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A Framework for Exploring Escalation Control

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PREFACE

Every international political-military crisis is unique and so, to some extent, are the problems and possibilities of controlling it. There are some very good reasons, however, for attempting to characterize specific crises in a way that permits an orderly study of alternative steps in a given crisis and some kinds of rough comparisons among crises. One such reason is to predict the utility of actual or proposed weapons systems. Another is to understand some features of crisis management--for example, the exploration of escalatory steps--so that recurrent stopping places short of mutual suicide may be identified.

This report outlines some exploratory efforts in such a characterization of crises with particular focus on the elements of escalation. The object is to define the various ways escalation can occur so that an orderly examination of alternative actions is possible.

No pretense is made that the results described here are comprehensive and complete. Some features of crisis escalation are omitted simply because no way is known to include them in the categorization system. Other features, such as the uncertainties faced and assumptions made in dealing with certain elements--and these can be both numerous and important--are candidates for further study and perhaps, ultimately, more sophisticated handling. For the moment, they are dealt with in a most simplistic way, reflecting subjective judgments, and are manipulated with obvious logical improprieties. The results, however, are believed to be of value for analysis in that they tend roughly to coincide with the usual comparisons among crises made using less structured methods.

The work that has led to this report has been supported by The Rand Corporation in the belief that a scheme for categorizing elements of escalation would be useful to a variety of agencies interested in national security affairs.

This analysis is published in its current incomplete form as a contribution to a variety of studies of crisis management, military force posture problems, and weapons systems effectiveness. Some of

these studies are currently in progress at Rand and in governmental and academic agencies. The report should be of interest to such agencies.

SUMMARY

Every historical and postulated future crisis is unique, but any study of the military organizational and force posture requirements generated by international political-military confrontations and conflicts calls for a method of categorizing crisis so that differences can be "measured." The ability of a proposed U.S. military force posture to readily influence a crisis situation can be a useful criterion for comparing alternatives if a system can be devised to reflect the differences.

This report outlines an exploratory effort directed toward such a system. It attempts, in an admittedly partial and methodologically unsophisticated way, to focus on the interactions--the levels of tension--that develop between the United States and the Soviet Union in crises. The approach used is to view a crisis as a system that is subject to change by the actions of either or both superpowers and in some cases by third parties. The system involves the identification of the kinds of political and military moves a superpower can make in crises and the depiction of these in a series of ordinally arranged matrices. The numbers in the cells are modified to reflect the writer's subjective judgment of the comparative weights of the "move" possibilities. These modified ordinals are then used as cardinal numbers by referring to the various matrices to typify the stage of a particular crisis (historical or postulated). They are added to arrive at a crude indicator of the level of tension between the two superpowers. This is an admittedly crude step, justified only as a part of an exploratory effort.

A second notion reflecting the tendency of tension to decrease if no major changes are made is built into the method. The idea is that, barring major moves and system changes, the level of tension during a crisis will diminish in an exponential manner similar to the decay rate of radioactivity in radioactive material. For illustrative purposes the half life figure of 14 days is used.

The technique was applied to examine the level of tension between the United States and the USSR during the Yom Kippur War: from 46 before the war through 123 on 6 October 1973 to 155 on 16 October 1973. The Soviet threat to move combat units into the area was a threat to move the level up to 181, and the U.S. counterthreat promised to move up to 251. These numbers, drawn from a series in which 373 is the maximum possible, represented a level unacceptable to the USSR.

The system, with its many admitted faults, does provide a basis for a crude crisis rating scheme and points the way toward further study and development. A large number of important unknowns must be dealt with by assumptions, and a method for their explicit treatment is to be explored. Similarly, the consequences of different ratings by the two opponents and, for that matter, by different organizations in one nation should be explored. This guide to further exploration alone has made the present work worthwhile.

ACKNOWLEDGMENTS

The helpful comments and well-deserved criticisms of Jan P. Acton, Louis E. Catlett, and Paul Berman are gratefully acknowledged. Naturally any errors or omissions are the responsibility of the writer.

CONTENTS

PREFACE	iii
SUMMARY	v
ACKNOWLEDGMENTS	vii
Section	
I. INTRODUCTION	1
II. SOME ELEMENTS OF CRISIS OPERATIONS: A CHECKLIST OF WEIGHTED DESIGNATORS	5
III. ESCALATION CONTROL: TIME AND TENSION	22
IV. SOME ILLUSTRATIVE EXAMPLES OF CRISIS ANALYSIS	24
V. IN CRITIQUE	28

I. INTRODUCTION

A major factor in the study of management of international political-military crises, especially those generally recognized as being most intense, is the interaction between the two nuclear superpowers, the United States and the Soviet Union. In third area confrontations and conflicts this interaction can be of somewhat lesser importance, but if the crisis escalates to encompass important superpower national interests, this interaction can become dominant. It follows that an important descriptor of the process of escalation and de-escalation during a crisis is the history of the tension between the United States and the Soviet Union, and most superpower actions in crisis can be examined in this light. Actions taken by either or both with a view toward influencing crises outcomes, while their main motivations may be directed toward a local situation, can be evaluated in terms of their trending toward a superpower confrontation or the escalation of a confrontation in progress.

It is important to examine such crisis interaction as a system. Neither superpower is likely to have complete freedom of action and neither is in complete control. Indeed, in cases where third parties are involved, even in the unlikely event of the two superpowers working in perfect coordination they still would not have complete control of the system.

In the sections following, a partial system of the crisis arena in which the superpowers interact is developed and illustrated. In the main the competitive aspects of their interactions are emphasized; and although declaratory policies are allowed for, direct coordinating communications between the superpowers are not. The geopolitical aspects and military "moves" are highlighted in terms of what they mean for escalation or de-escalation.

There are a number of logical weaknesses and problems associated with a system that attempts to assess the escalatory or de-escalatory connotations of great power actions in crises. It is often possible to rate a move in terms of its quality, but quantitative measures--such

as the size of a military force committed--that can have important effects on local outcomes are harder to categorize, and at this juncture are generally ignored.

The format followed below depicts elements of superpower involvements in crises in terms of qualitatively symmetrical matrices. The cells in each matrix are so arranged that the lower right-hand cell is the usually accepted least escalatory combination of U.S. and SU actions, and the upper left-hand cell is the most escalatory combination. There is no readily available means for objectively deriving the values to be placed in the cells. Given this difficulty the following simple scheme has been adopted. For cases where the crisis is classed as a political confrontation--that is, imminent military combat is threatened but not in progress--a minimum value (1 or 0) has been inserted in the lower right-hand cell. The right-hand column is then numbered consecutively upward and the symmetrical bottom row numbered from right to left. The cell that is formed by the next column and the next row is then numbered one digit higher than the maximum or far right column and the bottom row. The numerical interval thus established is used to determine the progressive values to be inserted in the rest of the diagonal cells leading from lower right to upper left. The issue of U.S. or Soviet provision of *nuclear* weapons to combatants is potentially inordinately important, so the basic scheme is altered so that the range of values duplicates the range of values in the matrix covering the location of the threatened conflict. This range peaks with the imminent threat of attack on the homelands of both superpowers. Because of the generally accepted notion that conflict situations produce more tension than political confrontations, the values in the matrices representing crises in which military combat is in progress have been set at double those of their non-conflict counterparts.

This quite arbitrary numbering system has been introduced as a part of an experimental test of a system for describing specific crises over time. The motivation for the test is simple. Escalation control--crisis management as a research subject--calls for a way of metering and comparing crises, escalation levels, the tension-inducing potential of possible moves, and so on.

There are certain obvious weaknesses and problems with the scheme in its current state. The array of numbers in most of the matrices are suggestive of ordinal numbers (and, in fact, the column and row designators were arranged with this in mind). In reality, however, they have some attributes of cardinal numbers and are so used (see below). This raises the following problems:

(1) There is no provable logic behind the assumption of symmetry (although the row and column designators were selected with a need for approximate symmetry in mind).

(2) There is no certainty that the U.S. and the USSR (or anyone else) would agree with each other in the degree of tension potential they attach to different moves. One of the most important lessons of Vietnam may be that we do not necessarily have the same value function as our adversaries, even ordinally.

(3) To add up different dimensions of a crisis so as to have an aggregate indicator requires a cardinal scale. This is a difficult, perhaps impossible, requirement, especially since the "values" in one matrix are not independent of those in others.

In the matrices given below, with one exception ordinal numbers are inserted into the cells representing the elements of political confrontation. The exception involves the case where the use of nuclear weapons is threatened and the cell numbers are quite arbitrarily multiplied by five. The numbers in the cells for military combat are again quite arbitrarily set at double those of their political confrontation equivalents.

(4) Some elements of crisis operations possibilities have to be omitted because it is impossible to make a subjective development of a matrix of indicators of escalatory weight. In some cases it is impossible even to describe a matrix of ordinal numbers. For example, deliberately opted for conflict on or over land, in or over international waters, or in space would each seem to have differing escalatory, tension-producing characteristics. It may be impossible in isolation to state which is more escalatory and which is least. This is the logical interrelationship problem noted in (3) above.

In spite of these recognized weaknesses and expected difficulties, the approach introduced here has been pursued below. The hoped for objective was to explore the efficacy of such a scheme as an analytical tool or, at a minimum, to provide an orderly context for exploring additional problems. This latter objective has certainly been achieved and a move has been made toward the former.

II. SOME ELEMENTS OF CRISIS OPERATIONS: A
CHECKLIST OF WEIGHTED DESIGNATORS

Perhaps it is best to initiate this discussion with a reminder of the focus being used and some observations about important elements that have been omitted. The focus of this work is on the interaction of the two superpowers in a political-military crisis. The moves (mostly physical-military) they can make are rated in terms of their escalatory or de-escalatory potential. The object is to attempt by this means to analyze the history of crises.

Although this special focus allows for a consistent treatment of crises up to and including a general nuclear war between the United States and the Soviet Union, it omits or distorts certain other important elements of crisis operations. In third area crises, where the superpower interests involved are mutually recognized as being considerably less than vital, the moves made by the superpowers are likely to be in part directed toward altering the local situation.* The effect of the move on the subsequent relationships between the two superpowers is usually a somewhat lesser consideration. Rating such moves on a scale of intersuperpower tension introduces an obvious bias. A second element that has been slighted is the role of verbal communications in crises and crisis resolution. This is a very complex subject involving overt and covert channels, the effects of having (perhaps unintentionally) multiple audiences, the role of disinformation and cover stories, and the like. Little has been done to formalize these elements, and perhaps more will be done in the future.

The overview of a crisis adopted here involves inspecting each superpower's positions and moves as they alter the crisis tension. The term "crisis" will not be defined here except to note that the exclusive interest of this work is on the area of political-military crises--situations in which military conflict is in progress or

* In political-military crises involving third or nth parties, these other actors can make moves on their own that affect the level of tension between the two superpowers.

imminently threatening. In dealing with this subject it becomes important to differentiate between intense political confrontations and military conflicts. There is a significant difference in the escalatory or de-escalatory "meanings" of superpower moves in political confrontations with their threat of combat initiation and those taken when military combat is in progress. A separate treatment of the elements of escalation control for each of these two crisis conditions is used below.

The numbers in the matrices are not the result of an extensive derivative process. Rather, as previously noted, they are basically ordinal numbers (from lower right to upper left) with some modifications to reflect a personal and gross judgment about the relative importance of the various matrices. Although there is a variety of more complex coding schemes, and they are perhaps useful for their designed purpose, the rough scaling of crisis elements in a system that contains both superpowers does not require such sophistication.

The major significant elements (for assessing superpower tensions) of political confrontations in which there is an imminent threat of military conflict are (1) the political nearness of the direct participants to the superpowers, (2) the geopolitical arena in which the threatened conflict would probably occur, (3) the role and depth of involvement of superpower military personnel, (4) the kinds of armaments and intelligence assistance being provided by the superpowers and the declaratory policies of the two. The same elements (less the threat element of declaratory policies) are significant in cases of military conflict, and three additional elements are worth treating: the characteristics of the weapons provided or used by the superpowers, the kinds of targets being attacked, and the declaratory policy of the superpowers concerning the presence and degree of involvement of their military personnel in the conflict.* The matrix of direct participants given in Fig. 1 arrays the geopolitical categories (and the cell designators)

*The size of the possible superpower military force commitment and the probability of imminent military victory by one side or the other (not necessarily related) are admittedly important elements untreated here because of a lack of an orderly framework for such analyses.

	Soviet Union	Major Soviet Alliance	Soviet Ally	Soviet Client	Neutral
United States	21	17	13	9	5
Major U.S. Alliance	17	16	12	8	4
U.S. Ally	13	12	11	7	3
U.S. Client	9	8	7	6	2
Neutral	5	4	3	2	1

Fig. 1 — Direct participants in political confrontation

in a symmetrical scale from neutral, superpower client, superpower ally, a superpower major alliance, and the superpower itself. In this scheme a *neutral* is a nation that has no well-recognized political connection, implicit or explicit, with a superpower. A *client* is a nation that relies on one of the superpowers for military equipments supplies (which may be purchases) and consistent political support in international diplomatic operations. A superpower *ally* is a nation that can expect to receive direct military combat assistance from the superpower if it is attacked. For our purposes this term is used to indicate a bilateral treaty arrangement. The *major alliance* designation is reserved for the multilateral alliances of the Warsaw Pact and NATO.

Figures 2 and 3 use the same geopolitical categories to define the arena of the conflict threatened in the intense political confrontation. The scheme used here "rates" the intensity of intersuperpower tension on a scale that increases the escalatory potential as the threatened combat arena moves (politically) toward the homelands of the superpowers themselves. In Fig. 2 the term "relevant military forces" is used to designate the geopolitical categories of the military forces whose use in combat is threatened.

	Soviet Union	Major Soviet Alliance	Soviet Ally	Soviet Client	Neutral
United States	21	17	13	9	5
Major U.S. Alliance	17	16	12	8	4
U.S. Ally	13	12	11	7	3
U.S. Client	9	8	7	6	2
Neutral	5	4	3	2	1

Fig. 2 — Location of relevant military forces of participants in political confrontation

	Soviet Union	Major S.U. Alliance	S.U. Ally	S.U. Client	Neutral	None
United States	30	25	20	15	10	5
Major U.S. Alliance	25	24	19	14	9	4
U.S. Ally	20	19	18	13	8	3
U.S. Client	15	14	13	12	7	2
Neutral	10	9	8	7	6	1
None	5	4	3	2	1	0

Fig. 3 — Probable locale of threatened conflict in political confrontation

Figure 4 arrays the categories of possible superpower military involvement from none to full combat operations. The scheme ranks this military personnel commitment in a scale of increasing superpower escalatory potential in such a way that technical advisors (a military function that often accompanies a transfer of superpower armaments to a client or ally) as producing less tension than the deployment of combat advisors (which "move" invites casualties and initiates bureaucratic-institutional pressures for deeper involvement). The deployment of superpower defensive units (such as the Soviet air defense units deployed to the Nile Delta after the Six-Day War) is rated as producing more tension than deployed combat advisors but less than the deployment of offensive-capable units. The latter move implies a possible participation of the superpower in an attack on its client's or ally's enemy.

Figures 5, 6, 7, and 8 deal with the tension potential (between the two superpowers) of the armaments present in the crisis arena. Figure 5 echos the difference between offense capable armaments and defense capable armaments noted before in Fig. 4--the deployed superpower military units. Figure 6 categorizes the condition of the armaments in terms of their production date. A superpower's transfer of

		Soviet Forces				
		Deployed Offensive and Defensive Units	Deployed Defense Units	Combat Advisors	Technical Advisors	None
U.S. Forces	Deployed Offensive and Defensive Units	21	17	13	9	5
	Deployed Defensive Units	17	16	12	8	4
	Combat Advisors	13	12	11	7	3
	Technical Advisors	9	8	7	6	2
	None	5	4	3	2	1

Fig. 4 — Role of superpower military personnel in political confrontation

		Soviet Provided		
		Offense and Defense Capable	Defense Capable	None
U.S. Provided	Offense and Defense Capable	7	5	3
	Defense Capable	5	4	2
	None	3	2	1

Fig. 5 — Armaments present in the crisis area in political confrontation: operational capabilities

		Soviet Provided		
		Modern	Obsolescent	None
U.S. Provided	Modern	7	5	3
	Obsolescent	5	4	2
	None	3	2	1

Fig. 6 — Armaments present in the crisis area in political confrontation: condition

its "first line" armaments to a client or ally implies a deeper degree of commitment to the client's or ally's cause than is the case when "second line," "used" armaments are transferred. The Soviet provision of the SA-6 system to the Arabs, in this rating scheme, implied a greater commitment to their cause than did their providing the SA-2 system.

Figure 7, rating the warhead types in the arena, reflects the tension-producing, crisis-escalating potential of nuclear weapons. It is obvious that the long-range nuclear weapons delivery system of the superpowers (and their "salt water" systems) makes nuclear warheads more or less readily available to their deployed military units anywhere, but this matrix imputes a high tension potential to the deployment of nuclear warheads to the combat arena itself.

Figure 8 rates the terms under which the two superpowers may provide arms to their clients or allies (or issue them to their own forces). A direct gift of armaments implies a deeper superpower commitment to the cause of its client or ally than would a sale under favorable terms, which, in turn, implies a deeper commitment than would a sale at open market prices.

Figure 9 rates the commitment of the two superpowers in terms of the quality of intelligence information provided to their clients or allies. Time-critical tactical information is ranked as being more committing than strategic or no information. Naturally, if a superpower is a direct participant, the ranking is automatically tactical-time-critical.

A superpower's declarations (or silence) concerning its military deployments during an intense crisis is an important indication of its strength of commitment to its position or to that of its client or ally. It is politically less damaging to withdraw military units if their presence had never been admitted than if their presence had been announced. Figure 10 reflects this difference; similarly with the use of threats. If a superpower publicly declares its (contingent) decision to take some military action it is more difficult for it to avoid the threatened move than if its threat had been made privately to the other superpower alone. The easiest move to avoid is, naturally, the one that has never been threatened verbally. Figure 11 reflects this ranking.

		Soviet Provided		
		Nuclear and Conventional	Conventional	None
U.S. Provided	Nuclear and Conventional	30	20	10
	Conventional	20	15	5
	None	10	5	0

Fig. 7 — Armament present in the crisis area in political confrontation: warhead types

		Soviet (or Soviet Allied) Provided			
		Direct Gift or Issue	Purchase or Barter Favorable Terms	Purchase or Barter Open Market Prices	None
U.S. Provided	Direct Gift or Issue	13	10	7	4
	Purchase or Barter Favorable Terms	10	9	6	3
	Purchase or Barter Open Market Prices	7	6	5	2
	None	4	3	2	1

Fig. 8 — Armament present in the crisis area in political confrontation: terms of arms transfer

		Soviet Provided		
		Tactical (Time Critical)	Strategic	None
U.S. Provided	Tactical (Time Critical)	7	5	3
	Strategic	5	4	2
	None	3	2	1

Fig. 9 — Superpower military intelligence activity in political confrontation

		Soviet Union		
		Publicly Announced	Not Publicly Announced	None Present
United States	Publicly Announced	6	4	2
	Not Publicly Admitted	4	3	1
	None Present	2	1	0

Fig. 10 — Superpower declaratory policy military presence in political confrontation

		Soviet Union		
		Publicly Threatens	Privately Threatens (to US only)	No Verbal Threats
United States	Publicly Threatens	6	4	2
	Privately Threatens (to SU only)	4	3	1
	No Threats	2	1	0

Fig. 11 — Verbal threats of military action in political confrontation

Superpower involvement in a crisis that includes military combat is, in the ranking scheme, potentially much more serious than involvement in a political confrontation. This judgment is based on an often observed phenomenon: Organizational (institutional) inertia, when the objective crisis situation is political confrontation, is basically static. If, however, the objective crisis situation is military conflict, the organizations of both the superpower and its client or ally are likely to be in a phase of major activity. The organizational, institutional inertial forces become dynamic and automatically generate pressures toward ever-increasing, escalatory involvement. A change in the course of action becomes politically difficult. This difference is reflected in Figs. 12-18 and 21-24. These figures are directly comparable to their counterparts in political confrontations. To reflect the more escalatory situation noted above, the numbers in these matrices are set as double those of their political confrontation counterparts. Figure 19 deals with the question of whether the weapons systems being used are manned or not in the combat area. Manned vehicles have a characteristic of greater institutional involvements and the politically

	Soviet Union	Major Soviet Alliance	Soviet Ally	Soviet Client	Neutral
United States	42	34	26	18	10
Major U.S. Alliance	34	32	24	16	8
U.S. Ally	26	24	22	14	6
U.S. Client	18	16	14	12	4
Neutral	10	8	6	4	2

Fig. 12 — Direct participants in military conflict

	Soviet Union	Major Soviet Alliance	Soviet Ally	Soviet Client	Neutral
United States	42	34	26	18	10
Major U.S. Alliance	34	32	24	16	8
U.S. Ally	26	24	22	14	6
U.S. Client	18	16	14	12	4
Neutral	10	8	6	4	2

Fig. 13 — Operational base areas of involved forces in military conflict

	Soviet Union	Major Soviet Alliance	Soviet Ally	Soviet Client	Neutral	None
United States	60	50	40	30	20	10
Major U.S. Alliance	50	48	38	28	18	8
U.S. Ally	40	38	36	26	16	6
U.S. Client	30	28	26	24	14	4
Neutral	20	18	16	14	12	2
None	10	8	6	4	2	

Fig. 14 — Location of conflict in progress in military conflict

forcing phenomenon of casualties and they are judged to be more escalatory than unmanned vehicles.

The escalatory effects of various targeting policies are covered in Fig. 20. In general, an unrestricted targeting policy that exposes civilians to casualties and nonmilitary facilities to extensive damage is rated more escalatory than policies that avoid civil damage and casualties. Although this matrix is most readily applicable to air operations it can and should be used to rate ground campaigns. The Yom Kippur battles in the Sinai, for example, avoided civil casualties since there are few if any civilians residing in the desert. The battles in Syria, however, were unavoidably producers of civil casualties and damage. Because it is not always so evident to the recipient nation (and the opposing superpower) just which targeting policy is being used, the ratings in the matrix cells of this chart are deliberately set to a lower base than those of the other military conflict matrices.

		Deployed Offense and Defense Units	Deployed Defense Units	Combat Advisors	Technical Trainers	None
United States	Deployed Offense and Defense Units	42	34	26	18	10
	Deployed Defense Units	34	32	24	16	8
	Combat Advisors	26	24	22	14	6
	Technical Trainers	18	16	14	12	4
	None	10	8	6	4	2

Fig. 15 — Role of superpower military personnel in military conflict

		Soviet Provided		
		Offense and Defense Capable Weapons	Defense Capable Weapons Only	None
U.S. Provided	Offense and Defense Capable Weapons	14	10	6
	Defense Capable Weapons Only	10	8	4
	None	6	4	2

Fig. 16 — Armaments being used in military conflict: operational capabilities

		Soviet Provided		
		Modern	Obsolescent	None
U.S. Provided	Modern	14	10	6
	Obsolescent	10	8	4
	None	6	4	2

Fig. 17 — Armaments being employed in military conflict:
condition

		Soviet Provided		
		Nuclear	Nonnuclear	None
U.S. Provided	Nuclear	60	40	20
	Nonnuclear	40	30	10
	None	20	10	0

Fig. 18 — Armaments being employed in military conflict:
warheads

		Soviet Provided		
		Manned (in Combat Area)	Unmanned (in Combat Area)	None
U.S. Provided	Manned (in Combat Area)	14	10	6
	Unmanned (in Combat Area)	10	8	4
	None	6	4	2

Fig. 19 — Armaments being employed in military conflict:
weapons characteristics

		Soviet Provided Weapons				
		Counter Value Counter Civilian	Counter Value Civil Casualty Avoiding	Counter Military No Civil Avoidance	Counter Military Civil Avoidance	None
U.S. Provided Weapons	Counter Value Counter Civilian	21	17	13	9	5
	Counter Value Civil Casualty Avoidance	17	16	12	8	4
	Counter Value No Civil Avoidance	13	12	11	7	3
	Counter Military Civil Avoidance	9	8	7	6	2
	None	5	4	3	2	1

Fig. 20 — Armaments being employed in military conflict:
targeting

		Soviet Provided			
		Direct Gift (or Issue)	Purchase (Favorable Terms)	Purchase (Open Market Terms)	None
U.S. Provided	Direct Gift (or Issue)	26	20	14	8
	Purchase (Favorable Terms)	20	18	12	6
	Purchase (Open Market Terms)	14	12	10	4
	None	8	6	4	2

Fig. 21 — Armaments being employed in military conflict:
terms of transfer of arms being used

		Soviet Provided		
		Tactical (Time Critical)	Strategic	None
U.S. Provided	Tactical (Time Urgent)	14	10	6
	Strategic	10	8	4
	None	6	4	2

Fig. 22 — Military Intelligence activity in military conflict

		Soviet Union		
		Publicly Admitted	Not Publicly Admitted	None Present
United States	Publicly Admitted	12	8	4
	Not Publicly Admitted	8	6	2
	None Present	4	2	0

Fig. 23 — Superpower declaratory policy in military conflict:
military presence

		Soviet Union		
		In Combat Publicly Admitted	In Combat Not Publicly Admitted	Not Engaged
United States	In Combat Publicly Admitted	12	8	4
	In Combat Not Publicly Admitted	8	6	2
	Not Engaged	4	2	0

Fig. 24 — Superpower declaratory policy in military conflict:
status of military force commitment

III. ESCALATION CONTROL: TIME AND TENSION

An important feature of international political-military affairs is the histories of what might be called the level of tension* with the passage of time during and after crises. The escalatory actions taken by the superpowers (and other nations) can be thought of as being superimposed on but not added to a pre-existing tension level. In theory and often in practice a crisis is resolved by one party or both raising the level of tension to a point that one or both find intolerable. This baseline tension level is not, however, a stable value. It is typical of people or human institutions to adjust to almost any pattern of events so long as no new shocking pattern is superimposed. This, applied to the intersuperpower tension level during and after crises, results in a steady reduction. A new escalatory step by one or the other superpower thus has the effect of interrupting a natural decaying process. Because many people (and institutions) on either side have long memories, this tension level decaying process never reaches zero.

Figure 25 depicts this decay phenomenon as being identical to the decay of radiation levels in radioactive material. The particular half-life depicted in Fig. 25 is 14 days; that figure was selected on the basis of some little thought about past crises. Naturally there is no particular validity claimed for this selected value.[†]

*The focus here and throughout this report is on the tension between the two superpowers.

[†]Empirical analysis might generate such a function.

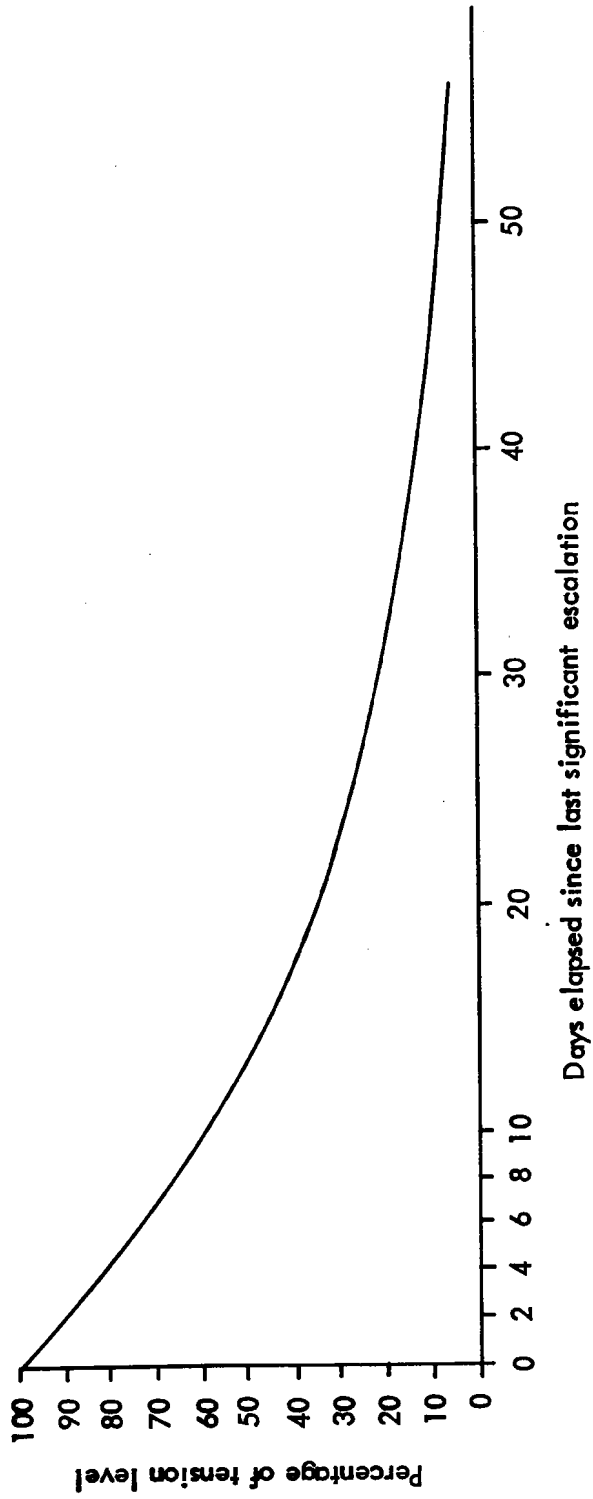


Fig. 25 -- Intersuperpower tension decay rate: assumed 14-day "half-life"

IV. SOME EXAMPLES OF CRISIS ANALYSIS

The analysis scheme described here has its admitted limitations, some of which may be correctable with further efforts. Some of the weaknesses are unlikely ever to be overcome. As previously noted, however, the process of developing and applying this experimental scheme has helped focus attention on some specific problems of data evaluation and assumption making in crises.

The basic analytical procedure is to select those dates during a crisis at which one or both superpowers (or a third party) made a move that is treated here as being escalatory. A full survey of the applicable matrices (either political confrontation or military conflict) is conducted, and the appropriate numbers are then extracted and totaled. The magnitude of the escalatory "jump" is determined by comparing it with the then existing tension level; that level is obtained by deducting the "decay" figure from the previous event analysis.

The history of intersuperpower tension during the Yom Kippur War is a timely illustration.

The conflict started on 6 October 1973 with Egypt and Syria (Soviet clients) initiating an attack on Israeli positions in the Sinai and on the Golan Heights. By 9 October, Israeli air and ground forces were counterattacking into Syrian territory. By October 16 the Israelis had counterattacked in the Sinai and had placed a small force across the Suez Canal. Between 8 October and 21 October major battles were fought on both sides of the canal with unprecedented loss rates in Israeli planes (the Egyptians avoided extensive air combat) and Israeli and Arab armored vehicles. By 16 October both superpowers were engaged in an extensive airlift of arms resupply to their clients. The initial ceasefire occurred on 22 October but rapidly broke down. On 24 October the Soviet note to the United States was delivered (evaluated here as a threat to deploy combat troops to Egypt and Syria to defend against further Israeli advance). The U.S. reply posed a tacit threat to the Soviets, implying that a Soviet military deployment into the area might mean a countering U.S. deployment and might lead to combat between the two forces.

Figure 26 illustrates a completed worksheet reflecting the history of superpower tension over this period. Some of the numbers drawn from the matrices are the results of assumptions concerning superpower involvements at the time. For example, Soviet built SCUD missiles were known (by the United States) to be near Cairo before the war was initiated. For this analysis it is assumed that they were deployed with Soviet military operators (never used) and nonnuclear warheads. I do not know the sort of military intelligence being provided the Arabs by the Soviets. I assume that strategic intelligence was provided. I also do not know the terms under which the large-scale airlift of arms was arranged between both superpowers and their clients. I assume that both made the transfer under favorable credit terms.

By itself this numerical "history" means little except that the height of the tension between the two superpowers--by this scale--occurred at the time they were resupplying arms to their clients during the conflict. The 24 October threat and counter, which occurred after there had been some decay of the maximum tension level, had no effect, although they promised a very great rise in tension had they been implemented. One might guess that the threatened increase was more than either superpower felt was tolerable.

Reviewing the history of the crisis in the context of the scheme outlined impels the analyst to identify the critical escalatory points and to seriously consider the assumptions being made about unknown factors. Also, the scheme readily lends itself to explorations of hypothetical branch points and extensions in an orderly way. Both of these features make the use of the scheme, even in its current crude state, analytically useful. Another way of giving some meaning to such figures is to note that they fall on a scale that varies between near zero (near perfect superpower accord) and 373 (nuclear war between the United States and the Soviet Union).

Yet another way of giving some meaning to such a history is to compare the high point of intersuperpower tension in the Yom Kippur War with that of some previous crises:

	Move: <u>0</u> Date: <u>5 Oct 1973</u>	Move: <u>1</u> Date: <u>6 Oct 1973</u>	Move: <u>2</u> Date: <u>16 Oct 1973</u> US aid to Israel SU aid to Arabs	Move: <u>3</u> Date: <u>24 Oct 1973</u> Soviet Threat	Move: <u>4</u> Date: <u>24 Oct 1973</u> US Counter ^a
Political Confrontation					
I. Direct Participants	2				
II. Location of Forces	2				
III. Location of Threatened Conflict	7				
IV. Role of Superpower Military	2				
V. Armaments					
Operational Capability	7				
Condition	7				
Warheads	15				
Terms of Transfer	9				
VI. Intelligence Activity	4				
VII. Declaratory Policy					
Military Presence	1				
Threats	0				
Military Conflict					
I. Direct Participants		4	12	18	42
II. Base Areas		4	12	12	12
III. Combat Arena		14	24	24	24
IV. Role of Superpower Military		4	12	18	42
V. Armaments					
Operational Capability		14	14	14	14
Condition		14	14	14	14
Warheads		30	30	30	30
Characteristics		14	14	14	14
Targeting		11	11	11	11
Terms of Transfer		18	18	20	26
VI. Intelligence Activity		8	8	14	14
VII. Declaratory Policy					
Military Presence		2	2	4	12
Status of Military Commitment		0	0	4	12
Raw Total	56	137	171	197	267
Time Adjusted Total		52	85	111	

^aThe totals given here reflect the level that would have been reached if both the US and the SU had implemented their threats.

Fig. 26 — Checklist worksheet for the Yom Kippur War

Yom Kippur War 1973	171
India-Pakistan War 1971	87
Six-Day War 1967	133
Dominican Republic 1964	50
Cuban Missile Crisis 1962	167*
Berlin Crisis 1961	150†

*The near coincidence of the level of crisis for the Yom Kippur War and Cuba 1962 arises because the U.S. and Soviet confrontation in the Yom Kippur War took place during client conflict, a patently dangerous situation. The highest attainable level in a political confrontation is 169.

†This was a rather short crisis, provoked by a Soviet threat to turn over access rights to Berlin to East Germany. The United States issued a counterthreat and moved 125,000 troops to Europe, and the Soviets let the deadline pass without signing the treaty.

V. IN CRITIQUE

Exercising an experimental crisis rating system like this is a particularly useful device to sharpen one's focus on the misperceptions, the unknowns and the unknowables that face a nation at such times, and the assumptions that must be made. Few of the assumptions made in the analyses sketched above would have to be changed to make marked differences. Perhaps more important, it is likely that the two superpowers in such crises do not make corresponding assessments and assumptions. The interplay of such discrepant assumptions might make an interesting subject for future study as would the interplay of differing assumptions made by different organizations in the U.S.-Soviet crises. Similarly, the role of threatened escalations (as opposed to overt escalatory moves) need to receive further study.

Some exploration of relationships between other than additive elements might be worthwhile. Perhaps, for example, the targeting policy is much more important when nuclear weapons are being used than when only nonnuclear weapons are in use.

This report must close with the same observation with which it started. The experimental analytical scheme sketched here has many elements of illogic and troublesome omissions. Its use does not lead to a complete analysis, but it does provide a reasonably comprehensive framework for explorations into the elements of escalation in crises.