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The management of power in a warring state system: An evaluation of balancing, collective security and laissez-faire policies

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THE MANAGEMENT OF POWER IN A
**WARRING STATE SYSTEM:
AN EVALUATION OF BALANCING, COLLECTIVE
SECURITY AND LAISSEZ-FAIRE POLICIES**

by

Thomas R. Cusack

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ABSTRACT

"Realist" and "Idealist" prescriptions for the management of power in a multistate system are described and their implications for system preservation and state survival are examined. The examination of these competing or alternative foreign policy styles is carried out through an experimental study using a large-scale computer simulation model. The results of the analysis tend to highlight the greater relative efficacy of the "Idealist" position in terms of both state and system level objectives.

ZUSAMENFASSUNG

Die Regeln sowohl der Idealisten wie der Realisten zur Machtausübung in einem Vielstaatensystem werden beschrieben und deren Auswirkungen auf den Erhalt des internationalen Systems und staatliches Überleben untersucht. In einer experimentellen Studie werden mit Hilfe eines umfangreichen Computer-Simulationsmodells diese beiden konkurrierenden außenpolitischen Verhaltensstile untersucht. Aus den Ergebnissen geht hervor, daß der idealistische Ansatz vergleichsweise effektiver für das internationale System als auch für den Nationalstaat ist.

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INTRODUCTION

This paper examines the potential that starkly different rules for state behavior with respect to the management of power within multistate systems have for enhancing the survival of their practitioners and preserving the pluralistic character of the system itself. Drawing on debates within the international politics literature, three distinct rules of behavior are isolated. Each is argued by its advocates to afford an optimal return to those who employ them and are also said to assure the diversity of the system. The rules are incorporated within an abstract representation of a multistate system which itself is formalized within a large scale computer simulation model. Using an experimental design, and controlling for a variety of system conditions and policy factors, the relative efficacy of these rules is assessed.

POWER MANAGEMENT STYLES

One of the hallmarks of the international political system is the lack of any central coordinating agent. The absence of such means that there is no concentration of the legitimate use of power and coercion. In effect, a form of anarchy can be said to characterize international political relations. In such a situation, the principal actors, states in this particular case, are left to their own devices to settle disputes among themselves. Each fundamentally must rely on no one but itself to safeguard its existence and advance its interests. Needless to say, this poses a critical problem for such actors. How can each guarantee its survival in such a setting? More generally, what will prevent some other actor from achieving a preponderance of power that will permit it to dictate others' terms of existence--or indeed destroy all other independent concentrations of power?

A crucial element in the dynamics of social systems is the set of rules that actors use in determining their response to circumstances in their environment. Examples abound in economics and politics. Within the sphere of international relations concern for this runs deep. In such a loosely joined system, where cultural differences are stark, the creation and maintenance of mutually acceptable rules has always been a troublesome task -- and one which has significant consequences. In the modern era, the globalization of international relations has compounded the problem as ever more heterogeneous elements join what is loosely called the "community of states." During the twentieth century two major efforts, both arising out of major calamities, the First and Second World Wars, have been made to fashion a set of principles which should guide nations in their behavior. While employing different institutional arrangements, which themselves possessed various strengths and

weaknesses, both sets had in common the central principle of "collective security." This core of this principle is the notion that states must forswear aggression themselves and act in unison to oppose the aggression of others.

Clearly the tenets of this approach to power management mark a radical departure from the rules that governed states in their dealing with one another. They embody a rejection of less altruistic rules which were held to be sufficient to provide for both national survival and prosperity on the one hand and system stability and preservation on the other. In going against the grain, the collective security principle embodied a denial of the value of short and medium sighted interest as bases for state behavior and facilitation of system welfare.

A near consensus previously prevailed to the effect that selfishly based behavior could serve as the bulwark against the ravages of international anarchy. In its pure form, this tradition maintained that, as within economic markets, behavior motivated by short sighted gain was not only conducive to the national interest but also maximized the welfare of the system as a whole. If the universal principle disregarded values and objectives that stood outside narrow selfish interest, not only would the individual prosper, but so would the system.

Some advocated and practiced an approach to international relations less tinged by the spirit of laissez-faire. This approach starts from the assumption that the workings of the international system are as prone to failure as any economic market. Under such conditions, neither short term national interests nor those that benefit from the long term stability of the international system can be guaranteed by singularly selfish behavior. The unseen hand that works the balance of power machinery must be guided, pushed and pulled to contract and extend its muscles so as to provide optimal performance. Automatic stabilization, and the individual gains that derive therefrom, cannot be guaranteed. Either the lender or lenders "of last resort" need to intervene and act in ways that might not prove directly beneficial in the short term but would enhance long term interests.

LAISSEZ-FAIRE

One of the dominant interpretations of Realpolitik logics and the workings of the balance of power is the "automatic stabilization" model (Claude, 1962). Here an equilibrating process works in the fashion of an "invisible hand" were directing the shape and flow of international politics. Conscious intervention on the part of particular states or decision-mak-

ers is assumed not to operate. Rather, the logics of competition are argued to compel state behavior that is both beneficial to the practitioner and to its fellows. In this "natural law" version of international politics state survival and system preservation are guaranteed by the "self-neutralizing tendency of power; thrust engenders counter-thrust, power drives cancel each other" (Claude, 1962:47).

One of the starkest descriptions of this image is contained in a passage from Arnold Wolfers (1962:123):

"While it makes little sense to use the term 'automatic' literally, as if human choices and errors were irrelevant to the establishment, preservation, or destruction of a state of equilibrium, there nevertheless is a significant element of truth in the theory of 'automatism' which is valid even today. If one may assume that any government in its senses will be deeply concerned with the relative power position of hostile countries, then one may conclude that efforts to keep in step in the competition for power with such opponents, or even to outdo them, will almost certainly be forthcoming. If most nations react in this way, a tendency towards equilibrium will follow; it will come into play whether both sides aim at equilibrium or whether the more aggressive side strives for superiority. In the latter case, the opposite side is likely to be provoked into matching these aggressive moves. Forces appear therefore to be working 'behind the backs' of the human actors, pushing them in the direction of balanced power irrespective of their preferences."

BALANCING

More than a few analysts have noted that a system of competitive and violence prone states cannot be left to its own devices to produce order and guarantee the security of its members. Its tensions and conflicts are disruptive and the system has the quality of inherent instability that eventuates in the destruction of nearly all independent sources of power (Wight, 1977:44; Deutsch and Singer, 1964: 323-324). The Realist school, however, offers another specification of balance of power rules that is argued to be simultaneously grounded in historical experience and logically consistent. This a system of power management rules wherein a conscientious concern for the effects of others' efforts at altering the status quo is a central assumption. A state should see its interests in blocking the actions of any others that even indirectly could place it at a disadvantage. While not relinquishing its own options to

engage in restructuring the system to its advantage, it should always block the efforts of others so engaged. Such a power management style has the can possibility of promoting both individual and social rewards.

In Claude's terminology, there are two versions of this non-automatic stabilization model: the "semi-automatic" and the "manually operated". In the "semi-automatic" version, a limited (one or more) number of states consciously take on this special responsibility to act as the system's "balancer." Usually, such a special role is reserved to a state or states with inordinate amounts of power--states which derive special benefits from shouldering the burden of having to regulate the system (Claude, 1962:48). In the "manually operated" version the conscious effort at seeking "equilibrium" is not limited to only a few states but is a general responsibility--and of greater effectiveness to the extent to which it is adhered to by the members of the system. Acceptance of this responsibility, while again in no way prejudicial to one's own freedom to seek aggrandizement leads to actions that help achieve a balance and in turn preserve the multiplicity of states within the system (Claude, 1962:50).

COLLECTIVE SECURITY

The third alternative, collective security, requires states (1) to renounce the unilateral use of force as a means of achieving their objectives and (2) to come to the aid of those states that have become the target of aggression by another or other states. These are the essential points of this power management style, though numerous other aspects have been grafted onto it. For example, it is sometimes noted that such a policy needs to be coordinated by a supranational agency or that the functioning of the process is aided by mutual reductions in armaments. These additions, however, are not at the core of this conception. Rather, there are two central elements which can be described as the the principle of deterrence and the principle of universality.

The principle of deterrence is the means which will achieve collective security. Here, as with the logic contained in various models of the balance of power, the key to the preservation of peace and consequent survival of states and the prevention of hegemony is the ability of states to come together in aid of another. By coalescing in support of this other state, the combination of power now available to it poses a fundamental problem to the would-be aggressor. The latter, confronted with a preponderance of power in opposition to itself, faces certain defeat if it presses further in its aggression. So situated, its only rational choice is to back down and cease its aggression. As Organski points out, this logic is an

"essentially correct" description of the mechanism that will preserve peace (1968: 409,417-419). Indeed, Claude notes that in this respect, i.e., the invocation of the logic of deterrence, the theory of collective security is "fundamentally similar to a balance of power system involving defensive alliances." (1964:228) Where, however, the collective security is often considered fundamentally flawed is in terms of the validity of its second major principle, universality.

The principle of universality is the necessary background condition which guarantees that the requirements for successful deterrence will be met. Underlying this are three critical assumptions. First, among all states there is a common perception as to which nation is the aggressor within an interstate dispute (Organski, 1968: 409; Claude, 1964: 228). Second, there is universal opposition to the aggression (Organski, 1968: 409, 413; Claude, 1964: 229). Third, every state has the flexibility and latitude required to join in opposing the aggressor (Organski, 1968: 409, 415; Claude, 1964: 231).

In the case of each assumption, however, analysts assert that there exist strong reasons for denying their universal validity. Organski (1968: 409), for example, suggests that with respect to the first assumption that there is "no clear definition of aggression" to which all nations agree because of the often times confused character of international "squabbles". Claude (1962: 197) also argues that the ambiguous character of the threat or use of force within international politics makes a consensual determination of the aggressor impossible. And unless it is the case that "blame can be confidently asserted for international crises," collective security is doomed to failure (1964: 228)

The second assumption envisions an interstate system wherein peace is "indivisible" (Claude, 1964: 229). Yet Organski, for example, asserts that this is "not really true" (1968: 414). There is a fundamental contradiction to be seen in, on the one hand, assuming that "all nations are equally capable of becoming aggressors" and, on the other, maintaining that they are "all equally interested" opposing it (1968: 413-414). For Morgenthau and Thompson (1985: 454), this demands that the interests of individual states be forsaken, a proposition that is contradictory of Realist tenets and therefore one that has little chance of being satisfied.

The third assumption entails that all states have the flexibility to join in opposition to aggression (Organski, 1968: 409, 415). Again, there is a Realist basis to reject this notion. Not all states have the wherewithal to threaten to use force against an aggressor, particularly if they are in a sensitive position that might expose them to great harm should they actually

become combatants (Organski, 1968: 415-416). As Morgenthau and Thompson see it, this is little more than an idealist prescription and not likely to be the basis of a Realist foreign policy (1985: 454).

If these assumptions are incorrect, then "collective security cannot be expected to work" (Organski, 1968: 417). Indeed, according to Morgenthau and Thompson (1985: 455), there exists the "supreme paradox of collective security" in that any attempt to implement it under conditions that do not correspond to "ideal perfection," that is, without its universal principle effectively operating, will produce the "opposite effect of what it is supposed to achieve." Furthermore, the greater the distance from universalistic adherence to the three assumptions, the more likely the system is to take on aspects of the supposedly anachronistic balance of power system.

A REALPOLITIK MODEL

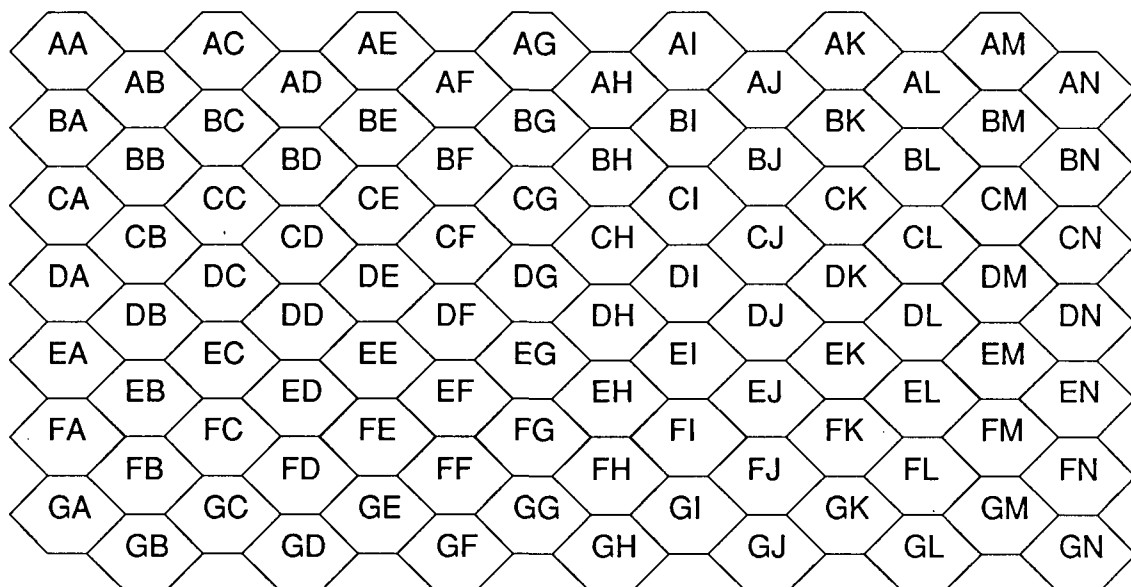
OVERVIEW OF BASIC MODEL

The basic model employed here is a reconstruction of the computer simulation originally developed by Bremer and Mihalka (1977). The model is a formalization of the "automatic stabilization" image of a multistate system. In brief, the model represents a multistate system with what are considered to be three essential characteristics. The first characteristic refers to the size of the system, i.e., the number of sovereign states. In the original simulation model as well as in the one we have reconstructed a maximum of 98 states can be represented. Systems of smaller size can also easily be portrayed. The second essential feature of such a system is the geopolitical character of its units. In this instance each state unit is provided with a distinct territorial domain located in an ordered geographical space. In addition, each unit possesses some amount of a resource, military power, that is vital to its survival and is subject to growth and destruction. The third and final characteristic relates to the capacity of each of these state units to observe their environments, engage in decision making, and implement their decisions.

The system of states in terms of its physical characteristics has the form of that shown in Figure 1. In addition to spatial characteristics the model effectively incorporates a portrayal of time whereby actions take place within an iteration of the model and the

consequences of these actions help to define and shape the circumstances that confront the state actors in the succeeding iteration. Within each iteration there are four major phases of activity. Three of these four deal directly with processes directly associated with war. The first phase determines whether a dispute will occur amongst some system members. In the second phase, the processes of dispute escalation and de-escalation are portrayed. In other words, this phase determines whether a war occurs and which states will be involved. The third phase deals with the direct consequences of war in terms of assessing costs and transferring gains. In the fourth and last phase the power capabilities of the states in the system are updated.

Figure 1
Configuration of 98 States System



MODEL DETAILS

PHASE 1: SELECTION OF A POTENTIAL DISPUTE INITIATOR

The objective of this phase is to identify from among the existing states that one which during the present iteration has the opportunity to choose a target for aggression. The selection procedure here relies on a uniform random number generator and sets each state's (*i*) probability of selection as the potential initiator (*pINIT*) equal to its relative share of the power capabilities (*POW*) in the system:

$$pINIT_i = \frac{POW_i}{\sum_{i=1}^n POW_i}$$

PHASE 2: DISPUTE ONSET AND ESCALATION

Four stages are included within this phase which is meant to represent a stylized version of interstate militarized disputes. In the first stage, the potential initiator decides whether to initiate a conflict and if it so chooses, selects a neighboring state for the target of its aggression. In the second stage, the target is provided with the opportunity to build a coalition to counter the threat from the initiator. In the third stage, the initiator is allowed to develop a counter-coalition to that of the target, to defer from such an alliance building effort and continue in its threatening mode, or simply terminate the dispute. The fourth stage (2.d) is contingent upon the initiator pressing forward and allows the target the opportunity to widen its coalition. War occurs only if the first three stages are traversed, i.e., only when the initiator has twice chosen the war option. The target is seen as limited only to actions which enhance its capacity to counter the threatening power of the initiator (and, where such exists, the initiator coalition's power). The target cannot, for example, "buy off" its opponent through some concession.

2.a -- Potential Initiator's Preliminary Actions: The initiator state, *i*, compares its power capabilities with each of its neighbors. These power assessments and comparisons are based on "estimates" subject to "error":

$$ESTPOW_j = POW_j \cdot (1.0 + ERROR_j)$$

The error term is a normally distributed proportional term with specific values determined stochastically. The initiator takes no action (activity in this iteration moves to the fourth and last phase, Power Adjustment) if no neighbor is estimated as weaker than itself. If there exist neighbors perceived as weaker, the one assumed to be the weakest is selected as the target.

2.b -- Target's Initial Response and Associated Activities: The target compares its own power with the estimated power of its assailant. If the comparison favors the target in that it perceives itself as having more power than the initiator, it takes no further action (model moves to 2.c). An unfavorable comparison leads the target to attempt the construction of a "defensive coalition." The target will consider only "minimum winning" coalitions of contiguous states. Involved here are three considerations:

1. all possible coalitions of states contiguous to opponent are assayed;
2. the combined power of each such potential coalition is estimated;
3. alliance membership bids are directed toward those states in the group which is contiguous to the opponent and which has more combined power and yet is the least powerful of all such proto-coalitions.

If no such coalition exists, the target state takes no action (model moves to 2.c).

The potential allies, i.e., those states contiguous to the opponent which have received alliance bids, make their decisions independently. In other words the decision is made without regard to the choice of other potential allies. This decision is based on the potential ally's own assessment of the estimated power of the proto-coalition in comparison with its estimate of the power of the opponent. Where the proto-coalition is perceived as stronger, the potential ally joins; where it is seen as weaker, the bid is rebuffed and the state stays outside the coalition.

2.c -- Initiator's Rejoinder to Coalition Building on the Part of Target and Associated Activities: Depending upon target's success in building a coalition, initiator acts in the following way:

- a. If target is unsuccessful in acquiring allies, the initiator opts immediately for war;

b. Where the target has constructed an alliance, the initiator first compares its estimated power with that estimated as under control of the target's coalition. If the initiator sees itself as stronger, it opts for war; otherwise it engages in the process of attempting to build its own coalition.

The initiator seeks a coalition based upon the contiguous minimum winning criteria, i.e., the members must be contiguous to the principal opponent of the coalition builder, the assumed power of the coalition is greater than the assumed power of the opponent's coalition, and the assumed power of the coalition is the minimum assumed power of those coalitions that satisfy the first two criteria. If such a coalition is needed and does not exist, the initiator withdraws from the conflict and the dispute is ended. If such a proto-coalition exists, the initiator extends alliance membership bids to the potential members. A state's decision to join or refrain from joining such a coalition is again contingent upon its estimate of the potential success of that coalition. The latter hinges upon the estimated relative power of the two sides. It independently makes the decision to join if the estimated power of the proposed coalition is greater than that of the opponent's. It will independently decide not to join if it estimates the proto-coalition as weaker.

If all states invited to join the coalition of the initiator accept the bids, the initiator opts for war; however, if one or more such invitations are refused, the initiator is in a position of perceived weakness vis-a-vis the target and it opts for a termination of the dispute.

2.d -- Target's Second Round of Coalition Building and Associated Activities: If the initiator has opted for war in 2.c, the target compares its assumed power, or the assumed power of its alliance when such has been constructed in 2.b, against that of the initiator's side. If the target sees its side as more powerful, it refrains from attempting to acquire more allies. Conversely, if it sees its side as weaker, it attempts to expand the size of its coalition. Additional members are selected on the bases described in 2.b. States invited to join the expanded alliance act in the same independent way described in 2.b and 2.c. Their actions conclude this phase of the iteration. The next phase of activity deals with the warring process and outcome.

PHASE 3 -- WAR: DETERMINING THE VICTOR AND DISTRIBUTING THE BENEFITS AND COSTS

As with the second phase, there are four stages to this phase. The first determines the victorious side in the war. In the succeeding stages, the consequences of the war, in terms of costs and benefits, are sorted out. Stage two deals with the determination of war costs confronted by all participants. The succeeding stage focuses on the assessment of indemnities and the fourth and final stage is given over to the processes involved in transferring territorial units.

3.a -- War's Victor: Three general principles are incorporated in the determination of the war's outcome. First, the model represents war as producing a determinant outcome. That is, every war has a victorious and a vanquished side. No immediately inconclusive result is represented as possible. Second, all wars end in the period or iteration in which they began. Third, the identity of the victor and vanquished is stochastically related to the relative capabilities of the two sides. The likelihood of victory for the initiator is expressed as a complex function of the ratio of the initiator coalition's capabilities relative to the target coalition's capabilities. The shape of the curve provided by this function is logistic. The exact shape can be controlled by the value of one parameter. Two examples of the likelihood of victory (*LV*) function, which is an approximation of the following,

$$LV(t) = \frac{1}{\sqrt{\pi\sigma}} \int_{-\infty}^{\ln t} e^{-\left(\frac{x}{\sigma}\right)^2} dx$$

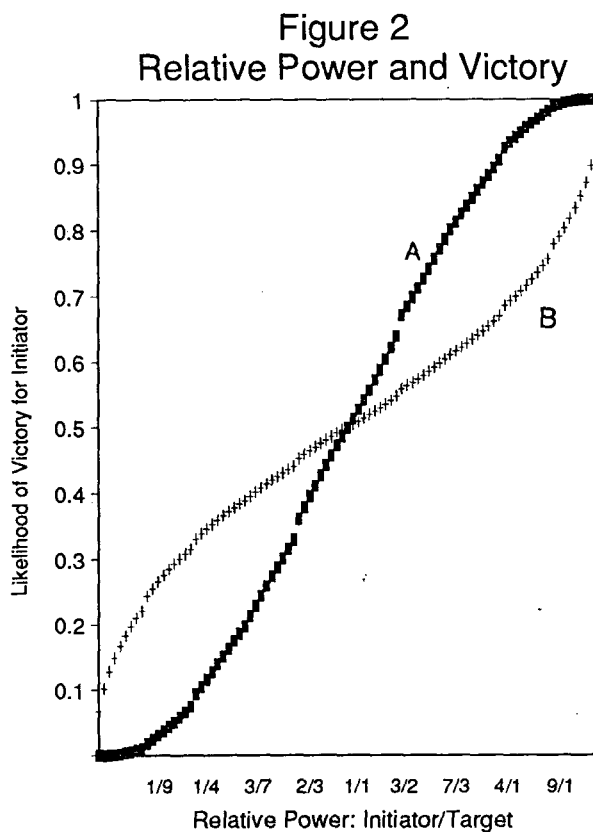
are provided in Figure 2. It should be noted that the higher the value given to the controlling parameter, σ , the flatter is the shape of the curve in the areas where the two sides are nearly equal.

3.b -- Common War Participation Costs: Three principles guide the imputation of common war participation costs. First, all participants in the war bear costs. These costs are paid in the currency of power units. Second, all participants, regardless of whether on the victorious or vanquished side, suffer a decrease in power of equal proportion. Third, the

cost function that confronts each participant contains two principal components: (a) a parameter specifying the maximum proportional war costs, and (b) the relative power of the opposing sides. The function takes the following form:

$$WARCOST_i = \left(1.0 - \frac{(LSR - .5)}{.5} \right) \cdot WARCOST_{max}$$

where LSR is defined as the ratio of the power of the larger side to the sum of the power of both sides in the war and $WARCOST_{max}$ is the maximum proportional cost parameter.



3.c -- Assessment of Spoils (Indemnities): Each actor in the defeated coalition is assessed an indemnity equal to some constant proportion of the power units it possesses. This proportion is meant to reflect the punitiveness of the victor. The total of indemnities

contributed by the defeated states is allocated across the member states of the winning coalition on the basis of the each member's contribution to the total capabilities of the alliance.

$$INDEM_d = reper_i \cdot POW_d$$

$$INDEM_v = \left(\frac{POW_v}{\sum_{v=1}^v POW_v} \right) \cdot \sum_{d=1}^D INDEM_d$$

In addition to the direct transference of power units from the winning to the losing side, a more complicated and potentially more rewarding form of exploitation is provided for in the way of territorial transference from the principal losing state to the victorious coalition.

3.d -- Assessment of Spoils (Territory): Territorial loss occurs only on the part of the "initial" member of the losing coalition. The amount or size of territorial loss, i.e., the distinct pieces of territory lost, is a function of the size of the loser and the "decisiveness" of its loss. The territory taken from the loser is parceled out amongst the members of the winning coalition on the basis of a proportionality rule with respect to the power units of each member of the coalition. Certain constraints restrict the application of this proportionality rule and help to the identity of the pieces of territory that are to be distributed and specify the recipient of any particular territorial unit. Details on the procedure whereby such transference takes place are provided below.

The territories transferred from the defeated to the victorious side are extracted only from the "principal" (i.e., first state involved in the dispute on each side) state of the losing coalition. The "likelihood of victory" (*LV*) function is used to determine the proportion of the loser state's territorial holdings to be transferred. If the victor is the initiating coalition, the proportion of the loser's territories to be surrendered is the *LV* score. If the victor is the target coalition, the proportion is equal to 1.0 minus the *LV* score. The proportion is then multiplied by the number of territories possessed by the loser and the resulting product is rounded to the nearest integer. If, however, the loser possesses only one territorial unit,

possession is transferred and the state is eliminated from the system. States with more than one territorial unit can also be eliminated if the magnitude of their defeat, as reflected in the *LV* score, is sufficiently large.

The territories extracted from the loser must be allocated among the members of the victorious coalition. This is done on a proportional basis with each state's share of the "booty" initially specified as equal to its relative power position within the victorious coalition. With these preliminary shares specified, the selection of territorial units begins. A member of the victorious coalition effectively queues for its allotment on the basis of its relative power standing. Certain related rules are iteratively applied to guide it in its selection of a territorial unit. In choosing its acquisitions, the recipient works on acquiring one territorial unit at a time. With its acquisition selected, the recipient begins to select the next unit it is to receive, or retires from the selection process if it has received its quota.

The first rule allows a recipient to choose only units that are contiguous to itself. If the application of this rule produces one such territory, the unit identified is transferred. Where more than one unit is identified, a second rule is invoked. Here all contiguous territories of the loser are identified and those which if removed from the loser would split the loser into two or more parts are removed from consideration. If one territorial unit of the loser still remains, that unit is transferred. If, however, a list with more than one contiguous unit exists which would not split the loser, the third rule is invoked. As presently implemented, this rule chooses from the list of possible acquisitions the loser's territorial unit that provides the choosing victor with the most compact shape to its overall territorial holdings and, as a secondary consideration, also aims for a compact shape for the remaining holdings of the loser.

One important point should be noted. An effort is made not to split any state. Indeed, the logic of the model does not permit the existence of states with non-contiguous elements. Should, in the application of the rules described above, the situation arise that a victor would be denied its "rightful reward", then, and only then, is the state "broken." With this splitting, the model effectively creates a new state. The old state takes possession of the most powerful agglomeration of territorial units that remains. The new state receives title to the rump grouping.

With the leading, i.e., most powerful state of the victorious coalition finished with its selection of new acquisitions, the selection rights devolve upon the next most powerful and in succession to the weakest in the coalition entitled to acquire "booty." The completion of the rearrangement of the map effectively ends the war phase of the iteration.

PHASE 4: POWER ADJUSTMENT

This is the last phase of each iteration of the model. Herein, the power in each of the territorial units held by the existing states is increased by a percentage factor. The size of this factor is the same across all states. With this updating completed, the model has passed through a full iteration and moves into a new period.

MODEL EXTENSION: INCORPORATING POWER MANAGEMENT STYLES

For this study, the model was reconfigured to allow states to use one of the three alternative power management rules described in the last section. Changes were required in those parts of the model wherein states made decisions to initiate a conflict with another state, in decisions to join in a defensive coalition, and in decisions to join an offensive coalition.

The principal characteristics distinguishing these three types of states are outlined in Table 1. The laissez-faire policy is captured effectively by the decision rules implemented within the original model. Therefore, for states so designated, no modifications were required. For states following balancing and collective security policies, however, the following changes were implemented. States employing balancing strategies were assumed to behave in basically the same way as laissez-faire states with regard to initiating conflicts; however, their policies regarding the joining of coalitions are different. Such states refuse to coalesce with aggressors, i.e., states that initiate conflicts. The calculus with respect to joining a defensive coalition is also different. Whenever a balancer is invited to join such a coalition, it accepts that offer. In effect, it ignores considerations with respect to the short term gains that only motivate laissez-faire states to enter an alliance. States committed to collective security principles reject any opportunity to initiate conflict. In addition, they eschew offers to join in aggressive coalitions and always accept bids to join defensive coalitions.

TABLE 1:
SPECIFICS OF POWER
MANAGEMENT STYLES

	TYPE OF STATE:		
DECISION RULE WITH RESPECT TO:	COLLECTIVE SECURITY	POWER BALANCING	LAISSEZ-FAIRE
INITIATING CONFLICT	<i>NEVER INITIATE</i>	<i>INITIATE WHEN VICTORY LIKELY</i>	<i>INITIATE WHEN VICTORY LIKELY</i>
JOINING AN OFFENSIVE COALITION	<i>NEVER JOIN</i>	<i>NEVER JOIN</i>	<i>JOIN WHEN VICTORY LIKELY</i>
JOINING A DEFENSIVE COALITION	<i>ALWAYS JOIN</i>	<i>ALWAYS JOIN</i>	<i>JOIN WHEN VICTORY LIKELY</i>

EXPERIMENTAL DESIGN

As noted above, two central questions that prompt the research reported here. On the one hand, there is the problem of the relative efficacy of alternative power management styles in promoting system pluralism and preventing the rise of universal empire. On the other hand, there is the practical problem that may attach itself to the use of a particular style when embedded in an environment with other states using alternative power management rules and what this portends for the individual practitioners. Indeed, it may be the case, as often asserted, that an actor behaving in a certain way, call it altruistic, does perform a beneficial social function for the collective but only at the cost of weakening itself.

We will address these two problems using the model described in the previous section. In using the model we will attempt to provide an extensive a set of alternative background conditions within which the questions can be explored. Three fundamental sets of conditions will be varied. In the first instance, the composition of the population of states within the system is systematically altered. Three basic configurations, or panels, of initial population distributions are employed (see Table 2). In the first panel, all three types of power management styles are present in the initial population of the system and the proportions are relatively equal. The second and third panels include only two types of states, one of a relatively selfless type (either collective security oriented, as in panel 2, or power balancing, as in panel 3), and the more self-centered *laissez-faire* type.¹

A second set of conditions was also the source of variation in configuring the experiments. This included parameters governing certain critical structural and policy conditions that can be manipulated within the model. Previous studies (see Cusack and Zimmer, 1989; Cusack and Stoll, 1988) have described the putative importance of these conditions and analyzed their relevance for the two general questions guiding the present research. Four of the five parameters (dealing with (1) the relative dispersion of power at the outset of the system experiment; (2) the range of error within which decision makers operate when estimating power capabilities; (3) the restraint practiced by victors when dealing with defeated states; and (4) the destructiveness of war) have been varied so as to take on low,

¹Note that another configuration was explored. This was one where the population was divided equally between collective security and power balancing types. All of these experimental systems proved to be profoundly peaceful. Given the rules that these states employ, disputes were possible and did occur frequently but no aggressor was ever in the position of achieving a sufficiently favorable relative power position within a dispute. Thus, no disputes escalated to war and as a consequence, no states were destroyed through the 1500th iteration, the arbitrary time limit placed on all the experiments reported on in this study.

medium and high values (see Table 3). A fifth parameter, dealing with the shape of the likelihood of victory curve, was also varied but only so as to take on either a low or a high value (the former produces a steeper curve while the latter a flatter one within the region where the relative power ratio in a war approaches parity).

TABLE 2:
INITIAL DISTRIBUTION OF POWER MANAGEMENT STYLES
ACROSS THE THREE PANELS

PANELS:	NUMBER OF STATES AT START		
	COLLECTIVE SECURITY	POWER BALANCING	LAISSEZ-FAIRE
I	33	32	33
II	49	0	49
III	0	49	49

TABLE 3:
ALTERNATIVE VALUES FOR
EXPERIMENTAL FACTORS

EXPERIMENTAL FACTOR:	ALT. 1	ALT. 2	ALT. 3
POWER DISTRIBUTION	10	25	50
RESTRAINT	.05	.10	.25
ERROR	5	10	25
DESTRUCTIVENESS OF WAR	.02	.05	.10
LIKELIHOOD OF VICTORY	1	3	NA

The third source of variation centers on the stochastic elements of the model. Each of the experimental runs was repeated three times with each repetition varying solely on the basis of a different setting of the "seed" used by the pseudo random number generator within the model.

To summarize, there are three panels with different initial distributions of the system population endowed with alternative power management styles. Within each panel, different experiments were conducted by systematically varying five model parameters and these in turn were repeated within the context of altering the "seed" value for the random number generator. In any panel, then, 486 separate experiments were conducted. Thus, in all, 1458 experiments were undertaken with the model for this study.

EXPERIMENTAL RESULTS

SYSTEM ENDURANCE

In some earlier studies with the model (e.g., Stoll, 1985, 1987; Cusack and Zimmer, 1989; Cusack and Stoll, 1988) the system exhibited a marked tendency toward breakdown and the emergence of a universal empire (this transpired in more than 90 percent of the experiments). These studies shared the common characteristic of representing all states in the system as employing a *laissez-faire* management style. Across the experiments conducted here, varying proportions of the system's population was initialized with such a style and the remainder with one or both of the other two (i.e., balancing and collective security). As a consequence, results in terms of system endurance are in distinct contrast with the earlier studies. Across all of the experiments conducted for this study, a universal empire emerged with far less frequency (less than 22 percent of the cases). There was, additionally, significant variation across the three panels or sets of experiments in terms of this outcome (see Table 4).

The second panel, which initially populated the system with equal proportions of states using collective security and *laissez-faire* power management styles, achieved the highest rate of success in preserving some degree of pluralism. Less than six percent of the experimental systems within this panel degenerated into universal empire. The success rate of the first panel, which incorporated approximately equal numbers of states with the three different management styles, rivals the second with less than nine percent of the systems failing to endure. The panel with the worst performance, the third, included equal sized subpopulations of states employing balancing and *laissez-faire* rules; more than 50 percent of the experimental runs in this panel culminated in universal empire.

TABLE 4:
RELATIVE FREQUENCIES WITH WHICH
UNIVERSAL EMPIRES EMERGED

PANELS:	PERCENTAGE OF RUNS THAT CULMINATED IN EMPIRE PRIOR TO 1500th ITERATION
PANEL I	8.8%
PANEL II	5.6%
PANEL III	51.2%
ALL	21.9%

STATE SURVIVAL

Although the second panel had only marginally better performance than the first in terms of preventing the rise of hegemony, the situation with respect to the relative prospects for state survival between the two is significantly different (see Tables 5 and 6). Over the length of the average run, a gap widens in terms of the chances of survival between these two panels so that by iteration 1500 the survival chances of a state are approximately 49 percent within the second panel and only 37 percent in the first. Both panels, however, provided far and away more conducive environments than the third, i.e., the one lacking any states committed to collective security principles. Here, even by iteration 100, survival chances are markedly lower than those that obtained in the other two panels (65 percent to about 82 percent) and worsen significantly by the 300th iteration where chances for survival diminish to about 23 percent. By the 1500th iteration they have sunk to an average of 4 percent in this environment.

TABLE 5: NUMBERS OF STATES SURVIVING

	AVERAGE NUMBER OF STATES AT ITERATION:					
PANELS:	0	100	300	500	1000	1500
I	98	80.32	58.42	47.05	38.47	36.69
II	98	80.56	62.33	53.88	48.67	47.63
III	98	63.92	22.15	7.87	4.08	3.99

TABLE 6: OVERALL SURVIVAL RATES ACROSS PANELS

	SURVIVAL CHANCES AT ITERATION:				
PANELS:	100	300	500	1000	1500
I	81.96	59.61	48.01	39.26	37.44
II	82.21	63.61	54.98	49.66	48.60
III	65.22	22.60	8.03	4.17	4.07

The results at both the system and state level tend to reinforce one another in leading to the conclusion that the selfless power management style of collective security is beneficial for the whole system. But are its practitioners merely misguided agents helping the cause of others and suffering in the process or do they also individually gain? Table 7 provides some information on this question. Here one can see that the survival chances of a state practicing collective security principles are generally twice as great as those of a state employing any other style. Within an environment where all three management styles was practiced, states committed to collective security had a survival rate of nearly 58 percent while power balancers achieved only 27 percent and laissez-faire states 28 percent. In the environment where collective security states were confronted with only one other type of state, laissez-faire, the former's chances of survival were even greater (64 percent) and the relative success rate equally high (64 versus 33 percent for the laissez-faire states). As noted above, there was no significant difference in the survival chances of power balancers and laissez-faire states in the first panel and this similarity is repeated in panel 3. Both types of states, however, clearly benefited by being embedded within an environment shared by collective security states.

TABLE 7: SURVIVAL RATES FOR THE
DIFFERENT TYPES OF STATES

PANELS:	AVERAGE NUMBER OF STATES AT END (SURVIVAL RATES IN PARENTHESES)		
	COLLECTIVE SECURITY	POWER BALANC- ING	LAISSEZ-FAIRE
I	18.98 (57.52)	8.69 (27.16)	9.11 (27.61)
II	31.40 (64.08)	NA	16.21 (35.08)
III	NA	2.34 (4.78)	2.16 (4.41)

Even in terms of relative power standings, collective security oriented states appear to be at advantage (see Table 8). On average, within the first panel they possess about 66 percent of the system-wide power by the end of the runs. This compares quite favorably with the limited achievement made by the other two types where each held approximately 17 percent. Per state, this translates into a relatively advantageous position for the average practitioner of collective security. It would possess about 3.5 percent of system power while the average state in each of the other classes would have less than 60 percent of that share. In the second panel where collective security oriented and laissez-faire states combine to form the entire system population, the advantage is again significantly on the side of the former. They possess, on average, 75 percent of the power by the end of the experiments -- which means that the average collective security state held a share of 2.4 percent relative to the 1.5 percent held by the average practitioner of laissez-faire. In the third panel, a marginally better position is achieved by the practitioners of power balancing. They held an individual average of 23 percent while the practitioners of laissez-faire held 21 percent.

TABLE 8: POWER HOLDINGS BY THE
DIFFERENT TYPES OF STATES

PANELS:	AVERAGE PROPORTION OF POWER AT END		
	COLLECTIVE SECURITY	POWER BALANCING	LAISSEZ-FAIRE
I	65.70	17.43	16.88
II	75.37	NA	24.63
III	NA	54.66	45.34

In the limited number of cases where the system evolved into a universal empire, how did the various types of states do in terms of their chances at achieving control of that empire? In this regard, collective security states are at a distinct disadvantage (see Table 9). There is not one instance where they succeeded to universal dominance. This role was reserved for power balancers and practitioners of laissez-faire policies. Between these two types of states only small differences in success at universal empire creation are evident. In the first panel, their success rates are practically equal (4.3 vs. 4.5 percent). In the third panel the power balancers did marginally better with one of their kind creating a universal empire in about 29 percent of the systems while practitioners of laissez-faire policies did this in about 23 percent of the systems.

TABLE 9: BUILDERS OF UNIVERSAL EMPIRES

PANELS:	TYPE OF STATE CONTROLLING UNIVERSAL EMPIRE		
	COLLECTIVE SECURITY	POWER BALANCING	LAISSEZ-FAIRE
PANEL I (43 UNIVERSAL EMPIRES)	0 (0%)	21 (4.3%)	22 (4.5%)
PANEL II (27 UNIVERSAL EMPIRES)	0 (0%)	NA	27 (5.5%)
PANEL III (249 UNIVERSAL EMPIRES)	NA	139 (28.6%)	110 (22.6%)
ALL PANELS (319 UNIVERSAL EMPIRES)	0 (0%)	160 (11.0%)	159 (10.9%)
	Note that percentage figures given in parentheses represent the proportion of system opportunities within the panel that a state of this type managed to create a universal empire.		

CONCLUSION

The preservation of system pluralism and the enhancement of a state's survival chances long have been of central concern to practitioners and scholars of international politics. During the twentieth century, two dominant schools of thought have come to the fore in articulating radically different power management styles within international politics for dealing with both of these problems. The Realists have advocated policies of selfish aggrandizement in the belief that these not only ensure the survival of the state but will, as in the stylized logics of the market mechanism, also preserve the pluralist character of the system. Idealists and others have rejected these practices, arguing that they are inefficacious at best, and counter-productive at worst.

Generally associated with the Idealist school, an alternative scheme for power management practices on the part of states, collective security, has been advanced. Its principle elements include the standard logic of deterrence, found in Realism, as well as the renunciation of aggression and the commitment to opposing aggression on the part of others. The Realists have levelled a strong attack against this latter principle. They have argued that for collective security to work, a universal commitment to the latter principle is required and that this is an extraordinarily unlikely situation. In the absence of universality, they conclude that collective security must fail. Its failure will manifest itself in the inability to stop hegemonic drives and in the costs that will be inflicted upon those states that misguidedly practice it in a less than ideal world.

Using a computer simulation model of a stylized multistate system an effort has been made to evaluate three different types of power management styles. Two of these styles have emerged from Realist thought and represent alternative formulations of balance of power policies. The third derives from an alternative tradition and takes the form of collective security policies. Drawing on an extensive number of experiments with the computer simulation model, our analysis has concentrated on the two questions of system endurance and state survival and particular attention has been given to the relative efficacy of these alternative power management styles.

What clearly emerges from the simulation experiments is the relative vitality of the collective security power management style. The presence of states committed to collective security, even when in a distinct minority, greatly enhances the likelihood that the system will retain its pluralistic character. Compared with the two other power management styles,

collective security is at the individual level a far more rewarding strategy. It greatly enhances state survival chances and it improves the performance of states in terms of the relative power position they achieve.

All of this suggests that the Realist attack on collective security, particularly in terms of the criticism of the universal principle, is incorrect. Far from undermining system pluralism, collective security does better than the two styles traditionally endorsed by the Realists in preserving pluralism and maximizing the size of the system over time. What is more, for the individual practitioner, the average gain, in terms of both survival chances and relative power accretion is far greater. And while universal imperium seems out of the reach of the practitioners of collective security, so is it for practically all the practitioners of power balancing and laissez-faire policies. In sum, collective security may be uncomfortable to policy-makers and perhaps Realists have been too eager to provide the intellectual justification needed to reject it while at the same time insufficiently attentive to the efficacy of collective security in promoting the values that Realists place on the altar of international politics.

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