Cognitive Decision-Making and Crisis Management: The Iranian Crisis

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A crisis in foreign relations invariably calls for an optimum of prescience and judgment in decision-makers. By its nature, a crisis involves some higher degree of risk; it imposes on crisis managers the necessity of defining goals and making rapid decisions in a short period of time, often based on incomplete information. In this article, Brad Michael Meslin bases his analysis of U.S. crisis management during the Iranian crisis on the cognitive/cybernetic model developed by John Steinbruner. Meslin concludes with the suggestion that U.S. crisis management in the future, because of the changes in the world environment and relative U.S. power and influence, will have to rely on a more intimate knowledge and understanding of other peoples if it is to be successful.

A *"crisis"* may be defined as a progression of events occurring between the governments of two or more sovereign states, which is primarily configured by the perception of an unequivocal threat to highly-held national values, and by the increased likelihood of resort to force which results in a degree of instability that is perceptibly greater than that which existed before the crisis. The "progression of events" is characterized by both escalatory, and de-escalatory phases during which certain other variables may become especially salient. These include: the availability and adequacy of information, the finite amount of time available in which to make decisions, and the degree of surprise with which decision-makers are faced.

The significance of these factors and of a definition of crisis must bear relevance to a particular human "dynamic" if they are to be of any utility. The dynamic of importance to a crisis situation, as indeed to most other forms of human endeavor, is decision-making. Both the way in which individuals make decisions, as well as the outcome of the decisions themselves, are responsible for animating the development of international crises as surely as they determine

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the course of the most mundane personal activities. Therefore, in order to successfully address the question of why a particular crisis evolved as it did, one must be armed with a conceptual understanding of the way in which decisions are reached which most closely approximates the way in which the decisions of a given crisis actually *were* or *will be* reached.

Virtually all of the popular models of crisis decision-making and indeed of decision-making in general, employ a basic assumption which underlies and structures the subsequent development of those analyses.[1] Specifically, there exists an assumption of *"rational"*[2] action which implicitly structures and regulates explanation, and provides a core understanding of the decision-making process in which various causal and/or mediating factors are treated as though they were supplementary to that intrinsically "rational" process. Perhaps it is because of our pervasive desire for order that we tend to imbue even the most tenuous examples of goal-directed action with a basis in "rational" means-ends calculations which seem to defy the existence of any legitimate alternative. The relevance of this situation to the study and practice of crisis management cannot be underestimated, for it leads unmistakably (and often erroneously) to a preoccupation with the *tools* of crisis management — constituted by decision-making structures such as the National Security Council, information and intelligence gathering techniques, the role of non-governmental advisors, crisis warning systems, etc. In fact, the much more significant constituent elements of a crisis management decision-making structure are *people*, and it is primarily through an understanding of the ways in which their minds operate in processing and acting upon complex inputs that we can begin to understand the process at work in international political crises.

The purpose of this study is to suggest the application of an alternative conceptual approach which seeks to explain the puzzling dynamic of crisis behavior without recourse to simplistic assertions of "irrationality." This alternative model provides a logical explanation of the most important aspects of decision-making situations, instead of discounting the importance of many of these factors because they do not fit into a "rational" conceptual framework.

The approach to be used is based on the cognitive/cybernetic model

1. Note, for example, the rational actor/unitary command models, bounded rationality, instrumental rationality, Bureaucratic Politics, and Organizational Process, as all incorporating certain rationally-based assumptions.
2. Like Steinbruner, we will try to avoid the controversy generated over the word "rational", by substituting it, wherever possible, with the term "analytic," suggestive more of internal logic than of external value calculations. However, insofar as it is necessary to operationalize the concept of "rationality," we will abide by the assumptions found within Steinbruner's analytic paradigm. In short, "rationality" in decision-making refers to a complex series of analytical calculations which provide the optimum means of achieving stated ends which are commensurate with the values held by the decision-maker. This is, in other words, a highly instrumental notion of rationality, and one which (with certain variations) informs the models of rational decision-making with which we will be dealing.

developed by John Steinbruner in *A Cybernetic Theory of Decision.*[3] That theory and its analytic counterpart will be discussed in the context of Graham Allison's models of decision,[4] (especially Model III: Bureaucratic Politics), to show that a cognitive decisional framework advances a more credible explanation of how and why crises occur, than do the less adequate "rational" actor theories of decision-making.

Steinbruner's analysis concentrates on two "paradigms" of decision: the analytic paradigm and a "cognitive/cybernetic" alternative. Although Steinbruner presents the analytic and cognitive paradigms in a rather mutually exclusive fashion, the degree of "successful" decision-making which can be achieved is directly related to the ability of the decision-maker, operating within a basically cognitive framework, to integrate or "learn" the fundamentals of "rational" behavior (i.e., to act in a way which is roughly consistent with the behavior outlined in the analytic paradigm). In terms of international crises, successful decisions are taken to be those which do not act as precipitants for further instability or escalation, and which are generally regarded as satisfactory by the decision-maker. The analytic paradigm, to which we shall turn first, is valuable in describing the way in which decisions *can* be made, and, in fact, the way in which some decisions actually *are* made. The difficulty is that this paradigm does not incorporate the "natural" cognitive processes which play such a central role in decision-making. Instead, it posits as primary, analytic procedures which are undoubtedly useful but nonetheless "artificial", and thus usually supplementary to the decisional processes and outcomes of the cognitive thinker.[5]

The fairly formal rational thinking described by the analytic paradigm is not "God-given" or innate, but is *learned* by different individuals with varying degrees of success through experience and formal study. To assume that this mode of reasoning and decision-making — whether it be of the fairly rigid "instrumental" variety, or of the more flexible "bounded rationality" type — effectively dominates the cognitive processes of most crisis managers *under crisis conditions* is to make an excessively optimistic assumption and one which will be challenged below.

The Analytic Paradigm[6]

An initial assumption must be made that Steinbruner's analytic paradigm incorporates the most significant facets of most models of rational decision-

3. John D. Steinbruner, *The Cybernetic Theory of Decision* (Princeton: Princeton University Press, 1974).
4. *See* Graham T. Allison, *Essence of Decision: Explaining the Cuban Missile Crisis* (Boston: Little, Brown and Company, 1971), pp. 10-39, 67-100, 144-184.
5. The foregoing observation is largely attributable to a Canadian colleague, James Macintosh, who makes much the same point in an unpublished thesis entitled, "Cognitive Rationality and the Sentinel ABM" (Toronto: York University, 1980).
6. Note that the term "paradigm" as used throughout is meant to represent the Kuhnian con-

making into its structure. However, to ensure that the broad range of rationally-oriented models is taken into consideration, more peripheral examples of rational decision-making will also be discussed.

One of the first problems encountered in studying most formal versions of a rational theory of decision is the pervasive tendency, found within those models, to equate "good" or "efficient" decisions with some rational calculation, and thereby to incorporate real-world data into the theory in question in such a way as to make the data appear to be rational. Steinbruner cogently expresses this idea when he writes:

> Formal versions of the rational theory of decision are frequently advanced as *normative* arguments; that is, as statements of how decisions ought to be made with no necessary implications that they actually are made in that way . . . The transition from a normative to a positive model is often made by using the critical assumptions tautologously. That is, the decision process is assumed to approximate the formal ideal, and observed data are interpreted in such a way as to make them consistent with the critical assumptions of the paradigm.[7]

Some of the critical variables involved in the consideration of complex analytic decisions include:

(1) The relation and aggregation of values held by the decision-maker (limited value integration);[8]
(2) The concept of "maximizing" utility;
(3) The view of uncertainty as largely a statistical problem;
(4) The assignment of certain probabilities to values and outcomes (including the "subjective" probability calculations ostensibly made by the decision-maker);
(5) The assumption that decision-makers consciously assess alternative outcomes while intuitively updating outcome calculations as a result of their sensitivity to pertinent information.[9]

It takes no more than a cursory glance at this list of factors to recognize that any analytic paradigm must be scaled to human dimensions if it is to represent actual human behavior. For instance, value integration does not mean the in-

cept of a "disciplinary matrix" containing a number of formal or readily formalizable symbolic generalizations, commitments to beliefs, or shared values, as noted in Thomas Kuhn, *The Structure of Scientific Revolutions* (Chicago: University of Chicago Press,1970), pp. 181-191.

7. John Steinbruner, *The Cybernetic Theory of Decision* p. 26.
8. *Ibid.*, p. 31.
9. *Ibid.*, pp. 32-35.

tegration of *all* relevant values prior to initiating a trade-off process — no decision-maker is capable of this. Rather, it indicates that *some* limited cost/benefit analysis occurs in which a decision-maker evaluates the competing claims (or utility) of certain values he has already selected above all others, in order to balance them and achieve some satisfactory trade-off or resolution.

Formal models of rational decision assume that the decision-maker is perpetually engaged in trying to "get the whole picture," and is virtually always amenable to, and capable of, altering his objectives and outcome calculations in response to new, more pertinent information. There is also the notion that uncertainty exists (i.e., an imperfect correspondence between information and the environment),[10] which affects the way in which the decision-maker structures his outcome calculations, although the decision-maker is presumably able to compensate for this. In addition, the idea of maximizing utility is considered to be a central objective in any "good" decision, lending credence to the assumption that since a rational approach to decision is implicitly concerned with maximizing utility, such an approach must therefore be operative in preferred (and practiced) decisional calculations. Glenn Snyder and Paul Diesing address this point and help to illuminate the crux of Steinbruner's analytic paradigm:

> The "rational actor" or "maximizing" theory treats decision making as a process of maximizing expected utility. It is assumed that there is a single homogeneous good, utility, that is present in all actually desired ends, and that an increased amount of any end brings with it an increased amount of utility, at a steadily diminishing rate . . . Second, a set of well-defined and mutually exclusive alternatives is assumed, from which the decision maker is to choose one. Third, it is assumed that the decision maker is able to estimate the outcome and calculate the expected value of each alternative. Given these assumptions, the decision maker calculates the expected value of each alternative, compares all alternatives, and chooses the alternative that maximizes expected utility . . .[11]

Finally, there is, in analyses of complex decisions, the assumption that more than one actor is often involved.[12] This notion has been lent considerable sophistication by Graham Allison, one of Steinbruner's mentors, in his models of Organizational Process and Bureaucratic Politics, both of which were highly instrumental in the later evolution of Steinbruner's theory. Because these

10. *Ibid.*, p. 16.
11. Snyder and Diesing, *Conflict Among Nations: Bargaining, Decision-Making and Systems Structure in International Crises* (Princeton: Princeton University Press, 1977) p. 340.
12. Steinbruner, *Cybernetic Theory*, p. 36.

models are quite significant to Steinbruner's analysis, and because elements of both models often appear in crisis decision-making situations, it is useful to outline their most essential traits. As the discussion progresses it will become apparent that a "typical" crisis situation is one which is largely dominated by characteristics of the "Bureaucratic Politics" model, with certain "constraints" imposed by an inadequate "Organizational Process." This was especially true with respect to the Iranian crisis of 1978-80.

To begin with Model II, the basis of the Organizational Process paradigm is governmental action as organizational output. The activities of actors take place within certain established physical routines and ". . . constitute the range of effective choices open to government leaders confronted with any problem."[13] Organizational outputs also act to ". . . structure the situation within the narrow constraints of which leaders must make their 'decisions' about an issue. Outputs raise the problem, provide the information and take the initial steps that color the face of the issue that is turned to the leaders."[14] In the case of the Iranian crisis, the primary organizational constraints we will be dealing with are those which were imposed by the intelligence community (and, to a limited degree by the policy-makers themselves), in selecting, assessing and forwarding specific information to the relevant decision-makers, a process which was most influential in the period from approximately one year before the Shah left Iran until the escalatory step marked by the taking of the American Embassy on November 4, 1979.

The output (or, in this case the intelligence information) produced by an organization such as the CIA, is subject to certain parochial priorities and perceptions which are the result of factors as wide-ranging as the career goals of relevant officials and the selective cognitive ordering employed by participants in integrating new and perhaps contradictory information into an approved organizational perspective. The operation of governmental organizations is also influenced by the necessity of paying sequential attention to goals by adhering to "standard operating procedures," by avoiding uncertainty, and by effectively coordinating the activities of members of the organization.[15] In short, organizational activity is predominantly characterized by a "dominant inference pattern" (to use Allison's term), which is responsible for structuring the programs and repertoires (routines) that produce output. In practice, these routines result in only limited alternative courses of action, generally because organizations are concerned more with controlling rather than with presenting options, thereby perpetuating and perhaps enhancing their influence.[16] Ac-

13. Graham Allison, *Essence of Decision,* p. 79.
14. *Ibid.,* p. 79.
15. *Ibid.,* pp. 82-85.
16. *Ibid.,* p. 90.

cording to this model, the assessments made by the intelligence community with respect to Iran meant that the receipt of new, highly contradictory information would be incompatible with the long-established repertoire of intelligence estimates and, if forwarded up the organizational hierarchy, would likely be muted and incorporated into existing repertoires or ignored.[17] It is within this type of constraint that the analytic or cognitive actor must operate; but before proceeding to a discussion of our second type of actor it is important to expand upon Allison's Organizational Process paradigm by looking at his Model III: Bureaucratic Politics.[18]

This model posits that the political "chess game" of competing organizations (and their competing repertoires) is motivated not merely by the reasons found within the Rational Actor model (i.e., the notion of maximizing expected utility), or by standard operating procedures, but by the manipulative skill and political power brought to the political game by the individuals upon whom its course depends. Within this view, governmental action becomes a political resultant instead of an organizational output. The primary ramification of this approach for top-level decision-makers and national crisis managers is that while the President remains the final arbiter of given issues and disputes, the inherent complexities involved in establishing goals, alternatives, and priorities are such that some sort of consensus-building procedure must occur.[19] The President needs the support of his top advisors and of those around him representing influential organizational interests if his decisions are to be successfully arrived at and effectively implemented. It is within this Bureaucratic Politics model then, that certain organizational constraints act, in conjunction with the dynamic of the model itself, to inhibit the pursuit of purely rational decisions.

Steinbruner recognizes that an important aspect of Allison's Models II and III is an appreciation of the necessity for consensus-building in complex situations. Collective decisions within an analytic paradigm are often seen in terms of an individualized entity with a single attributable and plausible view. This makes analysis easier and downplays the personal influence of individual actors. However, this view is obviously insufficient to deal with the procedures involved in arriving at complex decisions. A better way of viewing collective decisions is in terms of consensus-building, as Steinbruner and Allison have

17. This hypothesis is corroborated by an excellent, if concise, staff report, prepared by the Subcommittee on Evaluation, Permanent Select Committee on Intelligence, U.S. House of Representatives, entitled, "Iran: Evaluation of U.S. Performance Prior to November 1978" (Washington, 1979).
18. Allison, *Essence of Decision*, pp. 144-184. Note that Allison refers to Model III as "Government Politics."
19. *Ibid.*, p. 162.

pointed out. Steinbruner has written that the "right" course to take within the analytic paradigm is:

> [the] attempt to evolve by debate and mutual effort a set of calculations which meet the criteria of analytic logic. If a dominant decision emerges from the explicit, shared analysis, then according to the analytic paradigm that should be the one taken. If clear dominance of one alternative does not emerge, then the decision taken should at least be within the range defined by the common calculations if the decision is held to be the result of an analytic process.[20]

This is not to make the assumption that leading decision-makers necessarily act according to their bureaucratic roles, as Snyder has written,[21] but merely that Model III encompasses many of the characteristics responsible for commonly configuring a crisis decision-making environment. In fact, the reason that the nexus between the analytic paradigm and the Bureaucratic Politics model has been recognized is because it is especially important to realize the extent to which the ostensibly rationally-based (but actually cognitively-derived) bureaucratic politics variant characterizes a crisis decision-making situation. In particular the environment described by Model III is one defined by "inordinate uncertainty about what must be done, the necessity that something be done, and the critical consequences of what is done"[22] — all elements which are also central to crisis. In addition, the pace of the game, the multiplicity of issues, possible responses, and competing viewpoints all combine to produce quite specific behavior in the decision-maker. If he is an analytic actor, the paradigm says that he should be able to adequately integrate the above factors in such a way as to achieve a successful outcome. That is, he should not generally be faced with crises because careful consideration of alternative viewpoints and options, coupled with the constant adjustment of desired objectives in response to incoming information, will leave him with expectations and an outcome which are consistent with the realities of the world around him.

That crises *do* occur, based at least partly upon the incorrect perception and interpretation of information which is consistent with the actor's deficient world view, does not mean that the analytic paradigm is of no utility. Rather, it means that within the context of a Bureaucratic Politics model (with, in this case, certain specified organizational constraints), we must search for a more appropriate explanation of decision to determine why it is that crises *do* occur, and with some regularity. As will be shown below, that explanation and the analytic paradigm are not mutually exclusive.

20. Steinbruner, *Cybernetic Theory*, p. 38.
21. *See* Snyder's footnote in Snyder and Diesing, *Conflict Among Nations*, p. 408.
22. Allison, *Essence of Decision*, p. 171.

Organizational routine and intragovernmental bargaining at once represent an evolution of the Rational Actor model (Model I), as well as a tentative step toward a cognitive/cybernetic appreciation of decision-making. That Models II and III share a common origin with Model I is undeniable, but it is equally true that Steinbruner's work can be clearly linked to Allison's second and third models. The similarities between the Organizational Process model and the cybernetic paradigm, and between the Bureaucratic Politics model and the cognitive paradigm are not coincidental, as will become evident with an analysis of Steinbruner's advances below. Before moving to that discussion, however, it is important to be aware of the theoretical "bridge" which exists between the analytic and cognitive/cybernetic paradigms: the concept of "Bounded Rationality."

The theory of "Bounded Rationality" does not view maximizing expected utility — the central tenet of the rational actor approach and of the analytic paradigm — as its objective; but, on the other hand, it is not primarily cognitive either. Bounded rationality is a conception of decision which is rationally-based but psychologically-adjusted.[23] Originally developed by Herbert Simon as an alternative to what he viewed as the impossibility of the human mind to systematically address the complexities of the real world, bounded rationality calls for simplifying reality in one's mind to a sufficient degree that one's limited rational faculty can effectively be brought to bear.[24] However, the greater the degree of simplification, the less optimal is one's consequent behavior with respect to the situation as it actually exists. This is because increasing simplification, by definition, makes perception a less accurate representation of a more complicated reality.

According to bounded rationality, the process of maximizing expected utility found in stricter rational actor models is replaced by the simpler notion of "satisficing." Satisficing means that not all, or even most of the possible alternative options in a situation are considered; the individual is incapable of this. Instead a course of least resistance, one that is good enough, is chosen by sequentially searching for the first option that "preserves endangered goods at an acceptable level."[25] Bounded rationality cannot qualify as part of the analytic paradigm because it involves no value trade-off as the result of limited value integration; the actor cannot measure the good of one value in terms of another and so, satisfices. Thus, functionally, satisficing takes the place of value integration and trade-off, but to include it in the analytic paradigm for that reason would be to stretch the applicability of that paradigm to the point where

23. The preceding phrase is contained in James Macintosh, *"Cognitive Rationality,"* p. 47.
24. Herbert Simon, *Models of Man: Social and Rational* (New York: John Wiley and Sons, 1957), p. 124.
25. Snyder and Diesing, *Conflict Among Nations,* p. 347.

it loses its viability. Recourse to a cognitive approach is necessary because bounded rationality does not expand sufficiently upon the cognitive processes involved in complex decisions, but instead appears to be portrayed as a modified *analytic* approach.

The Cybernetic Paradigm

At this point we may discuss the cognitive/cybernetic alternative as a prelude to analyzing decision-making behavior in the recent Iranian crisis. It should be noted at the outset that the cognitive/cybernetic theory of decision is not merely a restatement of various theories which hold some subconscious capacity of the mind responsible for the performance of complex decisions. To make such a "black box" assumption (to use Allison's term) is to deny the critical logical assumptions upon which the strength of the cognitive paradigm exists. Those logical assumptions derive from two aspects of the developing paradigm — cybernetic logic and cognitive psychology. The core process involved in the cybernetic aspect of the paradigm is characterized by the notions of "short-cycle information feedback and the elimination of uncertainty."[26] The basic decision mechanism embodying these ideas is the concept of a servo-mechanism; that is, a mechanism which focuses decision-making capacity upon a single value or variable and establishes a structured feedback loop capable not only of acquiring and integrating new information but of incorporating the results of the mechanism's own action in modifying its subsequent behavior. Steinbruner cites a more complex version of this notion which helps to develop the idea into a more representative form, with the help of W. Ross Ashby.[27] Ashby uses the example of a cat sleeping by a fire. As the fire grows dimmer the cat moves closer to it, and as it becomes hotter the cat moves farther away. In deciding whether and when to move, the cat does not make a series of complex calculations based upon the heat emitted by the fire, the conduction of the surrounding atmosphere, or a preference-ordering of desirable temperatures. Rather it maintains a set of "critical variables" moving only when those variables move outside of tolerable ranges (much like the notion of satisficing, although without the element of rational calculation implied in satisficing). Moreover, the moves which the cat makes to correct its situation are chosen randomly and the first one to bring the critical variables back within a tolerable range is the one which is selected (in direct opposition to the idea of maximizing).

26. Steinbruner, *Cybernetic Theory*, p. 51.
27. *Ibid.*, p. 53. The discussion which follows comes from Steinbruner, pp. 53-54, and is based upon ideas posited in W. Ross Ashby, *A Design for the Brain* (New York: John Wiley and Sons, 1952), pp. 83-98.

The relevance that this rather simple notion holds for crisis decision-making is enormous, for it suggests that *crisis managers act to keep a set of essential or critical variables within an acceptable range of values* — an observation which, upon reflection, appears rather sensible in view of even a limited knowledge of crisis — rather than integrating and trading-off values in order to maximize expected utility. In other words, the cybernetic example holds that the primary objective of crisis decision-making is to achieve *stability* and *not* to engage in complex calculations beyond those required to obtain this objective (calculations which would be necessary if one were seeking to maximize expected utility). This model will be developed much more fully below, but even at this point it is interesting to note that it addresses as its primary focus the notion of stability versus instability (or certainty versus uncertainty) — a notion which is central to, and implicit in virtually any definition of crisis.

Ashby's analysis continues by suggesting that there are, in fact, two information-gathering mechanisms (feedback loops) at work in a complex cybernetic mechanism: the first, which "carries simple environmental input and in effect represents the process of perception," and the second, which is responsible for monitoring the critical variables and their changes.[28] These represent an adaptive mechanism and one which makes the decisions required to remain within, or return to, tolerable limits largely through a trial and error search. Much the same process occurs with respect to decision-making during crisis situations, in which the high level of uncertainty regarding an opponent's intentions also requires the trial and error consideration and employment of options, in order to return to tolerable levels of political stability.

Herbert Simon has suggested a means of distinguishing between servomechanisms and analytic calculations which is also quite useful for our purposes. Briefly, one can use two descriptions of reality in calculating decisions. The analytic, or "state" description, constructs a model of reality based upon the decision-maker's perception of reality, which is rather like a "blueprint". This approach encourages the decision-maker to act in ways commensurate with the way he would specifically like the world to be. It also carries with it important implications for an understanding of crisis, insofar as crises may occur as consequences of an imperfect correspondence between a decision-maker's perception of reality — his blueprint — and the world as it actually exists.

In contrast to the use of analytic calculations as a framework for decision, the cybernetic approach uses a "process" description of reality. This approach functions more like a "recipe" than a "blueprint," to use Simon's terminology, and posits a series of operations which result in adequate outcomes with a consistency equal to that of the analytic approach, yet without a clear

28. Steinbruner, *Cybernetic Theory*, p. 54.

picture of the actual product as it eventually emerges. Rather, a few critical feedback variables are monitored which indicate appropriate options to include in the trial and error sequence, one of which is deemed satisfactory enough to accept, presumably because it injects a degree of stability or certainty into the situation which is greater than that which existed previously. This permits further decisional calculations to occur with greater confidence on the part of the decision-maker.

In sum, the limited value integration and trade-off calculations which are so necessary to a successful analytic-oriented state approach are replaced — and this is especially germane to crisis situations — by a singular focus on preservative (i.e., stabilizing) values. Of particular significance we may observe that the ability of the cybernetic actor or servomechanism to make successful decisions which are consistent with the external environment is severely inhibited by the existence of instability — the very element which is primarily characteristic of crisis situations. A situation of instability requires the sequential trial and error process to continue and this increases the probability that selected trials will contribute to the instability (or, in our frame of reference, to the crisis) instead of reducing it. Thus, obviously, the cybernetic decision-maker seeks to reduce uncertainty and instability, a factor which Steinbruner calls "uncertainty control."[29] His contention, and one which is compatible with the assumption that the decision-maker is incapable of completing the complex sequence of value calculations demanded of him by the analytic paradigm, is that:

> The [cybernetic] decision maker — primarily and necessarily engaged in buffering himself against the overwhelming variety which inheres in his world — simply avoids direct outcome calculations.[30]

Instead, he focuses on a few incoming variables, and "the decision mechanisms screen out information which the established set of responses are not programmed to accept."[31] In other words, the decision-maker nearly decomposes his environment to the point where he is able to address single values at different times. Of course, his trial and error approach to dealing with those values is influenced by the number of values, or degree of complexity of his environment. Just as instability impairs the decision-maker's ability to return to his tolerable

29. *Ibid.*, p. 66.
30. *Ibid.*
31. *Ibid.*, p. 67. Note too, that this observation is in complete agreement with the conclusions found by the Subcommittee on Evaluation, Permanent Select Committee on Intelligence, U.S. House of Representatives, *Iran*, p. 5, in which the Committee "found indications that senior intelligence officials may have resisted having the NIE (National Intelligence Estimate, for Iran) address the likelihood that the Shah might be ousted before the mid-1980s," a clear case of cybernetic interference.

range of values (i.e., his stable environment), an environment which is not naturally so decomposable likewise presents the decision-maker with complexity which seriously challenges his ability to compensate.

Ashby argues that "a successful cybernetic mechanism must have variety commensurate with its environment. That is, if 'critical variables' are to be held within tolerable ranges, then the decision-maker must have responses to match the possible environmental disturbances that might be encountered."[32] But we have already established that if the decision-maker were capable of dealing with such complexity his capacities would not be unlike those required of the analytic actor. The obvious solution is to vest multiple cybernetic decision-makers with the responsiblity of dealing with a limited number of variables and responses, a common practice in government. Thus, while the practice and development of bureaucratic organizations attempts to follow the tenets of the analytic paradigm — that is, to rationalize and coordinate administrative functions — the mass bureaucracy is actually a functional outgrowth of the cybernetic requirement for multiple decision-makers. In terms of crisis situations, while the introduction of multiple cybernetic decision-makers may broaden the repertoire of responses and perhaps locate stabilizing options more quickly, it is also likely that the cybernetic tendency to simplify in order to achieve uncertainty control will produce results which are incompatible with the complexity of the external environment. This, of course, only perpetuates the crisis environment. However, it does not mean that the cybernetic actor is generally incapable of dealing with complex decisional situations — in fact, most people make most of their decisions adequately and successfully. International political crises, too, are generally resolved satisfactorily (that is, without resort to war). The cybernetic paradigm simply helps to establish why it is that crises occur and tend to escalate — something that models of rational decision and the analytic paradigm would view as anachronistic and inconsistent.

What is required now is an explanation of the cognitive processes which act to make most decision-making situations successful; an explanation with more credibility than the exceedingly complex assumptions which inform the analytic paradigm. For that explanation, John Steinbruner has turned to cognitive psychology.

The Cognitive Paradigm

Throughout this paper we have intimated that the single most important fundament of the calculating mechanism we call the mind is its *decisiveness* — its ability to resolve ambiguity and to *decide*. In cognitive theory the capacity to

32. Steinbruner, *Cybernetic Theory*, p. 68.

infer, to cybernetically relate to the surrounding environment but then "to make inductive inferences which summarize the specific information of immediate experience in terms of general images, ideas, propositions, etc.,"[33] takes us beyond the simpler assertions of the cybernetic paradigm. Cognitive theory asserts that the resolution of uncertainty occurs not simply by avoiding direct outcome calculations, but rather in a *subjective* manner; that is, *on the basis of personal (or group) beliefs which are held largely "independent of evidence from the empirical world."*[34] This idea cannot be underestimated for it represents a cornerstone upon which our explanation of crisis depends.

The rationale for advancing cognitive theory as central to the decision-making process is based on certain explicit assumptions. First, are the (presumably self-evident) assertions that the human brain is the ultimate locus of decision-making, and that there exist certain systemic regularities which characterize the mental processes by which incommensurate values and structural uncertainty are addressed in reaching decisions. If one can accept these premises, three further assumptions may logically follow. They are: a) that there exist such regularities having to do with the structure as opposed to the content of cognitive calculations; b) that most of the human mental capacity which is informed by these assumptions is concerned with simple operations such as direct, immediate perceptions which can be empirically verified; and, c) that most of this cognitive capacity is found outside the realm of conscious experience.[35] While the latter two propositions largely serve to strengthen the basis of the first, it is important to take note of them, and especially to recognize the significance of the last assumption. In essence, it is saying that "a great deal of information processing is conducted apparently prior to and certainly independent of conscious direction, and that in this activity and the mind routinely performs logical operations of considerable power."[36] This cognitive principle acts as a useful link to the principles of the simpler cybernetic mechanism discussed earlier.

There are several regularities that have been identified in the literature, and which should be addressed if a true understanding of how decisions are made is to emerge. Among those regularities particularly relevant for our purposes are, first, the notion of *"inferential memory."* Simply stated, personal experience and empirical analysis tell us that our mnemonic capacity is affected by our ability to structure incoming information in ways which make it more readily accessible at some later point. What we remember, how we remember it (i.e.,

33. Arnold L. Horelich, A. Ross Johnson, and John D. Steinbruner, *The Study of Soviet Foreign Policy: A Review of Decision-Theory-Related Approaches, Rand Report R-1334* (Santa Monica: Rand Corporation, 1973), p. 17.
34. Steinbruner, *Cybernetic Theory*, p. 139, emphasis added.
35. *Ibid.*, p. 92.
36. *Ibid.*

with the aid of which structure), and how it is related to other things in the memory, then, must logically have a significant influence on how we view our world and how we solve problems that arise in that world.

A second and corrollary principle is known as *"consistency"* and, in Steinbruner's words, "simply means that the mind operates in such a way as to keep internal belief relationships . . . consistent with one another, a constraint which affects both the organization of memory and the processing of new information."[37] In other words, the mind normally and routinely engages in a degree of subjective adjustment, distortion, and filtering in order to render incoming information more compatible with existing belief structures. In addition to such distorted perceptions, of course, the mind frequently perceives its environment quite reliably and accurately (Freud's *"reality principle"*),[38] but these correct perceptions must be integrated into existing internal beliefs and thus commonly act as a further constraint on decision-making ability.[39]

In addition to the preceding principles, there are two others of particular importance. Termed *"simplicity"* and *"stability,"* these two principles of economy help to govern the process of perception selection. While the cybernetic mechanism has been designed (or at least conceptualized) to operate within a specified environment for which its repertoire of responses is presumed to be adequate, the earlier assertion that humans compensate for the extreme diversity of their environment by relying on multiple cybernetic decision-makers really sidesteps the issue at hand. In fact, virtually every individual is capable of dealing with more than one issue at one time, and while the collective decision-making of mass bureaucracies is certainly necessary, individuals effectively utilize the techniques of simplicity and stability in trying to order their universe and increase the capacity for decision.

Simplicity is to the more advanced cognitive/cybernetic process what uncertainty control was to the simpler cybernetic mechanism. "The principle of simplicity asserts that cognitive inference mechanisms work to keep the structure of belief as simple as possible."[40] Performing a similar function to that of

37. *Ibid.*, p. 97. For evidence of this principle, Steinbruner refers to F.P. Kilpatrick, ed., *Explorations in Transactional Psychology* (New York: New York University Press, 1961); Leon Festinger, *A Theory of Cognitive Dissonance* (Evanston: Row and Peterson and Co., 1957); and Robert P. Abelson, *et al.*, eds., *Theories of Cognitive Consistency* (Chicago: Rand McNally and Co., 1968). The principle of cognitive consistency is also corroborated by Robert Jervis, *Perceptions and Misperceptions in International Politics* (Princeton: Princeton University Press, 1976), pp. 117-119.
38. This fundamental principle is discussed by Freud in his *Civilization and Its Discontents* (London: Hogarth Press, 1975), pp. 4, 14, 16-17.
39. This is because additional time and effort must be expended in the attempt to interpret objectively accurate input in such a way as to make it consistent with one's subjective belief structure (that is, insofar as that belief structure is not a clear reflection of objective reality).
40. Steinbruner, *Cybernetic Theory*, p. 101.

Thomas Kuhn's paradigm in scientific endeavor, in terms of representing a means of ordering one's universe, the simplicity principle helps in the ordering of information which is so crucial to the decision-making process. This principle is complemented by the concept of stability. As stability, economy requires that to avoid the destructive chain reaction which would attend a major restructuring of beliefs, certain cognitive inference mechanisms resist change in one's core structure of beliefs.[41] The reason that it is "hard to teach an old dog new tricks" is because the basic structure of attitudes, formed at a fairly early age, is extremely resistant to fundamental changes, and becomes more so with time.

These five principles, then — inferential memory, consistency, the reality principle, simplicity, and stability — form the basis of an understanding of cognitive decision-making within a cybernetic framework. It remains to demonstrate how these principles operate in the process of complex decision-making as a basis for analyzing the crisis decision-making environment in a particular crisis situation.

Among the elements of a complex decision (and it is assumed throughout that international crises qualify as complex decisional situations), the question of incommensurate value trade-offs figures prominently. It will be recalled that the analytic paradigm assumes that a process of limited value integration occurs in which values are weighed against each other and a selection made in accordance with the idea of maximizing expected utility. Cognitive theory relies instead upon the premise that value integration, such as it occurs, takes place largely outside of the conscious mind in accordance with the five principles outlined above. Of course, this is not to deny that *some* conscious value trade-offs can and do occur. The issue, however, is whether this analytic process is responsible for *primarily* configuring decision-making outcomes. It is suggested here, that indeed, limited, conscious value trade-offs do occur, but that they take place within a cognitive process which encircles, and effectively constrains the exercise of such analytic calculations by the influence of inferential memory, consistency, the principles of economy, and a basic, core structure of beliefs and values.

Moreover, the greater the degree of uncertainty attending a particular situation, the less likely it is that conscious value integration will occur, and the more likely it is that the decision-maker will rely instead upon his belief structure to present him with unambiguous or commensurate values which can then be pursued independently. In situations of high uncertainty, crises, the reality constraint is weakened — reality cannot be definitively ascertained — and the principle of cognitive consistency forces a dissolution of the value trade-off in question, forcing the decision-maker to separate the values of a complex prob-

41. *Ibid.*, p.102.

lem and pursue each value separately. As Steinbruner notes, "if the point of view that there is no trade-off relationship *can* be taken . . . then it *will* be taken."[42]

With respect to the problem of uncertainty itself, cognitive theory suggests that a primary objective of the mind is to seek certainty which is sufficient to strengthen the reality principle so that accurate and adequate decisions can be made. Certainty permits limited value integration and trade-off to occur by bringing the variety of the environment back within tolerable limits, thereby providing a more reliable framework for decisiveness. Unfortunately, international political crises are not distinguished by particularly high levels of certainty.

Steinbruner asserts that uncertainty is subjectively resolved by strengthening internal beliefs, a process which can occur in three basic ways:[43]

(1) Through the principle of reinforcement and the weight of information in the memory:
(2) by the operation of inconsistency-management mechanisms;
(3) by the effects of small-group interactions.

It is generally accepted in psychology that reinforcement (i.e., a stimulus-response/reward relationship), contributes to the strength of a belief, or in other words, that the strength of a belief is a function of past reinforcement. In terms of cognitive decision-making, this means that,

> if a decision maker attaches very general beliefs to the information which he receives in the decision process, intermittent success with specific decisions will tend to give strength to the general beliefs, quite apart from the validity of the connection in strict logical terms.[44]

42. Jack Snyder, "Rationality at the Brink: The Role of Cognitive Processes in Failures of Deterrence," *World Politics,* Vol. XXX, No. 3 (April 1978) p. 352. Snyder gives a good example of the tendency to deny value trade-offs under conditions of uncertainty, and instead to conceptualize conflicting values as being mutually exclusive when he notes the case of President Kennedy and his advisors during the Cuban missile crisis (p. 355):

> Kennedy and most of his advisors conceptualized the decision in a way that avoided placing their two relevant values (war avoidance and the maintenance of prestige in the international arena) in conflict. They achieved this by conceiving the problem in terms of "risking war now" versus "running an even greater risk of war later." If Kennedy did not act to save U.S. prestige *now*, the loss of that prestige would contribute to an increased chance of war *later* ... Kennedy's decision environment was highly "undetermined." Many and diverse interpretations could be and have been given to the Soviets' motivations ... The rational paradigm offers no guidance as to how such vast uncertainties can be resolved. The cognitive paradigm, however, explains unambiguously, in terms of cognitive principles and pressures, why Kennedy and ExCom decided as they did.

43. Steinbruner, *Cybernetic Theory,* p. 113.
44. *Ibid.*

Similarly, it is surely common experience that information which tends to corroborate or reflect existing beliefs is accepted more readily than information which runs contrary to those beliefs. In fact, one might hypothesize that it takes more new evidence for us to be convinced of a fact which lies in opposition to our beliefs than it does to convince us of a fact which is consistent with those beliefs.[45]

With respect to the second means of resolving uncertainty, we have already discussed inconsistency-management mechanisms such as simplicity and stability. These are supplemented in cognitive theory and in personal experience by the tendency to anchor inferential logic through the use of "simple images and analogies," a practice which is as common in government policy-making circles as it is in our daily lives.[46]

The final aid for resolving uncertainty through the strengthening of beliefs is the process of social corroboration, or "small-group interaction." This is another concept with which we are all familiar and says simply that people prefer (and even *need*) supportive opinions when they are confronted with uncertainty.[47]

In summary, the cognitive mechanisms for the subjective resolution of uncertainty differ fundamentally from those of the analytic paradigm, which suggests that uncertainty is resolved by "probabilistic calculations of alternative outcomes."[48] Instead, *uncertainty is resolved in the cognitive paradigm by categorically abiding by a specified, periodically reinforced set of beliefs.* The mind does not seek to replicate the uncertainty of the environment in all its complexity by calculating the expected utility of various facets (outcomes) of that uncertainty, but rather imposes an image and works to preserve and

45. While I lack the resources to empirically verify this hypothesis, I believe that it is one with which most people, upon reflection (the true test of reasonableness), would agree. As such, it lends further credence to the cognitive argument by illustrating a means of resolving uncertainty (and of making decisions) which is not based on the uncritical rational actor assumptions of creating a model (blueprint) of critical environmental relationships, and altering it as experience accumulates. The cognitive paradigm maintains that internal beliefs play a much greater role than is attributed to them by rational actor/maximizing utility models, and that in fact, belief structures and the mechanisms which preserve and strengthen them, exist to influence decision processes long before analytic techniques have been integrated into an individual's decision process.

46. Examples of this phenomenon abound. Note, for instance, the "Domino Theory" of American foreign policy in Indochina. The Cold War notion of an "Iron Curtain" between Eastern Europe and the "Free" nations of the West (and indeed the idea of the "Cold War" itself), summons forth vivid analogical and metaphorical images. This technique provides internal "anchors" by evoking mental images "around which influence mechanisms of the mind can structure ambiguous information. The beliefs thus anchored have strength independent of direct evidence, a strength which derives from the simplicity and coherence of the inference structure they embody and the role they play in organizing a great deal of unambiguous information." Steinbruner, *Cybernetic Theory,* p. 116.

47. *Ibid.,* p. 121.

strengthen that image. Sensitivity to pertinent information varies according to the degree of congruence between the information and the belief system, but as a general rule, the degree of sensitivity can be said to be somewhat less than that implied by the assumptions of rational actor models of decision and the analytic paradigm.

While cognitive theory utilizes somewhat different assumptions than does the cybernetic paradigm, these elements can be seen as supplementary to the simpler cybernetic construction. Cognitive psychology essentially offers an explanation of how structure occurs, rather than by imposition from the external environment.[49] In situations where the outside environment is stable, highly structured and often routinized, decisions can be seen to revert to the purer cybernetic model (with important, if limited, analytic input as well). However, under conditions of complexity, uncertainty, and instability, the mechanisms of subjective uncertainty attendant to the cognitive paradigm come into full play and indeed dominate the decision-making process.

Before applying these contentions to a particular crisis environment, it is important to establish the connection between the cognitive paradigm (which, from this point includes the simpler, cybernetic elements), and its analytic counterpart. As has been maintained throughout, while the analytic paradigm presents an inadequate explanation of the primary determinants of decision, especially in an environment characterized by subjective uncertainty, it is also true that decisions are commonly made which reflect the process described by the analytic paradigm. In other words, both paradigms are useful to the analysis of decision, although their relative importance must be clearly established. The thesis advanced here is that it is cognitive, and not analytic, factors which are responsible in the first instance for determining the evolution of a decisional situation. In addition, different individuals have the capacity to *learn* the fundaments of analytic decision-making with varying degrees of success. These analytic factors can then be incorporated into the decision-making situation to levels commensurate with the significance of influences like training, issue area, the centrality of the problem at hand to basic values, etc. However, cognitive and cybernetic elements remain as the basic, underlying mode of decision-making.

The cognitive decision-maker continues to employ simplified images of the world and strains to avoid complex decisions by reducing them to single-value problems, more susceptible to single-value, internally consistent solutions. The rational aspiration is a persistent one, however, so human decision-makers who believe in the merits of using analytic decision procedures (and who possess the technical skill to employ them in situations of complexity), will attempt to use

48. *Ibid.*, p. 122.
49. *Ibid.*, p. 123.

those procedures in order to solve the complex decision problems that consistently plague them.[50] Cognitive influences will not be avoided though, and the decision-maker who believes he is free of them may experience frustration.

This cognitive/analytic interface helps to explain both why crises occur and escalate, as well as why decision-makers are usually successful in solving them after some period of time has elapsed. In concrete terms, it is important to realize that the selection of assumptions and pertinent information used in analytic decision-making is particularly vulnerable to cognitive influences. This can be clearly seen in a recent, and particularly illuminating, crisis situation.

U.S. Crisis Management and the Iranian Crisis

The recently concluded hostage drama most closely approximates our earlier definition of a crisis, in the sense that it represented a threat to highly-held national values — American economic interests, international political credibility, and more importantly, American lives — that it occurred between two sovereign states, and that it was distinguished by the increased likelihood of resort to force. Indeed, the whole post-Shah period in Iran has qualified as a crisis for the U.S. in many important respects. It is therefore useful to examine some of the most illustrative facets of the period in order to demonstrate the applicability of the cognitive/cybernetic paradigm.

America's recent experiences regarding Iran, culminating with the taking of hostages by Iranian militants in November 1979, exemplifies the extent to which the tenets of the cognitive paradigm dominate the perceptions and decisions of American policy-makers. As Richard Cottam noted in a recent *Foreign Policy* article, "reluctantly and belatedly, the American media and most Washington officials came to recognize Khomeini's great popularity and the discipline he exercises over his followers."[51]

The reluctance to integrate seemingly contradictory information into a predetermined structure of beliefs — a failing not only of decision-makers but also of those responsible for collecting and aggregating information — is characteristic of the cognitive actor's approach to the world and cannot be viewed as merely a puzzling aberration within an otherwise 'rational' decision-making outlook. Once the assumption is made that a cognitive approach dominated (and still dominates) the American national decisional structure, the Iranian crisis becomes part of a largely predictable pattern; one whose interruption will not occur through administrative design (i.e., by restructuring certain policy-making bureaucracies), but only through a conscious process of individual sensitization to the rules of analytic decision-making and to the constraints imposed on the decision-maker by his primarily cognitive orientation. If a variant of the rational actor/analytic paradigm is accepted, apparent American ignorance of the trends of Iranian history, its self-imposed blindness

to the liberal nationalism of Mossadegh's post-World War II government, and even President Carter's myopic pledge of continued support to the Shah in late 1977, are not merely inexplicable phenomena of limited importance, but indications of a fatal flaw inherent in the analytic approach. The particular escalatory phase which developed in late 1979 as part of a larger, if more diffuse, crisis situation occurred, in part, because American cognitive thinkers, laboring under the weight of imperfectly learned analytic procedures, had placed themselves in a logical cul-de-sac. To continue to act on the basis of supporting an unpopular regime was self-evidently fruitless, but dissociation from that regime would only contribute to the momentum of disintegration and to the burgeoning expression of anti-American sentiment. Ultimately, even the requisite but belated sensitization of the cognitive thinker, acting with the aid of useful analytic devices, would have been inadequate to counter the accelerating progression of events, based as they were on years of fallacious American perceptions and action.

Among the aspects of the crisis decision-making process which are particularly relevant to this analysis, and which are representative of the problem in general, are the role and influence of the intelligence community and of the predominant decision-making structures involved in the Iranian crisis. Central to this discussion is the question of the accuracy and adequacy of the intelligence produced during the Iranian crisis. "Adequacy" here refers both to the effectiveness of the intelligence community in acquiring the information required for an accurate appreciation of the situation and of possible options, *and* to the success of top-level decision-makers in accepting and integrating intelligence output, both discrepant and consistent. The adequacy of information processing is also directly related to the decision-making approach employed in gathering, interpreting and integrating new information. An analytic actor would be expected to remain cognizant of those issues which impinge in virtually any way upon the problem or crisis at hand — cognizant, that is, to the extent that is required to analyze alternative outcomes, to engage in at least limited value integration, and to allow new, more pertinent information regarding central variables of the problem to produce plausibly appropriate subjective adjustments.[52] Was this what in fact occurred with respect to the intelligence gatherers (and users) concerned with Iran? Evidence indicates that clearly it was not.

Specifically, intelligence gathering capabilities in Iran have been weak for years. Abject and unswerving reliance upon SAVAK, the Shah's internal in-

50. For the foregoing point I am indebted to James Macintosh, "Cognitive Rationality," p. 209.
51. Richard Cottam, "Goodbye to America's Shah", *Foreign Policy*, No. 34 (Spring 1979), p. 4.
52. The foregoing are the basic identifying elements of the analytic actor as summarized by Steinbruner, *Cybernetic Theory*, p. 45.

telligence and security service, led to intelligence estimates which failed to capture the legitimacy and fervor of Iran's rebellious population. In a report prepared for the Permanent Select Committee on Intelligence, dealing with U.S. intelligence in Iran prior to November 1978, the authors found that:

> Intelligence analysts observed the demonstrations complacently, underestimating the capabilities of the religious opposition, the breadth of popular opposition, and the extent to which even middle-class Iranians and moderate opposition leaders distrusted the Shah. Intelligence collection . . . provided an inadequate base from which to gauge those capabilities and attitudes.[53]

The behavior of intelligence gatherers vividly demonstrates the tenets of the cognitive paradigm, illustrating the narrowness of perceptions and insensitivity to the range of pertinent information that characterizes the cognitive actor. But actions of the policy-makers too, demonstrated a clear correspondence with the behavior expected of them by the cognitive paradigm, in direct opposition to that demanded by rational actor models of decision. The report illustrates this as it observes:

> Policy makers were not asked *whether* the Shah's autocracy would survive indefinitely; policy was premised on that assumption. *Lack of imagination concerning alternative U.S. policies limited both the search for an accurate understanding of Iran's internal situation, and the receptiveness of intelligence users to such analysis.*[54]

Clearly reminiscent of Steinbruner's cognitive analysis, the report cites the "narrow and cloudy window" through which Iranian pre-revolutionary developments were observed by American intelligence gatherers, who *consciously* refused to integrate discrepant information for fear of offending policy-makers at home, and upsetting existing organizational repertoires. This is a perfect example of how an organizational constraint can impede the decision-making process.

Indeed, misperceptions that do not correspond with objective political reality have been observed at the very highest levels of government with respect to Iran. Another report entitled, "U.S. Policy Toward Iran, January 1979," notes that President Carter, as recently as December 1978, described Iran as "an island of stability in one of the more troubled areas of the world." Furthermore, the President praised the Shah as one who "has moved aggressively to establish democratic principles in Iran, to have a progressive attitude toward social questions and social problems," and commended the Shah's "pro-

53. Subcommittee on Evaluation, Permanent Select Committee on Intelligence, "Iran," pp. 1-2.
54. *Ibid.* Second emphasis added.

gressive administration" as "very valuable to the Western world."[55] This attitude is likely to have been the result of both a reluctance to incorporate dissonant information into pre-existing beliefs and attitudes regarding Iran, and the fact that such information was not readily available to top-level decision-makers, including the President.

Unfortunately, bureaucratic actors commonly fail to explain unsuccessful analytic circumstances in terms of cognitive causes. Even State Department officials, when faced with blatantly inadequate organizational repertoires and intelligence procedures during the Iranian situation, took refuge in the security of cognitive uncertainty control. Rather than entertain explanations for the inadequate quality of intelligence which considered possibilities other than simple technical or logistical oversight, official opinion within the State Department clearly conformed to the belief reinforcement and perceptual biases expected of cognitive actors. This was demonstrated by Assistant Secretary of State for Near Eastern and South Asian Affairs Harold Saunders, who, in testimony before the House Subcommittee on Europe and the Middle East, indicated that it was not a lack of information, of reliable intelligence, or of analysis, that prevented American decision-makers from correctly perceiving the situation in Iran and predicting its eventual outcome. Faced with the inadequacy of the analytic approach in dealing with this problem, the Secretary gave his reason, "that there are some events in human history that are just unpredictable,"[56] an explanation that is singularly "un-analytical."

In the interest of fairness it should be noted that cognitive tendencies have been discerned and acknowledged by some policy-makers. For example, in recent hearings before the Subcommittee on International Security and Scientific Affairs, Bruce C. Clarke, director of the National Foreign Assessment Center, CIA, observed with respect to Iran, that:

> The days are gone, I think, when we kill the bearers of bad tidings; but there is nothing to keep the policy-maker, when confronted with a judgment adverse to that which he wants to believe, from acknowledging only the validity of his beliefs and acting on the basis of it [sic].[57]

However, awareness is nothing if it is not translated into action. In effect, the above views represent an apparent lack of concern over the need for substantial-

55. Hearings before the Subcommittee on Europe and the Middle East of the Committee on Foreign Affairs, U.S. House of Representatives, "U.S. Policy Towards Iran," (January 1979), p. 28. Similar sentiments are also recounted on page 34.
56. *Ibid.*, p. 28.
57. Hearings before the Subcommittee on International Security and Scientific Affairs of the Committee on Foreign Affairs, "The Role of Intelligence in the Foreign Policy Process," (February 1980), p. 80.

ly increased sensitization to pertinent information and intelligence which is either inconsistent with the decision-maker's belief structure, or contradictory to established organizational repertoires. Critical adaptations in the cognitive structures of the decision-makers (insofar as this is possible), are foregone in favor of improved analytic techniques, mechanical capabilities, and little direct intelligence collector-consumer interaction.

In the case of the Iranian revolution, the need for such adaptation or sensitization was evidently not strongly felt. Even if it had been, it is unlikely that the flow of intelligence from post-revolutionary Iran was adequate to furnish policy-makers with an accurate perspective of events there, based as it was on the few contacts established with the opposition before the revolution. Assistant Secretary Saunders sums up this situation rather well when he says, "What I am trying to defend is an *analytical* and an information-gathering process whose shortcomings must be recognized if we are to preserve the integrity of that process even as it exists now."[58] Unfortunately, the Secretary and others like him assume that the shortcomings of the process can be corrected by evermore rigorous *analytic* techniques, when in fact, such shortcomings are indicative of flaws in the very *nature* of a process which is based on rational actor conceptions of human behavior.

Ineffective intelligence also inhibits the policy-maker's awareness of an impending crisis and compromises the ability to make satisfactory decisions. The revolution in Iran and the subsequent hostage situation lend corroboration to this fact. Specifically, in pre-revolutionary as well as post-revolutionary Iran there existed a "pronounced lack of widespread contact with Iranians of various persuasions."[59] When coupled with the stated reluctance of intelligence gatherers and policy-makers alike to incorporate information into their repertoires and belief structures which was uncomplimentary to the Shah and his regime, this set the stage for a series of largely unanticipated developments, and a wholly unacceptable outcome from the perspective of American interests in Iran. In addition, the foregoing observations tend to substantiate the supplemental contention that the actors involved were operating within rather severe organizational constraints. Their repertoires were, in fact, *so* severely delineated that, according to one intelligence analyst, "until recently [1978], you couldn't *give* away intelligence on Iran."[60]

In terms of the intelligence community, the organizational problems of parochial perceptions and limited repertoires are reflected in the practice of National Intelligence Estimates (NIE). Consistent with the principles of cognitive thought,

58. Subcommittee on Europe and the Middle East, "U.S. Policy Towards Iran," p. 60.
59. Subcommittee on Evaluation, Permanent Select Committee on Intelligence, "Iran" p. 3.
60. *Ibid.*, p. 2.

> The mechanics of NIE production tend to discourage a sound intellectual process. After limited discussion of the terms of reference, various sections of the NIE are drafted by different elements of the intelligence community. From the moment when these contributions are linked together in a first draft, basic reasoning and assumptions tend not to be questioned . . . [With respect to Iran,] . . . the NIE process, which should have provided a way for analysts to challenge each other's models, instead mired key personnel in a frustrating search for superficial consensus.[61]

What emerges from this analysis is the picture of an intelligence and policy-making establishment engaged in trying to reach consensus in true bureaucratic politics tradition, and aided by an organizational repertoire which perpetuated the fallacious assumptions constituting the core of that consensus. Pursuing objectives very closely akin to those of the cognitive decision-maker (as outlined in the paradigm) — consistency, reinforcement of belief structures, etc., — intelligence analysts and decision-makers involved in the Iranian crisis clearly demonstrated that the tenets of the analytic paradigm did not inform their actions nearly as significantly as did those of the cognitive model.

Intimately linked with intelligence capabilities and with the interface between the intelligence and policy-making communities is the idea of a crisis warning system; a series of indicators or generalized statements that forecast with some probability that a crisis is likely to occur in a specified area within a specified time frame. While analysis of such systems is not central to this discussion, it serves as an indication of the direction in which study of crisis management is proceeding.

Attempts to incorporate the tools of the social scientist into the study of crisis represent an admirable effort to incorporate some of the learnable fundaments of the analytic paradigm into the lexicon of crisis management techniques. However, such attempts are doomed to failure in the absence of a complementary and requisite increase in the ability and inclination of intelligence gatherers and users to develop more adaptive perspectives on the world. Without increasing the sensitization of those individuals responsible for handling and utilizing the information that originates with unfamiliar cultures and political systems, any crisis warning systems will remain subject to the vagaries of parochial perceptions and interpretations carried around in the minds of its participants. Of course, it is unlikely that this tendency will ever be fully overcome, but to the extent that *any* analytically-based system can be effective, the individuals involved in it must consciously recognize the influence exercised by their prior beliefs, attitudes, and values, and by other cognitive elements impinging on the decision process.

61. *Ibid.*, p. 5.

A recent, classified intelligence report entitled "Warning: An Assessment of Intelligence Community Performance and Capability" concluded by highlighting the importance of unappreciated cognitive elements in uncertain, incipient crisis situations, as it observed, "History provides ample illustration to suggest the futility of warning if decision-makers are unwilling to accept warning or are unprepared to deal with the terms in which the warning comes."[62] So, with respect to one of the key variables of crisis management — intelligence, (and systems designed to enhance its forecasting capability) — it appears evident that, (1) with respect to the developing Iranian crisis, the "inefficiency" of information-processing definitely contributed to the lack of warning concerning impending events, and (2) the inadequacy of intelligence, the lack of warning, and the type of input made to the intelligence process by policy-makers can all be explained more fully and more credibly by recourse to the cognitive paradigm than to its analytic challenger.

The next step in evaluating the applicability of the cognitive paradigm vis-à-vis crisis decision-making situations (i.e., Iran) is to look at the decision-making framework and the problems experienced within that structure. Among the constituted structures for crisis (and non-crisis) decision-making, the National Security Council (NSC) and the Advisor for National Security Affairs figured most prominently. Originally responsible for supervising the interagency policy planning system of the NSC,[63] the National Security Advisor moved from a position of relative obscurity (e.g., Walt Rostow), to one of considerable prominence (e.g., Henry Kissinger, Zbigniew Brezinski). As the "top level decision forum" for national security affairs, it is reasonable to assume that the NSC should play a fundamental role in the management of international crises involving the United States. For this reason it is useful to very briefly outline the structure and function of the NSC as it exists today before assessing the crisis management system that is actually operative.

Among the various agencies of the American government, the NSC has probably been one of the most dynamic in terms of an altering structure and function. From the twelve staff members employed by President Kennedy, the size of the NSC grew to roughly fifty under Henry Kissinger, and is now likely to be somewhat smaller under Richard Allen. According to Philip A. Odeen the two primary functions of the NSC are to advise the president and to carry out the organizational and institutional functions of coordinating and initiating security policies, of forcing decisions on major issues and of ensuring that decisions are implemented.[64] Thus the rubric of the NSC has been expanded

62. Staff Report, Subcommittee on Evaluation, Permanent Select Committee on Intelligence, "Warning: An Assessment of Intelligence Community Performance and Capability," (August 1978), cited in "Iran: Evaluation of U.S. Intelligence Prior to November 1978," p. 7.
63. I.M. Destler, "A Job that Doesn't Work," *Foreign Policy*, No. 38 (Spring 1980), p. 81.
64. Philip A. Odeen, "Organizing for National Security," *International Security*, Vol. 5, No. 1 (Summer 1980), p. 114.

considerably from the simpler facilitating function envisaged by President Eisenhower in the early 1950s. From its unique perspective on the activities of the Departments of Defense and State, as well as over the intelligence community, the NSC is naturally situated to coordinate the contingency planning for crises, as well as to ensure the proper implementation of those plans and to monitor the results. However, this has not been the case in practice. The planning that occurs takes place mostly within the Department of Defense and remains haphazard and largely limited to military responses. As Odeen has observed in a report entitled "National Security Policy Integration," prepared under the auspices of the President's reorganization project (September 1979),

> Within State, the NSC, or other non-Defense agencies, planning for crises gets little attention. Furthermore, such planning is only rarely done on an interagency basis . . . This inadequacy has frequently caused major problems when crises have developed. The lack of an array of complementary policy options (political, economic and military), let alone sound military options, has at times slowed our response to a crisis or led to actions that in retrospect were seriously flawed.[65]

This lack of an institutionalized capacity to ensure the creation and implementation of interagency crisis contingency plans has been largely responsible for relegating the NSC to a secondary role in the planning for, and managing of, crises.

While the State Department routinely assigns numbers of individuals to working groups to monitor potentially unstable situations throughout the world, crisis situations involving the United States quickly draw the President and his most trusted advisors into the center of the decision-making process. In terms of the Iranian crisis, this often informal group had been aided by other bodies such as the Special Coordinating Committee, a deputy-level interdepartmental monitoring organ, and, for a short time by an unnamed interagency group consisting of roughly forty members from State, Commerce, Defense, CIA, and others.[66] The latter body was found to be too large and unwieldy, making it especially prone to leaks, and was abandoned in late January 1980. While several institutionalized groups existed to facilitate the handling of the hostage situation and even to make the routine decisions on a day-to-day basis, the President was still the one responsible for making major decisions, and these were evidently taken without significant prior preparation which is indicative of the *ad hoc,* extraordinary nature of the decisional situation.[67]

65. Philip A. Odeen, "National Security Policy Integration: Report of a Study Requested by the President Under the Auspices of the President's Reorganization Project" (1979), p. 33.
66. Robert Schaplen, "Profiles: Eye of The Storm — 1," *The New Yorker Magazine,* (2 June 1980), p. 55.
67. Such decisions included: suspending deliveries of some $30 million in military equipment to

With respect to restructuring the crisis decision-making framework of the U.S. government to make it more capable of responding effectively to crisis situations, several points must be made. First, any restructuring attempt is immediately and unavoidably constrained from its inception by the bureaucratic politics environment within which it must operate. Thus, to be successful, any such attempt to institutionalize the rational elements of the decision process (especially at the executive level) must appreciate and incorporate the participatory dynamic of previously unstructured multiple advocacy that is intrinsic to bureaucratic politics in practice.

Alexander George has suggested that it may, in fact, be possible to create a formal system of multiple advocacy from the present bureaucratic politics arrangement which could contribute significantly to the President's ability to make effective decisions both in preparing for crises and in coping with them as they arise. According to George, such a system would be dependent upon three key variables:

(1) No major maldistribution among the various actors of: power, influence, competence relevant to the policy issue, information relevant to the policy problem, analytical resources, and bargaining and persuasion skills;
(2) Presidential-level participation in organizational policy-making in order to monitor and regulate the workings of multiple advocacy;
(3) Time for adequate debate and give-and-take.[68]

As a theoretical construct, multiple advocacy holds great promise, and its incorporation into actual policy-making should be encouraged. However, the nature of crisis, and of the actors participating in the decision-making process, pose serious impediments to the successful development of such a system. George recognizes this to some extent when he notes that, "time compressed, stress-producing international crises are particularly likely to strain the workings of multiple advocacy even while making such advocacy more important than ever for obtaining balanced, multisided examination of options."[69] Further, he recognizes that cognitive factors or "decisional premises," to use his term, may act to severely constrain the choice of policy. In conjunction with

Iran (9 November 1979); suspending purchases or Iranian oil (November 12, 1979); blocking all official Iranian assets in U.S. banks and foreign subsidiaries (14 November 1979); breaking diplomatic relations with Iran and imposing a formal embargo on all American exports to Iran (6 April 1980), etc.

68. *See* Alexander George, "The Case for Multiple Advocacy in Making Foreign Policy," *American Political Science Review,* Vol. 66 (September 1972), p. 759.
69. *Ibid.,* p. 759, fn. 34.

firmly established organizational repertoires, we have seen, with respect to the influence of intelligence, that such factors can render decision-makers incapable of correctly assessing and acting upon a developing crisis situation by encouraging them to rely upon inaccurate perceptual biases and belief structures.

Many of the malfunctions of the policy-making process are the result of factors only partially addressed by a system of multiple advocacy. For instance, there may be no advocate for an unpopular policy option, or alternatively, important decisions may be dependent upon a single channel of information.[70] Both of these situations arose in our discussion of the Iranian crisis, and neither is satisfactorily addressed by suggestions which impute rational considerations to largely non-rational decision processes. Multiple advocacy is a useful example of an approach which attempts to confront the impediments to rational decision-making presented by a bureaucratic politics environment heavily permeated with organizational constraints. However, in an unstable crisis situation characterized by efforts to achieve cognitive consistency, to separate and simplify incommensurate value equations, and to bring the external environment back within tolerable limits (i.e., back to the status quo), it is unlikely that multiple advocacy alone would compensate for the stronger internal cognitive and cybernetic influences on the decision process. In short, any attempt to restructure the national crisis decision-making mechanism is bound to be less than fully successful if it does not focus as well upon the primary constituent elements of that mechanism, *people*, and those cognitive aspects of the intellect which are present at all times but which especially come to the fore during periods of high tension born of instability or uncertainty — i.e., crises.

An enhanced collegial style of decision-making as implied by the multiple advocacy or limited adversarial approaches can only act as an external complement to increased personal awareness of internal belief structures and other cognitive influences, and not, as George notes, as a panacea for all the ills of the policy-making process. That such rationalized systems for the presentation of policy alternatives have *not* been established, attests to the fact that individual actors are not primarily rational in nature, as the analytic paradigm suggests. It is also not merely a question of bureaucratic politics preventing the development of rationalized systems like the one described above. The Bureaucratic Politics model is an informal version of just such a system itself.

70. *Ibid.*, pp. 769-780. These and other malfunctions of the policy process are discussed by George in the context of general foreign policy decision-making, but it is important to note that they may be particularly relevant to crisis situations in which the predictability and stability of a multiple advocacy approach are often seriously undermined by the constraints of time and information flow which act to restrict the full advocacy of alternative positions, irrespective of cognitive influences.

Rather, a combination of factors have been responsible, with primary blame falling upon the largely non-rational facets of human nature which dominate the dynamic of individual decision-making.

While the incorporation of learned analytic behavior can help to create a blueprint for action along the lines described by Herbert Simon under conditions of great stability and predictability (e.g., in planning the location of new schools, the number of teachers to be hired, etc.), a crisis environment mitigates against the prominence of pure analytic techniques and instead encourages a mix of cognitive and analytic elements. Under such circumstances the ultimate success of decisions exists in direct proportion to both the degree of congruence between internal beliefs and the external (crisis) environment, and to the ability to effectively incorporate analytic tools into the decisional equation.

It is important to note, however, that even with a substantial increase in individual sensitization coupled with useful improvements in analytic procedures, crisis management is likely to continue to be an *ad hoc* affair. This is due to the fact that while the *structure* of particular crises may be largely similar with respect to broad characteristics (as in our definition of crisis), the *substance* or content of given crises varies so greatly as to mitigate against the establishment of fixed administrative bodies with their unavoidably limited areas of expertise. The diversity of geographic, cultural, political, economic, and military variables is such that it is difficult, if not impossible, to define and address the problem of a crisis until it is already extant, or at least incipient. However, insofar as advance preparation is feasible, its adequacy and effectiveness must eventually be linked to a greater awareness of, and sensitization to cognitive elements such as those discussed in this study.

SUMMARY

Crises are the routine of governments; unfortunately, the successful resolution of past crises by the U.S. has not come about through the conscious cognitive sensitization of individual decision-makers. Instead, the continuing ability of American crisis managers to "do the right thing for the wrong reasons"[71] may be directly attributable to the margin of power which has enabled the U.S. to effectively control the rungs of the escalatory ladder in many international crises. This success has been most pronounced when crises have been viewed in the context of the U.S.-Soviet relationship where control has, in the past, been enjoyed by the U.S., and least pronounced in situations

71. Alan Dowty, "United States Decision Making in Middle East Crises: 1958, 1970, 1973." *Middle East Review*, Vol. 12, No. 3 (Spring 1980), p. 28.

such as Iran and Vietnam, where escalation has occurred at levels where the U.S. does not enjoy such an advantage. The implications of this situation are large. As a general conclusion, they indicate that the continued absence of an awareness of the cognitive influences which act to mitigate against accurate perceptions and successful crisis management, coupled with the diminution of an American margin of power, will likely result in a reduction in the number of crisis outcomes deemed successful by the United States.

Simply stated, the dynamics of the global multipolar environment do not favor a return to the comfortable position of unchallenged American economic, military, and political superiority such as it existed through the 1950s and 1960s. Rather, the transition period of the 1970s, with its Vietnam, Angola, Mozambique, Nicaragua, and Iran crises, suggests that successful crisis management by the U.S. through the 1980s and beyond, must depend instead upon a much more sophisticated understanding of the political, social and cultural requirements and expectations of indigenous populations throughout the world. It is through an appreciation of the cognitive and cybernetic elements which form the primary basis for human decision that such an understanding will occur.