

Although their approach has considerable advantage in searching for specific interaction patterns in sequences of related events, it is extremely complex to operationalize and leaves considerable room for error. Our more straightforward approach aggregates all types of behavior within a given time period and simply looks for correlation in the overall behavior of all types within those given time periods. Some appreciation of subtleties of individual sequences of events is no doubt lost by our procedure, but it nevertheless supplies a simple and direct indicator of the extent to which the behaviors of the two superpowers tended to "mirror" one another over time.

17. See, for example, from the experimental literature, Warner Wilson, "Reciprocation and Other Techniques for Inducing Cooperation in Prisoner's Dilemma Case," *Journal of Conflict Resolution* 15:2 (1971):167-196; from research on the test ban negotiations this point is made in P. Terrence Hopmann and Theresa C. Smith, "An Application of a Richardson Process Model: Soviet-American Interactions in the Test Ban Negotiations, 1962-63," in I. William Zartman, ed., *The Negotiation Process: Theories and Applications* (Beverly Hills, Calif.: Sage Publications, 1978), pp. 149-174; see also Daniel Druckman, *Human Factors in International Negotiations: Social-Psychological Aspects of International Conflict* (Beverly Hills, Calif.: Sage Publications, 1973), pp. 28-30.

18. See P. Terrence Hopmann, "Défente and Security in Europe: The Vienna Force Reduction Negotiations" (Paper presented at the 11th World Congress of the International Political Science Association, Moscow, USSR, 12-18 August 1979). Using data on Soviet-U.S. interactions scaled on the same scale as in the present chapter during the period from 1 September 1973 through 31 December 1978, broken down by four-month periods, the author found the following correlations between the passage of time and increasing conflict: U.S. behaviors: $r = 0.49$, $p = 0.03$; Soviet behaviors: $r = 0.73$, $p = 0.001$. Thus the behaviors of both countries became significantly more conflictual during this period, reversing the prior trend towards increasing cooperation reported here.

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CHARLES F. HERMANN
ROBERT E. MASON

Identifying Behavioral Attributes of Events That Trigger International Crises

Introduction

History records the ceaseless process of political system formation, development, and transformation. Whether one examines the Chou dynasty, the Greek city-state system, the Concert of Europe, or the post-World War II bipolar system, the existence of potent elements of system change can always be found. A simple fourfold classification of system transformations distinguishes between gradual and abrupt changes and between intended and unintended ones. Gradual transformations in political systems may result from movement in other systems such as resource, technological, or population shifts which have effects on political systems over a protracted period. Sudden political upheavals often result from collective violence such as revolution or war. Revolutions and wars for at least some parties are intended change agents; natural disasters, economic breakdowns, and, for many, wars¹ and revolutions are unintended agents of system transformation.

Although dreamers, philosophers, and would-be rulers often conceive of transformed national or global political systems, humans historically have not been very effective at controlling the process of system transformation. Napoleon, Marx, Jefferson, Lenin, Hitler, and their associates, for example, did not foresee the shape of the structures that actually emerged from the activity they promoted as agents of change. Perhaps few of them would be pleased with the results. The discrepancy between intended effects and experienced results has always led many humans to stress stability as a basic value of statecraft and to shun any changes that are not incremental. These individuals and groups must always contend with others who look at the social, political, and economic injustices of the present system or the projected disasters that await it unless changes are made. Such people urge that humankind endeavor to introduce controlled system transformation to achieve a better world. Presently there

is widespread popular and scholarly interest in controlled system change on a global level and at the same time despair of governments as a means for realizing such change.

Despite the differences among individuals and groups on the most desirable ratio of system stability to system change, there should be relatively broad agreement that abrupt, unintended system transformations are the least preferred mode of system transformation. Abrupt and unintended agents of change include international crises, which have been variously defined. They have been described specifically in terms of "a set of events which raises the impact of destabilizing forces in the general international system or any of its subsystems substantially above 'normal.'"² Alternatively, they have been viewed as a sequence of interactions in which one party issues a challenge to one or more others that leads to "the perception of a dangerously high probability of war."³ Still others have emphasized properties of transitory situations such as high threat to major values, short time for decision, and surprise or the lack of anticipation.⁴ Despite the variety of definitions flowing from different research questions, most agree that such episodes are abrupt and unintended (at least for some parties at the outset and perhaps for all in the eventual outcomes). Some analysts have noted the positive benefits of crises and the tendency of some leaders to create them deliberately.⁵ Such observations do not alter the conclusion that the parties to a crisis can lose control of the process (noted by some as a defining characteristic) and the results can be unattractive for and unanticipated by virtually all parties. In sum, international crises are a poor device for controlled and predictable system change.

If that assumption is accepted, then the tasks are to avoid international crises whenever possible and to minimize the inability of parties to control them should they occur. The ability to forecast crises and the conditions likely to precipitate them becomes a part of the strategy for both advertence and control. This chapter explores one approach to short-term forecasts of international political crises.

The Immediate Beginnings of Crises

How do crises between nations begin? Are they the culmination of a gradual spiral of escalating tension and hostility between adversaries as in the situation prior to the Arab-Israeli War of 1967? Or are they the product of a single dramatic event that suddenly bursts upon one or more governments as illustrated by the situation that faced the Israeli govern-

ment with the 1976 hijacking to Entebbe, Uganda, of the jet carrying passengers from Tel Aviv? Both orientations have been used in previous research. In the various studies of the outbreak of World War I conducted by those who have been associated with Professor Robert North at Stanford, the gradual escalation between parties has been traced as an important antecedent to the crisis.⁶ Using the same historical episode as his example, Russett describes the decisive turning point as: "The moment when those controlling the foreign policy of a state realize that something is going wrong and is likely to involve their state in war. While the awareness may exist to some degree for a very long period before the key event, there is usually a point which can be identified as signalling a sharp increase in the awareness of danger."⁷

The investigator's definition of crisis as well as the purpose of the research could affect the choice of interpretation. Alternatively, one might adopt a rather inclusive definition of international crises maintaining the distinction between those with a gradual buildup and those that appear abruptly without any prior warning. Even if one includes as part of the class of situations to be studied as crises those that emerge after a relatively protracted exchange, it may be reasonable to search for some critical event that crystallizes the evolving relationship as a crisis. This chapter will offer a definition of crisis that encompasses both abrupt outbreaks and gradual buildups, and will search in both types for a crisis precipitating event that triggers the onset of a crisis for at least one of the parties.

In crises that result from the actions of human actors (as compared to those that might result from acts of nature), one actor or a coalition of actors will precipitate an event (or perhaps several events in close temporal sequence) that by its properties increases the likelihood of precipitating a crisis, as defined, for the recipient(s). If the properties of the class of events that have an increased probability of triggering crises can be determined, then this information can be used to create short-term forecasts of crises.

The properties of an event can be determined by a careful observer of international relations, even though a state of crisis for a set of policymakers depends on the perceptions of the event by the recipients. The impact of a signal or stimulus depends on the meaning given to it by its recipients and the possibilities of misperception of the actor's intended message are often substantial.⁸ At least three factors, however, increase the capacity of a careful observer to estimate the manner in which a recipient will interpret a crisis precipitating event. First, certain properties of an event are less susceptible to varying interpretation than others. A declaration that "this place is on fire" is less likely to be misunderstood

than a statement that "I am uneasy about the present situation." Some of these unambiguous qualities mark crisis precipitating events. Second, the foreign ministries of governments appear to be populated by individuals who are part of an international network or subculture of diplomats and other internationally experienced persons who have acquired shared meanings for a variety of behaviors and terms to a greater degree than most other individuals in their respective societies. (Of course, this does not preclude deliberate attempts at maintaining ambiguity in interstate communication.) Third, the observer can examine the context and prior activities of the parties to a potential crisis to minimize misinterpretation. Regrettably, indicators of contextuality are not included among actors in this study. However, these important dimensions of context are expected to be introduced in future research to sharpen the accuracy of this procedure.

The conceptualization underlying this study assumes that an acting government initiates some observable behavior intended to influence some external recipient. If the behavior is interpreted by the recipient to involve high threat and short time, then a crisis exists for it.

International exchanges often involve multiple actors or recipients;⁹ initially that complication can be ignored. At some point, the authoritative policymakers or their representatives in the initiating country reach a decision to take some form of action directed at one or more recipients and intended to influence their behavior. Assuming the decision to engage in an influence attempt is not totally obstructed in the implementation process, this single political level decision is manifested as an event consisting of one or a series of activities—all flowing in a relatively short period of time. The event may be a verbal message or a nonverbal physical deed or a combination of both.¹⁰

Whatever its character, the event is the observable trace of a decision to engage in an influence attempt having at least one recipient that is outside its political jurisdiction. By definition, events are capable of being observed if one is at the right place at the right time. Unfortunately, governments often attempt to deny observers who are not part of their implementative process access to the necessary place at the right time that would enable them to identify some events. To the extent such secrecy succeeds, errors in the present estimating procedure will result. The significance of that problem could be explored empirically. When an event is detected by the recipient, it is interpreted as a "definition of the situation." By identifying certain properties of events, one can infer when the recipient will likely define a situation as creating high threat and short time, i.e., a crisis. The transmission of the actor's decision to the recipient by means of the event occurs in a particular context that

helps to anticipate how the event will be defined.

This chapter examines some characteristics of foreign policy events that, if present, are hypothesized to increase the probability of a subsequent international crisis. The suggested properties for anticipating crises will be tested, by determining which foreign policy events initiated by various governments between 1959 and 1968 had the stipulated properties and whether those that did were promptly followed by crises. Independent means will be used to establish whether a crisis, as defined, occurred. Which properties, if any, are the best predictors of crises will then be determined.

Definitions of Crisis and Relevant Event Properties

Crisis is defined as a situation that the relevant decisionmakers interpret as (1) constituting a high threat to values they regard as important to their regime or country, and (2) presenting a relatively short period of time (a few days at most) for decision before the situation evolves further in a way that is unfavorable from the perspective of those policymakers. For an international crisis, the relevant decisionmakers must regard the source of the threat to be one or more entities existing outside the political jurisdiction of their government. Notice that it is irrelevant for this analysis whether the affected decisionmakers elect to call the situation a crisis, as long as it has these two defining characteristics.

Situations perceived by decisionmakers as having these characteristics will result in decision processes and actions significantly different from those that would result if either or both characteristics were absent.¹¹ A third crisis characteristic employed in the research just cited—surprise or an absence of prior awareness on the part of the relevant decisionmakers—has been deleted in the present research for two reasons. First, previous empirical research failed to establish surprise as generating a measurable result either as a separate main effect or in interaction with the other two dimensions.¹² Second, we want to include both crises that occur suddenly without warning and those that result from an escalatory spiral.

Crisis precipitating events are those characterized by certain properties, each of which can be regarded as one end or an extreme value of a continuum or dimension. The hypothesis is that the more of eight selected properties an event has, the more it is likely to trigger a crisis.

Both dimensions and their values have been constructed from variables in the CREON (Comparative Research on the Events of Nations) data set, which at the time of this analysis consists of over 12,000

separate foreign policy events for thirty-six nations. The events have been coded from an uncollapsed version of *Deadline Data on World Affairs*,¹³ for one randomly selected quarter of each year in the decade 1959-1968. The operational procedure used for each of the eight properties is described more fully in other works.¹⁴

The key to our interpretation of crisis precipitating events is the presence of a high degree of obstruction of one or more goals judged by the observer to be basic to the regime or nation. If the event jeopardizes a valued goal, then the recipient decisionmakers are likely to perceive threat to their basic values. The continuum of goal obstruction ranges from events posing no obstacle to valued goals to those involving complete future denial of the goal. Notice the requirement that the obstruction either has not yet occurred (is intended) or is reversible; otherwise there would only be the perception of punishment, not threat. The degree of perceived threat can be expected to vary with the completeness of the obstacle to goal realization and with the credibility of the source to carry out the obstruction. The first three event properties described below are concerned with the basic requirement of intended goal obstruction.

Anticipated Desirability-Undesirability

For the anticipated desirability-undesirability dimension the observer must determine the extent to which the recipient(s) will find the event a relatively more or less attractive occurrence. At one extreme on this continuum are events that are greeted by the recipient with great enthusiasm. Recipients are expected to regard events at the other end of the dimension with great displeasure. To capture this dimension with the CREON data, coders were asked to judge each event on a three-point rating scale—one extreme value of which was "anticipated undesirability by the recipient"—the property here associated with the triggering of a crisis.

Presence/Absence of Physical Assault

The physical assault dimension concerns the actor's use of physical efforts against the recipient or its possessions, either forcibly controlling or destroying the goal object or similarly controlling or destroying the humans necessary for its continued or greater realization. Ignoring the complicating factor of context, it may be generally true that the use of physical force constitutes one of the most complete means of obstructing any goal. Whereas the first dimension (anticipated undesirability desirability) attempted to estimate only whether some goal obstruction might

occur, this one poses a more severe indicator that goals will be obstructed.

To capture this dimension with the CREON data, each event was checked to see if it had been coded as having involved either "force" or "seize." These two nominal categories are part of a larger set in the World Event/Interaction Survey (WEIS) coding system.¹⁵

Instrumentalities

The third dimension, instrumentalities, introduces the means or skills and resources used to execute the event, including diplomatic, military, and other instrumentalities. Just as physical assault is regarded as a crisis precipitating property, intended goal obstruction is assumed to be more likely if military instruments are included in the mix of skills and resources used to implement the actor's decision. A historical review suggests that increased military preparedness, alerts, maneuvers, mobilizations, and so on have been associated with the onset of an international crisis.

Affect

This dimension refers to the feelings, ranging from friendliness to hostility, that policymakers express toward the policies, actions, or government of another nation. Such feelings have both direction and intensity. Direction indicates whether the feeling expressed is positive (friendly) or negative (hostile), while intensity suggests the degree of feeling that is expressed (mild or strong).

Governments that perceive themselves facing an international crisis normally find that they are the recipients of others' negative affect. Expression of the actor's hostile feeling reduces the ability of the recipient to interpret any obstructive behavior as inadvertent or unintended. The explicit communication of displeasure combined with the activity that blocks one or more of the recipient's important goals heightens the likelihood of perceived threat. Affect is measured along a seven-point scale, from +3 through 0 to -3, with +3 indicating strong positive affect and -3 indicating strong negative affect (the assumed crisis triggering property).

External Consequentiality

By the external consequentiality dimension is meant the potential impact of a foreign policy behavior on other national governments. What is the likelihood that a specific foreign policy action will generate attention and activity in the governments of other nations? A high degree of exter-

nal consequentiality is important for any signal in which one actor attempts to communicate to others. It is analogous to the old joke about first hitting a mule with a 2×4 board in order to get its attention. By designing an event with a high degree of consequentiality, the actor is assuring that his action will be noticed—the recipients, finding it difficult to ignore the action, are forced into an occasion for decision. When combined with the other properties in this group, high external consequentiality is assumed to make the recognition of a crisis by the recipients less avoidable.

External consequentiality is measured on a scale from 0 to 1.00 with 1.00 representing actions which have the greatest impact on the governments of other nations. A number of characteristics are used to construct the scale, including the previous incidence of the event and the nature of the prior relationship between the actor and recipients.

Specificity

The specificity dimension describes the amount of information an actor provides to the recipient of his behavior about the actor's future expectations: To what extent does the action contain information about what the actor intends to do or desires some external entity to do? Put another way, specificity is defined as the part of a recipient's uncertainty that is under the control of the initiating actor's signal or event.

To increase the credibility of a threat, an actor will attempt to increase the recipient's certainty of the intended goal obstruction and the action required to avoid that outcome. The CREON data contains a series of items that seek to establish whether the actor is specific with respect to five areas: (1) the problem, (2) the addressee, (3) the kinds of resources used, (4) the amount of resources used, and (5) the time frame. Crisis precipitating events are expected to be specific on all or nearly all five areas.

Commitment

The commitment continuum measures the extent to which an event involves the present or future allocation of tangible resources. Resources are allocated by the use or transfer of goods, services, or capital, or by the generation of expectations concerning their future use that limit the freedom of national decisionmakers.

When resources are committed in support of a government's expression of hostility toward another, the recipient is likely to increase its estimate that the acting government is prepared to follow up on its

displeasure. Thus, high commitment becomes important for establishing the credibility of intended goal obstruction and should be associated with crisis triggering events.

In the CREON Project commitment is measured along an eleven-point scale ranging from least (1) to most extensive (11) commitment.

Implementation Time

The implementation time dimension of an event concerns an estimate of the amount of time the acting government will require for executing the action once a decision has been reached and a strategy for its realization established. A diplomatic conversation can be conducted in minutes or hours, but the administration of a technical assistance program may take months or years to complete.

If the actor's event requires extensive time for completion, then the recipient has more time to make a response and search for some alternative means of goal realization other than the one being obstructed by the actor. Protracted execution time may cause the actor to lose his will to complete the event, an occurrence that can be abetted by the recipient and third parties who have more time to develop counterpressures when the actor's event unfolds gradually. The credibility of the complete fulfillment of the triggering event is eroded. Thus, we would expect events precipitating a crisis for the recipient to have relatively short implementation times.

For the CREON variable, "Time Required for Execution of Action," the coder estimates the amount of time the behaviors of the type initiated by the actor normally require for full implementation on an ordinal scale consisting of minutes/hours, days, weeks, months, or years.

Table 8.1 summarizes the dimensions that have been described and the extreme values of each that are hypothesized to be associated with events that precipitate crises. It is expected that a crisis is most likely to follow the initiation of an event by an actor that is a clear, recognizable, hostile behavior that credibly intends to obstruct the recipient's goals. A series of specificity variables designed to monitor different aspects of the event estimate clarity. A complex indicator called external consequentiality determines if the event has qualities that make it likely to be recognized. The expression of negative effect represents hostility. Both commitment and implementation time judge credibility. Finally, anticipated undesirability is first used as a general measure to calculate intent to obstruct goals; the kind of instrumentality employed and whether the event involves physical assault are more rigorous indicators.

TABLE 8.1
Dimensions and Variables Used in Constructing Crisis Precipitating Properties

Dimension Name	CREON Variable (s) ^a	Specified Value for Crisis Precipitating Property
Anticipated desirability-undesirability	CREON Variable 33 (3 point rating scale)	undesired by recipient
Presence/absence of physical assault	CREON Variable 28 (2 of 35 revised WFIS categories)	"force" or "seize" categories
Instrumentality	Modified CREON Variable 35 ^b (1 of 6 skill/resource categories)	military instrumentality
Affect	Modified CREON Variables 38 & 39 ^c (7 point scale from -3 to +3)	strong negative affect
External consequentiality	Constructed CREON Scale ^d (range from 0.0 to 1.00)	highly consequential
Specificity	CREON Variables 40, 41, 42, 43, 44 (separate nominal variables)	each aspect of event coded as specific
Commitment	Constructed CREON Scale ^e (11 point scale)	high commitment
Implementation time	CREON Variable 54 (5 point rating scale)	short time (minutes/hours or days)

^aCREON variable numbers refer to the numbered descriptions in the appendix of Hermann, et al. (1973).

^bThe nominal categories for instrumentalities have been slightly revised from the description given in Hermann, et al. (1973). The changes are described in Hermann (1974).

^cThe affect score has been expanded to a more differentiated scale as reported in Hutchins (1974).

^dExternal consequentiality is a scale that has been constructed by using information from various CREON variables. For its development see East and Hermann (1974).

^eCommitment is a scale that has been constructed by using information from various CREON variables. For its development see Callahan and Hermann (1974).

Selecting the International Crises

The CREON data set was used to identify events having one or more of the stipulated characteristics; then it was determined whether they were soon followed by a crisis for the recipient of those signals. The results can take one of several forms. One possibility is that events with these properties were seldom followed by crises. Another is that the events with these properties did precede most crises; they also appeared prior to many other situations that were not crises. In that case, the ability of the stipulated class of events to discriminate crises from noncrises would be inadequate to serve any forecasting purpose. A third outcome is that events with the designated properties or some subset of them were found to be antecedents of crises but of very few other situations.

To undertake the analysis we needed a means of determining the occurrence of international crises during the decade 1959-1968 (the period of the CREON data). Several efforts have been made to construct post-World War II inventories of international crises. Although the authors of these inventories have not necessarily used the present definition of crisis, the identified lists are a first approximation of international crises that occurred from 1959 to 1968.¹⁶ Three inventories have been most helpful. A list prepared by Phillips and Moore enumerates international crises for the entire time period covered in the CREON data.¹⁷ A list of both internal and external political conflicts between 1944 and 1966 by Cady and Prince¹⁸ did not provide exactly the focus required by the present study but could be used selectively for our purposes. A short compilation by Callahan focuses exclusively on international crises.¹⁹ Table 8.2 lists the resulting thirty-nine crises that appeared on either the Phillips-Moore or the combined Cady-Prince and Callahan lists, and which also conform to our definition of a crisis (e.g., presenting decisionmakers with high threat and short time).

The CREON data cannot be searched for crisis precipitating events related to all thirty-nine crises contained on the independently established lists. One limitation stems from the requirement that the crises had to begin during the quarter of each year for which data were collected. The fourth column of Table 8.2 indicates that twenty-two of the thirty-nine crises began in quarters not included in the CREON sample.

Moreover, we can establish precipitating events only for the thirty-six countries that are included as actors in the CREON data set. As the fifth column of Table 8.2 reveals, seventeen of the thirty-nine could not be ex-

amined because the data did not contain relevant actors.

Together these two constraints reduced to six the number of situations independently identified as crises:²⁰

China/Nepal	1960	Cyprus	1963-1964
Cuba	1962	North Vietnam	1964-1968
India/China	1962	Arab/Israel	1967

Even the casual reader will discover several problems with this list of six crises. First, the starting dates for the crises are extremely important to the analysis, yet they are difficult to establish with confidence. As displayed in Table 8.2, the original sources normally reported only the year (not the day and month) and in several instances the initially assigned dates covered several years. One or more crises, under our requirements of threat and short decision time, were difficult to establish with the time period originally assigned by the independent source. For example, the North Vietnamese conflict listed for the years 1964-1968 was disaggregated into at least three events prior to the beginning of the crisis. As a result of these considerations, fourteen situations will be the basis for an initial test of our stipulated properties for estimating events that precipitate crises.

India enters a crisis on 20 October 1959 as a result of China's actions (1959 border clash)

China enters a crisis on 20 October 1959 as a result of India's actions (1959 border clash)

Nepal enters a crisis on 28 June 1962 as a result of China's actions (1962 border clash)

India enters a crisis on 11 October 1962 as a result of China's actions (1962 border clash)

China enters a crisis on 11 October 1962 as a result of India's actions (1962 border clash)

United States enters a crisis on 16 October 1962 as a result of discovering Soviet missiles in Cuba (1962 missile crisis)

USSR enters a crisis on 22 October 1962 as a result of U.S. action (Blockade in Cuban missile crisis)

North Vietnam enters a crisis on 5 August 1964 as a result of U.S. action (Bombing in response to Gulf of Tonkin)

Greece enters a crisis on 8 August 1964 as a result of Turkey's actions (Turkey bombs Greek Cypriot positions)

North Vietnam enters a crisis on 7 February 1965 as a result of U.S. actions (Beginning of U.S. sustained bombing of the North)

Israel enters a crisis on 22 May 1967 as a result of Egypt's actions (Egypt closes Gulf of Aqaba)

Israel enters a crisis on 5 June 1967 as a result of Egypt's actions (1967 Arab-Israeli War)

Egypt enters a crisis on 5 June 1967 as a result of Israel's actions (1967 Arab-Israeli War)

North Vietnam enters a crisis on 20 April 1967 as a result of U.S. actions. (U.S. initial bombing of Hanoi and Haiphong)

Results and Conclusions

A total of 11,962 events in the CREON data were searched to determine if they possessed any of the crisis precipitating properties. In an initial experiment the highest possible scale values for high commitment, high specificity, and high external consequentiality were too severe a threshold and eliminated many events that appeared relevant to the identified crises. Accordingly, slightly lower values were used, but still in the direction of the extreme value or property presented earlier.

The recipients in the fourteen crises established in the previous section were national governments. In the CREON data, however, recipients may be international governmental organizations as well as subunits within a nation (both governmental and private) including specific individuals. Therefore, it was necessary to add a ninth property to the eight crisis precipitating ones; namely, that the addressee of the action be a national government.

Each of the properties was used as a screen through which all CREON events were filtered. Not all the properties proved equally useful in creating the class of events hypothesized to precipitate crises. As Table 8.3 shows, the data set could most rapidly be reduced by first applying the physical assault category, which by itself eliminated all but 146 of the events. By next using the high external consequentiality variable, the remaining events were reduced to 70, of which 10 involved only non-national government recipients. The property that required all crisis

TABLE 8.3
Sequential Application of Properties in Creating
Set of Crisis Precipitating Events

Property	Events Remaining in Set*
Physical assault present	146
High external consequentiality	70
Nation as recipient	60
Negative affect	54
Short implementation time	52
Military instrumentality	52
High specificity	52
Anticipated undesirability	52
High commitment	52

The total number of events in this version of CREON data set before any were eliminated by specified properties was 11,962

precipitating events to have strong negative affect was applied next and it reduced the set from 60 to 54 events. Another property, short implementation time, eliminated 2 additional events. None of the remaining four stipulated properties—military instruments, high specificity, anticipated undesirability, or high commitment—reduced the remaining set of 52 events.

How many of the fifty-two events pertained to the fourteen crises identified as falling within the domain of the CREON data? Forty (77 percent) concerned one of the fourteen crises. Furthermore, twelve of the fourteen crises had at least one of the events with the crisis precipitating properties that occurred on the day estimated that the recipient entered a state of crisis (Table 8.4). Of the forty events, twelve occurred on or before the specified dates for the beginning of the crises; another three are dated as having transpired within twenty-four hours of the designated onset of the crisis. (Given the difficulty of pinpointing the starting point of a crisis, some variability in the dating of events should probably be considered.) The remaining twenty-five events took place in a matter of days after the initiation of the crises.

Twelve events (23 percent) assumed to precipitate crises were unrelated to any of the fourteen crises. Ten of these concerned the Vietnam War and several may very well flag events that some analysts might designate as crises. For example, one event referred to the first air strikes by the United States in the demilitarized zone (DMZ), and four others referred to incidents along the Cambodian border. Unrelated to Vietnam were the

TABLE 8.4
Distribution of Crises Precipitating Events for Crises

Crisis	Day Crisis Began	Day + 1	Day + 2	Total
1959 China/India	1			1
1959 India/China	1			1
1960 China/Nepal	1			1
1962 China/India	1		5	6
1962 India/China	1		4	5
1962 U.S.S.R./U.S.	0			0
1962 U.S./U.S.S.R.	1	1		2
1964 U.S./North Vietnam	1			1
1964 Turkey/Greece	1	2		3
1965 U.S./North Vietnam	1			1
1967 Egypt/Israel (Gulf)	1		11	12
1967 Israel/Egypt (War)	0			0
1967 Egypt/Israel (War)	1			1
1967 U.S./North Vietnam	1		5	6
Total crisis precipitating events	12	3	25	40
Total events not applicable to any of 13 designated crises				12
Total events having properties assumed to precipitate a crisis				52

Chinese shelling of Quemoy and Matsu in May 1959 and again a month later upon President Eisenhower's arrival in Taiwan.

In forming conclusions about this study, it should be recalled that neither the event data nor the variables designating event properties were originally designed for the purposes of this research. Furthermore, it is evident that a comprehensive, independent inventory of international crises covering the entire time period and employing a standard definition of crisis and techniques of dating was missing. Whether or not correction of these limitations would alter the results is uncertain, but their absence could affect the interpretation of these results.

If the proposed procedures do have merit, two modifications would undoubtedly improve their effectiveness. The first would be to develop some indicators of context that could be used in conjunction with crisis precipitating properties. As McClelland observed: "The type of act perceived to have been the immediate cause of an acute crisis does not 'communicate' the same way at all times. The immediate 'logic of the situation' and the timing of events seem crucial."²¹ It should be possible to construct some background indicators concerning the condition of

particular governments and the state of relations between governments against which specific events could be more readily interpreted. Choucri notes that on a thirteen-point tension scale contemporary relations between Canada and the United States might range normally between 2 and 5, whereas those between Israel and the Arab states might be closer to 11 or 12. Thus, "If the United States-Canada interactions were to jump to a mean of 8 on a 13-point conflict scale the implications would be quite different than if Arab/Israeli interactions were to converge around a mean of 8."²² A background conflict scale of the kind Azar²³ has been developing could establish a baseline to serve as a contextuality indicator for interpreting crisis precipitating events.

A second change would be the use of multiple sources for event collection, including sources from the nations to be monitored. The stipulated properties described in this chapter could be equally well applied to official governmental cable traffic and related materials, if available to the analyst.

Finally, the proposed configuration of crisis precipitating properties may have placed too heavy an emphasis on military factors (i.e., physical assault and military instruments). Such concentration might be less appropriate in the future than in the examined decade of 1959-1968.

But why should anyone—in government or elsewhere—consider adopting a procedure such as this one even if improved and demonstrated to be relatively dependable? For one thing it proposes the possibility of identifying a class of events that may precede the occurrence of a crisis. As Wilbert Moore commented in a discussion of scientific forecasting: "Although single political events are sometimes very important, the best we can hope to do is predict the probability of a class of events."²⁴ With further development, these procedures might provide a probability estimate of a certain class of events (crises) based on a combination of contextual indicators and properties of other prior classes of events.

The lead time between the triggering event and the onset of the crisis is short indeed. In every case, the crisis precipitating event occurred on the same day as we stipulated the recipient to be in crisis. The introduction of other event properties and contextual variables might improve the lead time. But what if they do not? Such a system would be of little use to recipients of such events as a means of anticipating crises. An acting government might be unaware that its own behaviors contained elements tending toward crisis, but those circumstances would seem infrequent. Perhaps the primary beneficiaries of such a system would be third parties who are not at the outset among either the initiators or the recipients of the crisis. Evidence from the study of past crises suggests that third par-

ties have sometimes been slow to recognize crises that subsequently spread and engulfed them. Not only would an early warning available to third parties enable them to take prompt steps to reduce the enlargement of the confrontation, it would also give them more time to introduce mediating capabilities.

Beyond the prospects of the immediate technique for forecasting explored in the preceding pages is the larger issue with which this chapter began—the role of international crises as agents of system change. The world will certainly continue to experience international crises. Their potential for system disruption will increase if better means for dealing with them are not devised. Crises of the future are likely to be more complex and diverse than those faced by political leaders during the past few generations. The number and variety of interactional actors is expanding. The means of destruction available to humans continue to become more deadly, diverse, and widely distributed. The real gap between haves and have nots is increasing on a number of dimensions at the same time that global communications enhance everyone's awareness of the discrepancies. The growing complexity of social systems and their technological supports makes them more susceptible to accidental or deliberate disruption at a very large number of points. Heightened interdependence not only between social systems but between different types of systems makes breakdowns in one likely to affect others.

For all these reasons, crises are likely to become even more potent agents of system change and transformation in the coming decades. If humankind desires to assume a more active role in shaping a planned future, part of the task must be to gain greater control over abrupt, unintended change agents. Better understanding of the phenomena called crises and means of forecasting them are a necessary part of this undertaking.

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Notes

1. For a further discussion, see Chapter 9.
2. Oran R. Young, *The Intermediaries* (Princeton, N.J.: Princeton University Press, 1967).
3. Glenn H. Snyder and Paul Diesing, *Conflict Among Nations* (Princeton, N.J.: Princeton University Press, 1977).
4. See, for example, Charles F. Hermann, "International Crisis as a Situational Variable," in *International Politics and Foreign Policy*, ed. James N. Rosenau (New York: Free Press, 1969).
5. See, for example, Thomas W. Milburn, "The Management of Crisis," in *International Crises: Insights from Behavioral Research*, ed. Charles F. Hermann (New York: Free Press, 1972).
6. See, for example, Robert C. North, Richard Brody, and Ole R. Holsti, "Some Empirical Data on the Conflict Spiral," *Peace Research Society Papers 1* (Chicago Conference, 1963); Ole R. Holsti, Robert C. North, and Richard A. Brody, "Perception and Action in the 1914 Crisis," in *Quantitative International Politics: Insights and Evidence*, ed. J. David Singer (New York: Free Press, 1968); and Dina A. Zinnes, "The Expression and Perception of Hostility in Pre-War Crisis: 1914," in *Quantitative International Politics*.
7. Bruce M. Russett, "Cause, Surprise, and No Escape," *The Journal of Politics* 24:1 (1972):3-22, emphasis in original.
8. We agree in this assertion with, among others, Robert C. North, Ole R. Holsti, M. George Zaninovich, and Dina A. Zinnes, *Content Analysis* (Evanston, Ill.: Northwestern University Press, 1963), see esp. Appendixes A, B; and Robert Jervis, *Perception and Misperception in International Politics* (Princeton, N.J.: Princeton University Press, 1976).
9. The CREON Project, from which the data used in this research are drawn, makes the distinction between the direct target of an event (the receiver of a communication), and the indirect object of that event (the entity that the actor is attempting to influence). The target and object may be the same but need not be. For the purposes of this initial inquiry, we are combining targets and objects under the term "recipients." It is possible that an actor creates a crisis for an entity that is not an identifiable recipient in the way we have used the term. For the moment we have no way of specifying such nonrecipient potential subjects for crisis.
10. The combination of physical deeds and verbal behavior is illustrated by the concept of coercive diplomacy advanced by Alexander L. George, David K. Hall, and William E. Simons, *The Limits of Coercive Diplomacy* (Boston: Little, Brown and Co., 1971). It entails the incorporation of physical deeds in signaling activities.
11. Hermann, "International Crisis"; Charles F. Hermann, ed., *International Crises: Insights from Behavioral Research*, (New York: Free Press, 1972); Linda P. Brady, "Bureaucratic Politics and Situational Constraints in Foreign Policy" (Paper presented at the American Political Science Association meetings, Chicago, 29 August-2 September 1974); Linda P. Brady, "Threat, Decision Time,

and Awareness: The Impact of Situational Variables on Foreign Policy Behavior" (Ph.D. diss., Ohio State University, 1974); Thomas L. Brewer, *Foreign Policy Situations: American Elite Response to Variations in Threat, Time, and Surprise* (Beverly Hills, Calif.: Sage Publications, 1972); and Michael Brecher, "Toward a Theory of International Crisis Behavior," *International Studies Quarterly* 21 (1971):39-74.

12. One may attribute part of the difficulty to the inadequate conceptualization and operationalization of the concept of surprise in our previous research. For example, one might wish to distinguish between such features as the familiarity of a problem (i.e., whether more or less similar problems have been experienced in the past) and the extent to which the present problem was anticipated (i.e., whether the urgent problem was expected before it occurred). These conceptual distinctions have been confounded in the past. The difficulty has been aggravated by the absence of good indicators of surprise in event data descriptions and relatively unsophisticated questionnaire items.

13. By an "uncollapsed" version of *Deadline Data*, we mean that none of the index cards on which the material is displayed have been discarded. The producer of this reference service instructs subscribers to eliminate many of the older file cards and replace them with newly provided summary cards that greatly telescope prior events into a much shorter list that retains only those events that the *Deadline Data* editors regard as most significant in view of subsequent developments. This process maintains the file at a fixed size by constantly collapsing the number of older entries. The procedure significantly reduces the utility of the reference for longitudinal analysis. Regrettably, most libraries follow the producer's instructions and, even more regrettably, most of the studies using *Deadline Data* have used this truncated version.

14. Charles F. Hermann et al., *CREON: A Foreign Affairs Data Set* (Beverly Hills, Calif.: Sage Publications, 1973); and Patrick T. Callahan, Linda P. Brady, and Margaret G. Hermann, eds., *Events, Behaviors, and Policies* (Columbus: Ohio State University Press, forthcoming).

15. Charles A. McClelland and Gary D. Hoggard, "Conflict Patterns in the Interactions Among Nations," in James N. Rosenau, ed., *International Politics and Foreign Policy*, rev. ed. (New York: Free Press, 1969).

16. Two other inventories considered for this chapter were a list of "imperialist wars" enumerated by official sources of the People's Republic of China and an inventory of local wars by a noted Hungarian social scientist, Istvan Kende, "Twenty-five Years of Local Wars," *Journal of Peace Research* 7:1 (1971):5-22. Although these inventories would have greatly expanded the international flavor of research, neither list added any new crises that were not already contained in the other inventories and that also met the additional requirements of the CREON data to be discussed in the text. A third inventory, Leo Hazelwood et al., "Planning for Problems in Crisis Management," *International Studies Quarterly* 21:1 (1977):75-106, prepared for CACI, Inc., was also considered for this chapter. However, this inventory listed only crises involving the United States, and therefore was of limited use for this research.

17. Warren R. Phillips and James A. Moore, "U.S. Policy Positions and Actions in Crises," [Paper presented at the 13th North American Peace Science Conference, Peace Science Society (International), Cambridge, Mass., 10-12 November 1975].

18. Richard Cady and William Prince, *Political Conflicts, 1944-1946* (Ann Arbor: Social Science Division, Bendix Corporation, 1974).

19. Patrick T. Callahan, "Third Party Responses Behavior in Foreign Policy," (Ph.D. diss., Ohio State University, 1974).

20. The nation whose action is assumed to trigger the crises (e.g., China in the first item) must be one of the actor nations for which events were cited in the CREON data set. We do not assume that the designated actor is the only entity responsible for creating the crisis for the other nation or that it is necessarily the ultimate source of the situation. For the purpose of this analysis, however, it is the CREON actor whose behaviors prior to the crisis were searched for actions manifesting the postulated crisis precipitating properties.

A technical appendix prepared for this study is available from the authors. It presents the case for assigning the specific dates (day and month) used to fix the beginning of each crisis. It also summarizes the evidence the authors used to determine that each selected situation created a situation of high threat and short decision time for the recipient nation and thus conform to our stipulated definition. A copy of the appendix may be obtained by writing: Charles F. Hermann, Mershon Center, The Ohio State University, 199 W. Tenth Avenue, Columbus, Ohio 43201.

21. McClelland and Hoggard, "Conflict Patterns."

22. Nazli Choucri, "Forecasting and International Relations: Problems and Prospects," *International Interactions* 1:2 (1974):63-86.

23. Edward E. Azar, "Behavioral Forecasts and Policy-Making: An Events Data Approach," in Charles W. Kegley et al., eds., *International Events and the Comparative Analysis of Foreign Policy* (Columbia: University of South Carolina Press, 1975).

24. Wilbert E. Moore et al., "The Nature and Limitations of Forecasting," *Daedalus* 96:3 (1967):939-947.

9

RANDOLPH M. SIVERSON

War and Change in the International System

Although students of international relations analyze many phenomena, perhaps none has been of such central, enduring interest as warfare among nations. A large, extensive literature exists on this subject, much of which specifically attempts to explain the occurrence of war. Within this literature one particularly prominent theme seeks to link the structure of the international system to the amount of war the system experiences. It is asserted, for example, by Waltz that a bipolar system will experience less war than a multipolar system; but Deutsch and Singer, on the other hand, argue that the multipolar system is more congenial to international stability, i.e., the absence of war, or at least major war.¹ There are, of course, numerous variations on this theme, but there is little escape from its enduring persistence. Despite the various manners in which the conceptualization is put forward, the almost single-minded focus has been on the propensity for war in various types of systems. In contrast, however, the equally important problem of the consequences of war for system change until recently has been addressed only in passing rather than in systematic comparative studies.

This relative lack of attention to war as an agent of system change—and for that matter the entire subject of system change itself—may be related to the tendency for studies of the international system to focus on the equilibrium behavior of particular, named systems (e.g., the balance of power). This tendency may derive from the fact that many of the mainly conceptual renditions of the international system are based upon general systems theory, which has as one of its main axioms the process of homeostasis or system maintenance. Kaplan's early and influential *System and Process in International Politics* is a case in point.² Kaplan devotes his attention almost exclusively to the statics of international politics. His well-known rules are rules of system maintenance, and wars are engaged in to maintain the system, be it balance of power, loose bi-