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Michael Cox Ryan

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Signature of Author

Department of Political Science
September 10, 1981

Certified by
William W. Kaufmann
Thesis Supervisor

Certified by
Stéphane Meyer
Thesis Committee Member

Accepted by
Hayward L. Alker, Jr.
Graduate Committee Chairman

Archives
UNITED STATES COMBAT RESCUE OPERATIONS: 1970-1980
by
MICHAEL COX RYAN

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ABSTRACT

Combat Rescue Operations have been conducted by the United States without much success since the Civil War. Using a comparative, analytical case study approach, this study attempts to empirically demonstrate that there are, or are not, common cross-cutting causal variables which operate in widely divergent cases. Three cases are identified for examination: the rescue attempt into North Vietnam in 1970 - Son Tay; the rescue attempt of a merchant marine crew and ship in 1975 - Mayaguez; and the rescue attempt of U.S. embassy personnel in 1980 - Iran.

Ten key variables were identified in the analytical model and were grouped into five hypotheses, defined, and then applied to and tested against each of the three cases. The variables were assigned a "rating" (high, medium, low) based upon: (a) the minimum acceptable determination that they were operative in the cases; and, (b) the degree to which the variables contributed to or detracted from the success/failure of the operation. The variables were: assessment, command, control, communications, speed, surprise, security, force selection, force training, and transportation.

The results of the study indicate that all ten variables operated in each case in clearly identifiable ways. There appears to be a strong relationship between successful overall outcomes and both the presence of a high degree of performance within each variable, and the number of high ranking variables which were operative in the cases. These results are potentially useful to policy and decision makers who are concerned with assessing, planning, training and executing Combat Rescue Operations. Two major conclusions are derived. First, there are indeed cross-cutting, common, causal variables which can be identified, defined, examined, applied, and reliably tested against widely differing cases. Second, there are numerous lessons which can be derived from the examination of the cases and variables; and which are potentially useful in the preparation for, and conduct of, future similar operations.

Thesis Supervisor: Dr. William Kaufmann
Title: Professor of Political Science
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CHAPTER ONE
INTRODUCTION AND METHOD

INTRODUCTION

Except in the Civil War, despite scores of tries, there had never been a successful rescue of prisoners... during all the years of America's military history.¹

This statement reflects the reality of the surprising and disappointing performance of the United States in the conduct of combat rescue operations. The proud military tradition of the U.S. armed forces is somewhat tarnished by the lack of even a single "success" when measured in terms of the rescue of hostages or prisoners from foreign captors. Why this is so poses an intriguing question. The existing answers are spotty and conflicting. A deeper question, supported by a systematic analysis of the problem, might ask: "What have we learned from these operations?" These questions, and the record of performance were the motivating forces for this study.

Combat rescue operations are distinguished from other types of "rescue", "police", and "special" operations in that they generally: (1) are conducted across the borders of unfriendly nations and involve rescues within those nations; (2) are extremely complex with multiphased plans and numerous problem areas; and, (3) are conducted under hostile fire or combat conditions.² A situation or crisis which necessitates this course of action presents unique problems in the areas of assessment, training, and execution. But there are also important considerations and ramifications in the political and diplomatic spheres. These issues and their importance
will be discussed in the sections which follow.

Purpose

This study will examine the cases of recent history related to the U.S. military response to prisoner/hostage situations. The purpose of this comparative case study approach is to examine the operational aspects of combat rescue operations conducted by the United States from 1970 to 1980, and to attempt to discover whether or not there are recurring phenomena or causal factors which influence the outcomes. The study is relevant to defense analyses and studies because the identification of recurring, measurable and causal variables can benefit decision makers, planners and participants. The knowledge of the existence and importance of these phenomena can directly influence decisions whose ultimate purpose is to maximize the probability of success (and conversely, minimize the probability of failure).

The major cases that are examined are: CASE ONE - the Son Tay prisoner-of-war rescue attempt into North Vietnam in 1970; CASE TWO - the S.S. Mayaguez crew rescue attempt near the coast of Cambodia in 1975; and, CASE THREE - the Iran rescue attempt in 1980. These three cases are unique in many respects. However, this author believes that there are critical variables which transcend the superficial differences among the cases and which help to explain the outcomes of these operations. The method of "structured and focused" comparison suggested by Alexander L. George, is a useful method of analysis through which the common causal factors can be identified and examined. The specific method for this study will be discussed in the section titled Method.
Scope

The model in Figure I below shows the general relationship between the focus of this study and others. The focus here is on outputs - the operational aspects of combat rescue operations - as opposed to other foci such as the decision making process or the international diplomatic and political inputs. The model is a simplification of the flow of events from the initiation of the situation until the completion of the effort. When the decision making authority (the President) is confronted with a potential rescue situation he can simultaneously pursue a variety of "tracks" from the diplomatic to the military. When and if the military track is considered, a list of military options are available which reflect a broad range of capabilities from threats to major interventions. If the combat rescue is chosen as an option, it triggers a unique set of planning, training, and deployment activities. The final decision to "go" launches the operation. The period between the "go" and the "end" is the primary focus of this study. But, the link between the preparatory activities and the performance is also important and is part of this focus. The distinction to be made here is that the concern is not so much with the process per se, but rather the extent to which it impacts on performance and the outcome. Assessment, for example, is hypothesized to be very important to the outcomes of these operations, and the organization of the assessment effort is part of the overall assessment process. How the organization of the assessment effort impacted upon the final operation is part of the analysis. But the entire assessment process - organization, routines, agencies, communications flow, etc. - will not be examined.
The "real world" flow of events is much more sophisticated and interactive than the model suggests. Its purpose is simply to delineate the scope and focus of this study. It is hoped that a study of the key variables will result in an identification of the underlying causes of success and failure. Knowledge of why these operations "work" or "don't work" would be valuable to decision makers and planners. It would aid in the organization of the bureaucracy and organizational routines, as well as the design of training and deployment plans.

Why Study These Cases?

These issues do not appear very important relative to the deterrence of strategic nuclear war, or planning for world-wide limited war contingencies. But there are at least four reasons why the circumstances associated with combat rescue operations make them important.

First, hostage-type situations directly challenge the fundamental nature of law and order. With few exceptions, nations outlaw and decry the practice within their borders. Historically, bowing to potential or explicit ransom demands has invited repetition of the tactic. Once the
blackmail cycle begins, it is difficult to halt. On an international scale it is even more difficult. The national morale can become involved in the incident and the ability of the government to successfully rescue the prisoners (through peaceful or forceful means) can become a major issue of credibility for the political leadership.\textsuperscript{4} It has become clear that the Iran hostage crisis had a major impact on the 1980 elections and the direction of U.S. policy.\textsuperscript{5}

Second, calculations of force and military power in the modern world have become increasingly less relevant in these types of situations.\textsuperscript{6} With a military capability literally dozens of times greater than the Iranian capability, the power ratio aided very little in the resolution of the situation. Small, specially trained forces were assembled in order to attempt a precision rescue operation. The idea of a "surgical" response is not new to U.S. crisis managers, and will likely remain an important option.\textsuperscript{7}

Third, these situations are potentially escalatory and pose grave dangers for world peace and stability. A military response to a Soviet or Chinese client state hostage seizure would be a very sensitive consideration for a president to examine. For example, a consideration of a rescue of men believed to be held as prisoners of war in North Vietnam or Laos in 1981 would imply the risk of escalation.

Fourth, these operations are potentially costly in terms of lives, equipment, and the diversion of national time, effort and priorities. Among the three cases, all were costly in one or more of these respects.\textsuperscript{8} Relative to more conventional conflicts in U.S. history, the measurable costs are small. But there appears to be a significant impact upon the
"unmeasurables" such as: national prestige; national orientations; the potential for escalation; military capabilities; and the political and diplomatic costs associated with failure. These unmeasurable costs can be disproportionate to the costs more easily measured in terms of losses of lives and equipment.

Criticisms

Two major criticisms were encountered in researching and examining the cases in a comparative fashion. The first is reflected in the following statement: "There are no similarities whatsoever between Iran and Entebbe, or between any of these combat rescue operations if you really look closely ... It is like comparing horses and cows or apples and oranges they are not comparable." At first glance, the conclusion appears to be true. But, if the question is profitability, the comparison of horses and cows becomes an economic choice constrained by measurable criteria. If the question is nutritional value as measured by vitamin C content, the comparison of apples and oranges becomes a chemical comparison based on the scientifically measurable comparison of the vitamin content of the two fruits. In both of these analogies, the questions one asks seems to dictate whether or not the cases can be compared.

The second criticism is that extracting lessons from dissimilar cases is highly subjective and of little empirical value. However, if it can be demonstrated through empirical analysis that there are common causal variables which operate across a wide range of cases, then lessons extracted from those variables would at least be empirically based.

An awareness of these criticisms contributed to the logic of this
analysis. In this study a sequence of questions will be asked and their answers examined as an organizing tool to cut through and across the unique and divergent characteristics of the cases. The questions are aimed at discovering the important causal variables which contribute to the outcomes of these operations. The major questions (and where they are most thoroughly examined) are as follows:

- How are the cases comparable? (below)
- How do you measure success and failure? (Chapter 4)
- Can you identify the important variables which contribute most directly to the outcome of the operation? (Method, "hypothesis generation", below)
- Can you discover the relationships and weights among the variables? (Chapter 3)
- Can you develop a model which would be useful? (Chapter 4)

These questions provide a framework within which superficial differences can be discounted and substantive conclusions about common phenomena can be hypothesized and tested. The above criticisms are important but avoidable for the most part.

As a point of clarification and illustration, the first question above is addressed here. "How are the cases comparable?" This author would suggest that there are several interesting comparisons and contrasts across the three cases even on the superficial level - a direct challenge to the first criticism. These comparisons and contrasts also raise questions early on about the cases which should make the case scripts in Chapter 2 more interesting and illuminating.

Seven comparisons and contrasts illustrate similarities on a super-
ficial level. 10 (1) Son Tay and Iran were sophisticated and detailed operations with very closely calculated risks and estimated (by the planners) high probabilities of success. Mayaguez was more conventional and straightforward, with little time available for detailed planning. It was also lacking in any detailed estimate of success other than a sure knowledge that the U.S. had superior forces and the determination to secure the release of the crew and ship. At best, the Koh Tang Island assault contributed in a very indirect way to the release of the crew. 11 (2) Son Tay and Iran posed similar difficulties for the penetration of unfriendly airspace over long distances. Mayaguez presented the problem of assembling and moving forces from widely separated locations on short notice. (3) All three operations involved the use of helicopters (of the 53 series) to insert the rescue force, and the use of supporting aircraft such as the C-130 Hercules transport or navigational models, and various tactical supporting aircraft. (4) All three operations were planned and directed at the highest levels of the U.S. government. Son Tay and Iran were planned and launched within six months. Mayaguez was the culmination of barely sixty hours of preparations. (5) Son Tay was planned and executed in the context of the Viet Nam war; whereas the other cases were in periods of relative peace. (6) The American's held at Son Tay were prisoners of war, but they were also pawns in the Paris peace negotiations — and in effect, hostages. The crew of the Mayaguez was in an unknown status. The President assumed that the Cambodian intentions were hostile and suspected eventual ransom or propaganda demands. The U.S. personnel in the Tehran embassy were clearly hostages held for ransom. (7) The Son Tay mission was generated by an intelligence discovery by a low level unit,
rather than in the context of a public crisis - this fact greatly eased
the problem of maintaining secrecy. Mayaguez and Iran on the other hand
were generated within the contexts of public awareness and the secrecy
problem was therefore more difficult.12

The similarities on this level allow the operations to be grouped as
a class. Beyond these considerations there are underlying and more funda-
mental similarities as well. What role does secrecy play? How important
is the achievement of surprise? How these and other more fundamental
variables will be examined is discussed in the following section.

METHOD

The methodology employed in this analysis is organized around the
answers to two central questions: (1) What hypotheses can be generated
for success and failure?; (2) How can these hypotheses be tested within the
format of a structured comparative analysis? The answers are discussed in
the following two subsections on hypotheses generation and hypotheses test-
ing.

Hypotheses Generation

Ten important variables were identified as important to the outcomes
of rescue operations: assessment; speed; surprise; security; command; con-
trol; communications; transportation; force selection; and, force training.
(The definitions and implications of each will be discussed in detail in
Chapter 3). These variables were derived from the study and analysis of
several foreign experiences, most notably the Israeli rescue at Entebbe
and the German rescue at Mogadishu. Additionally, U.S. service manuals and military doctrinal publications provided the theoretical framework for the identification of the variables. A detailed analysis of how these were developed is beyond the scope of the current study. However, the variables were developed independently of the three cases to be examined here.

These ten variables appear to have a great impact on the outcomes of these operations. The causal link to ultimate favorable results and the interrelationships among the variables are not known. But in the Entebbe and Mogadishu cases the highly favorable outcomes were critically dependent upon the variables listed above. To approach the problem of applying the variables to three U.S. cases, the first step was to group similar and apparently related variables into a single hypothesis with multiple parts. For example, it is simpler to discuss command, control and communications within the context of a three part hypothesis; but the artificial grouping does not degrade the independence of the variables.

The ten variables were then grouped into five hypotheses. For example, in the command, control and communications hypothesis, it is stated that if the operations were successful, then their success was critically dependent upon effective command, control and communications. (The definitions are contained within the hypothesis statement.) In Chapter 3, each hypothesis is followed by a brief discussion of the concept and meaning of the variable(s) as they apply to the combat rescue operations in general. A sixth hypothesis was generated but not listed. It was based on an eleventh variable - planning. A corollary to "planning" was "contingency planning", or the detailed preparation for uncertainties and unforeseeable
circumstances. However, these two variables and the sixth hypothesis were not presented separately. Instead, the element of planning (and particularly contingency planning) is inherent and implied within each of the other five hypotheses. For example, consider communications. Planning the communications for a complex operation is essential and is part of the function of communications in the operation. It is very difficult to evaluate the role of communications in a combat rescue operation without a basic knowledge of the requirements as they were reflected in the plan.

In short, the five hypotheses state that success and failure can be accounted for by the level of performance of the key functional variables. The next step is to develop a method for testing the hypotheses.

Hypotheses Testing

The concept of hypotheses testing employed here follows three distinct steps. The first step is to construct a model in tabular form through an analysis of the appropriateness and performance of each of the hypothesis to each of the three cases, considered in chronological order. The format is reflected in the chart in Figure II below. The distinguishable aspects of each hypothesis will be assigned a rating based on an analysis of its application and function in each of the three cases and will be "high", "medium", or "low". The perspective in time for rating the performance is after the fact - hindsight with the benefit of detailed knowledge. A high rating reflects the conclusion that the variable was operative and functioned in a highly favorable and beneficial manner to the performance of the operation. A medium rating reflects a performance in a less beneficial manner. A low rating reflects a rating which is based on the conclusion
that the variable(s) was operative but the performance was poor.15 (These ratings could be viewed probabilistically. A high rating might correspond to a .98 chance of success; a medium to a .80 chance; and a low to a .65.)16 This is accomplished in Chapter 3.

The second step is to develop a definition of success and failure, independent of the hypotheses and variables above, and according to which the three cases can be rank-ordered into relative positions of the most successful to the least successful. This is accomplished in the first part of Chapter 4.

The third step will then be to rearrange and rank order the cases vertically and horizontally and to rearrange the ratings from high to low in an array which is basically a rearrangement of the model in Figure II. The model can then be examined for any evidence of Guttman-type scaling17 and relevant conclusions can be derived, if any. The combination of testing, ranking and rearranging should provide some interesting results which are presented in the third part of Chapter 4.

\[
\begin{array}{ccccc}
\text{HYP I} & \text{HYP II} & \text{HYP III} & \text{HYP IV} & \text{HYP V} \\
\text{CASE ONE} \\
\text{CASE TWO} \\
\text{CASE THREE} \\
\end{array}
\]

\text{FIGURE II}

\text{Other Considerations}

There are several complications associated with a study of this
nature, and an awareness of them should minimize distortions in the analysis. First, these operations are inherently complex. There are numerous processes underway simultaneously during the crisis – assessment, planning, evaluation and training, decision-making, execution, etc. They are overlapping, interrelated, and often constrained by time and resources. They are shaped and influenced by a multitude of factors such as personnel, experience, available equipment and technology, and perceptions. The extraction of variables is a simplification of this complex and uncertain unfolding of events. But, the reduction of the performance of the operation to the proposed model is accomplished with a sensitivity to the difficulty of making clear judgments. It is for this reason that relative ratings and rankings with supportive analysis and evidence, rather than precise value allocations, are proposed and utilized.

The second consideration is that there are several imponderables which enter into this kind of study. How important is luck? Does "Murphy's Law" really operate? Luck appears to be, and with substantial mathematical justification influenced positively by maximizing the probabilities of factors which induce success, and minimizing the opposite. Several questions which will be raised in Chapter Two and addressed in Chapter Three relate to these imponderables. Was it bad luck that the prisoners were moved out of Son Tay? Or, was it due to a security leak, the failure of intelligence to detect it, or a failure in the evaluation of the intelligence which suggested it? Was it bad luck that the Mayaguez rescue force assaulted the wrong island with the wrong tactics at the wrong time? Or was this case another intelligence or judgment failure? Was it bad luck in Iran that an excessive number of helicopters failed, dust storms
were encountered and a pilot flew into another aircraft? Or, was it due to poor planning and training? "I don't believe in luck" is one of Gregory Peck's most famous lines from a World War II movie, Twelve o'Clock High. That line summed up his belief that discipline, training, planning and other important factors under man's control determined the outcome, and not some blind act of nature for which you cannot prepare. There are indeed acts of God and major unforeseeable random events for which no amount of preparation can dictate success or preclude failure. But in the three cases examined here, such catastrophic and uncontrollable factors apparently were not the critical determinants.

Murphy's Law is a close relative of luck. It states in effect that if something can go wrong, it will go wrong. Every military planner has heard of this law. If you do not plan for contingencies they will occur. The law is of course unscientific and somewhat superstitious, but it is reinforced by a wealth of experience. Planning for contingencies, especially equipment failures, seems to frustrate the impact of this "law". In the three cases here, the law seemed to operate. But, the impact of the unforeseen contingency in each case was mostly a reflection of the planning and preparation for the range of things that could go wrong.

Finally, hindsight often prejudices analysis by injecting facts and conditions that were unknown at the time. Escaping from the circumstances and looking back from an omnipresent eye is often unfair as a basis for criticism. But the purpose is not to criticize. Rather, it is to analyze the case of recent U.S. experience with the intention of deriving conclusions that will be benefit in future similar operations. The men and women associated with these operations were, and are, dedicated,
courageous and self-sacrificing. Any criticisms of these operations are not directed at them, nor in any way intended to detract from their heroic efforts. This study is undertaken with the spirit of learning from past mistakes in order to prevent their recurrence in the future. Avoidable errors cost lives and resources unnecessarily.
FOOTNOTES


2. This typology is my own based on my analysis of the key distinguishing characteristics of this type of operation. The typology deliberately allows for the inclusion of a wide range of military-type rescues; from commando raids to larger conventional operations.


7. Ibid.

8. In terms of lives alone: in Son Tay, two were wounded; in Mayaguez, 26 were killed and fifty wounded (not counting fifteen killed in the deployment phases); in Iran, eight were killed and seven were wounded. In terms of major items of equipment: in Son Tay one helicopter and one F-105; in Mayaguez, ten damaged or destroyed helicopters; in Iran, seven helicopters lost and one C-130 transport destroyed.

9. Interview with anonymous Iran rescue military planner. The sentiment reflected in the quotation was encountered frequently in interviews and in the literature on comparisons of these operations; especially a comparison of Iran to Entebbe.

10. A conclusion based upon this author's analysis and evaluation, evidence in the public record, and evidence presented in Chapter Three.

11. This is a controversial point addressed in more detail in Chapter Four.

12. In the interview with Major General Gray, he felt that the difference in level of difficulty in maintaining security between Iran and Son Tay was about ten to one. The degree of difference is debatable, but the point is well-taken that the level of difficulty is an important consideration to keep in mind when evaluating or comparing these operations.

13. See *Bibliography*.

14. Ibid.
15. A fourth rating is implied here, and that is, "Not Applicable". If a variable is inapplicable it will be so identified.

16. A planner might view this rating from the standpoint of calculations of probabilities of success based on the likelihood of successful outcomes for particular cases and variables. A high probability of success variable might serve as a guide for planning or training in a future operation. More importantly such a probabilistic rating might be encouraging to planners to hedge strongly against contingencies by building redundant systems and flexibility for contingencies into the operation. If, for example, it could be shown that a highly reliable means of transportation is essential to success, then a planner or decision maker would be wise to build safety margins, in terms of reliability and numbers, into the operation of sufficient size as to assure the performance of the transportation function.

17. The method is based upon notes and discussions with Professor Stephen Meyer, Political Science Department at M.I.T., and is borrowed from the statistical Guttman procedures. In this simplified method, the analysis is nonstatistical. The arrangement of the cases and variables on vertical and horizontal axes in the form of a tabular array might yield meaningful results if patterns exist across the cases, and a rising curve cuts across the cases identifying the most relevant variables to success and failure in the cases examined.

18. The conclusion is based upon completed analysis of Chapter Two and Three.

19. Ibid.
CHAPTER TWO

CONTEXTS AND OPERATIONS OF THE THREE CASES

CASE ONE -- Son Tay, 1970

Origins of the Crisis

On May 9, 1970, an intelligence analyst with the Air Force 1127 Field Activities Group, Fort Belvoir, Virginia identified two North Vietnamese prison camps that appeared to hold American prisoners of war. One of the camps, Son Tay, was located in a relatively isolated region, 23 miles west of Hanoi. Reconnaissance photographs revealed a unique arrangement of rocks in the vicinity of the prison compound, which were analyzed and deciphered by the intelligence analyst. His theory was that American POW's, probably performing hard labor, had piled the rocks in such a fashion as to deceive the prison guards, and in a form which sent a message in code. The message indicated the presence of American POW's, and requested a rescue. Information was disseminated from the intelligence community to the Chairman of the Joint Chiefs of Staff at the Pentagon and eventually to an organization called SACSA (Special Assistant for Counterinsurgency and Special Activities). SACSA eventually became the organization which managed the operation for the Chairman of the JCS. By May 23, the Chairman (General Earl Wheeler) had made the decision to study the feasibility of a rescue operation, and to organize and proceed with the effort.

International Context

In the international context, the United States was negotiating with
the North Vietnamese at the Paris peace conference, and it had become clear to the Administration's negotiators that the American POW's were hostages to be used by the North Vietnamese as a strategic bargaining chip. The talks were stalemated. Despite the termination of bombing of North Vietnam in 1968, progress towards an agreement had been slow and painful. The President elected to expand the war overtly into Cambodia on April 28 with a conventional ground and air operation in an attempt to eliminate North Vietnamese sanctuaries, and slow the resupply of the Viet Cong forces in the South. The invasion was very unpopular internationally and instigated renewed and intensive criticism from allies, as well as triggering heightened polemics and tensions with adversaries.

**Domestic Context**

Several events in the spring of 1970 made the domestic context very difficult for President Nixon. Protests against the war reached a new high with demonstrations at the White House over the Cambodian invasion and which caused the Secret Service to surround the White House grounds with city buses parked end to end. A few days later, the National Guard fired upon and killed four students in a demonstration at Kent State University. Additionally, two of Henry Kissinger's assistants resigned over the Cambodian invasion, and Congress as well as the nation were becoming increasingly polarized over the lack of progress in the peace process, and the overt expansion of the war into Cambodia. The POW issue was a very salient one for the American people, as well as for the Administration's leaders. Reports of the mistreatment and death of a number of POW's, coupled with the general frustration over the stalemated talks and mounting
causality rates, helped to create a context in which a raid into North Viet-
nam to free American POW's was seen as highly desirable, but politically 
risky.

The Operation

In phase one of the operation, beginning around June 10th, a fifteen 
man feasibility study group was authorized by the JCS. The group, under 
SACSA control, began serious planning and utilized expanded intelligence 
means to prepare the tentative rescue plan. Additionally it was tasked to 
select the appropriate leaders, forces, equipment and training sites. 
(Tragically, the American POW's were moved out of the Son Tay prison camp 
on July 14th. Ironically, this was the day after the ground force command-
er, Colonel Simons, was chosen to lead the rescue mission and months before 
the rescue attempt. Unknown at the time, the planning continued,) By 
August 28th, the plan had been finalized, subject to improvements and 
changes necessitated by revised intelligence estimates. 

Phase two began about September 9th, and included the completion of 
the selection of the forces, intensive training, preparation of equipment 
and briefings, and the comprehensive evaluation of the force's readiness. 
By October 10th, the force was ready. The first time frame or "window" 
for the launch was October 20-25, primarily determined by anticipated 
weather considerations. But this first window was delayed by the Presi-
dent because of a degree of progress at the Paris talks, reservations on 
the potential impact of an "invasion" of North Vietnam on the domestic and 
international tensions, and poor weather. By early November, and after 
the first window passed, it became apparent to the President that the Paris
talks were hopelessly bogged down, the North Vietnamese were violating a whole series of "understandings" associated with the bombing halt, and there was more news of American POW mistreatment and death in North Vietnam. The combination of perceptions led President Nixon to reconsider the use of the rescue force. The second launch window selected was November 21-25. The major consideration was that a failure to launch in this period would probably incur a delay until spring -- after the monsoon rains and poor weather conditions had subsided. The Secretary of Defense gave tentative approval to the Chairman for deployment and final preparations. The force was deployed to Thailand; equipment was readied; and the final go ahead was received on the 18th of November.

In phase three, the Task Force Commander, Brigadier General Leroy Manor, awaited the break in the weather considered necessary for the mission's success. The break came on November 21st, and the force launched from Thailand, flew over Laos, and on into North Vietnam. The rescue team assaulted the prison compound at Son Tay accompanied by diversionary missions of Naval and Air Force aircraft. The compound was indeed occupied as the reconnaissance photographs had revealed, but there were no American POW's. The rescue force completed a reorganization and consolidation after a brief but explosive firefight with local enemy forces, and the U.S. force departed the area without a single rescued prisoner of war and after twenty-six minutes on the ground.

The operation was marred by a potentially serious command, control and communications problem. The failure of the intelligence assessment regarding the POW's exposed the Administration to the criticisms of having "invaded" North Vietnam and having failed to verify that there were POW's
at Son Tay. There were other failures and problems as well, and these will be discussed in more detail in Chapter Three.

CASE TWO -- Mayaguez, 1975

Origins of the Crisis

The S.S. Mayaguez was a thirty-one year old cargo ship, captained by Charles T. Miller and a crew of thirty-nine men. The ship was under U.S. registry, was owned by Sea Land Services, Incorporated, and all thirty-nine members of the crew were U.S. citizens and civilians. The Mayaguez was sailing enroute from Hong Kong to Sattahip, Thailand with a containerized cargo of commercial items. The ship carried no weapons, ammunition, or spy equipment; the cargo consisted essentially of food, clothing, medical supplies and other commercial products. On the morning of May 12, 1975, the Mayaguez was fired upon by Cambodian gunboats, boarded, and seized by Khmer Rouge coastal forces in the vicinity of Poulo Wai Island about sixty miles west of the Cambodian mainland, and about six miles south of the island. During the seizure, the Captain sent an S.O.S. and a report which was received in Jakarta, Indonesia. The notification of the seizure was passed on to the U.S. embassy in Jakarta and forwarded to the White House through embassy channels. The Mayaguez was led to the island of Poulo Wai where it anchored and spent the night (local time). The Cambodians attempted to move the ship into the port of Kompong Som, but Captain Miller's delaying tactics successfully prevented it.
International Context

International tensions were acute at the time of the seizure. Tensions heightened in the world with the fall of Saigon on April 30, 1975, following the fall of Cambodia thirteen days earlier. The fall of Saigon marked the termination of the era of U.S. involvement in Southeast Asia in which massive resources were committed and without apparent success, and the credibility of U.S. power was seriously weakened by the physical defeat of the South Vietnamese on the battlefield. Maxwell Taylor concluded that "One is obliged to assume that an immediate consequence of this tragedy will be widespread loss of confidence in our reliability, particularly among allies nearest the scene." Other events contributed to the tension. The first and still recent resignation of a U.S. president under the criminal implications of "Watergate" raised serious doubts about U.S. leadership. Secretary of State Kissinger's efforts to forge a settlement in the Sinai amid renewed threats of war by President Sadat of Egypt were rebuffed by Israel. The dispute between Greece and Turkey over Cyprus threatened NATO's southern flank and disturbed the security of the alliance. The oil price hikes of 1973 and the subsequent shocks to the economies of western nations pushed many nations, and particularly the U.S. into a recession. The combination of these events created a crisis of confidence at home and abroad. Many questioned the will of the U.S. to meet its commitments.

Domestic Context

Domestically, the context was equally difficult. Gerald Ford was a president without an elected mandate. He has succeeded to the presidency
under the storm clouds of Watergate and the Nixon pardon, and in one of the most politically disturbing periods of U.S. history. Americans were frustrated and confused over world events, particularly Southeast Asia, and about the only consensus was that the decision to escalate the Vietnam war in 1965 was probably the most "disastrous American decision of the century." There was no broad consensus among Americans in general, the Congress, the Executive, or policy analysts regarding the future leadership role of the U.S. in world affairs. The seizure of the Mayaguez shocked the American public and President Ford perceived it as a test of U.S. will and resolve. These domestic factors were interrelated with the international ones, and they combined to create a situational context in which a strong and forceful response was perceived by the President as necessary.

The Operation

The first phase of the crisis covered essentially the first twenty-four hours. Notification of the seizure was received at the State Department and forwarded to the National Military Command Center at the Pentagon and to the Situation Room at the White House. The JCS acting Chairman, General David Jones, ordered reconnaissance efforts to locate the ship and confirm the report. The President and Secretary of State were notified of the situation early that morning-May 12, 1975. President Ford met with the National Security Council at noon to discuss the crisis. A consensus of opinion was reached at the first meeting. Objective "one" was to recover the ship and crew; and "two" was to do so in such a way as to demonstrate firmly to the international community that the U.S. could and would act with firmness to protect its interests. In addition to
developing objectives, the first NSC meeting initiated the diplomatic process, movement of military forces to the area, contingency planning, and informing the public. During the remainder of this phase, the ship was located by reconnaissance aircraft, and tracked in its move from Poulo Wai to Koh Tang Island. The machine gun fire from the Cambodian gunboats directed at U.S. observation planes seemed to signal hostile Cambodian intentions.

Phase two of the crisis covered the period from early Tuesday morning to Wednesday afternoon. By early Tuesday morning intelligence reports confirmed the report that Cambodian gunboats were escorting the ship to the mainland. As reports flowed in to the White House, the President and his advisors became concerned with the means to prevent the movement of the crew and ship to the mainland. Assets were identified, and U.S. aircraft were authorized limited demonstrations of force to fire across the bow of the Mayaguez and the gunboats. Eventually, the Cambodian gunboats disregarded the warnings and the President authorized the sinking of any gunboats attempting to sail to the mainland. A fishing boat with Caucasians aboard was allowed to move into Kompong Som on the mainland only after warning shots across the bow and "gassing" the boat with riot agents failed to stop its movement. From this point forward, no U.S. decision maker knew with great reliability the location of the entire crew. Later reports revealed that four gunboats had been sunk by this time.

The National Security Council met for the second and third times during this phase. The second meeting was a review of the latest intelligence, refinement of contingency planning and continuation of the
diplomatic effort. The third meeting was held Tuesday night. At the meeting, a review of the combat action and intelligence reports, coupled with discouraging and unfruitful diplomatic efforts revealed that the available options were diminishing. Shortly after the meeting, planning guidance was issued for the likely rescue operation. Between the third meeting that night and the fourth held the next afternoon, the evolution of events confirmed the need for the rescue in the minds of the President and his advisors. Diplomatic efforts had failed. Clear warnings followed by the sinking of gunboats had failed to convince the Cambodian government to return the ship and crew, Cambodia was perceived as a hostile country, and the U.S. had no direct way of communicating with the new Khmer government.

Phase three began with the fourth NSC meeting and the order to begin the rescue operation. The plan of operation consisted basically of three simultaneous actions: first, one element would seize the Mayaguez; second, aircraft from the Coral Sea would strike the Cambodian mainland and support the other operations; third, a Marine battalion would conduct a heloborne assault on Koh Tang Island in two waves to rescue the crew believed held there. In the actual operation, the ship was seized without firing a shot — it had been abandoned. The strike aircraft bombed the mainland with little opposition. But the Koh Tang Island assault quickly became a major problem. The expected resistance was greatly exceeded by actual resistance by strong defenders on the Island. There were severe command, control and communications problems. The assault force was quickly separated and pinned down by effective enemy fire. (The Cambodian officials holding the crew meanwhile released them in a Thailand fishing boat which was
intercepted and rescued by a U.S. destroyer.) The operation on Koh Tang became a question of extracting the force with minimum casualties. The combination of problems on the Koh Tang assault contributed to the deaths of 26 servicemen (and fifty wounded), and severe damage or destruction to ten of eleven helicopters. But, the crew and ship were recovered, and the U.S. had demonstrated its will and resolve. Overall, the operation was considered a success by the President, most of the Congress,\textsuperscript{19} and the American public.\textsuperscript{20} But the rescue operation on Koh Tang Island was clearly not a "good" operation, and merits further study as to "why?",

\textbf{CASE THREE -- Iran, 1980}\textsuperscript{21}

\textbf{Origins of the Crisis}

On November 4th, 1979, Iranian student militants stormed the United States embassy in Tehran, Iran, and seized American embassy personnel, visitors, and some Iranian workers. Shortly thereafter, a small group of prisoners was released, but fifty-three Americans remained in captivity until a negotiated settlement was finally reached and the hostages released on January 20th, 1981.

Shortly after the seizure of the embassy, it became apparent that the students were acting with the blessing of the Ayatollah Khomeni, Iran's revolutionary religious leader. "Ransom" demands for the release of the "hostages" were soon articulated by the students and refined by the government. The event was received with incredulity around the world. This was the first time a government in modern history had participated in such a blatant violation of international law and become a party to what was
formerly considered a terrorist tactic. President Carter was notified of the seizure on the 4th of November, and before the full implications of the Iranian government's role were known, the U.S. denounced the act and demanded the return of the embassy and the freedom of the embassy personnel. In the days that followed, the President utilized the NSC and later, a modified crisis action group to deal with the situation on a continuing basis. The President renounced direct military action as a viable option the day after the embassy was taken. The receipt of a series of demand through unofficial channels heightened the seriousness of the situation and the U.S. denounced the seizure as criminal international blackmail.

**International Context**

In the international context, the U.S. was at war with no country and suffering no major confrontational crisis except for continuing economic difficulties and frictions within the membership of the Atlantic Alliance. The following month, the seizure became immensely complicated by the Soviet invasion of Afghanistan, and 1980 became a long year filled with frustration and crises for the U.S. and the world. The renunciation of the use of force and the alternative pursuit of diplomatic and economic sanctions against Iran was complicated by the balking support of allies and turmoil within Iran. The sanctions against the Soviet Union over the Afghanistan issue also contributed to the frictions within the alliance. The consideration of options was accomplished with these larger issues in mind. Track "A" -- the political, diplomatic and economic track -- was pursued publicly; while Track B -- the military track -- was pursued
in great secrecy. The military option to rescue the hostages was immensely complex due to a variety of political, security, geographical, logistical and particularly complex international considerations.

**Domestic Context**

Domestically, the economic situation was a major preoccupation as inflation and induced recession continued to resist effective management. The debate over the SALT II Treaty was about to begin in Congress and was of major interest to most Americans. The presidential race was launched and it promised to be an exciting election year. The seizure of the American embassy in Iran was a great shock to the nation and nightly renditions of chanting anti-American crowds in the streets of Tehran had a galvanizing effect on the public. It seemed incredible that such an act could be committed and yet the United States seemed unable to do anything about it. Despite severe pressure to take military action the President resisted and publicly pursued Track A. While hoping that Track B would not be needed, the preparations were made. The President deliberately fostered the deception that a military rescue option was not feasible.

**The Operation**

In phase one, from the 4th of November to the 29th of March, the JCS activated an ad hoc organization to plan, organize and train for a rescue operation in the utmost secrecy. The emphasis on secrecy was predicated upon the correct perception that any hint of an impending rescue operation would make a rescue attempt even more difficult. The forces and
equipment were assembled and trained and many serious problems were discovered before Christmas, 1979. During successive fits and starts in training, planners and leaders of the rescue force became more and more confident in their capability. By the 29th of March, 1980, the key decision makers shared that confidence. Concurrently, supporting intelligence activities within Iran (verification of the location of the hostages and the security arrangements, infiltration of agents, etc.) were reaching fruition. The President hesitated to pursue the rescue until it was clear that the risks were manageable and that political conditions would permit that course of action. The window for the launch was narrowing as light and weather conditions began to work against the requirements of the plan - the need for a specified amount of darkness and a range of air temperatures for heavy lift helicopters.

In phase two, lasting roughly until the 23rd of April, the plan was finalized and late-developing changes incorporated into the plan. On the 16th of April, the JCS approved the plan and briefed the President who gave the order to go ahead with a target date of April 24th. The units were deployed and in position by the 23rd and the final order to "execute" was given by the President.

The mission began the evening of the 24th (the third phase) with the launch of helicopters from the U.S. carrier **Nimitz**, and C-130 aircraft from Egypt. The two elements were to rendezvous at a refueling site called "Desert One." Due to an excessive number of helicopter problems the mission had insufficient numbers with which to continue and the mission was cancelled. Shortly thereafter, an accident occurred at Desert One in which two aircraft caught fire, eight servicemen were killed, and
the mission was hopelessly compromised. The decision was made by the leaders at Desert One to quickly evacuate the area. Had the plan been executed in full, there were two subsequent phases. From Desert One the force would move under cover of darkness to a "Mountain Hideout," link up with agents, infiltrate the following night into Tehran, overcome security and resistance at the embassy, then call for the helicopters, extract the force and hostages, and then fly to a second desert site. In the final phase the entire group would transfer to C-130's and fly out of Iran. The failure of the mission at Desert One makes a critical analysis of subsequent planning somewhat speculative. It is interesting to note however, that the President and his advisors felt that the plan had a very good chance of success, and that the operation at Desert One was probably the most difficult phase of the operation.28

The rescue attempt was a courageous effort, and there were many very positive aspects to the operation in the areas of assessment, training, and execution. However, the failure of the operation was a severe embarrassment to the President and to the military capability of the United States. The after the fact JCS Special Operations Review Group Report (hereafter referred to as the Holloway Report) identified twenty-three issues of significance which were worthy of criticism.
FOOTNOTES

1. Facts utilized throughout the remainder of the Son Tay case study discussions are based on information from: Schemmer, Congressional Hearings, Transcripts of Briefings, Periodicals, Official Reports, and Interviews. Contested or controversial points are cited individually.


3. The "phases" designated in the analyses of these operations are artificial and are intended only to organize and simplify the presentation of the material. These phases were not necessarily planning phases conceived by the participants.


6. All times referred to are Washington, D.C. time, unless designated as "local time". To convert from Washington to local time in the Gulf of Thailand, add eleven hours.


14. See Note 3.

15. See Head, page 110.

16. Ibid., pages 112-113.


20. Gallup Opinion Index—Political, Social and Economic Trends, Report No. 120, June 1975. Respondents were asked: "Do you approve or disapprove of the way President Ford is handling his job as president?" The results were a significant improvement over previous months.

21. Facts utilized throughout the remainder of the Iran case study discussions are based primarily on information from: The Holloway Report, Congressional Hearings, Periodicals, and Interviews.

22. The Entebbe rescue situation was similar in that there was significant evidence to indicate that President Amin was guilty of complicity in the seizure; however, the issue is unresolved. For more details see the transcript extracts of the United Nations debate in *Entebbe Rescue* by Ben Porat, et al, New York, 1977.


27. See Note 3.

CHAPTER THREE
HYPOTHESES AND CASES

INTRODUCTION

The five hypotheses to be tested will be presented one at a time. After the statement and definition of each, a brief discussion will follow. The discussion will simultaneously serve as an introduction to the cases (in terms of the hypothesis) and will relate and explain the relevance of the hypothesis to combat rescue operations. The hypothesis will then be applied and tested against each case. The conclusions and ratings will be summarized as the analysis progresses, and the results tabulated in Table I at the end of the chapter.

HYPOTHESIS I: Success is critically dependent upon ASSESSMENT (the collection, evaluation and dissemination of information) which drives the planning, training and execution of the operation and which requires:
(a) the continual modification of planning, training and execution based upon the latest intelligence;
(b) centralized, integrated and coordinated assessment efforts; and,
(c) the maximum use of the widest range of assessment assets,

There are a variety of sources which describe the means and the techniques for gathering intelligence, analyzing and evaluating it, and
disseminating it to the key decision makers on a timely basis. In a combat rescue operation, the intelligence community is called upon on a time-sensitive basis to support the necessary preparations from the first moment after the military option is considered. It is almost a truism among military planners that assessment drives most operations from inception to conclusion, and that perception is particularly relevant to combat rescue operations. Unlike most conventional operations, the rescue is generally a "one shot" opportunity in which the role of assessment is greatly magnified. The key aspects of this hypothesis, as stated above, are believed to be critically important to the outcome of the operation.

For example, incorrect assessments regarding the location of the prisoners means the rescue force will arrive at the wrong location. Re-adjusting and moving the force after it is committed can become extremely complex and difficult. The advantages of surprise and security might be completely lost. A subsequent attempt might become even more complex. (This hypothetical scenario appears to be more fact than fiction. The role of assessment in the three cases was extremely important.)

Assessment failures in more conventional operations are not necessarily fatal to the overall effort (like Pearl Harbor, the German Ardennes counteroffensive and TET in Viet Nam). The opportunity exists in these larger contexts for alternate strategies, reinforcement to regain superiority, or a multitude of other options. As stated in "Ia" above, combat rescue operations do not share that flexibility and the success or failure of the rescue depends upon the latest intelligence. Assessment dominates the entire process from planning to execution and necessitates the continual modification of the effort based on the latest assessments.
The issue of "organization" (reflected in "Ib" above) is as important as the accuracy of the intelligence itself. It states that if the information is not organized with the necessary centralized, integrated and coordinated intelligence efforts, the information will be useless for a successful rescue. An illustration of the importance of the organization issue was the attack on Pearl Harbor in 1941. The information regarding an impending attack was apparently available, but the assessment organization was not.

The advances in technology in recent years have greatly contributed to the ability of experts to assemble the pieces of the intelligence puzzle which reflect the reality of the situation. The use of these assets in combat rescue preparations is critical. In Case One (Son Tay), the entire range of assets was not utilized. In Case Two (Mayaguez), time constraints did not permit the use of some assets; although others such as photographic reconnaissance means were available but not utilized. In Cast Three (Iran), the technical means employed were extensive. The widest possible use of assets in "Ic" above reflects the use of nontechnical sources as well.

The importance of human intelligence sources can be extremely important as will become evident in the discussion of Case One.

In summary, the hypothesis states that success is critically dependent upon assessment and that there are several constituent parts (a-c) which define its function. Although the focus is upon assessment, it is not stated that assessment is unrelated to other hypotheses and variables such as surprise, or control. In fact, evidence of these relationships will be illustrated throughout the analyses. They hypothesis will now be applied to each of the three cases. The appropriateness and relevance
I. HYPOTHESIS ONE - CASE ONE

a. The Role of Assessment

The discovery of American POW's at Son Tay was a dramatic tribute to American assessment efforts. As the bombing campaign over Laos and North Vietnam intensified in 1967 and 1968, the number of pilots and crewmen shot down dramatically increased. The year before, in 1966, the intelligence community began to organize a systematic effort to exploit every source of intelligence on the status and location of POW's, and as of the time of the bombing halt in 1968 very little success had been achieved. Among the Air Force 1127 Field Activities Group's two dozen or so major priorities were included assessments of Soviet ICBM sites, location of ballistic submarines, tank parks in East Germany, and rice caches in Cambodia. But the Evasion and Escape Branch of the unit found time to survey sites in North Vietnam for POW camps. The effort was part of the "Interagency Prisoner of War Intelligence Committee" headed by the Defense Intelligence Agency. Son Tay had been identified as early as 1968 as a possible prison compound but no conclusive evidence of its occupation by Americans had been discovered. Reconnaissance photos were the primary means of intelligence for the initial discovery of the American presence at Son Tay, and an analyst detected a code in the rock piles shown in the photograph. Indeed, throughout the entire operation, the team involved with the rescue relied heavily on reconnaissance from drones and aircraft.
Alternate sources were also used to a lesser extent, but some existing and available means such as remote sensors and infiltrated agents were not used.

It was discovered on May 9, 1970 that there were two POW camps west of Hanoi at Ap Lo and Son Tay; and at the latter location there seemed to be a message which said there were 55 POW's there, and a rescue was possible. By May 25th, the information had been passed through a series of official and unofficial channels and was briefed to the JCS. Given the location of the compound in a fairly remote location, and the strength of corroborating photographic evidence, the military option for a rescue became a viable consideration and the order was given to proceed with more detailed planning, to organize supporting intelligence, and to establish a core of personnel with supporting communications. Brigadier General Blackburn at SACSA became the leader of the organizing effort in the first phase until a Joint Task Force Commander was appointed.

The information about Son Tay was collected, evaluated and disseminated to the highest authorities in the Pentagon in a relatively short time. The plan was conceived from this initial assessment process and involved further evaluations by other experts and military leaders.

JCS Chief Wheeler ordered the dedication of priority intelligence gathering assets for the planners of the mission that included the priority to tap the best people in the CIA and DIA, and the use of sophisticated equipment and techniques including: SR 71 "big bird"; "Buffalo Hunter" drones; RF4 reconnaissance jets; weather and special intelligence experts; and experts that knew how to "thread the needle" and penetrate North Vietnamese air defenses. By July 10th, the community effort had determined
that Ap Lo was empty and that there were approximately 61 POW's still at Son Tay. The feasibility study group then focused their efforts on Son Tay, which illustrated the direct manner in which the assessment effort drove the planning. The problem became how to get to and from the compound, achieve surprise, rescue the POW's before they could be killed (and avoid casualties in the initial assault), and then extract the force all with a high confidence of success. Nearly every detail of the planning depended directly on the assessments of weather, North Vietnamese defenses, the situation at the camp and general vicinity, and so forth. The role of assessment was paramount.

In the second phase of the operation (training of the Task Force) the planning and training were continually modified by the latest changes and updates in assessment. By this time the coordination among the various intelligence agencies had been effected and included priority use and assets from the Defense Intelligence Agency, the Central Intelligence Agency, the National Security Agency and the National Reconnaissance Office. Preparations and changes in training proceeded up to the last minute and were dictated by such factors as the forces they expected to encounter at the prison compound and in the local area. Several examples illustrate the process. The plan was changed after a rehearsal and the latest assessments on the expected threat from the guard towers were received. The planners concluded that they did not have sufficient firepower to deal with the threat and added a helicopter gunship to the mission which would make a pass just before the assault and eliminate the towers. In another example, the assessments on the expected medical conditions of the POW's generated a whole series of special medical preparations. In
a third example, last minute intelligence regarding changes in the North Vietnamese air defense posture caused the TF Commander to add a diversionary flight of F-105's to the mission at the last minute. The operation is replete with evidence that the assessment drives the planning, training and execution, and that continual reevaluation greatly improved the performance of the force in the actual attempt.

b. Issues

Although the assessment functioned generally well throughout the Son Tay operation, there were faults in the system and (some) procedures—especially, but not exclusively, the failure to confirm the presence of the POW's.

First, there was not complete coordination of the operation at the highest levels of the government. There were several operations of a potentially conflicting nature that were evolving concurrently with one another, and which were not coordinated—primarily due to security considerations. Operation "Popeye", or the weather-altering missions over Laos, affected weather throughout the region, particularly by causing increased rainfall. The potential implications of the operation were not shared with the Son Tay planners. Knowledge of the weather operation might have induced the planners to request a temporary suspension of rainmaking, especially since weather was so important to the Son Tay raid. Or, more importantly, it might have provided an explanation for the high water levels near Son Tay which reconnaissance photographs showed to be near-flooding. The coordination of "Popeye" with the raid might have at least given the planners a reason to suspect that the prisoners had been moved
when the intelligence revealed that possibility at the last minute. These "might's" are rhetorical, but the hypothesis states that fuller coordination increases the chances of success by at least providing the opportunity to discover problems of an actual and potential nature.

The second and most serious problem in coordination resulted from the assessment that the prisoners were perhaps no longer at Son Tay prison. Photographs confirmed that the prisoners were there until around mid-July when the compound appeared abandoned. Around October, the compound was reoccupied, but every effort to determine "by whom" was frustrated by some other problem. A special drone photo mission was flown over the compound but it maneuvered a moment too soon and the photograph showed the clouds above the compound. Because the drones were low flying and relatively easy to observe, a conscious decision was made not to send another one and risk alerting the guards at Son Tay. Additionally, an unverified, but high-ranking source in North Vietnam flatly stated that the prisoners had been moved. Time was running out for a decision, and the leaders at SACSA were split. The Secretary of Defense, Melvin Laird, recommended a "go" despite the doubts. Apparently, others were not advised of the problem. Henry Kissinger later stated that he had never been informed that there was a question of POW's being there or not. The TF CO and his air and ground leaders were likewise not involved in the decision. Afterwards, they seemed to feel that the mission should have been postponed until more evidence was available. The failure to coordinate the issue meant, in effect, the operation was launched with a significant portion of the success "riding" on hope. Had the operation been delayed, the raid might have been launched at Camp Faith, about eight
miles to the east; which was occupied. In the face of uncertainty, a more coordinated and intense intelligence collection and evaluation effort would have revealed the true situation at Son Tay.

At third example of the coordination problem was the effort to coordinate intelligence assets with the Strategic Air Command, which had responsibility and control over the SR 71 reconnaissance aircraft. The delays and confusion associated with this problem were caused by the requirement for the TF leaders to work directly with the Reconnaissance Center at Offut AFB, but without any of the SAC personnel possessing clearances for the operation. Similar delays were encountered in coordinating drone flights with the 7th Air Force in Saigon for the same reason. In the latter case with the coordination problem resulted in delays in the development and transport of key photos to Washington for evaluation.

The clarity of hindsight was not lost on the Son Tay participants who recognized the intelligence failure for what it was – a failure to use the necessary means, procedures and organizations, in a centralized, organized and coordinated fashion, to assure that the mosaic (at Son Tay) painted in the assessment process was a picture of reality.

There were other assessment failures, notably related to "Ia" above, which could have caused a disaster in the execution phase. The H-3 helicopter, which deliberately crash-landed in the interior of the prison compound almost truly crashed. The intelligence assessments failed to account for the growth of the trees over time, which in that climate was substantial. The analysts further failed to identify a compound nearby which was heavily armed and well-defined – it was misidentified as a "secondary school". Only the accidental, but fortuitous landing of the
ground force commander and the assault force next to the "school" prevented that intelligence error from becoming a disaster. Only four hundred yards away, the compound's machine guns would have been able to place effective fire on the helicopters and the rescue force.

A final point in the assessment considerations of Son Tay is the question of means. At no time was a reliable human source tapped for direct intelligence on Son Tay. The information received from the North Vietnamese official regarding the move of the POW's was a remarkable piece of intelligence, but it was not completely reliable. Nor were a variety of other means utilized. Ground sensors that look like rocks or bushes could have been dropped into the area and the information relayed to a collector. A CAS\textsuperscript{5} could have been inserted with enough priority and support to assure a reasonable amount of success; or failing in the verification of conditions at Son Tay, at least not to compromise the operation. The tendency to rely on photographs created the conditions for ultimate failure, and could have meant a debacle for the team at Son Tay that night in North Vietnam.\textsuperscript{6}

Does the hypothesis fit? In summary, there were major problems with the accuracy and completeness of the intelligence, with the organization of the assessment effort and with the use of the widest range of assets. All three contributed in various ways to the ultimate failure of the assessment - no POW's. But surveyed from a broader perspective there were major successes as well - the discovery of POW's in the first place; the assessment of enemy capabilities; and a correct assessment of the necessary forces, equipment and plans to overcome them. I would argue, considered in total and with the benefit of hindsight, that
the outcome of the Son Tay raid was greatly effected by the assessment variable. Assigned a "rating", as discussed in methodology, the Son Tay assessment operation would receive a "low" to "medium" rating in light of the overriding problems identified above.

II. HYPOTHESIS ONE - CASE TWO - ROLES AND ISSUES

Assessment was the driving force in the reaction to the Cambodian seizure of the Mayaguez. General Jones' first order as acting Chairman of the JCS was to dispatch a P-3 reconnaissance aircraft from Thailand, and later the Philippines, to gather information on the location of the ship and confirm its seizure. Subsequent flights and intelligence gathering efforts were somewhat limited by time constraints imposed by the decisions of the President. President Ford and the National Security Council assumed control of the U.S. response early in the crisis and determined that every effort was to be made to prevent the transfer of the crew and the ship to the mainland. The photographs taken by the reconnaissance aircraft were slow in getting to Washington, and photograph analysts and interpreters were not immediately available to assure the timely evaluation, and more important, dissemination of the intelligence on the crew's location. The sighting of Caucasian faces on the Thai fishing boat, and the attack upon it with non-lethal riot agents (tear gas) to turn it around were unsuccessful. The meaning of the report of Caucasian faces on a boat that reached the mainland was apparently discounted by the members of the NSC. The confusion caused by a number of simultaneously received reports from the various aircraft involved, contributed to the misperception that at least the "bulk" of the crew was on Koh Tang Island. The available assets
were not directed to verify or confirm the crew's location. Assessments concentrated on photographic reconnaissance of potential targets on the mainland, the ship, and Koh Tang Island, from heights of 6,000 feet and above - out of range of Cambodian machine guns.  

The in-theatre intelligence assets of PACOM provided the initial analyses and interpretation of the photographs and observations of fire from the island. The assessment provided to the designated on-scene commander and his planners indicated that Koh Tang was lightly defended. The Defense Intelligence Analysts in the area and in Washington concluded that there were 150-200 well-equipped soldiers on the island. But, they were operating in a different assessment chain of communications. The DIA assessment was made available to the Joint Task Force Intelligence Staff, but it was not integrated with the "lightly defended" assessment and was therefore not made known in time to the key planners and to the TF Commander. There is no doubt that the ground commander would have demanded a change in the plan had he know of the DIA assessment. The lack of any preparatory fires, coupled with a nontactical assault, were violations of normal assault doctrine. However, the choice of plans was dictated by considerations of the safety of the crew (believed to be on the Island) and the limited resistance expected to be encountered. The impact of the assessment error soon became clear.

The assessment effort was not centralized in Washington, nor in the local area of the Gulf of Thailand. The information available to the NSC and the local decision makers was not fully coordinated, including the best use of assets for confirming the location of the crew. The unintegrated assessment effort locally, contributed to the discounting of the
The DIA report. A fully integrated effort, coordinated at the highest level, and centralized at the NSC and/or the TF Headquarters would have very likely precluded the problem of assessing the "threat" on Koh Tang Island. Or, speaking probabilistically, it almost certainly would have reduced the chances of flying into a trap due to a gross assessment failure. The evidence of a strong force on the Island would have at least generated contingency planning that would have made close air support available, and standing by to help.

A P-3 sighted the crew on a fishing boat waving white flags a few hours after the assault began. By ten o'clock on May 14th, both the crew and ship had been recovered (the ship at 8:22 a.m. Eastern Time). The information was relayed to Washington, but the central coordinating authority for the overall operation, the NSC, did not terminate the mainland bombing until 11 a.m., or almost an hour after the crew and ship were recovered. This was primarily a "C^3" problem (discussed in hypothesis 2), but it illustrates the impact that timely assessment can have on these types of operations. This delay led to accusations and criticism that the mainland attacks were punitive and unnecessary. The fact that a 15,000 pound bomb (BLU-82) was dropped on Koh Tang, after the last Marines were extracted, reinforced the perception. But it appears that, aside from the BLU-82, the delay was real, and the mainland attacks were supportive—not punitive; and that assessment was critical to the termination of the operation, as well as its initiation.

In a very short period, a complex and detailed operation was prepared, planned and executed. The crew and ship were recovered. But, assessment problems and failures contributed to the rescue operation's
failure in a very significant, and seemingly avoidable fashion. Given the "brute force" nature of the assault on Koh Tang, it is difficult to imagine the rescue of the crew without severe casualties among them - unless their captors chose to cooperate. The crew's release was apparently a result of the air strikes and had little to do with the rescue attempt.10

In summary, the hypothesis is relevant to the performance of the Mayaguez assessment operation. Recognizing the severe constraints imposed by time and distance, there were avoidable problems. The two most important assessment failures were the estimation of the forces on Koh Tang, and the location of the crew. These problems combined to make the assault precarious and unfruitful. For these reasons the assessment rates a "low".

III. HYPOTHESIS ONE - CASE THREE - ROLES AND ISSUES

The President and his assistants recognized from the start that any rescue operation into Iran would be very complex, and that a maximum assessment effort would have to be made. Not only was the distance an overriding problem, but there was a complicated refueling problem, an air space penetration problem, and a host of others - all of which depended on the best possible intelligence. Evidence of this recognition can be found in the variety and intensity of assessment efforts, in addition to the reports and statements of the participants themselves. Agents were infiltrated into Iran. Contact was established with agents already in country. Cooperation was obtained from other national intelligence agencies, such as the Canadians, who continued to operate after November
4th in Tehran. Assistance was obtained from several international anti-terrorist organizations, and experts from other countries assisted in the training of the rescue force. Even some neutral international organizations and personalities such as the International Red Cross (however unwittingly) contributed to the assessment effort. In November, two military satellites were launched, which gave the JCS access to a total of six satellites, including one positioned over the Indian Ocean. The sources, means, and assets dedicated to the effort were impressive and emphasized the recognition of the fact that assessment would drive the complex Iranian rescue operation.

President Carter felt that the operation in its final form was based on the best possible information, was well-conceived and had an excellent chance of success. Given that the operation was aborted at Desert One, the analysis of the assessment beyond that phase would be speculative. This section will focus on the assessment effort in general, and its role in the operation as it was conducted.

The importance of assessment and the need for the continual revision and modification of plans and training was recognized, and is reflected in the numerous evolutionary changes. In December of 1979, a study of the air defense system, which the force would have to penetrate, led to a reevaluation of the flight profiles required for the mission (speed, altitude, time, pattern, navigation, etc.); and the decision to replace nine pilots with more appropriately experienced pilots. The change cost the team valuable time. It was also an example of relearning a valuable lesson derived from Project Jungle Jim in 1961, i.e., that it is easier to train pilots familiar with a type of mission on a new helicopter, as
opposed the reverse. This was a failure to another sort—training. But it is particularly illuminating in that it suggests that assessment interfaces and intertwines with other variables in these operations.

The detailed planning for the assault on the embassy was continually revised, especially regarding the choice of weapons and equipment, as the picture of the situation at the embassy became more clear. Contingency plans were developed to deal with the tricky problem of extracting the rescue force, should the attempt sputter. The plan was continually modified to reflect the latest assessments of the Iranian air and ground forces, and any potential outside interference. The assessment was very detailed and accurate and U.S. forces were selected to match the perceived threat. U.S. planners apparently knew the location, capability, condition, and readiness of the entire Iranian Air Force. The lack of a night fighting capability, for example, was a small but critical piece of information, in evaluating the Iranian air threat and preparing contingencies. (The arrest of a high ranking Iranian Air Force official in early 1981, under charges of complicity in the U.S. rescue attempt, suggests that there were perhaps inside sources that contributed to the intelligence picture.)

But despite the recognition of the importance of assessment, and the extent of the effort, there were many problems and some obvious failures. The dust storm phenomenon was known to occur but was not predicted by the intelligence weather experts. Its importance was discounted twice. First, a decision was made not to fly the route with a weather evaluating aircraft prior to actual launch, due to security considerations. Second, the pilots were not briefed on the possibility of encountering dust
clouds or storms, nor were any contingency plans developed to cope with the problem should it occur. Further, the compartmentalized training concept did not permit a face to face briefing between pilots and weathermen, (the normal operating procedure), and therefore there was no opportunity for the problem to surface. Professional pilots are very sensitive to weather conditions and there was a good chance that the issue would have been raised. The weather problem had a tremendous impact on the mission and contributed directly to its failure. 16

A second major problem was the choice of location for Desert One. Because it was an unimproved airfield built by the CIA during the Shah's reign, the U.S. planners knew of its existence and location, and more important, its suitability. The only problem was secrecy. A desert road ran nearby. Other sites were considered, but ruled out. The threat to security posed by the road was addressed by adding a special security team to the rescue force. In the actual operation three Iranian vehicles passed on the road nearby — a bus full of passengers, a pickup truck and a fuel truck; almost simultaneously with the arrival of the force at Desert One. The security element rounded up the Iranian detainees, except for one man, who escaped. His importance was discounted by some planners and decision-makers but it was felt to be a potential compromise by others. Since the actual rescue would not take place until the following night, the escapee had twenty-four hours to pass on his experience to Iranian authorities, who would have had time to investigate the report. Perhaps he was a bandit, or was engaged in some illegal activity in the middle of the desert in the middle of the night; but perhaps not. Would he have notified anyone, and would it have made any difference? The answer is
debatable and speculative. But it is clear that the traffic was not expected, nor the security element capable of assuring that any traffic in the area could be controlled.

The third major problem was the assessment of security requirements for the penetration to Desert One. Difficult choices were faced, for example, in the trade-off between total security en route, and the need to communicate in case of unforeseen problems. The choice for no radio communication was influenced by the assessments of the Iranian air defense system, and also the assessment of the Soviet capability to detect the flight and react. These assessments were apparently very serious, and led to a choice for more security at the expense of radio-use flexibility. The serious control problem that was encountered during the flight was caused in part by the prohibition against radio communications. The judgments involving trade-offs between security, control, communications and the Iranian (and Soviet) electronic and visual air defense capabilities are much clearer in hindsight. But it illustrates the importance of balance in the assessment process. Buying security at the expense of flexibility (and based on assessments of the adversary and possible contingencies) is another illustration of the apparent existence of dilemmas and trade-offs among some of the variables.

The intelligence capability for the Joint Task Force was slow in developing, and neither well-organized nor integrated with the other intelligence agencies. Unlike an operation in which one of the intelligence agencies becomes the focal point for the management of the assessment effort (like the DIA) in direct support of the JTF; in this operation the JTF intelligence staff attempted to manage the effort internally. This
caused a wide range of severe problems including: a number of delays; cases of raw data flowing directly to the planners; and the failure to capitalize on a wider range of exterior agency personnel and equipment assets. By the end of the planning period however, most of the problems encountered earlier had been solved, and the necessary personnel and communications augmentations had been completed.

The inherent problem in this approach was the time element. In a time sensitive crisis in which only a few days or weeks are available, this approach would be questionable. In this case, the first real military capability to respond was developed around the 29th of November.\(^\text{19}\) The first capability to launch a precision operation with a good chance of success came around March of 1980.\(^\text{20}\) The uncoordinated and unintegrated nature of the assessment effort delayed the preparations. The effort was centralized however, in the J-2 of the JTF. It was criticized for being centralized in the wrong place.

In summary, assessment played an important role in the events leading to the cancellation of the rescue attempt at Desert One. The emphasis on intelligence, organization and utilization of assets was clearly operative and influential on the outcome. In retrospect, despite many pluses (most of which are relevant to planned operations beyond Desert One), the three most serious problems were: the choice of the rendezvous site; discount of the dust problem; and the overemphasis on security en route. In the latter case the assessment may have been absolutely correct. But, the reaction ruled out other possible alternatives. The assessment process, overall, rates a "medium".
HYPOTHESIS II: Success is critically dependent upon effective Speed, Surprise and Security (hereafter abbreviated as \(S^3\)) which includes:

(a) Speed, in terms of the degree to which existing or ad hoc organizations facilitate the effective management of time constraints for organizing, planning, training, and executing the operation;

(b) Surprise, in terms of catching the enemy unaware, or presenting him with a fait accompli, frustrating his ability to respond effectively, and by utilizing various means of diversion, deception, weather, terrain, and time in order to create the conditions most supportive of success;

(c) Security in terms of preventing the compromise of the operation during any phase prior to the actual rescue (hereafter abbreviated as OPSEC)

**Speed**

Time is an important element in every operation. From the initiation of the crisis to its termination, time constraints operate on the decision makers, the planners, the trainers, and participants, and the adversary. Time constraints which impact upon combat rescue operations are particularly restrictive. For example, the availability of forces restricts the "who". The transportation determines how to get there and back. Considerations of timing dictate the "when". These are obviously
considerations, but they are important aspects to the management of time, or speed, that have often been overlooked in the past.

Several examples can illustrate the importance of speed. It takes time to organize, train, and equip the forces necessary to accomplish the mission. Creating a special force, as in the Son Tay and Iran cases, takes months. The use of existing conventional forces drastically reduced the time, as in Mayaguez, but the inherent complexity of this type of operation generally demands a more specialized selection. Speed of reaction to a crisis requiring a rescue depends directly upon this consideration. Second, the establishment of the necessary command and control elements and procedures takes time. The use of existing contingency plans and capabilities within the existing unified and specified commands would have saved time in both the cases of Iran and Son Tay. The existence of a special organization (rather than an ad hoc one), in Mayaguez, might have made for more effective management of the rescue. The Mayaguez used existing forces and assets, but combined the elements in an ad hoc and somewhat piecemeal fashion. Third, speed is not necessarily desirable or required if certain weather conditions, political circumstances or other factors limit the operation to a peculiar time frame. The preparation could proceed through "backward planning" for the necessary regulation of speed. But unfortunately, combat rescue operations tend to be more untidy. In all three of these cases, speed played a critical part in affecting the outcome.

**Surprise**

Surprise is a principle of war in every modern army, and the meaning
is reflected in "IIb" above. In a conventional conflict it is a multiplier that can and has changed not only the outcome of the battle, but the direction of the war and sometimes history. It is one of the most essential prerequisites in combat rescue operations. The successful rescue of hostages or prisoners from an armed hostile force is predicated upon overwhelming the enemy before he has a chance to injure the hostages or stop the progress of the rescue force. On some occasions, surprise may not be possible. The adversary may expect a rescue attempt and take extensive precautionary measures. In that case the element of surprise must be created through a variety of means: deception; diversion; infiltration; or simply presenting the adversaries with a fait accompli facing overwhelming power before they can react. There are numerous historical examples which illustrate how surprise operates as a multiplier in military operations, and contributes directly to success. In combat rescue operations it is a necessity.

Security

Security is also a principle of war and entails the use of all necessary means to prevent the enemy from discovering the existence and plans of the operation. It includes active and passive means to frustrate the adversaries' ability to discover the impending operation as well as internal protection to prevent compromise through accident or mistake. Articulated by Napoleon and Clausewitz, security considerations are not new. But their importance in combat rescue operations is magnified and deserves special emphasis throughout the planning training and execution.
I. HYPOTHESIS TWO - CASE ONE

Speed

In the case of Son Tay, over two months elapsed from the first awareness of the presence of POW's to the appointment of the Task Force Commander. The rescue idea was not "generated" through a crisis (such as Mayaguez or Iran). But once the initial go ahead was given at the end of May, the operation proceeded with the priority, emphasis and dedication of resources which is required for this type of operation.

The Son Tay planners were constrained by a number of time factors including: weather "windows"; political considerations (especially simultaneous negotiations for the release of POW's); organizing and training the forces; logistical preparations; etc. The fact that the JCS chose to create a force for this operation made it necessarily slow. The choice was a deliberate one, based on a calculation of risks and chances of success. A conventional force in Southeast Asia could have been hastily assembled and launched but an initial review determined that the use of local forces was very risky (see "security", below). Therefore, the speed in preparing for the operation was dictated by the method of operation selected - to construct a specialized force, not in the area, from scratch. The use of an existing organization, SACSA, saved time, but the use of a specially created task force took months to train and equip. The issue is relevant because the prisoners departed Son Tay around July 13 and the question becomes: between May 9 and July 13, could the U.S. have assembled a force and launched a rescue into Son Tay? Had the planners know that July 13 was the limit, is it reasonable to assume that an
attempt could have been made using existing forces and organizations? But, with no real knowledge of available time, the planners focused on: preparing a high confidence operation; the weather; and awaited the President's decision relative to the political and diplomatic situation. Hindsight is clear in supporting the thesis that an existing capability launched quickly would have had a chance at rescue; whereas any rescue after 13 July had no chance. Speed in the preparation of a force therefore, can be a critical determinant in the reaction to this kind of situation.

In summary, the slowness of the U.S. effort was greatly caused by the nonexistence of the required organizations, men and equipment. Because the effort took five months to complete, the POW rescue opportunity passed. An existing capability launched quickly at least would have had a chance to rescue the POWs. The variable of speed is assigned a rating of "low" for these reasons.

Surprise

There is little doubt that the Son Tay force achieved surprise. There were no American fatalities and only two minor injuries. The element of surprise in this case multiplied the capability of the rescue force dramatically. The surprise was achieved through no simple means. The North Vietnamese possessed a sophisticated intelligence network that had operated for years to the amazement and frustration of American leaders. The North Vietnamese also possessed a very sophisticated air defense radar and detection system, as well as a potent air defense capability. The surprise was created by: excellent preoperations security (discussed
below); successful penetration of the North Vietnamese air defenses; (crash) landing the shock team of the assault force in the center of the prison compound; deceiving the air defense forces and creating deception through "flare drops" over Haiphong; F-105's to draw SA-2 fire from air defense gunners near Son Tay, and air strikes (though not deliberately planned as part of the operation) in the south of North Vietnam. Further, the surprise created by the rapid, violent and lethal arrival of the ground force overwhelmed the North Vietnamese and other forces encountered. The sophisticated preoperations planning facilitated a successful deployment of the force from Florida to Southeast Asia without detection. The successful training that preceded it was undetected as a result of the employment of a variety of deceptions and security measures— all of which contributed to the surprise at Son Tay. Surprise is extremely critical to this type of operation, because without it, the lives of the hostages and rescue team are in serious jeopardy. Son Tay was an excellent example of the effectiveness of surprise, and rates a "high".

Security

The great emphasis on security was illustrated by the attention to training security at Eglin AFB in Florida, where the forces were training. It was known that Soviet Cosmos reconnaissance satellites flew regularly over Eglin. The Joint Task Force Trainers therefore disassembled the mock-up of the compound during the Cosmos satellite passes, and even covered the holes that the posts of the mock-up fit into. Also, wary of Soviet electronics trawlers positioned in the Gulf of Mexico, the training was conducted under a deliberate and well-disguised communications
program. The emphasis on security was further illustrated by the fact that only the four key leaders in the rescue force knew of the raid's true purpose and destination - even up to the final deployment to Thailand.

In the operation itself, the team exercised excellent radio security in the flight across Laos to Son Tay. The tight OPSEC left the entire chain of command in Southeast Asia in the dark as to the specific nature of the operation. Only two minor security leaks were even detected: both were far removed from the scene; and both occurred after the POW's had been moved. The OPSEC however, was not so inflexible as to preclude breaking radio silence, or to restrict the occasions for open communications (the Task Force) that were felt to be necessary. A good balance was attained between security and judgments, as to when it became necessary to reduce security for some greater purpose. Security and surprise were reinforcing in this operation.

In short, Son Tay was an excellent example of how surprise and security can be achieved and contribute to success. Security rates a "high" in this case.

II. HYPOTHESIS TWO - CASE TWO

Speed

In the Case of Mayaguez, a crisis management team was activated at the White House and the Pentagon, and the National Security Council executed command and control authority through existing lines of command. The nonavailability of a specially tailored force for the Mayaguez rescue led
the key decision makers to direct the relocation of Marines Corps combat
troops to Thailand for possible employment in the operation. It is not
known whether or not a special rescue force would have been utilized, even
if it had existed, because it appears that a somewhat conventional opera-
tion was envisioned at the time.\textsuperscript{22} In any case, the directives demon-
strated the speed with which orders can be issued and units relocated,
equipped, briefed, and prepared for an operation. Along with speed how-
ever, come problems of assessment and planning; which in reality created
a severe problem for the rescue directors.

There were several other factors which could have contributed to a
more successful operation. First, the use of existing contingency plans.
The withdrawal of U.S. forces from both Vietnam and Cambodia was relative-
ly smooth despite the short notice due primarily to the existence of
"off the shelf" plans. No plans existed for the rescue of a ship and crew
in the Gulf of Thailand. Second, the availability of a special unit may
have enabled more detailed planning and coordination rather than spending
valuable time assembling a force and training it for a special operation.
Hindsight exposes a variety of alternatives, some of which might have been
considered at the time. But the evidence clearly indicates that in a
crisis situation, time is on the side of the adversary unless the requisite
forces are very near readiness; or, a delay in the operation can be tol-
erated by creating the necessary conditions for surprise later on.

In this case the decision makers reacted quickly and utilized avail-
able forces. The fact that either a special capability did not exist or
a deliberate decision was made not to deploy it suggests that a special
force should be created and decisions regarding its use carefully
evaluated. In this case the crisis management team assembled an ad hoc force very quickly. (The Marine elements were trained and deployed as units, and were not ad hoc. However, their combination with other service elements in a Joint Task Force was ad hoc and differed from the typical organization of a Marine assault operation.)

In terms of speed, the operation was extremely rapid. However, the ad hoc nature of the organization was weak and the problems were demonstrated in action. Speed therefore received a rating of "medium".

**Surprise**

Surprise was achieved in the initial attacks by U.S. war planes on the Cambodian gunboats. This alerted the Cambodians however, to the probability of more action against their remaining ships and possibly the Island or the mainland; especially as numerous missions were flown in a variety of aircraft in the area, and many conversations on the radio were in "the open" and not coded. When the assault was launched, the helicopters were exposed for several minutes in their approach to the Island and did not surprise the defenders. Evidence of the lack of surprise is apparent from the fact that the defenders opened fire with machineguns and rocket fire almost simultaneously just as the first wave of helicopters approached the two designated landing zones on the beaches. Three helicopters were shot down and several others damaged in the first few minutes. It is not difficult to imagine what would have happened to the crew of the *Mayaguez* had they been held captive on the Island. Surprise was almost nonexistent and rates a "low".
Security

Security for the Mayaguez operation from the President down through the ground troops was provided by routine measures within the existing structure and the Crisis Action System. But on the operational level it was very difficult to conceal the deployment of the Marines, the redirection of the carrier forces and destroyers, preparations of the B-52 bombers on Guam, and the other indicators of an impending operation. It has not been confirmed as to whether or not these movements were detected by the Cambodians or by countries friendly to them. But it appears reasonable to assume, after sinking most of the Cambodian navy and numerous reconnaissance missions, that it was difficult to hide the preparations from the Cambodians. Surprise and security in this case are clearly related.

The most significant evidence in support of the conclusion that the Cambodians suspected an operation against Koh Tang Island was recorded in an observation of the fact that the Cambodians appeared to send reinforcements to the Island between the attack on the gunboats and the assault.24

The Mayaguez presented a difficult situation. After the first gunboat was destroyed the attainment of surprise and the preservation of security were difficult. But, there were a variety of avoidable mistakes which would have reduced the difficulty of the problem. The movements, communications, and reconnaissance were not conducted in adequate secrecy to assure a high degree of security. In fact the perceptions of the Cambodians as demonstrated through their reinforcement of the Island and their coordinated fires on the first assault forces, indicated that security was not achieved. It therefore receives a rating of "low".
III. HYPOTHESIS TWO - CASE THREE

**Speed**

According to the Holloway Report, it took from November 4 until November 29 for the U.S. to develop a military response to the Iran embassy seizure. It took until mid-March to develop a reasonable capability to rescue the fifty-three men and women in Tehran with a high confidence of success. The requirements of a favorable outcome, in addition to capability, were weather and light conditions, assessments, and the creation of artificial conditions for surprise through political deception at the highest levels. The use of an ad hoc organization under the control of the Joint Chiefs of Staff was similar to the Son Tay operation and shared many of the same aspects. First, as in Son Tay, the Chairman of the JCS became the commander for the operation and supervised the direction of the effort through the creation of a Joint Task Force whose commander reported directly to the Chairman. Second, like Son Tay, the Chairman chose to use an unconventional approach rather than utilize existing organizations, plans and procedures. For example, one highly appropriate plan existed which called forth detailed requirements for people and equipment (including security procedures and interagency communications which were very problematic for the ad hoc organization).

The ad hoc approach led to a number of delays and problems. The most notable were the difficulties in coordinating the effort; the lack of a proper security standard operating procedures; and the failure to call upon the widest possible range of active and retired experts (especially those accomplished in long range helicopter operations) and
submit the final plan to a thorough review. A non-ad hoc approach would have been much faster and might have avoided most of these problems. Not only was the reaction slow, but the nature of the response created a number of serious problems. For these reasons speed is rated as "low".

Surprise

The arrival of the force at the Desert One site was apparently achieved without the knowledge of the Iran government, and the Iranian defensive forces were not activated. However, the surprise was quickly lost and the operation endangered by the arrival of Iranian civilians and the escape of one Iranian from the area. How the compromise might have affected the remaining phases is subject to conjecture, but the risk of a loose eyewitness was real.

It is a tribute to the personnel involved that a force of this size and composition could have been trained, deployed, and launched halfway around the world without detection. Surprise was achieved at least initially at Desert One and it rates a "high". The Iran case was a good example of how artificial conditions of surprise can be created through deliberate means. The President supported the plan and apparently pursued a deliberately deceptive plan to encourage the Iranian government and embassy guards to relax their security, and perhaps the radar and air defense forces as well. The President supported the plan and apparently pursued a deliberately deceptive plan to encourage the Iranian government and embassy guards to relax their security, and perhaps the radar and air defense forces as well. The President's public statements on the "non-use" of military forces and the supplementary justifications by public statements of top Pentagon experts contributed to a perception that the
U.S. would not attempt a rescue. It was both too risky and infeasible. Most experts on government and the public were surprised by the attempted rescue. Statements by Iranian authorities carried on the wire services after the operation indicated that they were equally surprised. How the surprise would have paid off at the embassy is speculative, but the alleged confidence in the operation was so great that the President felt that the Desert One phase was the most difficult! If the surprise transferred to the embassy phase, it would have greatly aided the operation there.

Security

The security throughout the Iran rescue operation was excellent. It was based on a concept of minimal knowledge of the operation. Few personnel knew the entire plan. A complete plan was not even written until after the operation was over. All those involved were generally limited to their specific areas of involvement, and every facet of the plan, including training, was rigidly compartmentalized. The Holloway Report concluded that the excessive security was the weak link in the plan there is such a thing as too much security. The overriding concern with operations security created problems in several other areas: the number of helicopters; limited rehearsals; contingency preparations (especially communications); the selection of the Desert One location; and a number of equipment and training considerations. The balance between operations security and other requirements leaned heavily in the favor of security. Security rates a "high" but the evidence suggests that security might be inversely proportional to other variables, like training.

Security appears to be closely related to surprise in this case as
well. Among the planners security was perceived as the key to assuring surprise. The plan was overshadowed by the fact that the embassy was within the city and large numbers of hostile and armed Iranians could be assembled very quickly. If security was not assured (no leaks and no active or passive enemy detection) the embassy could easily become an ambush. Extracting the force under such conditions would require a major escalation in the commitment of forces and numerous other problems would emerge.

In summary, the Iran case was an excellent example of how a high degree of surprise and security can be attained. The speed of preparation was slow and the ad hoc nature of the effort created numerous time consuming and unnecessary problems. The ratings of "high" for surprise and security, and "low" for speed are assigned for these reasons. Additionally, future studies might focus on the relationship of these three variables in more detail as the evidence indicates that there are trade-offs and mutual reinforcements among them.

HYPOTHESIS III: Success is critically dependent upon effective COMMAND, CONTROL, and COMMUNICATIONS. (Referred to as C³) which includes:

(a) Command that is unified (with clear lines of authority), qualified, and properly positioned;

(b) Control that is adequate to regulate the performance of the mission, including contingencies;

(c) Communications that utilize the most advanced
equipment, and which are based on effective techniques, procedures, and redundant systems.

These three variables are critical to every operation, but their importance in combat rescue operations is magnified for several reasons. First, the rescue force generally does not possess the capability by nature of its purpose to operate independently. It is dependent upon outside reaction and support in cases of major contingencies, such as transportation, failures, ambush, etc. A small unit with limited capabilities in hostile territory has a vital need for reliable communications, and effective command and control by the higher authority. Second, the sensitive nature of these operations necessitates their control by the highest authorities of the government. The detailed control of the operation, generally over great distances, is facilitated through the establishment of clear and unified lines of authority and decision-making, and the provision of the necessary means to exercise it. Third, during the execution of the operation the critical aspects of speed and timing necessitate the best possible C³. On the grand strategic scale, the political and diplomatic implications of the operation are heavily dependent upon communications as well. In summary all three are especially important in combat rescue operations.

In all three cases, the effectiveness of the C³ contributed in identifiable ways to the success or failure of the operations. The command orders: the control regulates; and the communications provide the central nervous system. A failure in any one of these can jeopardize the entire effort. In the first two cases, command and control are so intertwined
as to be difficult to separate. As such they will be discussed together. In the Iran case, communications are also very interrelated and all three will be discussed together.

HYPOTHESIS THREE - CASE ONE

Command and Control

In this case, the chain of command extended from the President → JCS → TF Commander → Unit Commanders (air and ground). Son Tay was unique in that it was the first military operation in American history coordinated under the direct control of the Office of the Chairman of the Joint Chiefs of Staff. The unified and specified commands of PACOM and the theatre service commands in Southeast Asia were not informed of the nature of the operation (except for a few key Commanders like CINCPAC), and yet were tasked to support it and not interfere with it. They exercised no command and control authority over the force except for particular elements which were designated within their commands to support the rescue such as air strikes. Judgments as to the efficacy of this structure are debatable in theoretical as well as practical terms, but it is certainly costly in terms of the speed with which the forces that are necessary can be selected and prepared. Operationally, once the mission was on its way to Son Tay, the Task Force Commander was located at Da Nang and was simultaneously exercising command and control, and was in direct communication with the JCS authorities at the National Military Command Center at the Pentagon. MG Blackburn and the SCSA organization were responsible for overseeing the preparation and deployment of the force, but once the operation began, the responsibility was transferred
to the JCS and the President.

The commanders and leaders in this case were well-trained and well-qualified. BG Manor, the Task Force Commander (TF CO) had established a clear line of authority for command and control of forces headed for Son Tay. LTC Syndor was in charge of the air elements and COL Simons in charge of ground operations. Every member of the force was well-briefed on the chain of command and prepared for a wide variety of reactive measures to a whole host of contingencies. The written plan's annex contained a single section on hand and arm, flare, and light signals that was eight pages long.

The force was tested to the utmost when the ground commander landed in the wrong location in the first few minutes. The assistant commander, and second in line, automatically took over and executed "Plan Green". (CO killed, lost, wrong place, etc). The operation continued successfully despite this major error.

The command and control preparations were extensive. Every man knew the face of every other man, and exactly where and when each was supposed to move during the rescue. Additionally, each man was clearly identified with his rank and insignia. The command and control within the rescue team broke down only once. Near the end of the operation, one helicopter never received the order to depart the area and was almost left behind.

Above the events at Son Tay, BG Manor was supposed to have C³ of the operation for his command post at "Monkey Mountain" in Da Nang. But once the operation was launched from Thailand his control was weak and tenuous. His communications system failed and left him with after the fact information, and little control over the situation at Son Tay. Events were
so unclear, he eventually abandoned his position and flew to Thailand to meet the returning rescue force and confirm the results of the raid.

Above him at the National Military Command Center (NMCC) Pentagon authorities were at the mercy of the reports from Manor. There were delays and confusion in reporting; and had a major problem developed at Son Tay, the NMCC would have known about it only well after the fact. To illustrate the tenuous control, the TF CO had added a flight of escort F-105 jets to the mission as a diversion, one of which was shot down. The JCS level control of the operation was so tenuous that they had not been informed of the augmentation to the plan.

Overall, the excellent C³ within the rescue force facilitated the relatively smooth rescue attempt. But, the TF CO was neither in a good position, nor properly equipped with proper and redundant communications to assure positive control. With the NMCC dependent on Manor in turn, little or no rapid response capability existed from above. Under what conditions would the President have ordered an abort? A potentially disastrous command and control situation was averted only by the thorough preparation and training of the rescue force. Rating command and control is difficult because within the force it was nearly flawless and the problems above the level of the TF were not in reality critical to the operation, though they were potentially important. The performance of the command and control, although problematic, should therefore be rated "high" based on the function of these variables on events at Son Tay.
The communications plan for the Son Tay rescue was very complex. The preoperation links with the Air Weather Service at Takhli Royal AFB foretold the problems this complexity would cause. The TF relied on communications support in Southeast Asia to support the operation. Because some of the equipment was not available where expected, extensive efforts were required to assemble and operate equipment for last minute communications.

BG Manor's headquarters was established at "Monkey Mountain" near Da Nang and was designed to monitor the transmissions of the rescue forces via a link-up with two EC-121 aircraft orbiting over the Tonkin Gulf, along with a visual display of the progress of the concurrent air diversions. The system failed shortly after the operation began. The TF CO could not speak to the rescue team leaders. His ability to monitor their transmissions was fragmented and weak. The original communications concept was to monitor their all the frequencies of the Son Tay force rather than complicate the operation with a requirement for long range reports and to communicate orders only as necessary. The plan failed in execution. The impact of extensive jamming of North Vietnamese radio frequencies may have affected American frequencies as well. The equipment in the EC-121's, as well as the visual displays at Manor's headquarters also failed. An otherwise excellent concept was shortcircuited by the communications failure in practice.

On the ground at Son Tay, 92 radios on five different frequencies operated successfully at Son Tay and assured the rapid and successful assault. The coordination of the operation across a wide range of
different frequencies and radios, especially in-flight communications with the supporting aircraft was excellent. After one F-105 was shot down, the rescue force coordinated and completed a successful rescue of the pilots from hostile territory in Laos as they returned from Son Tay. This incident illustrated the flexibility of the rescue force's plans and equipment. The failure of communications above this level did not affect the operation significantly. The near perfect insertion, assault, and return were facilitated by the effective communications planning, equipment, procedures and techniques. Communications rates a "high" for an excellent plan and execution with the rescue force despite problems above.

Overall, the C³ of the Son Tay operation was simultaneously excellent and poor. At the excellent end, the integrity of the rescue force provided the key to success. At the other end, any major contingency at Son Tay would have left the force to their own means and the TF CO and the NCA out of control of events, at least initially. Such a situation could have disastrous consequences for the prisoners and the rescue force. But, the excellent performance of the force in reality led to an assignment of "high" ratings to all three variables in the hypothesis.

HYPOTHESIS THREE - CASE TWO

Command and Control

Command and control in Mayaguez was established under more constrained circumstances than in the other two cases. Consequently, the President used existing units and structures and operated through the existing
unified and specified commanders. The chain of command extended from the President ← JCS ← CINCPAC ← CINCPACFLT ← USSAG/7th AF (the U.S. Support Activity Group Thailand Commander wore two hats and was designated the TF and on the scene commander). The rescue operation entailed the use of Naval, Air Force, Army air, and Marines units. Modern sophisticated communications enabled the President to speak almost instantly with nearly anyone he desired. The existence of similar excellent communications means in the theatre of operations should have enabled the TF CO to establish effective communications, and through that system exercise his direct command and control of the operation. But, there were serious problems encountered as a result of communications difficulties. The inability to communicate properly and evaluate the assessment of enemy positions and strength on Koh Tang Island has already been mentioned. But there were other equally serious command and control problems.

The choice of TF CO and pilots was criticized in several post operations reports; not for judgment, but for the lack of specialized experience that operations of this type require. The Air Force Commander designated to oversee the operation was not an expert on Marine amphibious or airborne assault operations. The Air Force helicopters and pilots designated to fly the Marines to Koh Tang were not assault trained or oriented. There were discussions and disagreements between the two services on the assault plan. The problems that were encountered underscore the importance of experience, especially in time-constrained situations.

The command and control within the theatre was generally well-structured and tactically sound. However, the communications coordination
problem (discussed below) coupled with the lack of preparations for contingencies, quickly combined to weaken the command and control over events on Koh Tang Island. The direction of the air strikes against the mainland, and the control of the assault on the Mayaguez were executed without significant difficulty. The focus here is upon events on the Island.

In the actual operation the importance of command and control was clearly demonstrated in several ways. First, the lead assault wave lost three helicopters and approximately fifteen killed before the first Marine landed on the beaches. The Commander of the ground force was landed at the wrong location and was separated from the other two units, which were themselves pinned down on opposite sides of the Island. The heavy enemy fire made the beachhead a very tenuous position as the three separated elements fought to establish a toe-hold. The separation of the Commander from the main forces, and the loss of most of the communications capability on the two beachheads led to a severe state of confusion among the Americans. A similar situation of confusion, as might be expected, existed in the FT CO's airborne command post. The situation on the Island was desperate. The loss of command and control reduced the ability of the TF CO to evaluate what was needed to improve the situation, and then to provide it. Air observation efforts eventually produced a picture of events. Communications to the island were reestablished through a series of radio patches and links. The confusion was compounded by the inability of the ground commander to see his own forces or the enemy's, and since there were no detailed maps of the Island available, (only reconnaissance photographs adopted for tactical use) navigation on the Island was
imprecise. The confusion was shared by the crisis management team at the Pentagon. The problems with command and control were serious and had an unfavorable impact on the operation. For the reasons discussed here they are rated "low".

Communications

The preparation for the operation was characterized by a large number of unsecured communications, especially between observation aircraft and the planning headquarters. During the operation, the situation worsened, and some of the sensitive communications within the theatre were "in the clear". The problem was partially attributable to the equipment, and partially to the planning. On the Island the ground CO eventually fought his way to one of the beachheads and began to reestablish control of his forces. Air strikes were coordinated and directed against the enemy positions. The radio equipment and the plan for its use did not permit rapid and easy communication between the airborne HQ, tactical aircraft, and the ground forces because of the variety of unintegrated radio types FM, UHF, VHF. In addition to radio incompatibility, the lack of coordinated frequencies compounded the difficulty, even when the radios were compatible. The complexity of an operation with multi-channel and multi-type communications equipment necessitates a well-coordinated plan. This had not been accomplished. The fortuitous availability of an Army Forward Air Controller aircraft, with a variety of communications capabilities, aided the situation by establishing communications with the air and ground elements and coordinating the supporting air strikes.

In summary, the command, control and communications situation proved
itself to be poor due to the lack of prior planning for coordination of
existing systems, coordination for contingencies, and the identification
and preparation of potentially useful (and available) equipment. There
was no evidence of any breakdown in communications above the TF level.
The communications problems (as the nerves of the operation) contributed
to the serious command and control problems as well, and the Pentagon
crisis managers shared the confusion for a time. The supporting air
strikes permitted the assault force to hold on, and bought time for the
second wave from Thailand to arrive. Meanwhile, the crew was released
and the order to withdraw was given. Additional forces were landed to aid
and cover in the final withdrawl. The combination of problems rates the
performance of command, control and communications overall as "low".

HYPOTHESIS THREE - CASE THREE

Command, Control and Communication

In the Iran case, the chain of command extended from the President →
JCS ← Joint Task Force CO ← Subordinate TF CO's (Air and Ground force
Commanders). The force was organized through an independent TF organi-
zation with channels of C³ outside the normal existing route, and similar
to the Son Tay scheme. This ad hoc organization created severe diffi-
culties for the operation and hindered the success of the mission.

Above the JTF level, the command and control channels were clearly
established and understood. The President was in direct communication
with the JTF CO throughout the operation, and the various aircraft pilots
had the capability to link up with the JTF CO or even the President, were
it deemed desirable or necessary. The ability of the President to
exercise command and control of the operation down to the lowest level
was illustrated by the President's discussion with the commanders
at Desert One regarding the decision to abort. But the same clear command
and control did not exist within the JTF. This problem is clearly
illustrated in two distinct phases - the penetration to Desert One, and
the refueling operation.

First, problems began for the helicopter force about two hours into
the flight. The helicopters had taken off from the Nimitz in a loose form-
ation (in pairs, and the four pairs staggered) and they were to follow a
complex, dangerous, and highly demanding route. Since the dust problem
had not been anticipated, there were no provisions for communications -
even though a sophisticated system of light signals between aircraft had
been designed and rehearsed. The authorized procedures allowed only for
the flight commander to speak to the JTF CO; in the case of internal
contingencies, only visual signals were authorized. The security was so
strict that radio listening silence was not to be broken under even abort
circumstances. As a result, the combination of dust and maintenance prob-
lems caused the flight commander to lose control of the mission.

Further, these problems only became obvious upon arrival at Desert One
hours later. Helicopter six aborted after a warning light and visual
inspection revealed a cracked rotor blade. Helicopter five aborted after
an electrical failure and concerns for safety in the dust clouds. The
pilot later stated that he would have continued rather than returning to
the carrier had he known of the clear weather conditions at Desert One,
and an end of the dust about twenty-five minutes further into the flight.
The deputy flight commander was on helicopter five, and could not notify the flight commander of his decision. Upon arrival at Desert One, helicopter two was confirmed as having an unrepariable hydraulic leak. With only five helicopters available to continue the mission, (a minimum of six was required) the President authorized the decision to terminate the mission. The overriding concern for operations security OPSEC led to the severe restrictions on communications. The motivation was good surprise was absolutely essential to the mission's success. However, the sacrifice of communications flexibility and control, cost the operation severely. 38

The second illustration of command and control failure was at Desert One. Confusion existed because of the delayed and staggered arrival of the helicopters. The flight commander was the last to arrive. The deputy commander had returned to the Nimitz. The Air Force officer designated commander for Desert One, had been designated only a day or two before the operation and had no real capability for coping with the situation he faced there, even under the best of circumstances: darkness; the noise from 12 helicopter engines and 24 C-130 engines; swirling dust; and no alternate C3 means for managing the refueling operation. There was no designated command post; no clear identification of those authorized to give orders and relay messages; and no alternate means to deal with contingencies - runners, prearranged codes, etc.

The late arrival of the helicopter flight commander and the late assessment of the helicopter situation left the leaders with little darkness in which to react. (Darkness was believed to be essential to cover the move to the "Mountain Hideout".) Even after the decision to abort was
made, a future attempt at rescue was not completely ruled out. Provisions were made to destroy evidence of the U.S. presence, and even temporarily fly the Iranian detainees out of the countries. With effective C³ at Desert One it is likely that the abort could have been executed without incident, and a second attempt made the following night or even a few weeks later. But after the crash of the helicopter and the C-130 at the site any second attempt became even more difficult because the hostages were removed to separate locations and the Iranians greatly improved their security. The degree to which the C³ problem contributed to the accident itself is unclear, but the C³ problems after the accident were a reflection of the poor conditions at Desert One. Intact helicopters were abandoned without executing destruction plans and sensitive and classified equipment, plans, maps, and even money were not removed from the abandoned aircraft. 39

Throughout the operation, and at all levels, the best communications equipment available was on hand. There were systems that could have been used that would have given the force an even wider capability - an advance weather mission; a "pathfinder" to lead the helicopter flight; or secure special frequency communications with the helicopter flight. The technology performed well. The techniques and procedures in the use of that technology were lacking, as were the command and control of the penetration and the refueling site.

In summary, the technical means of communications and the existing capabilities were excellent. Communications therefore rates a "high". The restrictions on the use of communications were part of the command and control plan and the problems in those two areas are clear. The
dust storm was a remote possibility and was difficult to foresee. Given its major impact on the operation, the rating of command and control which should have been capable of dealing with the suspected dust phenomena, is at best a "medium".

**HYPOTHESIS IV:** Success is critically dependent upon TRANSPORTATION, which includes travel to and from the objectives(s) with reliable and tested systems.

Simply stated (but complicated in reality) this is the transportation problem. In all three cases helicopters and aircraft were employed in transporting the rescue forces to and from the objective or in supporting the moves with logistical or tactical aircraft.

There are several problems associated with the use of helicopters and airplanes on these kinds of operations. First, penetrating foreign airspace secretly is difficult, especially when sophisticated detection means are available. Second, aircraft, particularly helicopters, are highly vulnerable to rocket and gunfire. Third, the long distances typically associated with these missions can tax the maximum capabilities of the pilots, fuel, and maintenance systems. There are a multitude of other considerations for each unique situation but there does seem to be a pattern in that transportation decisions contribute to the outcomes in a very significant manner. The rescue force must get to the objective, and without being discovered. The force must be extracted along with any rescued prisoners/hostages and must include the capability to handle casualties. Third, the group must return to friendly territory. These
problems and considerations make the transportation variable a very important variable. The hypothesis states that if the transportation systems are not tested and reliable, then the performance of the operation will be degraded.

In the following three cases the transportation problem was addressed in three entirely different ways, although the similarities are striking.

HYPOTHESIS FOUR - CASE ONE

In the case of Son Tay, the transportation aspect of the operation was a near-perfect planning and execution model. The Task Force Commander was an Air Force pilot with hundreds of hours of flying experience with all kinds of aircraft and a special expertise with helicopter operations. He handpicked the crews and support teams based on their experience and dependability and the well-researched demands that he anticipated would be required. The HH-53 transport helicopter (and one AH-3) was selected based on its proven performance and reliability. (The AH-3 was less desirable but it was the only helicopter both large enough to carry enough troops and small enough to crash-land safely within the prison compound.) The helicopters were augmented with state-of-the-art navigational aids, electronics, and extra crewmen. The crews flew the helicopters in a total of several thousand pilot hours in order to gain the necessary expertise for long flights at low levels, and under conditions of darkness, frequent maneuvers and turns; and the hazards of flight over unfriendly territory. Back-up helicopters were provided to accompany the mission in case of failures. A total of three were needed and five were provided. A C-130
navigational airplane (pathfinder) led the flight of helicopters on the circuitous simulated route during training and in the actual operation. It provided the additional benefits of weather warning, communications back-up, and assistance in the event of contingencies.

The only significant problems in the actual operation were related to matters of command and control. The command helicopter landed at the wrong location and one helicopter was almost left behind. But overall, the transportation was excellent and rates a "high".

HYPOTHESIS FOUR - CASE TWO

In this case the natural choice of means for transportation was helicopters. The choice was necessitated by the order for a quick capability to assault the Island and the nonavailability of amphibious landing craft. They may have been chosen had they been available within the time limitations, but the only real choice was helicopters. However, the number of helicopters and the location of friendly bases was also limited. The Task Force Commander was therefore limited in his scheme of operations. He chose to fly the Marines from bases in Thailand, and to assault in two waves with all available helicopters. The second wave would be inserted after a turn around flight of over three hours.

There were several problems with the concept. If the first wave encountered serious opposition, reinforcements were over three hours away. Second, if any helicopters were lost in the first wave the ability to extract the forces quickly or reinforce the Island would be proportionately degraded.

In addition to conceptual problems, there were practical problems
associated with the tactics of the employment of the transportation systems. There was some discussion before the operation regarding insertion tactics. A combat insertion called for either a low level concealed approach or a "drop out of the sky" quick insertion - both accomplished with as much surprise as possible. In addition, either tactic called for the support of the insertion with planned naval gun and aerial fires. Finally, the art of the insertion required a quick landing, rapid offload of the troops, and a speedy departure - the requisite skills are very different from normal take off's and landing's. Air Force pilots were designated to fly the mission over complaints by Marines Corps personnel. The pilots lacked the combat insertion experience to adhere to doctrine or the polished skills associated with the "art" of insertion.

In the actual operation the helicopters approached in clear view of the Island and three were shot down within a few seconds of the beginning of the assault. Two others were damaged. In the smoke and confusion, the ground commander was inserted farther down the beach and was isolated from his units. The forces were split on each side of the Island with a strong enemy force in between, and fighting for a toe-hold on the beaches. Eventually the force was withdrawn after naval gunfire and tactical air fires from Coral Sea aircraft stabilized the situation long enough to extract the force.

In summary, the transportation performance in the case of Mayaguez was poor, for a variety of controlled and uncontrolled reasons. It is therefore rated "low". The transportation issue in this type of operation is much more than a simple ticket to and from the objective. It requires an adequate number of aircraft (or vehicles) with appropriate
back-up, special training to assure reliable utilization of the systems, and well-established command and control means.

**HYPOTHESIS FOUR - CASE THREE**

In the Iran case, the planners recognized the seriousness of the transportation problem from the start. Iran was thousands of miles from the nearest U.S. base, adjacent to the Soviet Union, and Tehran itself was over 550 miles from the Persian Gulf. The embassy was located in the middle of densely populated and unfriendly city. The guards and the population were well-armed. The situation presented a seemingly impossible task of transporting to and from the embassy successfully. To their credit, the planners developed a workable, however complex, plan. Helicopters and C-130 transports were again chosen for the transportation means.

Without speculating on the plan beyond Desert One, the transportation issue up to that point was flawed. The excessive preoccupation with OPSEC precluded the incorporation of reasonable contingency procedures into the transportation plans. Equipment failures are reasonable to expect on long and arduous flights that tax the capabilities of the men and equipment to the utmost. Prohibiting radio (or whatever means is required) communications in failure or abort circumstances is a poor procedure in terms of equipment failure expectations alone - not counting the other problems it causes, as were discussed earlier. The means existed to provide a secure, "last resort" type of communications capability which should have not greatly increased the danger to security.

A second failure was the choice of the number of helicopters and the
margins of failure built into the operation. A *Time* report claimed that a study was made of the flight records of that particular helicopter as a basis for the decision to send eight and expect only a twenty-five percent loss. But, there is a wealth of practical experience among those who have worked with the RH-53, and many have criticized the margin as far too small for a flight profile which pushed the aircraft to the limits of its performance. Additional fuel was available for more helicopters without a major change in plan. Hindsight is of course very clear and the debate will continue in and out of military circles, but the twenty-five per cent margin is risky by any standard in light of the fact that this type of operation is very risky and complex to start with; and high confidence is attained through systems redundancy and margins of safety that are wider.

A third problem was associated with the method chosen for navigation to the Desert One site. The C-130 pathfinder was a proven navigational method for leading helicopters on exactly this type of flight as was demonstrated at Son Tay. The decision not to use it was apparently based primarily on security considerations and confidence in the sophisticated navigational aids on the aircraft. The use of the C-130 would have provided some protection against four remote but potentially serious contingencies: (1) lead the flight through unforeseen and difficult weather conditions; (2) a single lead aircraft with extensive electronic capabilities would have provided a quicker and more unified movement to prevent delays which would impact on the daylight problem; (3) the lead aircraft would arrive first, assuring the arrival of key leaders and equipment for operations at the site; and (4) a lead aircraft would have been
able to aid an organized withdrawal from Iranian airspace in the event of detection or cancellation of the mission.

There were many positive aspects to the transportation issue in addition to the serious problems. The pilots and crews were well-trained, experienced, and proved their capabilities despite the dust problem. The failure of the equipment was beyond their control however, and of course caused the cancellation of the mission. There were other pluses as well.

Overall, the transportation hypothesis had great relevance and applicability to the performance of the rescue operation. There were severe, mostly avoidable, problems which degrades the outcome and which receives a rating of between "medium" and "low".

HYPOTHESIS V: Success is critically dependent upon the rescue force and includes:

(a) the selection of adequate forces, including the use of state-of-the-art technology and equipment; and,

(b) the proper training of the forces, and which consists of integrated training for all operational elements, full rehearsals, comprehensive evaluations, and retraining.

The arrival of the force at the prescribed location is critical, but the performance of the force becomes equally critical. In all three cases the quality of the forces was excellent. The motivation, courage, discipline, and dedication of the people involved were clearly demon-
strsted throughout these operations. The questions raised in this hypothesis concern the manner in which the forces were organized and trained. The focus of this hypothesis is primarily upon the ground forces. The pilots were discussed in the previous hypothesis.

HYPOTHESIS FIVE - CASE ONE

In the Son Tay case, the ground force was composed entirely of special forces experts and volunteers. Team members were trained individually and then cells and groups were integrated into more comprehensive exercises. A final comprehensive rehearsal and evaluation led to several major modifications in the plan (the addition of a helicopter gunship, the use of F-105 fighter airplanes for diversions, etc.) as well as preventing the problems from surfacing later during the operation. The rescue force performed almost flawlessly. The team had spent hundreds of hours preparing for the mission and were prepared for nearly any conceivable situation. The equipment accumulated for the operation included specialized visual aids that were not even in the military supply system. The combination of personnel, equipment, integrated training, and a full evaluation and retraining resulted in an outstanding performance at Son Tay. Force selection and training in this case clearly rates "high".

HYPOTHESIS FIVE - CASE TWO

In the *Mayaguez* case, the operation was compressed in time and there was no opportunity for handpicking people, specialized training, the assembly of specialized advanced equipment or full integrated training.
the assembly of specialized advanced equipment or full integrated training. However, the use of an existing unit of trained and capable Marines avoided many of the problems encountered when a unit is created from scratch - unit integrity especially. The Marine units were disciplined, had good leadership and training, and functional equipment. They were briefed and had planned a rapid assault on the suspected hostage compound, and even had time to conduct limited dry run rehearsals on the insertion and subsequent actions. The problems on Koh Tang Island were more a mismatch of forces than problems with the Marine forces themselves. Because the enemy forces were much stronger than expected, the assault was rapidly converted into a hasty defense. Once the notification of the release of the prisoners was received, the operation turned into a withdrawal under fire.

It is not suggested here that only specialized forces can or should be used in these operations. All units conduct specialized training beyond basic soldiering and the Marines committed to the rescue operation were fully capable of performing the mission. The lack of adequate time to conduct full integrated training was the most severe shortcoming, particularly regarding the tactical insertion. A full comprehensive review of the plan would likely have revealed the vulnerability of the force to unforeseen contingencies and other plans or alternatives considered. For these reasons the force selection rates "high", and the force training "high" to "medium".

HYPOTHESIS FIVE - CASE THREE

In the case of the Iran rescue, a full evaluation of the performance
of the ground forces cannot be made. However, the force was specially trained and in a high state of readiness for the rescue. There were problems at the Desert One site that were the result of other failures discussed in previous hypotheses, but the ground forces were not really involved. (A full scale dress rehearsal would likely have revealed the problems that would be encountered at the site and appropriate corrective measures adopted.)

The ground forces were well-prepared for the operation. Although they were not tested during the actual conduct of a rescue, the team and the decision makers shared a high confidence in their capabilities. For this reason the force selection and training rate a "high".

TABULATION OF RESULTS

Table I below reflects the results of the five hypotheses tested above. With the possible exception of Hypothesis Five - Case Three (because the operation was not completed) all of the hypotheses were appropriate to the operations. A tentative "finding" therefore, is that the hypotheses are relevant to these operations as a class of phenomena, and there are variables which cut across and through the unique and distinguishing characteristics of the individual cases. The detailed analysis of the variables and the cases, and their value will be conducted in the next chapter.
HYPOTHESIS RATING FOR EACH CASE

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X = High
0 = Medium
L = Low

TABLE I
FOOTNOTES

1. Sources include general texts on defense issues (See Bibliography), service manuals, and JCS Publications 1, 2, 3, 4, and JOPS, etc. An overview can be found especially in: Armed Forces Staff College Publication NO. 1, March, 1979; and, "An Executive Overview of...The Crisis Action System...", June, 1980, (JCS special publication).

2. See Note 11, Chapter Two.

3. These issues were raised in The Raid and in Brigadier General Leroy J. Manor's "Report on the Son Tay Prisoner of War Rescue Operation," Parts I and II. Washington, D.C. 1971. The organization and emphasis here is based on my own evaluation of these and other issues.


6. The misinterpretation of photographic evidence regarding North Vietnamese force deployments in the vicinity of Son Tay helped to create a situation whereby a heavily armed and unknown force was situated less than four hundred meters from the Son Tay compound. It is easy to visualize the potential for disaster, had the rescue team not accidentally landed next to the "secondary school" and detected and eliminated the problem immediately. Other important incorrect photographic interpretations were: assessing the heights of trees in the vicinity of the compound; and discerning the nature of the occupants and activities at Son Tay after July 14, 1970. It illustrates the risks and dangers of relying on photo interpretation exclusively.


8. Ibid.

9. Ibid.

10. See Chapter Four discussion for more detailed evidence and analysis.


13. Interview with Lieutenant Colonel Hugh Shaw, Iran rescue planner, (J-3, Operations, Pentagon), March 1981.


17. Shaw Interview.


19. Interview with Admiral James R. Holloway, USN, (Ret), March 1981. (Chairman of the JCS Special Operations Review Group.)

20. Ibid.

21. See Manor's Reports (Note 3).

22. Holloway Interview.


24. Ibid.

25. Holloway Interview.


28. Interview with Major General Alfred M. Gray (USMC), co-author of the Holloway Report and a member of the Review Group, April, 1981.


30. In Mayaguez, in particular, the lack of communications with the Cambodian government created a plethora of problems including interpreting Cambodian intentions in the seizure, coordinating for the release of the ship and crew, and terminating hostile action (military) after the crews release.

31. See Schenmer, page 133.

32. Ibid., page 110.

33. This conclusion is based on the hypothesis that if the force that landed at Son Tay had encountered superior forces and needed extra assistance or a special rescue themselves, then the lack of communications would have been disastrous. It is also easy to imagine the implications in another hypothetical case where the President needed to abort the mission en route (for whatever reason—compromise, breakthrough in negotiations, etc.) and could not communicate the order
These scenarios are not far-fetched if you look at crisis decision-making in the last twenty years.

34. See GAO Report.

35. Holloway Interview.


38. Gray Interview.


40. Gray Interview.

41. Time, May 12, 1980.

42. Gray Interview.
The first problem to be addressed in this chapter is the formation of a workable definition of "success and failure" in combat rescue operations. The second problem will be to apply the definition to the three cases and determine a rank order for the cases; from the most successful to the least successful. The third problem will be to combine the analyses of the variables and hypotheses in Chapter Three with the definition and case-ranking analysis in this chapter, and attempt to derive conclusions for the results.

Problem One

A workable, widely applicable and generally acceptable definition of "success and failure" is an evasive creature. Many different studies have wrestled with this problem. In this study the challenge is not to measure success or failure precisely, but rather to propose a sufficiently adequate definition which establishes a relative order of success among the cases. The definition must also be independent of the hypotheses tested in the previous chapter - otherwise the Guttman type scaling would be invalid. This is because the independent variables hypothesized to be the causes of success and failure must not be part of the definitions of them. (Otherwise, the analysis would be tautological and the analysis would only prove itself.)

The following comparative two part definition is offered.

A combat rescue operation is the most successful if:

(a) the primary objective is accomplished, i.e., the hostages/
prisoners are rescued with minimum casualties to the force and the "rescued"; and,
(2) certain operational steps are completed in the "best" manner.

These "steps" are arbitrarily established as benchmarks or major phases in the operation and are:
(a) deployment from staging areas to the objective;
(b) activities at the objective; and
(c) redeployment from the objective.

"Best" is evaluated by examining the number of serious problems and challenges encountered, how the forces reacted to the problems, and how the resolution or nonresolution of the problem impacted on the next phase. This is not intended to be a formal evaluation but rather a relative comparison and grading of the cases.

Before applying the definition to the cases, two issues need to be clarified. First, the results of the Mayaguez are somewhat counterintuitive because all of the crewmembers and the ship were rescued! But this author suggests that there was little demonstratable correlation between the release of the crew and the Koh Tang Island rescue operation. The most convincing evidence of this fact is provided by Captain Miller (Mayaguez Captain) in his testimony before Congress.² In his testimony he explained his treatment during captivity and the events surrounding the release from his perspective. He felt that the release was the result of the bombing attacks on the gunboats and the perceived threat to the limited Cambodian navy, air force, and port facilities of the fledgling revolutionary government. The second source of convincing evidence
is the fact that upon close analysis of the General Accounting Office Report's chronology, as well as several others, it becomes evident that the release of the crew occurred almost simultaneously with arrival of the Marines. If one believes that the Cambodian decision making processes were sufficiently rapid to make the release decision based on the assault, then perhaps there was a correlation. But there is no evidence to suggest this was the case. In fact, the Cambodian government had made a public radio broadcast stating their intention to release the ship (before the assault began). The statement was discounted by U.S. decision makers because there was no mention of the crew. In conclusion, it appears that something else, perhaps the bombing (or even diplomatic pressure), caused the Cambodian government to release the crew - not the assault on the Island.

The second issue concerns the level of difficulty of each operation. Major General Gray for example, felt that it was difficult to compare the three cases because the requirements and problems associated with each were widely divergent. Additionally, where there were similar problems, as in maintaining security, the operation were "light years" apart in the degree of difficulty. Is it fair to conclude that one operation was more or less successful than another in light of these differences? This author would argue that the three cases are relatively equal. The three cases presented were challenging circumstances to U.S. decision makers, planners and participants. Iran is analyzed and treated here as an incomplete case. It is reasonable to compare the Son Tay operation with the completed portion of the Iran operation and conclude they were both very complex, demanding and challenging. In any case, it would be very
complex, demanding and challenging. In any case, it would be very unusual for the participants to accept a weighting scheme to address the problem. Can you imagine COL Simons (Son Tay) and COL Beckwith (Iran) in the same room arguing that one case was more difficult than the other? The cases will be treated as equally complex, challenging, and difficult in the application of the definition in the following section.

Problem Two

In terms of the first part of the definition of success and failure proposed above, none of the cases accomplished their primary objective and hence, all three were failures. In terms of the second part of the definition, the ranking of the cases is as follows:

<table>
<thead>
<tr>
<th>STEPS</th>
<th>BEST</th>
<th>2nd BEST</th>
<th>3rd BEST</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deployment to the objective</td>
<td>Son Tay</td>
<td>Iran</td>
<td>Mayaguez</td>
</tr>
<tr>
<td>Activities at the objective</td>
<td>Son Tay</td>
<td>Iran</td>
<td>Mayaguez</td>
</tr>
<tr>
<td>Redeployment</td>
<td>Son Tay</td>
<td>Mayaguez</td>
<td>Iran</td>
</tr>
</tbody>
</table>

TABLE I

These rankings were then consolidated into an overall ranking which yielded: Son Tay - most successful (all three steps); Iran - 2nd most successful (better than Mayaguez in two out of three steps); and Mayaguez - 3rd most successful.

Problem Three

In this section the results of Chapter Three and the case-ranking results above will be combined and analyzed, followed by a discussion of
not detract from their hypothesized independence.) Second, note that the variables are grouped from left to right according to the "high" to "low" ratings that were assigned for each variable and in each case. Third, the curve drawn on the Table outlines the apparent increase in number of "high" performing variables as the degree of success of the overall operation increases. It shows a very positive relationship between the increasing success and the identity and number of "high" rating variables. Fourth, the box drawn around the variables and ratings highlights the variables which appear to be most sensitive to success and failure. (Table III, next page).

First, consider the two variables to the right of the box, ASSESSMENT and SPEED. They are apparent anomalies because they are inconsistent with the pattern displayed in the table.

**ASSESSMENT:**

The importance of ASSESSMENT to the outcomes of these operations has been well-established, at least subjectively, in the analysis of Hypothesis I in Chapter III. The fact that all three cases had major assessment problems, (i.e., none rated "high") may indicate that the poor performance of assessment helps to explain why none of the cases fulfilled the requirements of the mission to be called a first order success. (As defined above, a first order success entails the successful rescue of the prisoners/hostages.) In future studies which incorporate more cases (including more successful ones) it is likely that the curve will continue upwards through the assessment if the hypothesis is correct. The conclusions therefore are: (1) the Guttman-type scaling used here has not
the conclusions.

Table II below is the result of a vertical rearrangement of the cases and results of Table I according to the success ranking order derived in this section above: Son Tay (Case One); Iran (Case Three); and Mayaguez (Case Three).

THE HYPOTHESES AND ORDER OF SUCCESS

\[
\begin{array}{cccc}
H_I & H_{II} & H_{III} & H_{IV} \\
\text{SUCCESS} & \text{a---b---c} & \text{a----b----c} & \text{a---b} \\
\text{CASE ONE} & L-0 & L & X & X & X & X & X \\
\text{CASE THREE} & 0 & L & X & X & 0 & 0 & X & L-0 & X & X \\
\text{CASE TWO} & L & 0 & L & L & L & L & L & X & 0-X
\end{array}
\]

TABLE II

The next table, Table III, reflects the rearrangement of the variables according to their ratings in each case. First; note that this horizontal rearrangement is a manipulation of the hypotheses, only to the extent that the variables which were discussed with the context of a specific hypothesis are now separated and in a different order. The names of the variables have been substituted for the letters. SPEED for example is completely disassociated from SURPRISE and SECURITY. (Also, recall that the association of the variables originally was an artificial arrangement to facilitate the discussion and analysis and that it did
### Table III

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Case One</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>L</td>
<td>L-0</td>
</tr>
<tr>
<td>Case Three</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>0</td>
<td>0</td>
<td>L-0</td>
<td>L</td>
<td>0</td>
</tr>
<tr>
<td>Case Two</td>
<td>X-0</td>
<td>L</td>
<td>L</td>
<td>L</td>
<td>L</td>
<td>L</td>
<td>L</td>
<td>0</td>
<td>L</td>
<td></td>
</tr>
</tbody>
</table>

**Rating Code**

- X - High
- 0 - Medium
- L - Low
enabled the derivation of solid conclusions regarding ASSESSMENT; and (2) future studies will likely confirm the applicability of that variable to successful outcomes.

**SPEED:**

The essence of the variable is that success is critically dependent upon "the degree to which existing or ad hoc organizations facilitate the effective management of time constraints for organizing, planning, training, and executing the operation." The degree to which it played a critical part in the outcomes of these cases is not clear from this study. SPEED appears to be very important however, based on the analysis in Chapter Three. The addition of more cases to the study may also demonstrate the role of SPEED relative to the outcomes.

In both of these variables, their inherent applicability and function was stated in the hypotheses and tested subjectively in the analysis of each case. The fact that the results then did not confirm the relevance of the variables is not to imply that they are irrelevant. On the contrary, substantial support exists in the analysis in Chapter Three for attention to the impact of these variables on planning, organizing, training and conducting these operations - even though the relationship has not been empirically demonstrated.

Next, consider the variables within the box. Two conclusions are derived.

**Conclusion One**

As the degree of success of the cases increases the number of higher
performing variables increases. This is what might logically be expected if the correct variables are identified, and they are operative, in these cases. The scaling effect shown by the curve seems to demonstrate that there are important variables associated with success, and SURPRISE, SECURITY, COMMUNICATIONS, COMMAND, CONTROL, and TRANSPORTATION are positively related to increasing success. However, no concrete conclusions can be derived about the weights or relationships among the variables. Nor can it be concluded that the variables constitute the sufficient conditions for accounting for success. During the analysis in the third chapter, several relationships were suggested and might form the basis for further hypotheses, information, and testing. For example, SURPRISE and SECURITY are very closely related and show a positive correlation.

Conclusion Two

If the "X" is viewed probabilistically as was suggested earlier, then the variables assume a meaning in terms of the outcome which reflects the effects of multiple probabilities. Assuming for example that in Son Tay all ten variables explained the outcome, the expected probability of success would be .51. (i.e., $P_s = (.98)^8 (.85) (.7)$) Viewed from hindsight this suggests that these operations are very risky even under the best circumstances. There are so many potential unforeseen circumstances that these operations reflect, at best, 50-50 odds. The implications of this conclusion (perhaps it is really more like 60-40 in a really good case), are obvious to the decision maker or planner. This author would conclude that: (a) the outcomes of these operations are very sensitive to the performance of a single variable, and a lack of
attention to any one drastically effects the outcome; and, (b) a hedge against this degradation problem is to build as much redundancy as is reasonably possible into the operation (especially regarding equipment), and to plan extensively for Murphy's Law effects. Planning for every conceivable contingency is impossible, but there are means of simplifying the problem. In an interview with LTC Robert Costa, an expert on special forces and operations, he stated that there are literally hundreds of contingencies which are prepared for in the course of intensive and specialized training of individuals and units. In Son Tay, the execution of plan "Green" was very easy and simple because of the high state of training. Routine standard operating procedures and a "sharing of the mind" of the participants through the unit training process minimize the impact of contingencies. This realization is a strong argument for the preparation of an existing capability which would require only minor "tuning" for the unique requirements of the impending operation.

Turning to the least successful case, could the probability of success have been so low in the case of Mayaguez? \((.98)(.85)^2(.92)(.65)^6\) = .05. Did the Mayaguez have about a one in twenty chance of success? Viewing the operation from hindsight and detailed knowledge, this author would argue from a "tactical armchair" that the answer is "yes". The poor assessment, planning and execution endangered the operation from the start. Helicopters are extremely vulnerable and need protection and support. There were very few helicopters, which made the time gap between insertions of troops on the Island too wide. There was little or no coordination for supporting fires. It is easy to be critical, and this author is not an expert. But, the awareness of such a performance coupled
with the denigrating effects of multiple probabilities, should encourage
decision makers and planners to look closely at the requirements for
success in these operations.

Lastly, consider the final conclusion, by looking to the left of the
box.

The scaling effect in the table along with the peculiarities of the
variables suggests that perhaps some of the variables are more control-
able" than others. FORCE SELECTION and TRAINING are two variables over
which the decision makers, planners and trainers exercised a great deal of
control. The fact that these variables rated high (one medium to high
rating) supports the point. Even in the least successful case, the
variables performed well. One would also expect COMMAND, CONTROL and
COMMUNICATIONS by this reasoning to be better because they are more "con-
trollable"; but this is not the case according to the results in the table.
Perhaps the suggestion of controllability would be useful in a future,
more detailed study of the variables themselves with implications for
those concerned with these operations. Hypothesizing, for example, that
six of the ten variables are very controllable; two are somewhat control-
able; and one is almost uncontrollable, a verification of the hypothesis
would assist in several ways. It would aid in prioritizing time and
resources for addressing problems. The identification of variables into
these resources for addressing problems. The identification of variables
into these categories would assist the planners who (before a situation
arises) must design the organizations and procedures to overcome the pro-
blems associated with controllability. Finally, if this knowledge could
be combined with a knowledge of the weight of the variables, the informa-
ation would be very useful in allocating resources.

In summary, this study was intended to attempt to discover if there are common, causal forces which operate in combat rescue operations and which contribute to success and failure. The method was to identify, define, apply, and test the key variables, and to derive conclusions which would be useful in future operations. The study was motivated by the puzzling dearth of success the United States has enjoyed in over a hundred years of trying. In all fairness, Admiral Holloway might have been right when he remarked that "...perhaps this is so because we frequently attempt the impossible..." (where others fear to tread). However, the fact that we attempt, (and will likely face the need in the future) to conduct these operations suggests that we must prepare for them as best we can.

Many more questions were raised in this study than were answered. But the effort was an initiating approach to cutting through the morass and confusion of "horses and cows", and its value lies in its usefulness for rejudging our efforts and decisions in expending lives and resources. This study demonstrated in an empirical way that there are indeed independent causal factors (variables) which operate across combat rescues. Hopefully, by understanding their meanings, functions and relationships, they can be more effectively managed to produce successful outcomes. The spirit is articulated by a noted Statesman who said:

Tell the world that this is what happens when you push the U.S. too far. This mission [Iran] failed but next time we will make it work.
FOOTNOTES


2. See Hearings - Part I.

3. See the chronology in Head, especially.

4. See Rowan.

5. Gray Interview.

6. The application of the definitions to the cases is deliberately omitted. The discussion is essentially a reorganization of many of the facts presented in previous chapters. The only difficulty was accounting for the indirect "claimed" impact of the Koh Tang assault as a counter-intuitive case and refuting it, and addressing the "complexity" issue regarding weighting the cases, which was done. The relative case positions are relatively obvious. The degree and frequency of problems with Mayaguez far exceeded the other two. Conversely, Son Tay was far better than the other two. Iran falls in the middle. Since none of the cases were first order successes, this ranking logic should support the conclusion.


8. Holloway Interview.

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