involves at least some level of active engagement and is not simply a passive response to an issue at hand.

⁵ A third party coalition intervenes against a protagonist on behalf of either a group or a state-centre in order to suppress or support the internal ethnic challenge (Regan 1996).

⁶ At crisis onset, several traits distinguish the strategy of the third party intervener. There are three possible strategies available: a) forceful intervention, b) efforts at mediation coupled with a low intensity conventional peacekeeping mission and; c) withdrawal. Each strategy involves risk. Doing nothing may precipitate undesirable outcomes as noted above in the Rwanda case. Forceful intervention may lead to further escalation and unnecessary costs for the intervener. Finally, low intensity missions may not only produce undesirable results for the third party but may also lead to further gains for the belligerent. In this instance the intervener may be better off by not getting involved at all (Diehl et. al. 1996, Carment & Rowlands 1998).

severity, time pressure, and the peacekeeper's rank.⁷ A test of their hypotheses reveals that dispute severity has a strong effect on the peacekeepers' choice of techniques. Time pressure does not influence technique selection or interact with dispute severity, and rank has a moderate effect on technique choice.

Dixon, drawing on the work of Skjelsbaek, provides a fairly comprehensive typology of conflict management principles based on different types of disputes. These principles range from public appeals, communication, observation, physical intervention, pure mediation, humanitarian aid and adjudication. Dixon's typology is useful because of its comprehensiveness and for its important finding that pure mediation is the most likely of strategies to succeed.⁸ Using a similar set of assumptions Haas (1983) distinguishes between large and small third party interventions with conciliation, supervision, peacekeeping and peace enforcement in the former category and investigation, fact finding and pure mediation in the latter.⁹

In brief, most of the literature sees intervention as a continuum or "spectrum of techniques" in which third parties are exogenous to the conflict. Third parties maintain considerable influence over the conflict and remain outside of it. In this view, different third party techniques are set in motion at different points within a conflict (Lund 1996). At one end of the "interventionist spectrum" is pure mediation; the facilitation of a

⁷ "Mediation in Peacekeeping Missions." *The Journal of Conflict Resolution* 47 (5). October 2003: 693-705.

⁸ There may be an important selection effect here in so far as some states may be more predisposed to certain techniques than others. See Raymond, G. A. (1994). "Democracies, Disputes and Third-Party Intermediaries" *Journal of Conflict Resolution* vol. 38:1.

⁹ In their assessment of third party effectiveness to terminate intrastate ethnic conflicts, Regan (1996) Vayrynen (1996) Lund (1996) and Hampson (1996) argue that coalitional third parties will generally begin with lower cost peaceful tactics such as mediation and condemnation. If those fail then the coalition may choose to escalate the intervention. Thus, intervention "progresses" in the following way: reassurance and preventive diplomacy; verbal appeals to not use force; inducements; deterrence; compellence and pre-emption. Ultimately actions taken early on in the life cycle of a conflict are positive strategies (persuasion and rewards) whereas later negative strategies are more coercive in nature.

negotiated settlement through persuasion, control of information and identification of alternatives by a party who is perceived to be impartial.¹⁰ Key elements in pacific forms of third party intervention, such as mediation, are the nature of and level of consent, and the level of coercion required to reach a settlement (Durch 1993):

Mediation is a voluntary, ad hoc, non-coercive, flexible, usually secretive mechanism for reducing uncertainty and risks between adversaries and whenever possible in managing a conflict (Bercovitch and Regan 1997: 188).¹¹

In a challenge to this view, Wilkenfeld, J, K Young, V Assal and D Quinn find that manipulative mediation is more likely to result in negotiated settlements, shorter crises and greater satisfaction with outcome amongst parties compared to traditional and more restrictive mediation styles.¹² Two main research questions are explored: (1) Does mediation in general affect the dynamics and outcomes of crisis negotiations? and (2) Does the impact of mediation vary in accordance with mediator style? Data are drawn from the International Crisis Behavior data set and from ongoing experimental work with human subjects. The historical data reveal that mediated crises are more typically characterized by compromise among crisis actors, are more likely to end in agreements, and show a tendency toward long-term tension reduction. The experimental research confirmed the relationship between mediation and the achievement of agreement and also

¹⁰ The term impartiality implies that the third party is acting in the interests of all of the parties. Where pure mediation may imply the absence of bias toward the interests of the parties it does not mean that the mediator is neutral or indifferent to outcome. Presumably mediators have an interest in seeing that a violent conflict end as quickly as possible.

¹¹ For some observers, institutionalised forms of pure mediation do not exist in international politics (Touval 1996). Others have suggested that any form of institutionalised mediation is likely to violate the principles of pure mediation. Pure mediation, they argue is found only in informal, non-power based situations involving non-state actors (Smith 1994).

¹² "Mediating International Crises –Cross-national and experimental perspectives." *The Journal of Conflict Resolution* 47 (3). June 2003: 279, 301.

revealed that mediation leads to crises of shorter duration and to greater satisfaction by the parties with the outcome. A manipulative mediation style is more likely to yield favourable crisis management outcomes than is a more restrictive facilitative style.

In their review of the field Wall, Stark and Standifer show that the mediation literature of the past decade is organized into six topical areas: the determinants of mediation, mediation per se, approaches employed by mediators, determinants of the mediation approaches, outcomes of mediation, and determinants of mediation outcomes.¹³ The literature that describes mediation per se, mediation approaches, and outcomes is very descriptive rather than theoretical. The literature that deals with the determinants of the mediation, approaches, and outcomes is also quite descriptive but provides an ample base for theory development.

From pure mediation as described by Wall et. Al. to half-way up the spectrum is "mediation with muscle" or the deliberate and strategic use of rewards and punishments to bring the belligerents to the negotiating table.¹⁴ Bercovitch for example, distinguishes between third party strategies such as communication, formulation and manipulation on the one hand and tactics which are a function of those strategies on the other. Bercovitch and Houston.¹⁵ They argue that a mediator's choice of strategy is influenced most strongly by two factors – conditions of the mediation environment and the identities of

¹³ "Mediation: A Current Review and Theory Development." *The Journal of Conflict Resolution* 45 (2). June 2001: 370-391.

¹⁴ In principle, any attempt to alter or disrupt the internal ethnic affairs of a state constitutes a form of intervention. It includes the calculated use of political, economic and military instruments by an external actor to influence the domestic and foreign policies of another country. It is also possible to have both multilateral and unilateral intervention occur within the same theatre of conflict. Bosnia illustrates this point with Serbian and Croatian intervention being unilateral, and UN and NATO intervention being multilateral.

¹⁵ "Why Do They Do It Like This? An Analysis of the Factors Influencing Mediation Behaviour in International Conflicts." *The Journal of Conflict Resolution* 44 (2). April 2000: 170-202.

the parties in conflict. Studies of international mediation traditionally have focused on the impact and effectiveness of mediation. This study examines mediator behavior and evaluates the factors that influence mediators' behavior and choice of strategies. Three contextual dimensions that exert influence on mediator behavior are pre-existing factors (the conflict context and identity of the parties), concurrent factors (the identity of the mediator and actual mediation event), and background factors (the effect of information from previous mediation efforts). An original data set of 295 international conflicts from 1945 to 1995 is used to test a contingency model of mediation behavior. The results of a multivariate analysis suggest that the conditions of the mediation environment and the identity of the parties in conflict are the most significant influences on mediator's choice of strategy.

Touval and Zartman also use a typology. For them third party strategies fall under the categories of communication, facilitation, formulation and directive. However, all of these comprise the range of techniques by third parties short of the use of force.¹⁶

Focussing specifically on destructive conflicts Bercovitch and Regan observe:

...in the context of a detrimental relationship between long-standing rivals, directive strategies will not only be more frequently resorted to, but also more positively associated with a settlement (1997: 192).

Finally, where consent is absent, violence is widespread and groups are at risk, force comes into play. Under such conditions, third parties are likely to be required to take on a

¹⁶ The decision to pursue these goals through military escalation imposes costs on both the belligerents and third party coalitions. The escalating actor suffers the costs associated with expending resources and risking lives, whereas the receiving actor suffers the costs of lost territory and lives and also a reduced chances of obtaining specific benefits at the bargaining table (Maoz 1990, Carment & Rowlands 1998).

multiplicity of functions, including peacekeeping, humanitarian assistance and possibly peace enforcement.¹⁷

Zartman argues that third parties can, in theory, induce negotiated settlements through the creation of hurting stalemates. With the prospect that one party might be eliminated (or at least have its power sufficiently reduced) by a third party, belligerents might be more open to a negotiated solution. Third parties can speed up the movement toward a settlement through the imposition of deadlines and other crisis-related strategies in order to decrease the perceived attractiveness of military options. Thus, the emergence of a resolving formula follows on a readjustment of the belligerents power relations and the elimination of alternative strategies through concerted effort by third parties.

Presumably, under such circumstances third party success would be expected if intervention takes place after the belligerents have reached a hurting stalemate and not before. More specifically there should be a relationship between de-escalation, the point at which ripeness appears imminent, and more definitive outcomes. Hampson makes a similar but qualified point when he argues that in some cases the failure of peace accords to 'stick' is due to a lack of "ripeness" (Hampson 1996). The settlement task is made easier, Hampson argues, if the groups have reached their own self-imposed "hurting stalemate". Absent a hurting stalemate and the tasks of the third party are simplified but

¹⁷ Third party coalitions usually begin the bargaining process by articulating proposals for a negotiated solution coinciding with a low intensity mission. This proposal can be either accepted or rejected by the belligerent. This initial action requires no force on the part of the third party coalition. If one side accepts the terms for agreement, then both sides receive the benefits they associate with the proposed outcome. If an offer is rejected, then the bargaining process continues and neither player receives any benefits until one of the sides concedes to a demand.

less likely to prove fruitful. If no ripe moment exists then the purpose of the intervention can only be to separate the forces.¹⁸

Bercovitch and Kadayifci's (2002) analysis from the 'ripe moment' perspective suggests that an integrated third-party approach be used to create a perception among the parties involved that a moment of opportunity is at hand.¹⁹ They argue that the current conflict between the Israelis & Palestinians can be best understood as an example of a complex intractable conflict. Such conflicts are usually managed through the intervention of mediators at the "right moment," otherwise they risk failure & further conflict escalation. In contrast to the literature on "ripe moments," the authors argue that it is possible to have more than one right moment in the life cycle of a conflict, which can even be created by mediators. In the Israeli-Palestinian conflict, there was such a moment in 1993, which was subsequently lost. The Oslo Process is analyzed from this "ripe moment" perspective to suggest an integrated third-party approach to create a perception among the parties involved that a moment of opportunity is at hand. Adapted from the source document.

Greig's (2001) study on ripeness is helpful.²⁰ He suggests that some points in time are more favorable for mediation success than others and result from the concatenation of contextual factors that encourage movement toward more cooperative

¹⁸ Others following on Zartman's insight on the use of third parties as power balancers include Lake and Rothchild (1996), Fearon (1995) and Ruggie (1994). At this stage intervention requires territorial demarcation as well as some minimal agreement between enemies. Getting to the stage of a "hurting stalemate", however, requires third parties to wait on the sidelines of a conflict and endure the associated political and economic costs and risks (Carment & Rowlands 1997, Weiss 1994).

¹⁹ "Conflict Management and Israeli-Palestinian Conflict: The Importance of Capturing the "Right Moment." *Asia-Pacific Review* 9 (2). NOV 2002: 113-129.

²⁰ "Moments of Opportunity: Recognizing Conditions of Ripeness for International Mediation between Enduring Rivals." *Journal of Conflict Resolution* 45 (6). December 2001: 691-718.

behavior by disputants. Ripeness for mediation between enduring rivals is examined by focusing on mediation success in the short and extended term. Results suggest that the factors conducive to the achievement of short-term mediation success differ significantly from those that promote extended-term improvement in the rivalry relationship. These results help to reconcile some of the diversity of expectations in the ripeness literature by demonstrating that short-term and extended-term mediation success follow distinct dynamics.

On an abstract level, the objectives of the third party intervention are very complex, ranging from the strengthening of international norms (Vayrynen 1997, Hampson 1996) reducing and eliminating armed violence (Licklider 1995) to the pursuit of larger geostrategic goals (Heraclides 1991). On the other hand, it is important to measure the effectiveness of third parties in settling a conflict, not just ending the violence. Stable and long lasting outcomes - as perceived through the eyes of the belligerent and the third party - are important for several reasons. Outcomes provide a reasonable indication of how "solid" a settlement is from the perspective of the belligerents. It tells us about the possibility of recurrence and the degree to which the conflict's underlying issues have been resolved. A decisive outcome is one in which the starting and end points are more autonomous. Crises are discrete and outcomes are clearer. Victory and defeat may be more readily identifiable and accepted as such (Brecher and Wilkenfeld 1997). Stable outcomes are those with definitive end points.

In this regard, two studies stand out in stark contrast to one another. Doyle and Sambanis' paper on multilateral UN operations argues that UN missions have made a positive difference in the preponderance of civil wars since WWII. They examine 124

post-World War II civil wars and in most cases multilateral, UN peace operations made a positive difference.²¹ Conversely, Regan and Abouhar conducted a study to assess the effectiveness of third-party military or economic intervention in managing civil conflicts and curtailing their duration.²² Their findings revealed that in general, most external amelioration efforts are unsuccessful in reducing the expected length of a domestic conflict, although interventions supporting one protagonist are associated with shorter conflicts compared to neutral interventions. Furthermore, it was noted that unilateral interventions tend to lengthen the expected duration of a conflict.

This brief overview of the literature is indicative of six problems in the literature:

- 1) There appears to be no commonly accepted definition of mediation in the context of third party intervention strategies. Mediation and third party intervention are often used interchangeably and the term intervention itself has different meanings with respect to technique, type of intervener, strategy and outcomes;
- 2) There is interdependence and contingency between different strategies applied simultaneously or consecutively and this interdependence is difficult to sort out conceptually and empirically;
- 3) There is a dynamic process of interaction between belligerent and intervener such that intervention techniques are endogenous to the conflict process but are often not treated as such;

²¹ "International Peacekeeping: a Theoretical and Quantitative Analysis." *American Political Science Review* 94 (4). DEC 2000: 779-801.

²² . "Interventions and Civil Conflicts." *World Affairs* 165 (1). SUM 2002: 42-54.

- 4) Quantitative findings are often not supported in the context of single or multiple qualitative studies;
- 5) There are few efforts to integrate formal models into empirical research in the context of single or multiple empirical research.
- 6) Policy recommendations that flow from these studies are inconsistent.

3. Formal Modeling as a Research Programme

Conflict and conflict management are inherently complex phenomena, and modeling them is difficult. Deriving policy implications from them is even more difficult. Attempts to use deductive theories and formal models to study conflict have attracted considerable criticism on methodological and practical grounds but some research, particularly the work of Bruce Bueno de Mesquita, has found a variety of applications in the policy and private sector domains.²³ Some critics object to formal modelling on epistemological grounds. Urry, for example, argues that the existence of non-linearity and complexity in social systems can lead to an absence of proportionality between cause and effect, and divergences between the individual and aggregate level behavioural responses which he calls the fallacy of composition.²⁴ Consequently, Urry argues, system complexity inhibits or prevents the creation of predictive models in international relations due to the inherent difficulty in capturing all potential explanatory factors and the

²³ A. Saperstein, "The Prediction of Unpredictability", in D. Kiel and E. Elliot, eds., *Chaos Theory in the Social Sciences*, Ann Arbor: University of Michigan Press, 1996, pp.139-163. While a degree of imprecision must be accepted as an inherent feature of such models, the consequent theories and hypotheses can at least be gauged by their predictive accuracy

²⁴ J. Urry, *Global Complexity*, London: Polity, 2003.

potential gravity of omitted variables. In addition, complications such as imperfect information add further complexity to any formal modeling and predictive endeavours.²⁵

Clearly there is a deep epistemological divide between those who reject formal approaches to theory building and those who consider it an essential dimension of research. It is a debate we cannot settle here. We contend, however, that even if one rejects the value of formal models as a means of investigating causal relationships under an idealized set of well-specified assumptions, they can at least be used to identify plausible behavioural regularities that can be tested against the evidence.

Pushing this idea even further, it might be suggested that formal modelling could serve as a panacea to the six problems identified in section one because it offers a more explicit, concise and dynamic explanation. For example, Bueno de Mesquita (1985, 1980) argues that a theory must be first deduced and must be logically consistent internally. Deduction begins with value based assumptions about what are the important areas to study. Generally, but not always, this occurs through consensus among researchers working within a common paradigm. This approach is consistent with sophisticated methodological falsification used to test propositions of deductively derived theories (James 1993). The “truth” of a theory resides in whether or not its conclusions can be arrived at without faulty logic and whether the properties of the model, elucidated in a case, are clear. If a deduction follows logically from a set of assumptions then that

²⁵ D, Campbell and G. Mayer-Kress, “Chaos and Politics”, in C. Grebogi and J. Yorke, eds., *The Impact of Chaos on Science and Society*, Tokyo: United Nations University Press, 1997, pp. 18-63. These arguments are not universally accepted. In some disciplines, such as economics, it is standard to derive insights into complex social relations by appealing to stylized but formal representations of what are believed to be their key facets. In some cases complexity can be represented through formal models. For example Campbell and Mayer-Kress examine how political behaviour can be modeled using the sorts of non-linear dynamic equations that represent chaotic behaviour. In other cases it may be necessary to rely on large sample properties of aggregate behaviour to overcome the random or idiosyncratic actions of individuals.

deduction is necessarily true under the precise conditions assumed in the theory. The truthfulness of a deduction is not an empirical investigation. Proof requires more than observation; it requires a clear analytical critique of the logic and concepts used in the model.

Unfortunately, one key feature, that of policy relevance remains elusive. In our review of the formal modelling literature below, which is by no means exhaustive, there are relatively few efforts to render formal modelling accessible. Our assessment of formal approaches is not exhaustive but indicative. Our assessment covers a variety of third-party techniques and issues related to third-party intervention including mediation. However, not all of the articles we identify evaluate these techniques with regard to their relation to intervention outcomes. Some, for example, focus on the relative effectiveness of different types of actors.

Further refinement of our categorization schemes will allow us to make more precise judgements regarding the comparative value of formal research. More specifically we will consider what efforts have been made within formal modeling to confront key objectives within the broader research programme: accumulation (building on previous findings and modifying or discarding arguments for which empirical support is lacking); integration (drawing on alternative methodologies that provide similar findings in a different context) and synthesis (using a multi-level of analysis approach). For the purposes of this paper we provide an overview of each of these categories.

Turning now to the first category of accumulation, there is a high degree of convergence in this regard with respect to three key areas: intervention as a bargaining strategy, rationality and bias. Although it is probably too early to be able to identify any

nascent consensus regarding precise modeling approaches to conflict intervention, it does appear that there is consensus on these basic minimal assumptions about what third parties do and the impact they have. Each assumption is considered in turn.

First there appears to be agreement that intervention is a kind of dynamic bargaining strategy in which the characteristics of the intervener and its choice of strategy are treated endogenously.²⁶ The decision by a third party to intervene imposes costs on the conflicting parties as well as on themselves and depending on the conditions, third parties do have an incentive to escalate. As Schelling (1960) points out, escalation is the coercive side of negotiating a peace plan in which the fear of even greater cost imposition motivates actors to make concessions at the bargaining table.²⁷ Schelling was the first to note that deterrence situations are akin to non-zero sum games (e.g. PD or a game of Chicken). No stable outcome is assured in PD or Chicken. Each player has an incentive to abandon his pure strategy for a mixed strategy of cooperation and competition an iterative game. Across time the reckless strategy is less and less likely to end without

²⁶ Static decision-making assumes either that behaviour does not change because it is in equilibrium or that the decision process can be collapsed into one grand decision. For example, the BDM expected utility theory treats nations as a unitary rational actor; that is a utility function can be constructed which is consistent with a nation's foreign policy acts, such as alliance formation and wars, where it is assumed political leadership of a nation will share a common basis of values. Existing rational models, like *The War Trap* (1985) model are static in the sense that they do not consider the possible responses to each possible move. Part of the reason for this assumption of the static approach is the belief that the choice of strategy follows from an actor's evaluation of the possible strategies. This approach cannot explain how, for example, crises develop over time or how to manage them over time in order to reduce the probability of war. Morrow's contribution, for example, is an attempt to develop a rational model that accounts for all of the major decision's that each nation makes in a crisis, and consequently accounts for the unfolding of the crisis by predicting each crisis decision in sequence. Morrow's analysis considers a number of aspects of the dynamic behaviour that can be considered as augmentations of the BDM model. They are: a) each side's time preference, b) showing how different values attach to future versus present outcomes can lead to different decisions, c) the interactive play of crisis tactics, and d) the need to specify how actors can change their actions and when they will want to change their actions.

²⁷ Many of the earliest attempts to address the question of escalation between states placed the bargaining process at center stage. According to Schelling (1960), one of the potential effects of escalation is to convince an opponent to back down by exploiting his or her fear that future escalation will lead to disaster. According to Harvey (1997) and Powell (1989) since both actors are engaged in demonstrating their superior ability to tolerate these risks, escalation is conceptualized as a game of competitive risk taking. Although others have recognized that the rate at which states escalate (impose costs) can have an important effect on the bargaining process (Maoz 1990), none has specified, theoretically, the conditions under which third party actors select different levels of escalation to achieve their ends.

disaster. Schelling's first point was a reorientation of game theory in a manner that would allow for introducing elements of commitment and resolve in strategic interaction so as to make the games more realistic. Schelling's primary aim was to highlight one of the key problems of nuclear deterrence - the tradeoff between the magnitude of the threat involving global annihilation and its credibility. However there is clearly a use for his approach in understanding and explaining third party intervention strategy.

Brams and Kilgour's early research (1987) presents a model of crisis bargaining based on Chicken. Their purpose is to isolate the optimal threat to cope with observed or potential provocation in a two person conflict game. They ask under what conditions should the threatened level of retaliation be less than proportionate? The answer depends on the payoff structure; if the purpose is to deter aggression at potentially minimum costs one must tailor the threatened punishment to the level of provocation or aggression. The sequence is such that deterrence is demonstrated by a single retaliatory countermove.

Like Schelling's Brams and Kilgour's insights have relevance to intervention theory especially the bargaining and commitment components (Carment and Rowlands 1998). Powell's recent study (2002) on war is certainly helpful in understanding why. He shows that recent formal work on conflict management issues draws very heavily on Rubinstein's (1982) seminal analysis of the bargaining problem and the research that flowed from it.²⁸ More importantly he suggests that there is now what might be called a standard or canonical model of the origins of war that sees this outcome as a bargaining breakdown. Powell's essay reviews the standard model and current efforts to extend it to the areas of (a) multilateral bargaining, which is at the heart of old issues such as

²⁸ "Bargaining Theory and International Conflict." *Annual Review of Political Science* 5. 2002: 1-30.

balancing and bandwagoning as well as newer ones such as the role of third-party mediation; (b) the effects of domestic politics on international outcomes; (c) efforts to explicitly model intra-war bargaining; and (d) dynamic commitment problems.

Similarly, Cetinyan's (2002) formal model of intervention and ethnic grievances is indicative. He shows that relatively weak ethnic groups mobilize and rebel against their governments just as frequently (or infrequently) as strong ones.²⁹ However, such seemingly irrational behavior is consistent with a rationalist approach to ethnic separatism. A bargaining model that treats all the relevant actors as strategic players suggests that power disparities between an ethnic minority and the state—including those based on a group's access to third-party intervention—should affect how the state treats the group but not the likelihood that the group rebels against the state. Greater mistreatment by the state should not be correlated with greater external intervention on a group's behalf. New empirical support for the model is drawn from the Minorities at Risk data set, and the discussion has implications for the field of international relations beyond ethnic conflict.

Rationality is a second assumption where there is broad consensus. A good starting point here is Fearon (1995), who provides a very narrow but rigorous attempt to identify a typology of rational conflict. There are two valuable observations to make regarding this paper. First, Fearon focuses exclusively on rational conflict in its strictest, almost hyper-rationalist, sense. The focus on rationality is central to formal modeling and clearly mimics its use in more traditional economic frameworks. The reason for this focus is simple: formal models need to be able to identify fairly general behavioural rules,

²⁹ "Ethnic Bargaining in the Shadow of Third-party Intervention." *International Organization* 56 (3). SUM 2002: 645+.

typically derived from compelling first principles, that will be able to specify precisely how agents will act in a wide variety of different situations. Rationality provides a compelling and yet relatively simple way of identifying such behavioural rules. Clearly it would be far more difficult, though perhaps not impossible, to build formal models on the basis of inconsistent or irrational behaviour. None the less it is useful to state very clearly that for the most part formal modeling means an explicit or implicit acceptance of the assumption of rational behaviour.

The second useful element that emerges from Fearon (1995) is the assertion that there are (only) two purely rational explanations of conflict. The first explanation is one of private information with an incentive to misrepresent. Effectively it is a situation in which at least one side in a conflict does not know the willingness or capacity of its opponent to engage in war. In order to deter aggression the opponent has a clear incentive to exaggerate its ability or willingness to fight. Fearon provides only a heuristic discussion of this explanation, plus some empirical examples, but others present formal models along these lines (Brito and Intriligator, 1985) or use formal modeling to investigate closely related circumstances in the context of deterrence and escalation (Kraig, 1999; Carlson, 1995; Zagare, 1992).

The second rationalist explanation of war in Fearon (1995) deals with problems of commitment. Two more formal approaches are provided in this case: preemptive war with offensive advantages and preventive war as a commitment problem. The former is the traditional “gunslinger” problem that has simple interpretations in a Prisoner’s dilemma framework. The latter is a more interesting problem in a dynamic multi-period framework in which one side fights now in order to prevent an up-and-coming rival from

dictating less preferred outcomes in the future. This is a modification of the declining hegemon argument for war, with the critical assertion being that conflict emerges because the challenger cannot credibly precommit to not challenge the current hegemon in the future. Hence the emphasis on commitment problems in both formal models of Fearon's second explanation.

So Fearon (1995) manages to provide two rational explanations of war using the most strict definition of rationality. Many of the less formal approaches, while plausible, fail to come to terms with the inherent irrationality of war, i.e. war is destructive and hence Pareto inferior. There is always a preferred outcome to war, it is just that the two (or more) sides cannot always get to it or abide by the required terms. However Fearon's typology is, in fact, incomplete. Garfinkel and Skaperdas (2000), for example, provide a formal model that is arguably distinct from Fearon's models, though it is closely related to the preventive war with commitment problems. In Garfinkel and Skaperdas war becomes preferable for both sides, and Pareto superior in expected utility terms, because victory by either side settles the security dilemma and eliminates (or significantly diminishes) the need for subsequent investment in wasteful military reparation. This approach can be thought of as cashing in on an extreme "peace dividend," though recent history has taught us that such dividends are often illusory or short-lived.

Other formal models effectively accept conflict as an inherent and unavoidable element of human affairs, implicitly accepting that commitment problems prevent more peaceful means of settling distributional disputes, and seek to explain only the intensity of conflict. Models by Hirshleifer (for example, Hirshleifer 2000) are prime examples of this approach to formal conflict analysis. Other modeling approaches offer reasonable

portraits of conflict that dilute only modestly Fearon's rationality constraints (for example, Bueno de Mesquita, 1985), while still others abandon rational models and substitute other behavioural rules (Gurr, 1970).

A third area where there is emerging consensus focuses on the importance of bias and moral hazard. Consider Andrew Kydd's (2003) assessment of biased mediators.³⁰ Consistent with work by Carment and Rowlands, Kydd argues that mediators are often thought to be more effective if they are unbiased or have no preferences over the issue in dispute. His article presents a game theoretic model of mediation drawing on the theory of "cheap talk" that highlights a contrary logic. Conflict arises in bargaining games because of uncertainty about the resolve of the parties. A mediator can reduce the likelihood of conflict by providing information on this score. For a mediator to be effective, however, the parties must believe that the mediator is telling the truth, especially if the mediator counsels one side to make a concession because their opponent has high resolve & will fight. An unbiased mediator who is simply interested in minimizing the probability of conflict will have a strong incentive to make such statements even if they are not true, hence the parties will not find the mediator credible. Only mediators who are effectively "on your side" will be believed if they counsel restraint.

Using a theory of mediation & peacekeeping Smith and Stam (2003) point to the sources of recent successes in the Middle East & reasons for the more general pattern of failed third-party mediation. They contend that deductive theorizing is a superior means of advancing rigorous explanations of conflict management.. In this light, third-party

³⁰ "Which Side Are You On? Bias, Credibility, and Mediation." *American Journal of Political Science* 47 (4). OCT 2003: 597-611.

intervention and mediation is explored in the context of a random walk model of warfare & war termination.³¹ In considering how third parties can hasten the end of conflict, it is shown that while mediators can use side payments or threats to intervene directly, they cannot help nations resolve informational differences. The model's equilibria demonstrate that conflict continues until beliefs converge sufficiently for both sides to agree that the costs of fighting exceed likely gains in the bargaining process. Thus, at issue is whether the mediator can end such wars by speeding up the convergence via non-violent presentation of information.³² It is concluded that deductive reasoning allows for the parsing out of those mechanisms through which third parties influence conflict.

Finally in this regard, Balch-Lindsay and Enterline (2000) show that policymakers often trumpet the potential for third parties to stop the killing associated with civil wars, yet third parties as strategic actors also have incentives to encourage longer civil wars.³³ Using a formal approach, consistent with the argument above, the authors argue that in order to assess the influence of third parties on civil war duration, it

³¹ Smith, Alastair and Allan Stam. "Mediation and Peacekeeping in a Random Walk Model of Civil and Interstate War." *International Studies Review* 5 (4). DEC 2003: 115-135.

³² A specific example is employed to illustrate. Looking at the mediator's motivations, it is seen that the mediator must be a "genuine honest broker" - always providing honest information - for the belligerents to believe the mediator. The kinds of mechanisms that foster success for mediation are apparent in US President Carter's mediation efforts between Israel & Egypt. The random walk model of war is then used to assess the impact of natural geographical barriers on the stability & peace, finding that hastily determined colonial borders often lead to instability, while a natural boundary drastically improves the prospects for peace. However, absent such a natural geographical feature, third-party peacekeeping offers the possibility of an artificially constructed boundary between warring parties

³³ "Killing Time: The World Politics of Civil War Duration, 1820-1992." *International Studies Quarterly* 44 (4). DEC 2000: 615-642.

is necessary to consider the interdependent nature of third party interventions as they are distributed across the set of civil war combatants.³⁴

Our second category is integration; namely efforts to draw on findings from different methodologies and present them in one package. Within the literature we have reviewed, thus far, findings on effectiveness and techniques appear to be quite diverse and inconclusive and there appears to be little effort at integration. Two exceptions to this are notable. For example, O'Brien's (2002) pattern classification using algorithm-fuzzy analysis of statistical evidence (FASE).³⁵ O'Brien claims to be able to provide accurate forecasts not just on the occurrence of, but the intensity level of country-specific instabilities over 5 years with about 80% overall accuracy. His contribution is notable because he suggests that one way to demonstrate progress in a field of scientific inquiry is to show that factors believed to explain some phenomenon can also be used effectively to predict both its occurrence and its non-occurrence. His study draws on the state strength literature to identify relevant country macrostructure factors that can contribute to different kinds and levels of intensity of conflict and country instabilities.³⁶

³⁴ The analysis indicates that separatist civil wars and ongoing civil wars in states proximate to the civil war state result in civil wars of longer duration. Finally, we find that when third parties raise the stakes of the conflict by engaging in the use of militarized force against the civil war state, the duration of these conflicts is reduced. In general, our analysis underscores the importance of modeling the interdependent and dynamic aspects of third party intervention as well as the world politics of civil wars when forecasting their duration and formulating policy.

³⁵ O'Brien, S.P. "Anticipating the Good, the Bad, and the Ugly –An Early Warning Approach to Conflict and Instability Analysis." *The Journal of Conflict Resolution* 46 (6). DEC 2002: 791-811.

³⁶ Schrodt and Gerner's (2004) approach on mediation also provides insight on how to evaluate effectiveness. They argue that mediation, combined with conflictual action directed towards both parties and cooperative action directed towards the weaker party, is linked to reduced violence. Their event data on the Israel-Lebanon and Israel-Palestinian conflicts in the Levant (1979-1999) and the Serbia-Croatia and Serbia-Bosnia conflicts in the Balkans (1991-1999) are used to test two sets of process-related hypotheses embedded in the theoretical and qualitative literatures on mediation. Cross-correlation analysis is used to examine the time delay in the effects of mediation on the level of violence over time. Results show that a reduction in violence is generally associated with mediation combined with conflictual action directed toward both of the antagonists and combined with cooperative action directed to the weaker antagonist.

Another exception is Wohlander's very instructive research agenda based on the premise that a theory that produces a general, causal explanation of third-party intervention and that specifies the precise conditions under which it does and does not occur is both viable and policy-relevant. He shows that overall, the theory he develops predicts approximately two-thirds of cases correctly when subjected to rigorous empirical tests.³⁷ His research develops a theory of intervention by laying out a story about how strategic third parties and disputants make interdependent decisions in the context of an ongoing militarized dispute, and then formalizing this story into a simple-game theoretic model. In addition, the theory produces theoretically-interesting, empirically-supported insights about the relationships between the resources of the actors involved in a militarized dispute and the likelihood that intervention occurs. His research concludes with an application of the theory to the debate in the international relations literature over whether balancing or bandwagoning is the more common form of intervention. The application shows that the theory produces a more powerful explanation for the occurrence of balancing and bandwagoning than the existing literature offers, and suggests that the debate is mis-specified.

Part of the problem in achieving full integration is that in contrast to our example of economics, formal conflict theorists do not yet have a sufficiently developed consensus about how to model conflict (not just intervention) or identify when one approach is more applicable to another. This problem mirrors in some way the problems that are manifested in the intervention literature in general as highlighted in the six

³⁷ "A Theory of Third-Party Intervention in Disputes in International Politics." *Dissertation Abstracts International, A: The Humanities and Social Sciences* 62 (7). JAN 2003: 2565-A.

summary points noted above. For example, Rowlands and Carment (1998) and Carment and Rowlands (2001) model intervention formally by extending the approach of Hirshliefer but they also draw on case studies in doing so. Whether the formal results and policy implications transcend this specific type of application remains an open research question.

In the absence of a comprehensive set of conflict (and thus conflict intervention) models, the only alternative is to use formal approaches to intervention that are sufficiently robust that they transcend any underlying conflict model. One possible candidate is deterrence theory, the formal analysis of which has wide (though not universal) acceptance, and has sufficient rigor in structure to be generalizable, and sufficient flexibility in interpretation to be tailored for specific application.³⁸ More importantly deterrence theory has been broadly applied using a variety of different methodologies, inductively and deductively, using assumptions of rationality and non-rationality. Rational deterrence already has a proven ability to permeate government institutions, having been the foundation of Cold War security policy. It also has empirical content; Carment and Harvey (2000) have used deterrence theory to examine intervention outcomes in Bosnia and Kosovo. By accepting conflict as a “given,” rational deterrence approaches to intervention can avoid the problem of specifying the nature or initial causes of the war and focus on how to deter continued undesirable behaviour.

³⁸ Achen and Snidal (1988) and Lebow and Stein (1988) present, respectively, the pro and con sides of the debate over rational deterrence theory. While raising many useful points, Lebow and Stein demonstrate in their argument a lack of understanding of the theory. Specifically, their proposed counter-examples are in fact consistent with rational deterrence, which requires a comparison not just of the relative outcomes from resisting or accommodating a challenge, but of these outcomes with the those arising from no challenge to the status quo.

While promising, certain caveats need to be acknowledged before embracing rational deterrence as the only or best approach to intervention analysis. First, failures of intervention have been frequent despite its apparent acceptance within the policy community. Whether these represent teething problems in recalibrating the theory to fit intrastate conflict conditions, or more fundamental defects that preclude its universal application, is difficult to say. Certainly it is plausible that deterrence would be more difficult when dealing with irregular forces lacking a clear political or military hierarchy, and operating outside the control of a clearly recognizable political structure. Second, it is not apparent that rational deterrence is the most efficient basis for organizing intervention. Third, even if it is the most efficient past practice suggests that interveners may not have the inclination to apply sufficient effort to make deterrence effective. Finally, while deterrence theory may provide a short cut to modeling conflict intervention, it still requires an understanding of what motivates the different combatants in a conflict, which brings us back to the initial and fundamental problem regarding the nature of the conflict.

Turning now to our third category of synthesis: the inclusion of findings at different levels of analysis; it could be argued that intervention theory should lend itself to synthesis, especially if there are efforts to draw on the deterrence literature because so much has been written on the topic from a variety of methodological perspectives. Here too there appears to be few efforts to take findings from one level of analysis (e.g. the individual or group) and apply it at higher levels of aggregation. An exception to this might be mediation research wherein insights and research on small group mediation –

specifically questions of bias and impartiality – lend themselves to questions of third party effectiveness at the state level (Rowlands and Carment 2003).

There is of course a limitation to synthesis, as rationalist explanations assume interveners are capable of making decisions on a conflict according to coherent, well ordered preferences. Interveners must be treated as rational actors if preferences are considered to be an attribute of a coalition for example and enacted by leaders.³⁹ However, before we accept the abstraction of third parties and belligerents as rational unitary actors we must satisfactorily specify the objectives of their decision makers.

Arrow's theorem suggests that although states unified under a multilateral coalition may act as if they are unitary decision makers, they may also act incoherently in the sense of not revealing a complete set of transitive preferences. It may be impossible to argue that any collection of persons or states is acting as if they were pursuing an identifiable goal. Bueno de Mesquita has suggested that we cannot truly understand any international behaviour or process unless we specify the role of decision makers in the process. The value of any theory is not just that it solves problems but that it offers new ways of conceptualizing. Rationality is a normal human trait that tends to relate ends and means and a way of measuring these in a proportionate manner. The difficulty is in estimating the values that policymakers assign to particular goals or objectives and in estimating their willingness to bear the potential risks and costs of a particular action.

³⁹ We recognize that the decisions of third party interveners represent considerable pulling and hauling if not within each state's bureaucracy then between the states themselves. Nevertheless third party intervention is identified with decision-makers, be he/she the head of a coalition of like-minded states or the head of a regional or international organization such as NATO or the United Nations.. For analytic convenience we can treat the intervener's decision as reflecting the sum total of the preferences of those whom he/she represents. A similar argument holds for ethnic elites who, out of fear of being replaced, will go along with the population they represent. Discordance between the preferences of ethnic elites and ethnic masses generally do not persist for long.

To summarise this section, we offer three suggestions for improving accumulation, integration and synthesis. First with respect to accumulation, a key goal would be to build on bargaining models in order to create a dynamic theory that would emphasize the interplay between interveners and belligerents using bargaining strategies. This approach would capture the essence of decisions that each side faces. Unlike traditional intervener perspectives which assume that decisions are dictated by the choice of a grand strategy at the beginning, the rationales for individual decisions within the conflict would be examined and optimal moves could be determined at each turning point. The second step is to model each actor's evaluation of its future benefits from its actions. Unlike static models, this approach assumes that actors evaluate the streams of benefits and costs that flow from a decision rather than just the immediate gain. A third step would be to model decisions as time-dependent calculations. This approach assumes that the decision to be made is when to act, rather than how to act.

With respect to integration and synthesis, here we turn to the seminal work of Zeev Maoz whose methodology has been to first develop a game theoretic model with modified versions of a) conflict-initiation, b) conflict management, and c) negotiation as viewed first from the perspective of a single actor and then from the perspective of both actors. This kind of approach cross-cuts levels of analysis and draws on findings from disparate research on management and conflict analysis. This "unbundling" process would be similar to the approach taken in *National Choices, International Processes* (1991) complete with the loss of precision and brevity that simple expected utility models, for example, have provided.⁴⁰

⁴⁰ Although Maoz's approach relies heavily on the BDM expected-utility theory, his model incorporates several new factors into the original BDM model. They are: measures of risk disposition into the expected utility calculations;

In his book, Maoz addresses three questions: a) What is the relationship between the preferences of individual decision-makers and aggregate outcomes which are individual decision-makers and groups observed at the international level? b) What is the relationship between choice and consequence in determining and assessing foreign policy outcomes? And c) Is there a link between micro and macro decision making and choices as evolutionary patterns develop over time? In responding to these questions Maoz wants to argue that micro and macro decision-making behaviour cannot be treated as discrete and independent variables if one wants to explain change in outcomes over time. Thus, Maoz sets about attempting to synthesise micro and macro models in order to explain changes over time. In bringing the individual and group approaches together, Maoz argues that there are three factors that shape decision-making: situational variables, personality traits and organizational role.

While Maoz wants to synthesise these two distinct types of decision-making, he also is concerned to bring both these processes (which can be considered as one way processes) into contact and synthesis with interactive processes as derived largely from game theory. Much of his work in this book is devoted to a testing of all models in order to demonstrate their weaknesses in standing alone and their strength in being synthesized. The weakness of game theory he argues, lies in the assumptions that game theory makes. He argues that these assumptions remain constant over time. For example the number of actors, their alternatives and preferences are assumed to be constant over time. Standing alone, game theory, Maoz argues, cannot explain long term processes in which the number of actors change. Thus Maoz utilises game theory as a heuristic and descriptive

measures of combat-related costs; and measures of intangible (moral and diplomatic) costs associated with aggression. Maoz argues that the inclusion of these measures is necessary for the conversion of the BDM decision-theoretic model

device in order to assess how choices affect international outcomes, but relies on the one way process to assess the changes in choice over time.

Synthesizing game theories, which distinguish between bargaining and negotiation, and psychological approaches (for example) which do not make this distinction, in his view, results in a model which is based on rational choices under conditions of interdependence. Through a complex mathematical approach and critical testing (based on three criteria - simplicity, fertility, beauty) Maoz arrives at a model that is more than and different than the sum of its components. According to Maoz, the model leads to propositions that are both surprising (which he values) and theoretically testable while being capable of explaining situations where good results would not be expected. The model is capable of explaining both ad hoc and strategic interactions. For example the strategic approach lays emphasis on long range goals in a stable international environment, while the ad hoc approach suggests that consistency is the exception rather than the rule. Although the process of search and detection tends to favour group decision-making and ad hoc interactive processes found in game theory, Maoz's over all conclusion suggests that reality conforms to both long term and ad hoc approaches and that therefore his synthesized approach is justified.

A basic problem is also obvious. Maoz's model is too complex. The question that arises is the extra accuracy worth it? Secondly, the empirical testing is both difficult to evaluate and may be difficult to duplicate for purposes of hypothesis testing. There are few individuals qualified to assess the implications of his findings. Thirdly, there is an imbalance in his theoretical approach - certain concepts are weighted while others are

into a game-theoretic one and for the conversion of both models into more dynamic terms.

ignored e.g. national interest, power, systems, anarchy, norms and regimes are largely ignored.

Several questions are raised by his study through. First, some theory commensurability should be developed on rationality - what do we mean by rationality when we are looking at dynamic processes? Static assumptions of rationality may be fundamentally different from rationality involving two or more actors in a dynamic process. Second, as O'Neill has shown, dynamic models should include the element of uncertainty in order to better estimate reactions to anticipated behaviour. Third, there may be general problems with rational choice models that do not incorporate some form of game-theoretical approach in describing dynamic processes of international conflict.

Finally, it is important to understand the sequence of choices made by both interveners and belligerents. Brams and Hessel postulate that sequential games are a useful basis from which to analyse a players choices which are nonmyopic (farsighted choices that anticipate the entire sequence of moves and countermoves that players will make) and in equilibria. Their analysis of the threat strategies of states suggests that both players (the threatened and threatener) will play the same game over and over again with the threatener being the player who can hold out longer at a mutually disadvantageous outcome.

The implications of the Brams-Hessel model of threat power for change are twofold: First, a player interested in changing the equilibrium in a non-cooperative game should initially opt for a strategy that avoids confrontation with a superior opponent and then threaten escalation to its hard position putting the onus for breakdown and subsequent disruption on itself. Second, the player possessing threat power should press

its advantage by choosing and maintaining a hard rejection strategy and also stress its superior power. Such a strategy could split the opponent's strategy into two - accommodationist and optimizers. In sum the model has an intuitive appeal that could be adapted to intervention theory.

4. Implications for Policy and Research

There are two major reasons why policymakers pay greater attention to case studies than empirical models. First they are generally older, having completed their primary education well before the behavioural revolution and the government doesn't provide much incentive to stay current in your field. Case studies are generally easy to understand and appreciate regardless of your educational level or methodological training. Second, the tension between qualitative and quantitative analysis in the government is in times and places much more acrimonious than it is in many political science departments, but this applies more at the level of the government analyst than the policymaker. The agencies that have the greatest claim to knowledge about what is going on around the world tend to recruit exclusively country and area specialists from the Ivy league schools who resist all attempts to impose greater methodological sophistication on their day-to-day activities. This is slowly changing. Others insist that political scientists should strive to make to their work as predictive as possible, and to make it available to people in power. "I don't think there's anything unique about international behavior that makes it less predictable than, say, economic behavior," says Philip A. Schrodt, a professor of political science at the University of Kansas. "If anything, an economic system is far more complicated than an international system. And yet we just constantly engage in economic forecasting."⁴¹

⁴¹ Quoted in Glenn, D. "Calculus of the Battlefield Do game theory and number crunching -- the New Math of international relations -- shed light on the conflict with Iraq?" *The Chronicle* (November 8, 2002) <http://chronicle.com/free/v49/i11/11a01401.htm>.

Any model of intervention that expects to be policy relevant must do three things. First, it must specify which elements of intervention are the most effective in order to assist policy makers to design more effective policies. In order for a theory to be politically useful it must have a solid body of empirical evidence to back its propositions.

Second, intervention theory can aid policy in helping decision makers think through or analyze problems in a manner that is superior to that which they would have used without it. In this case intervention theory serves as a set of analytical tools and policy relevance stems directly from observing the behaviour of interveners and belligerents each with its own logic and behavioural properties.

A third way is by identifying systematic deviations from optimal decision making and the identification of certain correcting principles.

In each of these areas there has been some progress. Political science and econometric ideas permeate Washington and other western nation centres of decision making. The Pentagon, State Department, and CIA are filled with people who understand political science theories and the findings derived from them. And some use these theories inherently to evaluate proposals and model outcomes but they do not use them explicitly nor do they rely solely on them for devising policy options. But they rarely read *JCR*, *ISQ*, *APSR*, and *AJPS*, because few of the articles are written with them in mind. And theories and models without clear policy implications or actionable forecasts are just not useful to them on a day-to-day basis.

The connection between formal modeling and policy is not a simple one. It is useful to consider first analogous situations where models have come to underpin policy analysis and formulation. Good examples come from economics, the social science

discipline where formal modeling is the most widely accepted. Policy discussions on economic matters are routinely informed by the analysis derived from formal models. However, four observations are relevant in terms of the lessons that may prove useful for conflict resolution modeling and policy making. First, the degree of consensus within the discipline regarding the basic models and their assumptions is overwhelming. Second, the models that tend to underpin most policy discussions have generally been tested and refined through empirical investigation. Hence the influence of formal modeling is often indirect and filtered through a more complete “scientific” analytical structure that includes some degree of empirical verification.

While differences of opinion are common, these tend to be over either relatively minor implications of the models, or their empirical foundations. Consequently it is often relatively easy to isolate the points of contention and identify empirical approaches to settling the dispute. Third, the substantial consensus in the discipline is perpetuated through the essentially uniform courses taken by economists in their university training. Finally, most government economic policy makers who consume formal analyses are themselves trained in the discipline. Even if they cannot themselves produce the formal analyses, they will possess sufficient familiarity with the assumptions, techniques, concepts, and terminology, not to mention disciplinary biases, to make the models accessible and more compelling. While this portrait is no doubt idealized, it is arguable that all of these elements are present only in a much weaker form, if at all, when it comes to formal models of conflict analysis. Each of these points are examined in turn.

First, formal modeling of conflict intervention cannot easily be translated into policy terms because of the aforementioned barrier caused by the lack of a developed

consensus. If there was stronger agreement on how to model conflict, or how to model intervention, policy makers would have greater confidence in the consequent policy recommendations.

Addressing the difficulties of when and how to obtain a specific outcome through further research will contribute to the efforts to reconstruct the principles that underpin successful third-party intervention. The absence of a clear consensus about the theories and models of conflict and intervention translates immediately into the absence of an empirical consensus. Indeed the two are clearly related in a scientific sense: empirical investigation should be weeding out those models that fail the test of evidence. While considerable progress has been made on the empirical examination of both conflict and intervention, any consensus remains elusive and many of the points of contention and testing remain at the most fundamental levels of analysis.

Second, the research endeavour has not proceeded to the stage of refinement and qualification. Consequently the margin for error for any associated policy suggestions remains daunting, with potential implications for thousands of lives and millions of dollars. In simplest terms formal models of intervention largely remain untried, untested, and potentially not true.

The third barrier is simply one of the larger challenges for formal modeling arising from the lack of consensus. In economics, university courses are largely standardized and formal modeling is pervasive. Indeed, economics seems to suffer from the opposite problem as the study of conflict, with common sense discursive analysis being viewed with extreme scepticism or dismissed entirely in the absence of corroborating formal models. The battle between competing ideas, methodologies, and

normative standards is far more intense in international relations than in economics. As a result there are conflicting schools of thought that are unwilling to yield ground to, or acknowledge the legitimacy of, their competitors. This absence of convergence is apparent in course structures, doctoral thesis expectations, and even journal refereeing. As long as there are large sections of the academic establishment that are incapable of understanding, let alone producing, formal models with mathematical representations, then there will be tremendous difficulty in forging a consensus on how they might be incorporated into policy making.

Finally, the breadth of training present within the policy-making community itself will generate the same sort of resistance to applying formal models of intervention. Even when policy makers and modellers are drawn from the same discipline, it is usually the case that the models have been tested empirically and translated into more accessible language prior to their emergence in any policy discussions. Disciplinary uniformity and complementarity undoubtedly expedite this process, and in two ways. First, policy makers can engage the theory and theory-builders directly, providing direction in terms of how the model may need to be modified, refined, or repackaged in order to be useful in policy making. Second, the extent of these modifications may be minimized by the presence of a common analytical and terminological framework for discussion. Finally, the affinity of policy makers to modeling will be stronger if they have formal training that is in common with the modeller. This desirable convergence is much less likely in conflict intervention than, say, fiscal policy.

5. Conclusions

A predictive capacity based on dynamic theories of intervention and careful empirical work can provide policy-relevant forewarning by which interveners may be forearmed. This paper highlights some of the theoretical and empirical challenges that quickly emerge in identifying the consequences of intervention strategies. Addressing such challenges is crucial however, as current policy initiatives continue to race ahead of clear and precise strategic analysis.

We would suggest greater incorporation of findings from different methodologies and greater efforts at synthesis. For example, case studies can easily be drawn into formal research. The purpose of the case study is to investigate the plausibility of a model⁴² and to make explicit the relationship of the terms specified in the model's propositions. This has three advantages. First, this allows an evaluation of the underlying assumptions that are embedded in much of the essentially ad hoc and correlational studies on third party intervention. Second, it would stimulate the production of propositions on third party intervention which can later be tested in a different and more appropriate context. Third, a case study is an illustrative tool to assist readers in understanding how the propositions work (Keohane, King and Verba, 1994: Introduction). For readers who may otherwise be unfamiliar with formal modelling they can refer to the case which is more accessible and where the linkages are explicit. In sum, a case study provides a valuable means for pursuing critical questions of causality and model refinement. Obviously, irregularities between a model and a case study are insufficient to refute propositions, but they can

⁴² Such an approach is often justified as a tool to evaluate the logical consistency of a model, to clarify the propositions, and examine critical questions of inference (Bueno de Mesquita, 1980, 1985; Russett, 1974; Keohane, King and Verba, 1994).

suggest directions for modification or refinement. By the same token, consistency between the model and the cases does not provide irrefutable support for the model.

Further this approach is consistent with recent work on negotiation and mediation.⁴³ Kleiboer, for example argues that modelling produces an incentive for more theory-driven empirical research, which, by her assessment, is more informative for the researcher and the policy maker.

⁴³ See: M. Kleiboer, "Understanding Success and Failure in International Mediation." *Journal of Conflict Resolution*, Vol. 40, 1996, pp. 360-389.