

AN EMPIRICAL APPROACH TO THE ANALYSIS OF  
SPECIAL MILITARY OPERATIONS: COMBAT RESCUE  
OPERATIONS MODEL AND IMPLICATIONS

by

Michael C. Ryan  
Vol. I  
S.M., Massachusetts Institute of Technology

(1982)

SUBMITTED IN PARTIAL FULFILLMENT  
OF THE REQUIREMENTS OF THE  
DEGREE OF  
DOCTOR OF PHILOSOPHY  
IN POLITICAL SCIENCE  
at the  
MASSACHUSETTS INSTITUTE OF TECHNOLOGY

February 1986

© Michael C. Ryan 1986

The author hereby grants to M.I.T. permission to reproduce  
and to distribute copies of this thesis document in whole  
or in part.

Signature of Author\_

Department of Political Science  
February 1986

Certified by\_\_\_\_\_

William W. Kaufmann  
Thesis Supervisor

Certified by\_\_\_\_\_

Stephen M. Meyer  
Thesis Supervisor

Accepted by\_\_\_\_\_

Harvey M. Sapolsky  
Chairman, Department Committee on Graduate Studies

MASSACHUSETTS INSTITUTE  
OF TECHNOLOGY

Vol. 1 APR 08 1986

LIBRARIES  
ARCHIVES

AN EMPIRICAL APPROACH TO THE ANALYSIS OF  
SPECIAL MILITARY OPERATIONS: COMBAT RESCUE  
OPERATIONS MODEL AND IMPLICATIONS

by

MICHAEL C. RYAN

Submitted to the Department of Political Science  
in February 1986 in partial fulfillment of the  
requirements for the Degree of Doctor of Philosophy  
in Political Science

ABSTRACT

The protection of fundamental U.S. security interests necessitates the existence of a capability for the conduct of military raids and rescues as instruments of U.S. foreign policy. The record of national military performance however, has been generally unsuccessful. The purposes of this dissertation are to investigate: why the record is so seriously flawed; and, what can be done to improve performance in the future. An empirically based analysis of these issues would provide useful insights and observations for planners, operators, and decision makers. These operations are of national importance, and they can have dramatic impacts upon national prestige and credibility, deterrence, and even the political process itself.

The study applies empirical and comparative analytical techniques to this unique and poorly understood class of military operations. The theory posits that past failures have been repeated in successive operations due primarily to a fundamental lack of knowledge about what produces success and failure. The side-by-side comparison of "lessons learned" reveals a puzzling repetition of problems over the last fifteen years. Proceeding from an analysis of four successful foreign cases since 1940, and building upon existing theory, a comprehensive framework is constructed. This tentative model demonstrates both descriptive and prescriptive utilities, and provides comparative insights concerning why and how variables (or factors) operate to produce outcomes. The ten factors of the model are then formulated into hypotheses in order to test the theory in the U.S. context. Three recent cases from 1970 to 1980 provide the first test of the model--Son Tay, Mayaguez, and Iran. Using a rigorous comparative hypothesis testing method originated by Alexander George, the model provides a useful descriptive framework for understanding the factors which operate to produce outcomes. For the first time, these operations are viewed through a single lens, cutting through the heretofore difficult obstacles created by the idiosyncrasies and nuances peculiar to each case. These insights clearly reveal why our institutions have not adapted well to the challenges posed by these

ABSTRACT (CONTINUED)

operations. The model is further refined by expanding the data base to include twenty additional cases. The final model provides an accurate framework for answering the puzzle of why past U.S. performance has been so problematic.

Next, the model is tested for its predictive potential by applying it to the 1983 invasion of Grenada. Retroactively tested, using information which was available on the eve of the operation, the model predicts a high probability of failure. In fact, the special operations aspects of the invasion were marred by significant difficulties and failures.

Finally, the model permits an assessment of the environment which shapes the factors themselves. Through an analysis of organizations, systems and doctrine, several principles are derived. The link between performance and national efforts to prepare U.S. capabilities is then completed. These principles provide a useful framework for assessing the direction of current efforts, and provide guidelines for change in the future.

Thesis Supervisor: Dr. William W. Kaufmann

Title: Professor of Political Science

## INDEX

CHAPTER ONE - INTRODUCTION .....	1
CHAPTER TWO - METHODS .....	29
CHAPTER THREE - THEORY .....	50
CHAPTER FOUR - A PRELIMINARY EVALUATION OF THE MODEL .....	70
CHAPTER FIVE - DEFINING THE STUDY, FORMULATING HYPOTHESES, AND ANALYZING THE CASES .....	154
CHAPTER SIX - TESTING THE FRAMEWORK IN THREE U.S. CASES ...	186
CHAPTER SEVEN - ANALYSIS OF RESULTS AND REFINING THE MODEL .....	260
CHAPTER EIGHT - APPLYING THE CRO MODEL TO THE GRENADA CASE .....	320
CHAPTER NINE - ANALYSIS AND IMPLICATIONS .....	359
SELECTED BIBLIOGRAPHY .....	387

## CHAPTER ONE

### INTRODUCTION

#### Overview

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.<sup>1</sup>

This surprising observation reflects the reality of the disappointing performance of American forces in the conduct of Combat Rescue Operations (or CRO's).<sup>2</sup> To a student of military history this is a puzzling and disconcerting fact. The purpose of this dissertation is to investigate why the United States military record of performance in the conduct of CRO's has been so problematic. It is hoped that an answer to this question will permit the identification of new initiatives which will lead to greater success in the future.

Since Benjamin Schemmer wrote the words quoted above regarding the 1970 rescue attempt raid into North Vietnam, the United States has attempted three additional, and largely unsuccessful, Combat Rescue Operations. The degree of success and the lessons to be learned from each of these operations are seriously debated among observers and experts. There is no single conceptual model which

- 
1. Benjamin F. Schemmer, The Raid (Harper and Row: New York), 1976, p. 59.
  2. "Combat Rescue Operation" was the name invented for this type of operation by this author in 1981. CRO's are defined in Chapter Two.

permits a comparative analysis of these recent U.S. rescue operations. Perhaps it is this intellectual confusion which has led to the repetition of errors in planning and execution.

This apparent failure to learn the proper "lessons" from one operation to the next has established a discouraging trend for the future. The United States is likely to continue to face these situations, and if the past is any indication, military forces will continue to perform with only limited success.

The unique approach employed in this study is one which attempts to apply empirical and comparative analytical techniques to this class of operational phenomena. From a comparative perspective, this is a largely uninvestigated class of operations, and the methodological problems encountered in the approach to this study were not insignificant. Nonetheless, this author proposes a comprehensive framework (theory or model) which accounts for the performance of military forces in Combat Rescue Operations. It also provides both a descriptive and prescriptive model for evaluating organizations, systems and doctrine. The underlying thesis of this research is that the probability of success can be increased by understanding why and how these operations succeed and fail; and then tailoring the organizations, systems and doctrine (which ultimately shape performance as environmental influences) in such a way as to maximize the performance variables.

For example, the theory suggests that the establishment of elite special units will increase the probability of success. However, the theory goes beyond an "end game" analysis to suggest that without proper environmental influences such as organizations, systems and doctrine, the elite units will not perform more successfully. In other words, if the elite units operate without proper support, command and control systems, or doctrinal concepts, the elite units will achieve no greater success than regular military units (which do not seem appropriate for these operations).

In this chapter, the author will analyze the problem, discuss past and present efforts to deal with this subject, outline steps to a solution, and explore the importance of these operations beyond the scope of military issues alone.

#### Nature of the Problem

Combat Rescue Operations are high stakes military operations which have strategic, domestic and international ramifications.<sup>3</sup> The President of the United States is almost always involved personally. One only has to recall the debacle of the aborted Iran rescue attempt to appreciate the significance of failure.<sup>4</sup>

---

3. In every single case examined in this study, the National Command Authority (NCA) or the theatre commander determined the importance by their direct involvement.

4. See Jimmy Carter, Keeping Faith (Bantam Books: New York), 1982.

Conversely, one can imagine the favorable impact a successful Iran rescue operation would have had on the Carter presidency in the 1980 election year.

Since 1969, the United States has attempted a total of four rescue operations: Son Tay Prisoner of War (POW) rescue, 1970; Mayaguez ship and crew rescue, 1975; Iran hostage rescue, 1980; and the student rescue in Grenada in 1983. All four cases were characterized by significant, and in two cases catastrophic failures. Many of the same mistakes were repeated from one attempted rescue to the next. The military explanations for these problems were often contradictory. The academic and media analysis of these problems were equally inconsistent and usually at odds with military analysis. There is simply little agreement on what went wrong and therefore little agreement on what to do about the problems.

For example, a side-by-side comparison of the Mayaguez and Grenada operations reflects a remarkable similarity in many respects. Although the Grenada rescue attempt was conducted more than eight years after Mayaguez, and ostensibly after major military reforms, the repetition of errors was obvious: inadequate intelligence regarding the location of the persons to be rescued, and regarding the size, nature and disposition of "enemy" forces; extensive command, control and communications problems; organizational and procedural conflicts among the joint services involved; and



the failure of important operational supporting forces to accomplish their missions. These serious problems were also evident in the Iran rescue operation. In spite of extensive changes in force structure and organization, these fundamental and costly problems persist. This author believes a scientific or empirical approach to the analysis of these operations will reveal why fundamental changes, not just superficial changes, are necessary.

In 1981, there was an ongoing debate over the "causes of failure", "lessons learned", and "solutions" in the aftermath of the failed Iranian rescue attempt. At that time, this author interviewed several distinguished soldiers and scholars in the military and government, and dozens of military experts -- both military and civilian. The conflicting viewpoints in this debate were so profound that these experts could not even agree upon whether these cases were successes or failures, or some mix of both. The controversy over lessons and solutions was equally heated. Not surprisingly, this process was repeated in the aftermath of the 1983 Grenada operation and continues today into 1985. The heated exchange between a Congressional staffer, Bill Lind, and the Defense Department, is the most vociferous example of this debate.

Another example of the diversity of opinion occurred in a recent conference of U.S. and foreign experts at a special operations

conference at the National Defense University in 1983. These experts wrestled with the problem of defining special operations.<sup>5</sup> One seriously proposed definition was so flawed that a critic demonstrated how a B-52 bomber strike could be included in the definition. The experts confronted the difficulty of dealing with this complex and difficult class of operations, and were not entirely successful. Combat Rescue Operations (titled Combat Rescue Missions) were not even defined.<sup>6</sup>

#### Past and Present Approaches to the Problem

Much has been said and written about these cases but there is little agreement on the "lessons" to be learned. With no common thread of principles to guide corrective action, U.S. military and political institutions have failed to define and come to grips with the problems. Until very recently, thoughtful analysis in the literature was sparse, and where found, tended to be non-empirical, largely anecdotal (even populist), and case-specific. Some studies since 1983 have begun to apply more rigorous and comparative analytical approaches. The challenge posed in this study is to find an empirical approach to the problem--to develop

---

5. Frank R. Barnett, B. Hugh Tovar, Richard H. Shultz, editors, SPECIAL OPERATIONS IN U.S. STRATEGY (National Defense University Press, Washington, D.C.), 1984, pp. 29-36.

6. Ibid., p.33

a universally applicable framework or theory, apply it to Combat Rescue and similar operations, and thereby derive a scientifically based model. The derivation of a descriptive and predictive model will then permit a fundamental reassessment of the organizations, systems and doctrines which shape the outcomes.

This subsection will briefly address the historical literature, trace the evolution of attitudes, and discuss the most recent relevant studies. This research reveals that interest in and study of special operations has ebbed and surged with each situation since 1940. The attitude towards these operations, as least in the United States, has tended to be negative. The result has been that readiness for these operations has usually been low until a crisis occurred, then analysis, research and readiness improved for a while in the aftermath of the incident. Some recent studies have taken a more thoughtful approach and will be discussed after tracing the evolution of the study of this subject.

In 1976, Benjamin Schemmer wrote the first really accurate and public account of an American combat rescue operation. In The Raid, Schemmer opened the doors to the heretofore mysterious house of special operations. This well-documented account traces the details of the story of how an obscure American intelligence analyst "read the tea leaves" of an aerial photograph to identify

the location of POW's in North Vietnam.<sup>7</sup> The author takes the reader on a tour of this highly secret operation from beginning to end. His approach is to discover as much detail as possible and try to determine what went right and what did not. The reader is left with a thorough understanding of Son Tay, but not a useful theory for understanding Iran or Mayaguez.

The source of this theoretical failing can be traced to the historical ambivalence that military analysts have displayed since World War II.

In 1940, American forces had very little guidance on how to conduct special operations. There was not even a conceptual typology to describe the types of operations -- especially rescues, raids and target seizures. The rapid advance of technologies which aided the "field" development of doctrine far outstripped the analysts and manual writers. Units in the field developed new techniques and capitalized upon new technologies in the face of combat challenges. Joint operations were not even addressed in the literature. In the military operational theatres, units from different services worked together at the operational level out of

---

7. A detailed account of the Son Tay case is found in Chapters Five and Six.

necessity, even though higher headquarters had never established the procedures for doing so.

Transportation advances were one example of how the technologies impacted on special operations. By 1940, conveyances were available for penetrating deep behind enemy lines -- submarines, gliders, parachutes, motor torpedo boats, and special ships. However, there was little or no direction from above. Instead, methods of employment were created and perfected in the field through repeated experimentation.

At the start of World War II, infantry manuals in the United States were void of information and doctrine regarding special operations -- even of a general nature.<sup>8</sup> The British Commandos had begun to develop a working concept, as were special paramilitary detachments working for the U.S. Office of Strategic Services, but the "doctrine" was largely unwritten and evolved as a body of knowledge that was generally locked in the minds of the participants. At the end of the war much of this institutional knowledge was lost. There are many good books on the SAS, SOE, OSS, and as well as the German, Italian and Japanese services. However, a comparative summary of the "lessons" reveals tremendous disparities. Many generalities derived by the authors are so vague,

---

8. Infantry Field Manual 7-5, Organization of Infantry, The Rifle Battalion (Washington, D.C.) 1940.

that they contribute little to explanations of success and failure in other operations. Many of these conclusions are probably valid, but trying to apply them is extremely difficult.<sup>9</sup>

During the war, some of the manuals temporarily caught up. By 1942, many of the lessons learned in Europe and the Pacific by American and Allied Forces were incorporated in the manuals.<sup>10</sup> By 1944 the experience was refined, at least in the context of conducting tactical raids.

Raids are made to capture prisoners, to capture or destroy material, to obtain information on hostile dispositions, strengths, works, intentions or methods of defense; and to inspire confidence and aggressiveness in the raiding troops and harass the enemy.<sup>11</sup>

The 1944 version emphasized the importance of surprise and the need for detailed planning, rehearsals, control and reconnaissance. The "how to conduct these operations" nature of the guidance in the literature provided broad general considerations, but few consistent, detailed and readily applicable doctrinal principles. The documentation included almost all conventional operations under the heading of "raids" and detailed guidance on each type of raid was left to the interpretation of the commander. In contrast,

---

9. See Bibliography; especially Garrett, Cook, Heilbrunn, Edwards, Ladd, Young, and Warner.

10. War Department, Infantry Field Manual 7-20, Rifle Battalion, (Washington, D.C.) 1942.

11. FM 7-20, Infantry, Airborne Infantry and Mechanized Infantry Battalions (Washington, D.C.) 1944.

the units conducting these operations in the field went far beyond the guidance in the literature. The 11th Airborne Division, for example, had detailed planning standard operating procedures for each type of commando operation.<sup>12</sup> As would be expected in an intense wartime environment, the "doers" were way ahead of the "writers." Doctrine regarding special operations was rapidly evolving in action against enemies in both theatres, even though confusion sometimes marred success.

There was also a great deal of confusion regarding the categorization of operations as raids. There was no universally accepted terminology. For example, General MacArthur referred to operations against New Guinea as raids; but these operations employed conventional tactics to seize and hold airfields.<sup>13</sup> Other commanders referred to their operations as "raids in force," "combat raids," or "reconnaissance raids". The recorded doctrinal meaning was lost in the confusion and heat of battle and was defined in each case by the practitioners -- the tactical leaders and their soldiers.

---

12. Sixth Ranger Infantry Battalion. Combat Reports, World War II, 6th Ranger Battalion, MP 63-8 [collection] (National Archives: Washington, D.C.) 1963.

13. Reports of General MacArthur, Vol 1, Campaigns in the Pacific, Washington, D.C., 1966, pp. 49-50.

By the end of WWII, the British, Americans and their Allies had perfected special operations in general as an effective supplement to conventional operations. Much of the conventional experience was reflected in post-war manuals, but the doctrinal guidance was no less comprehensive nor specific than the 1942 version.<sup>14</sup>

The manuals written in the 1950's and early 1960's did little to capture the special operations experience developed in WWII. The 1965 version only expanded the concept to include operations in a nuclear environment -- raids would be especially useful in contaminated areas where forces could not remain for any length of  
15  
time.

During the Vietnam era, much experience was gained by U.S. special forces units in the U.S. Army of Vietnam Special Operations Group. Dozens of after-action reports of successful and unsuccessful operations document the experiences, but no comprehensive doctrinal

---

14. See FM 7-20, Infantry, Airborne Infantry and Mechanized Infantry Battalions (Washington, D.C.) 1946.

15. FM 7-20, Infantry, Airborne Infantry, and Mechanized Infantry Battalions (Washington, D.C.) 1965, pp. 272-276, 293.



guidelines were ever reflected in military manuals.<sup>16</sup> Indeed, through the 1970's, the level of detail in military manuals was sparse. Manuals occasionally even referred to bridging, defile and river crossings as "special operations."

By the early 1980's, Army manuals had still not caught up to the flurry of study that followed the failed Iran rescue attempt. The Army's Operations Manual, FM 100-5, is an illustrative case. Special operations are given only small mention. "A raid is an attack into enemy-held territory for a specific purpose other than gaining or holding terrain. The raiding force always withdraws after it accomplishes its mission."<sup>17</sup> Two other pages describe in general terms how unconventional forces supplement conventional forces in wartime.<sup>18</sup> However, there have been gains in the manuals specifically written for use by special forces units.

---

16. Of the 22 unclassified MACV-SOG after-action reports collected by this author, 18 reflected an impressive understanding of special operations as demonstrated by the level of detail and quality of analysis. Many of the lessons of this era are now finding their way into special operations and unconventional warfare manuals: quality training; rehearsals; contingency planning; intelligence requirements; etc.

17. FM 100-5, Operations (Washington, D.C.) 20 August 1983, p. 9-3.

18. Ibid., pp. 7-23-24.

They provide necessary and detailed guidance on how to plan, train and execute a wide range of special operations.<sup>19</sup> But even then, they still do not go far enough to provide a comprehensive doctrinal framework, nor provide the decision maker and planner with a guide for evaluating and predicting outcomes. Even less attention is paid to the assessment of U.S. organizations, systems and doctrines which directly impact on the performance of U.S. forces in these situations.

Finally, the literature (even quality work) is often in error. Even Benjamin Schemmer did not credit U.S. military forces for successful POW rescues in the Pacific in World War II. There were several major POW liberations in the Philippines in 1945. The Cabanatuan POW rescue is included in the cases studied in Chapter Four. Also, recent revelations from declassified WWII era documents dispute some of the historical analysis. But generally, the literature is scant because the subject has been romanticized, and there has been no pressing requirement for comparative study. The need to solve the mystery of failure has only recently motivated theorists, analysts, historians and practitioners to study the issues and problems more closely.

---

19. See for example: FM 31-20, Special Forces Techniques; FM 71-101, Infantry, Airborne, and Air Assault Division Operations; and FM 21-50, Ranger Training and Ranger Operations.

The evolution of U.S. attitudes towards special operations in general can only be described as ambivalent. National perceptions and attitudes have had a profound impact (good and bad) on the development of an overarching strategy for the use of specially trained and equipped forces for special missions -- like CRO's. The ambivalence has caused an ebb and surge (similarly reflected in the literature) in the use of these forces which has frustrated the natural evolution of a comprehensive special operations doctrine, which implements the often ambivalent national strategy. At the operational level, the impact has most often led leaders to plan for each operation within the confines of a conventional emphasis on forces, training and doctrine.

The Soviet Union has not suffered evolutionary retardation in the development of their special operations concepts and strategies. While the U.S. was suffering over Iran, the Soviets were rejoicing over the tremendous success their Spetsalnaya Naznacheniya (Spetsnaz) units enjoyed in their pre-invasion activities in Afghanistan.<sup>20</sup> The experience generated there and elsewhere in Third World operations provides the Soviets a valuable capability for extending

---

20. John J. Dziak, "Soviet Intelligence and Security Services in the 1980's: The Paramilitary Dimension," in Roy Godson, ed., Intelligence Requirements for the 1980s: Counterintelligence (National Strategy Information Center, Inc.: Washington, D.C.) 1980, pp. 96-121.

their national policies through forceful means. This extensive capability has serious implications for U.S. preparedness, of which special operations must be an integral part. The increasing visibility of these Soviet forces and operations around the world adds even greater impetus to the U.S. need to address the fundamental conceptual, moral and legal problems surrounding the employment of military forces in these challenging situations.

U.S. high level special operations policies have historically focused on the Soviet conventional threat. In the late 1940's, the Central Intelligence Agency was directed to organize and direct special operations (including rescues, target seizures, demolition and sabotage missions) around the world.<sup>21</sup> NSC 68 (April, 1950) gave specific guidance on the purposes and means for carrying out these special operations.<sup>22</sup> Throughout the 1950's the emphasis was on covert, small, CIA directed operations. In early 1960, President Kennedy directed that a special warfare capability be established by the Army (Fort Bragg, North Carolina) to expand and intensify the use of military forces. The Joint

---

21. Senate Select Committee, Final Report of the Select Committee to Study Government Operations with Respect to Intelligence Activities, Book I, Foreign and Military Intelligence (U.S. Government Printing Office: Washington, D.C.) 1976, pp. 129-136.

22. U.S. Department of State, Foreign Relations of the United States, 1950, Volume I, National Security Affairs; Foreign Economic Policy (U.S. Government Printing Office: Washington, D.C.) 1977 (declassified in 1975).

Chiefs of Staff created a special agency called the Special Assistant for Counterinsurgency and Special Activities. The other services also developed special operations capabilities.

Despite the existence of a "quasi" strategy and the creation of policies and organizations, there were serious problems in practice. Debates within the Kennedy and Johnson administrations, bureaucratic battles between intelligence agencies, and fundamental disagreements over special operations doctrine and theories led to a steady decline in the use and capability of special forces both in and out of Vietnam. In the late 1960's the problems abounded. The "failure" of U.S. strategy in Vietnam, coupled with the loss of faith in military theory, including special operations, started a downward slide for special operations which lasted until 1980.<sup>23</sup> Richard Betts described the state of special operations in the late 1970's as "an orphaned anachronism, an embarrassment to

---

23. This composite summary relies upon analysis and accounts contained primarily in: Colonel Frances J. Kelly, U.S. Army Special Forces, 1961-1971 (Department of the Army: Washington, D.C.) 1973; Douglas S. Blaufarb, The Counterinsurgency Era: U.S. Doctrine and Performance, 1950 to the Present (The Free Press: New York) 1977; Eliot A. Cohen, Commandos and Politicians: Elite Military Units in Modern Democracies (Center for International Affairs, Harvard University: Cambridge, Massachusetts) 1978; and, Alfred H. Paddock, Jr., U.S. Army Special Warfare: Its Origins (National Defense University Press: Washington, D.C.) 1982.

disillusioned civilians, a nuisance to embittered military leaders...(and) their mission, status and size reverted to what they were before Kennedy."<sup>24</sup> The state of U.S. special operations capabilities in 1980 was so low, that it took a major effort over a period of 23 days to develop just a primitive military alternative to deal with the hostage crisis.<sup>25</sup>

In short, the problem of how to form a clear national focus and theory of special operations led the practitioners of special operations on a roller coaster. It is not surprising that a comprehensive framework for the analysis of operations remained undiscovered.

Recent activities in the aftermath of Iran and Grenada have rekindled interest in the subject. Several recent studies have advanced the level of factual and historical knowledge as well as rejuvenated an interest in special operations preparedness.

In March 1983, three "think tanks" jointly sponsored a two-day symposium on "The Role of Special Operations in U.S. Strategy for the 1980s."<sup>26</sup> Many of the conference papers addressed various aspects of the need for a comprehensive national strategy for the employment of special operations capabilities. The results of the

---

24. Richard K. Betts, Soldiers, Statesman, and Cold War Crises (Harvard University Press: Cambridge) 1977, p. 133.

25. See the context of the Iran case study in Chapter Five.

26. Frank R. Barnett, et al.

study present numerous ideas - especially the idea to make special operations a significant and viable part of U.S. national security. The effort represents a great leap forward. However, the conferee's debates typify the difficulty of dealing with the problems on an aggregated level. Lumping all special operations into a single basket makes even formulating a definition difficult.<sup>27</sup> CRO's as a particular case are hardly discussed (three references, less than 2 pages). In comparison to this deductive approach, a better approach would direct the effort first towards an empirical analysis of a specific class of operations on a less generalized level, and then to aggregate the "lessons" across different classes of operations (if possible). For example, what makes CRO's work? What makes psychological operations work? Building upon the empirical results inductively can lead to a building block process in which all of the different types of special operations are analyzed. It appears that a series of frameworks related to different classes of operations (rather than a single framework) will be required. This study focuses on cases, within classes, before attempting aggregated analysis.

A second major study was completed under an Office of the Secretary of Defense (OSD) Contract in 1983.<sup>28</sup> It also significantly

---

27. Ibid., pp. 7-15, pp. 33-36.

28. Edward N. Luttwak, Steven L. Canby, and David L. Thomas, A Systematic Review of "Commando" (Special) Operations, 1939-1980 (OSD contract study, Washington, D.C.) 1983.

expanded the general understanding of special operations. This review searched for historical "roots" by studying a wide variety of operations from 1939 to 1980. Patterns of performance were identified and judgments made about what lessons are to be learned from history.

This is an excellent study which represents a shift towards a more inductive approach. It is not as convincing as it could have been because the conclusions are judgmental based upon the authors analysis of history. The logic is solid but the methodology is not very scientific. It does however represent a significant move in the right direction.

A third study tries to use the inductive approach and disaggregate special operations to the level of Command, Control and Communications-The Myth of Omniscent Cybernetics.<sup>29</sup> The methodology and conclusions are flawed for three reasons: 1) the class of operations studied is too broad; 2) the study has too few cases to make the conclusions worthwhile; and, 3) the study essentially ignores all other factors which may have influenced the outcomes of the five studied operations. Despite these problems it is a significant advance in the march forward to apply more scientific approaches to the problem, because it attempts to apply a cybernetic model.

---

29. Thomas B. Giboney, The Myth of Omniscent Cybernetics, a thesis prepared at the U.S. Army Command and General Staff College, Fort Leavenworth, Kansas, 1983.



Another study (still in progress) by the Behavioral Sciences Department of CACI, Inc.-Federal, attempts to convert the entire history of post WWII special operations into a sophisticated, computerized, and cross-referenced data base.<sup>30</sup> (If the study could be combined with the approach used in this dissertation it would allow for extensive modelling and statistical applications.) Over two hundred cases are potentially usable for study and could be extensively analyzed and then entered into the data base. The combination of solid analysis, accurate histories and statistical and modelling aids can move the effort forward significantly. It is hoped that the framework advanced in this dissertation will permit that step forward.

#### This Approach

This study logically follows four interim steps. It proceeds from the literature search discussed above to proposals for change. These logical steps also provide a convenient framework for the introduction of the subsequent chapters.

The first step is to determine whether or not there is common ground for the analysis of unique cases. The effort focuses on a

---

30. Andrew J. Harris, Special Operations Executive Aid, a planning aid developed by the Behavioral Sciences Department of CACI, Inc.-Federal, Arlington, Virginia, 1984.

search for identifiable variables or factors which influence the outcomes. These variables are conceptual ideas which relate to major categories of performance. For example, security is an important concept in almost all military operations. An in-depth study of the underlying meaning of security is pursued in Chapter Three. Additionally, nine other variables are identified as relevant and important. The first premise that emerges from this step is that the derivation and definition of these variables permit the development of a comprehensive and universal framework. This framework can then be applied to several historical cases as an initial test of its descriptive and analytical utility. In Chapter Four, the initial framework is applied to four well-documented and successful cases which occurred between 1939 and 1976: Bruneval (1943); Eben Emael (1940); Cabanatuan (1945); and Entebbe (1976). The results confirm the utility of the CRO framework, or the "Combat Rescue Operations Model."

The second step is to restructure the model to permit more formalized hypothesis testing. The variables in the model are grouped and reorganized into more closely related concepts and a formalized hypothesis test is set up for each variable. In Chapter Five the hypotheses are derived and explained. In Chapter Six, the hypotheses are tested against three American cases which occurred between 1969 and 1980: Son Tay (1970); Mayaguez (1975); and Iran (1980). Using a rigorous comparative and analytical

approach, the cases are examined in great detail, beginning with an exposition of the contexts and an overview of the cases in Chapter Five, and followed by the hypothesis testing in Chapter Six. The results demonstrate that the model provides an extremely useful framework for identifying, defining and describing the causes of success and failure. The analysis also shows the impact which environmental influences can have on the strength of these important variables. The completion of this second step permits an initial empirical and statistical measure of the variables and their relationships. Further testing and refinement permit the presentation of a final and completed model in Chapter Seven.

The third step is to test the final comprehensive model against the most recent case-- the U.S. intervention in Grenada. Special emphasis is placed upon testing the predictive utility of the model, having verified its unique descriptive utility across a wide variety of divergent cases. This verification of the model permits a final analysis of the lessons or principles to be derived and is completed in Chapter Eight.

The fourth and final step is to derive the implications for United States organizations, systems, and doctrines. Moving inductively from the variables, to the environmental influences on those variables, naturally and logically leads to this most important step. In Chapter Nine, these implications are presented.

The major conclusions of the study are also presented in Chapter Nine. First, current organizations, systems and doctrines

do not reflect the necessary and sufficient conditions which produce success. This is the primary reason why the United States has performed poorly in these operations. Second, specific improvements will enable the U.S. to adapt to constraints and to optimize U.S. capability and performance. The results do not provide a recipe for success. Rather they provide empirically based guidelines which have wide applicability across time, situations and national experiences.

In summary, this study fills a significant void in the theory and doctrine regarding the successful conduct of Combat Rescue and related operations. It also fills a practical need through the identification of principles which can guide planners and decision makers through difficult political and military decisions. The careful application of these general principles will assure that in the future, the proper lessons are understood and learned, success is achieved, and the long line of seriously flawed operations is ended.

### Significance

The study of these operations has great importance beyond the operational level and the perfection of the military art. The United States should have the capability to conduct these operations, and the President should be provided an objective and accurate assessment of the probability of success. Such a capability may have saved lives and avoided serious detrimental outcomes,

both domestic and international, in previous problematic interventions.

Unfortunately, these issues and operations do not appear to be very important relative to the deterrence of nuclear war, avoidance of conventional conflict in Europe, or other major contingencies. These situations fall at the high probability and low risk end of the conflict spectrum. This low risk, and therefore low priority, is reflected in the annual defense budgets. However, these operations tend to carry far more significance than their position on the spectrum and the bottom lines of the defense budgets might indicate. As the recent failed U.S. cases have demonstrated, these operations are very important to American national security. There are at least four major dimensions to this significance. They reflect unquantifiable aspects of the attention which these operations demand.

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.

On an international scale it is even more difficult. National morale is affected by the incident (recall Iran) 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.<sup>31</sup> It is clear that the Iran hostage crisis had a major impact on the 1980 elections and the direction of U.S. policy.<sup>32</sup>

Second, calculations of conventional force and military power in the modern world have become increasingly less relevant in these types of situations.<sup>33</sup> With a military capability literally dozens of times greater than the Iranian capability, the power ratio added very little to 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.<sup>34</sup>

Third, these situations are potentially escalatory and pose grave dangers to world peace and stability. A military response to a Soviet or Chinese client state hostage seizure would be a

---

31. Time, February 2, 1981, pages 53-54.

32. See Time, N.Y. Times, U.S. News, November 1980.

33. Alternative 1975-85 Political and Strategic Environments for Military Planners, Volume 1 (Hudson Institute, Croton on Hudson, New York) 1971, pages 1-11.

34. Ibid.

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 1985 would imply the risk of escalation. A decision to employ force in these cases can be far more damaging than the case may indicate. The recent U.S. seizure of an Egyptian airliner clearly indicates the risk.

Fourth, these operations are potentially costly in terms of lives, equipment, and the diversion of national time, effort and priorities. Among the four American cases, all were costly in one or more of these respects.<sup>35</sup> 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.

---

35. 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 Grenada, 18 were killed and 116 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; in Grenada, 12 helicopters were severely damaged or destroyed.

## Perspective

Hindsight often prejudices analysis by injecting facts and conditions which 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 of this study is not to criticize. Rather, it is to analyze the cases in recent U.S. history with the intent of deriving conclusions which will be of benefit in future similiar operations. The men and women associated with these operations were dedicated, courageous and self-sacrificing. The 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.



## CHAPTER TWO

### METHODS

#### Overview

It ain't the things we don't know that get us in trouble. It's the things we know that ain't so. -Artemus Ward

The steps outlined in the introductory chapter revealed the logic of this study. In this chapter, the specific methods which were employed to conduct the research, assemble and analyze the data, conduct the tests, and present the results will be explained. Additionally, the problems encountered in all phases will be discussed, including a subsection on sensitivity analysis.

The approach employed in this study is empirical. It began in 1980 with a comprehensive search of the literature, extensive interviews with experts, and detailed study of dozens of military operations. From this effort, the author developed an initial framework or theory which became the starting point for this study. How this theory was derived and exactly what the theory explained and predicted are covered in detail in the next chapter. In this chapter, the focus is upon an explanation of the method and how this author attempted to overcome the heretofore insurmountable problems associated with the application of empirical techniques to the study of dissimilar cases of operations.

This study focuses on operations which meet the following criteria:<sup>1</sup>

- conducted by military or para-military forces across the borders of hostile nations
- were extremely complex and precise operations, with multi-phased plans and numerous problem areas
- were conducted under hostile fire or combat conditions
- involved the highest level of national command and authorities (peacetime) or theatre commanders (wartime), and were of great strategic importance.

This definition is deliberately restrictive in order to provide a controlled class of military phenomena for scientific investigation. (All of the cases are labelled CRO's for simplicity although some involve seizures rather than rescues.) CRO's are the most complicated type of combat-related special operations and are distinctly different from "police", "antiterrorist", tactical raids and reconnaissance actions. The cases examined in detail in this study meet the criteria cited above.

Past studies have focused on special operations as a broad general class. The failure to focus on specific types of cases is the reason why so little conclusive research on the subject has

---

1. This typology is unique and is deliberately constructed to limit the class of operations for study.

been completed. The vast majority of worthwhile studies through 1984 have tended to be historical and descriptive; not rigorous and analytical. In spite of the prominence of the four American CRO's, very little study even occurred in the United States until 1981 in the aftermath of the Iran rescue attempt. Another problem is that there are many disconnected approaches to the study of special operations. Military publications have been written to provide detailed guidance and "doctrine." Historical studies have focused on principles of war and general themes. A variety of these normative and deductive methods have resulted in a plethora of explanations for performance in these missions. Some studies have attempted to apply rational actor, bureaucratic, operational process and cybernetic models to the study of decision making in the surrounding crises, but not to the operations themselves. One hesitates to call the results of these generalizations "theories or paradigms", in the same sense one would describe the ideas of Clausewitz, Mahan or Jomini.

These problems were largely overcome through the utilization of three accepted methods. These methods permit an empirical analysis even though there exists only a small population of cases. The total number of cases within the class of study is too small to permit the application of traditional statistical techniques. The first method is borrowed from Alexander George, and involves the method of structured and focused comparison-- an intensive and small population comparative hypothesis testing method. The

second method involves the utilization of statistical scaling techniques. The third method involves the utilization of chi-squared tests to measure the relationships between the variables. Overall, the study attempts to adhere rigorously to the basic tenets of the scientific method: theory formation; hypothesis testing; reformulation; retesting; final theory and implications. These methodologies will be discussed in more detail in the following section.

#### METHODOLOGY

Conventional wisdom militates against the very notion of trying to compare dissimilar cases. This perception 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<sup>2</sup> or apples and oranges -- they are not comparable.

If the non-comparability question is true then very little study can be done beyond what has already been accomplished. However, comparison is a matter of conceptual level. On a simplistic level, Iran and Entebbe were totally dissimilar -- different nations, soldiers, situations, locations weapons, etc. But in any

---

2. Interview with anonymous high level Iran rescue military planner. The sentiment reflected in the quotation was encountered frequently in interviews and in the literature; especially a comparison of Iran to Entebbe.

methodology, the conceptual level is important. For example, 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 become 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 seem to dictate whether or not the cases can be compared. The first critical assumption of the methodology and the theory is that these cases can be comparatively analyzed in a search for causal variables which operate across all the cases.

The eight cases analyzed in detail in this study are truly unique. Comparisons are, in fact, very difficult. 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.<sup>3</sup>

As a simple example of the difficulty of the comparative process, seven contrasts and comparisons are presented concerning the first three American cases.

---

3. Alexander George, "Case Studies and Theory Development...", in Diplomacy, edited by Paul G. Lauren, 1979.

These seven comparisons and contrasts illustrate the problem which similarities and dissimilarities present for comparative analysis.<sup>4</sup>

(1) Son Tay and Iran were sophisticated and detailed operations with very closely calculated risks and estimated high probabilities of success (by the planners). 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 only in a very indirect way to the release of the crew.<sup>5</sup>

(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. A conclusion based upon this author's analysis and evaluation, evidence in the public record, and evidence presented in Chapters Five and Six. More detailed and rigorous application of the method is necessary, and is accomplished.
  5. This is a controversial point addressed in more detail in Chapters Five and Six.

(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 preparation.

(5) Son Tay was planned and executed in the context of the Vietnam war; whereas the other cases occurred 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 Teheran embassy were clearly hostages held for political and monetary 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.<sup>6</sup>

---

6. 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. (Addressed later.)

Nonetheless, a common thread of operational similarity can be seen across the cases. The similarities on this level allow the operations to be grouped as a class. Beyond these considerations, there are underlying and more fundamental questions which lead to other similarities. Answers to these questions highlight the ability to compare dissimilar cases if the right questions are asked. What role does secrecy play? How important is the achievement of surprise? The answers to these and other more fundamental questions will be examined and discussed below.

The method described by Alexander George requires rigorous analysis which goes well beyond traditional superficial comparisons and deductive lesson-learning on a case-by-case basis. It is this lack of rigor in most prior analytical works that accounts for both the voids in the literature, and the repetition of the same costly mistakes from one operation to the next.

With Alexander George's approach in mind, the method can be more clearly explained by organizing the discussion around the answers to four central questions:

- (1) What operational variables account for success and failure in combat rescue operations?
- (2) How can the variables be used to construct a model?
- (3) How can the model be tested?
- (4) How can the model be verified?



The questions will be addressed one at a time.

QUESTION ONE: What operational variables account for success and failure in combat rescue operations?

Ten variables were identified as important to the outcomes of rescue operations: assessment; speed; surprise; security; command; control; communications; transportation; force selection; and, force training. (The definitions are discussed in detail in Chapter Three.) These variables were derived from the study and analysis of:

- a. primary and secondary historical and analytical works on numerous military operations;
- b. contemporary literature, past and present policy documents, and other studies;
- c. interviews, surveys and experience.

These ten variables appear to have a causal impact on the outcomes of these operations. The explicit relationship between the variables and favorable (or unfavorable) results, and the interrelationships among the variables themselves, are discussed in Chapters Three and Seven.

QUESTION TWO: How can the variables be used to construct a model which can be used for all CRO cases?

To approach the problem of applying the variables to all eight cases, the first step is 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. This artificial grouping, however, does not negate the hypothesized independence of the variables.

QUESTION THREE: How can the model be tested?

The initial test is conducted against four successful cases to verify the accuracy of the variables individually (Chapter Four). The variables are then grouped into five hypotheses for further testing. For example, in the command, control and communications hypothesis, it states that if the operation was successful, then the success was critically dependent upon effective command, control and communications. The five hypotheses collectively imply that success and failure can be entirely accounted for by the level of performance of the ten key functional variables. The next step is to develop a method for testing the hypotheses.

The concept of hypothesis testing utilized here fulfills three distinct requirements. The first requirement is to construct a profile in tabular form through an analysis of the relevance, accuracy and validity of each of the variables. The structured and focused comparison of the first three American cases (Son Tay, Mayaguez, and Iran) is completed in chronological order. The format is reflected in the chart (Figure I) below. The distinguishable aspects of each hypothesis are assigned a rating based on an

analysis of their application and function in each of the cases. The ratings are "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.<sup>7</sup> The hypotheses are also retroactively tested against the four original cases presented in Chapter Four and the results are summarized. (Subsequent analysis not shown.) This provides a data base of seven cases with high, medium and low ratings for each variable.

---

7. A fourth rating is implied, and that is "Not Applicable." However, this rating was never justified.

These ratings could be viewed probabilistically. A high rating might correspond to a .98 chance of success; a medium rating to a .80 chance; and a low to a .65.<sup>8</sup> A more sophisticated probability analysis is attempted in Chapter Seven. Employing several of Howard Raiffa's techniques from Decision Analysis, Introductory Lectures on Choices Under Uncertainty, an initial attempt is made to explore the predictive potential of the model.<sup>9</sup> The process is completed in Chapter Seven.

- 
8. 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 so as to assure the performance of the transportation function.
  9. See Howard Raiffa, Decision Analysis (Addison Wesley Publishing: Reading, Massachusetts), 1970.

HYP I      HYP II      HYP III      HYP IV      HYP V

CASE ONE

CASE TWO

CASE THREE

CASE FOUR

CASE FIVE

CASE SIX

CASE SEVEN

#### FIGURE I

The second requirement is to develop a definition of success and failure, independent of the hypotheses and variables above, and according to which all seven cases can be rank-ordered into relative positions of: the best performance to the worst performance. This is accomplished in the first part of Chapter Seven.

The third requirement is to rearrange and rank order the cases vertically and horizontally and to rearrange the ratings from high to low in an array. This rearrangement is basically a transformation of the chart in Figure I above. The model can then be examined for any evidence of Guttman-type scaling,<sup>10</sup> relevant conclusions can be derived and the model refined. The combinations of testing,

---

10. 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 yields meaningful results because 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.

ranking and rearranging provides interesting results which are presented in the final part of Chapter Seven. Further, study is completed by summarizing the results of chi-square tests on twenty other cases and refining the theory based upon the results. Additionally, the expanded data base permits a more sophisticated analysis of the probabilities associated with the model.

This leads to the final question:

QUESTION FOUR: How can the model be verified?

After the model is refined, based upon the conclusions of Chapter Seven, the hypotheses can be reformulated to test their predictive utility. The model is applied to the case of U.S. operations in Grenada in 1983. From the perspective of a view on the eve of the operation, the model predicts the performance of U.S. military forces based upon the issues raised by the CRO model and the standards it requires in order to achieve success.

The predictive utility of the model is verified and the implications of the model can then be explained in the final chapter.

The analysis relies upon basic tenets of systems theory. The diagram below illustrates the focus of the study and some of the important considerations which are implied. The model in Figure II below shows the general relationship between the focus of this study and others.

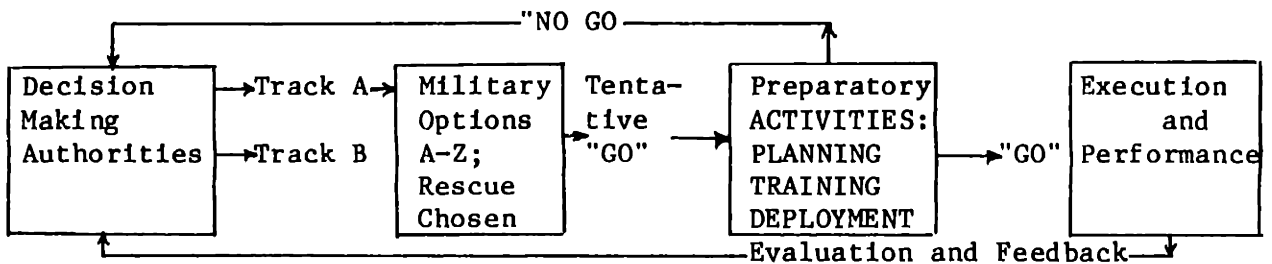
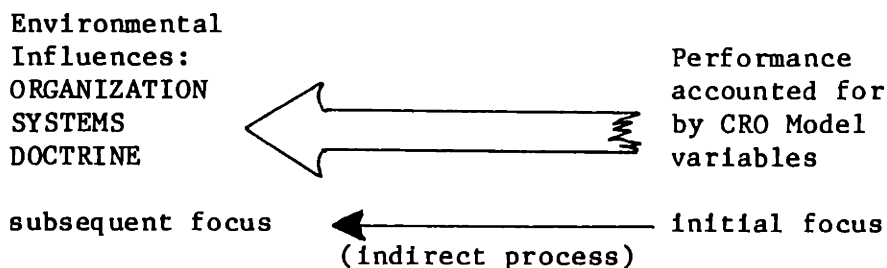


FIGURE II

The initial 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 authorities are confronted with a potential CRO situation they can simultaneously pursue a variety of "tracks" from the diplomatic to the military. When and if the military track is considered military options are available which reflect a broad range of capabilities from "do nothing" 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 initial focus of this study. The second part of the analysis shifts the emphasis from the operational performance to the environmental factors.

This shift is represented below.



The environmental components (Organization, Systems and Doctrine) constrain and influence the values of the performance variables. This study identifies those variables first, then inductively assesses the environmental influences. Almost all previous studies have failed to complete this first step first. Past reforms in organization, systems and doctrine have been instituted based upon only a fuzzy notion of what performance variables were critical to success; and how "environmental" factors influenced their values.

The "real world" flow of events is much more sophisticated and interactive than these models suggest. Their 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 the identification of the underlying causes of success and failure. Knowledge of why these operations "work" or "do not work" will be valuable to decision makers and planners. In fact, the study points strongly to underlying principles which can assist in the resolution of critical "environmental" issue debates.



Conceptually, the second part of the study moves to the left of the diagram above to the general environment and asks: What impact do organizations, systems, and doctrine have on the variables? For example, the existence or nonexistence of ready and capable forces can have a tremendous impact upon the variables in the model and the final outcome. In Chapter Nine, principles are derived which should guide decisions. In turn, this should maximize the values of the variables and produce the greatest probability of success in the final outcomes.

#### SENSITIVITY ANALYSIS

In this final subsection, two important issues will be addressed. First, the problems that might introduce error or bias into this study are identified. The explanations of how to cope with these problems reveal that their effects can be minimized. Second, the additional measures employed to avoid Type I and II errors will be clarified.

The first problem which must be addressed in order to minimize sensitivity problems, errors, distortions and bias is the problem of how to simplify complex phenomena. 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 evolution 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 initially proposed and utilized.

A related problem 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 (with substantial mathematical justification) influenced positively by maximizing the probabilities of factors which induce success, and minimizing the opposite factors. Several questions are raised in Chapter Four and Chapter Six which highlight 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 a Bomber Wing Commander's most famous lines from a World War II story, 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 one 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 cases examined here, such catastrophic and uncontrollable factors apparently were not the critical determinants.<sup>11</sup> The failure to recognize and prepare for those imponderables was usually to blame.

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 these cases, the law

---

11. The conclusion is based upon the completed analysis in Chapters Four and Six.

seemed to operate. But, the impact of the unforeseen contingency in each case was mostly a reflection of the inadequacy or adequacy of preparation for the range of things that could and did go wrong.<sup>12</sup>

The second major methodological problem involves Type I and Type II errors. (Type I errors occur when the hypothesis is true but the alternate hypothesis is accepted. Type II errors occur when the hypothesis is accepted but the alternate hypothesis is actually true.)

The acceptance or rejection of each hypothesis was decided only after all of the tests were completed; initial testing; formal hypothesis testing; additional case analysis; and scaling and chi-square and probability analysis. The confidence is high that the hypotheses are true. This confidence suggests that a Type II error is unlikely.

The Type I error problem was addressed through an attempt to apply the CRO model to cases clearly outside this class of operations: police actions; major conventional operations; and political-military operations (evacuations under hostile but non-combat conditions). If the model fit these other types of operations it would tend to dispel the assumption that the CRO model is unique. Because the CRO model clearly did not fit non-CRO operations, the

---

12. Ibid.

uniqueness is reinforced. At least in an indirect way this enhances confidence that a type I error has been avoided.

Overall, the influences of potential error have been minimized by a sensitivity to their influences in the data collection and analysis.

In the next chapter the underlying theory will be discussed, the meaning of the individual variables will be explained and the representation of the theory, or CRO model will be demonstrated.

## CHAPTER THREE

### THEORY

#### Overview

Everything is very simple in war,  
but the simplest thing is difficult.  
- Clausewitz

The historical "principles of war" alone do not provide a very useful framework for the comparative analysis of combat rescue and related operations. In this chapter, a more useful framework will be developed. In Part One, the "principles of war" will be discussed and analyzed. This effort will produce a set of "working" variables (or factors, not to be treated as principles) which will permit a detailed analysis of military operations. In Part Two, these general factors will be defined, explained and integrated into a comprehensive theory labelled the Combat Rescue Operations Model.

#### PART ONE

Since the origins of armed conflict, military commanders have sought the secrets to success on the battlefield. Historians and theorists have studied the great campaigns and the best commanders to derive the winning combination of "principles." The obvious physical requirements for success were material (weapons and ammunition) and manpower. But many noted that physical advantage,

even when apparently decisive, did not necessarily produce victory. The intangibles of leadership, morale, use of terrain, and other factors often brought success to inferior forces. The Swiss theorist, Antoine-Henri Jomini, combined his personal military experience and his study of the campaigns of Napoleon and Frederick the Great to explore the intangible components.

Jomini hypothesized that success in war could be described based on a system of broad principles. He was criticized for his efforts because theorists challenged the notion of the existence of underlying principles. However, after World War I, the United States Army and others included lists and explanations of these principles in their regulations for the conduct of war.<sup>1</sup>

Since then, these lists have become known as the "principles of war" and represent the most critical of the intangible elements that regulate the conduct of war. The various lists we have seen across time and different armies have almost always included such intangibles as the "Objective" or "Surprise" or "Concentration of Forces."

But critics continued to deride the utility of the principles of war. Modern warfare was so complicated they argued, that it

---

1. John I. Alger, Definitions and Doctrine of the Military Art (Department of History: West Point, New York) 1981, p. 12.

was almost impossible to apply the principles to every situation. In many cases they were contradictory or even detrimental. By 1930 the criticism was strong enough to cause the deletion of the principles from Army Service regulations in both the U.S. and the UK. But after WW II, both nations again restored the principles of war. The list below shows the historical progression of these principles by country.

BRITISH AND AMERICAN "PRINCIPLES OF WAR"<sup>2</sup>

<u>British (1920)</u>	<u>United States (1921)</u>	<u>British (1948)</u>	<u>United States (1949)</u>
Maintenance of the Objective	Objective	Selection and Maintenance of the Aim	Objective
Offensive Action	Offensive		Simplicity
Surprise	Mass	Offensive Action	Unity of Command
Concentration	Economy of Force	Cooperation	The Offensive
Economy of Force	Movement	Concentration of Force	Maneuver
Security	Surprise	Economy of Effort	Mass
Mobility	Security	Flexibility	Economy of Force
Cooperation	Simplicity	Surprise	Surprise
	Cooperation	Security	Security
		Maintenance of Morale	Administration

---

2. Ibid., p. 12.



Not only have the titles differed, but as the British and United States doctrines have been revised since the late 1940s, the explanations of each principle have been modified as well. Some nations adopted other titles and explanations. Other nations have steadfastly denied that a brief list of fundamental principles is worth-while.

Today the principles of war have been modified somewhat to "express the fundamental roles, principles, and precepts governing the employment of United States Army forces in support of United States national security objectives."<sup>3</sup>

These principles can be used to study and critique past campaigns and battles but such a list and considerations were not necessarily employed by those who participated in those conflicts. In many cases history demonstrated the principles did not even apply. For example, the "unity of command" principle was violated by the Duke of Marlborough and Prince Louis in the Campaign of 1704 when they agreed to command on alternate days.<sup>4</sup> Today theorists argue that the principle was not nearly as important 281 years ago as it is today. This underscores the notion that the effective

---

3. FM 100-1 The Army, 29 September 1978, pp. 14-16.

4. Lynn Montross, War Through the Ages (Harper and Row: New York) 1960, pp. 341-347.

use of these principles requires careful planning, study and application to military operations, and the changing operations and battlefields of the future. These written laws form a basis for analysis of history, for rational thinking and as a stimulus for communication among military analysts and professionals.

The current list of principles and definitions is summarized below from FM 100-1. The manual points out that the principles may reinforce or even contradict one another. They provide a starting point, not a mathematical formula for success. They are offered with the hope that the reader will reflect upon past military operations and use them as a guide in future military operations.

Objective. Every military operation should be directed towards a clearly defined, decisive, and attainable objective. The ultimate military objective of war is the defeat of the enemy's armed forces. Correspondingly, each operation must contribute to the ultimate objective. Intermediate objectives must directly, quickly, and economically contribute to the purpose of the ultimate objective. The selection of objectives is based on consideration of the mission, the means and time available, the enemy, and the operational area. Every commander must understand and clearly define his objective and consider each contemplated action in light thereof.

Offensive. Offensive action is necessary to achieve decisive results and to maintain freedom of action. It permits the commander to exercise initiative and impose his will on the enemy, to set the terms and select the place of battle, to exploit enemy weaknesses and rapidly changing situations, and to react to unexpected developments. The defensive may be forced on the commander as a temporary expedient while awaiting an opportunity for offensive action or may be adopted deliberately for the purpose of economizing forces on a front where a decision is not sought. Even on the

defensive, the commander seeks opportunities to seize the initiative and achieve decisive results by offensive action.

Mass. Superior combat power must be concentrated at the critical time and place for decisive results. Superiority results from the proper combination of the elements of combat power. Proper application of this principle, in conjunction with other principles of war, may permit numerically inferior forces to achieve decisive combat superiority at the point of decision.

Economy of Force. This principle is the reciprocal of the principle of mass. Minimum essential means must be employed at points other than that of the main effort. Economy of force requires the acceptance of prudent risks in selected areas to achieve superiority at the point of decision. Economy of force missions may require limited attack, defense, cover and deception, or retrograde action.

Maneuver. Maneuver is an essential ingredient of combat power. It contributes materially in exploiting success and in preserving freedom of action and reducing vulnerability. The object of maneuver is to concentrate (or disperse) forces in a manner to place the enemy in a position of disadvantage and thus achieve results that would otherwise be most costly in men and materiel.

Unity of Command. The decisive application of full combat power requires unity of command. Unity of command results in unity of effort by coordinating the action of all forces towards a common goal. While coordination may be achieved by cooperation, it is best achieved by vesting a single commander with requisite authority.

Security. Security is essential to the preservation of combat power. Security results from the measures taken by a command to protect itself from espionage, observation, sabotage, annoyance, or surprise. It is a condition that results from the establishment and maintenance of protective measures against hostile acts or influences. Since risk is inherent in war, application of the principle of security does not imply undue caution and the avoidance of calculated risk.

Surprise. Surprise can decisively shift the balance of combat power. With surprise, success out of proportion to the effort expended may be obtained. Surprise results from striking an enemy at a time and/or place and in a manner for which he is unprepared. It is not essential that the enemy be taken unaware, but only that he become aware too late to react effectively. Factors contributing

to surprise include speed, cover and deception, application of unexpected combat power, effective intelligence, variations of tactics and methods of operation, and operations security (OPSEC). OPSEC consists of signals and electronic security, physical security, and counterintelligence to deny enemy forces knowledge or forewarning of intent.

Simplicity. Simplicity contributes to successful operations. Direct, simple plans and clear, concise orders reduce misunderstanding and confusion. Other factors being equal, the simplest plan is preferred.

This discussion provides a "principled" starting point for the analysis and study of special military operations since 1940. However, the applicability of these principles is not clearly evident and is often contradictory. In many cases the principles are so obvious as to have little or no utility. Several examples illustrate the problem. The discussion of the offensive and economy of force are patently obvious. The discussion of simplicity does not fit the historical record for special operations; maneuver is not readily applicable; and in special operations, surprise almost always indicates catching the enemy "unaware." Achieving total surprise is apparently a necessary condition for success. In larger more conventional operations total surprise is usually an impossibility. The ability to use mass and maneuver flexibly on the battlefield can overcome the lack of total surprise -- not so in most special operations. Other "principles" are similarly problematic or inapplicable.

---

5. John I. Alger, pp. 14-15.

When comparing special operations to conventional operations, the differences are quite clear. Special operations are more complicated, limited in size (usually very disproportionately to the enemy) and extremely limited in maneuver capability. In short, the FM 100-1 principles are not very useful. They are neither sufficiently comprehensive nor specific to permit their direct application to the formation of an empirical base for analyzing past special operations.

Other sources were also reviewed for establishing a base of critical factors which govern outcomes in special operations. Other nations such as Great Britain, France and Japan have field service regulations as their senior manual on operations. Revealing insights into Soviet doctrine are also available in translated documents such as the Dictionary of Basic Military Terms: A Soviet View (Radziyevskiy) and A.A. Sidorenko's The Offensive. Other sources include American Military History (Maurice Matloff), The Art of Warfare on Land (David Chandler) and the Dictionary of Weapons and Military Terms (John Quick). Unfortunately none of these sources spends much time or effort exploring principles which are applicable to unique and special operations. Historians and analysts, national military manuals, and publications, have focused on major conventional operations -- at the high risk and of the conflict spectrum -- not special operations at the low risk, high probability end of the spectrum.

The following list of concepts (with a brief description of each) began to take shape as the author progressed in the research. These ten variables (as opposed to principles) include intangible as well as tangible components of the operations. They present, as least initially, a heuristic tool for the attempt to comparatively analyze these operations. There are some similarities to the list of "principles." Command as defined below is similar to its counterpart principle. But the role of command in special operations is far more important than its role as a guiding principle for a combat unit in the conduct of an attack in a conventional European scenario. "Command", in Combat Rescue Operations is a more comprehensive and specific concept than "command" in more conventional operations. The factors listed and described below constitute the starting point for the theory which explains why and how these operations succeed and fail.

Assessment. This factor addresses the role of intelligence in special operations. It focuses upon the planning and training as well as the execution.

Speed. The time factor appears to be a critical dimension of CRO's because of the short-notice nature of the operations. This factor covers how time management problems are addressed.

Surprise. The element of surprise is a traditional principle of war but the CRO type of operation appears to be more sensitive to the requirements of "catching the enemy unaware."

Security. Security includes both operational security and special missions and forces which provide an insulating umbrella around the operational area.

Command. Similar to the conventional principle cited above for unity of command. It covers how authority is established in sophisticated and fast-action special operations.

Control. This factor includes the issues which regulate the performance of the mission and the role of the commander in the planning process.

Communication. Communications constitute the vital nerves which permit effective command and control.

Transportation. This is uniquely a tangible (means) and intangible (concept) factor which deserves special attention in CRO's.

Force Selection and Training. These two factors focus upon the quality of soldiers and equipment, and the training requirements for CRO's. These issues raise serious questions about the type and quality of forces that are employed.

## Part Two

The Combat Rescue Operations Model is composed of a set of concepts plus the interrelationship of those concepts. The variables or factors introduced above are the concepts which comprise the model. The model is based upon four premises:

- a. there are fundamental, universally applicable causal variables which can be identified as operative and important in each CRO;
- b. these variables are largely independent conceptually; however, the operational relationships may not be independent;
- c. these concepts are, as a group, unique to combat rescue operations;
- d. these concepts are constrained and influenced by external factors of organization, systems and doctrine.

(These four premises have already been discussed in Chapters One and Two.)

With the premises of the theory in mind, the next step is to define and explain each of the variables.

#### 1. ASSESSMENT.

Assessment is more than merely intelligence. It is a concept which encompasses the collection, evaluation and dissemination of information. Assessment drives the planning, training and execution of the operation and is a dominant variable. CRO's do not succeed by accident. Proper assessment necessitates the continual modification of plans, training methods and the actual execution of the mission. In order to be effective, assessment efforts must be centralized, integrated and coordinated at the highest levels. Additionally, assessment involves the maximum employment of means - both technological and human. Many varied sources 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.<sup>6</sup> In a Combat Rescue Operation, the intelligence community

---

6. 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).



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. This concept, as stated above, is believed to be critically important to the outcomes of these operations.

For example, incorrect assessments regarding the location of the "targets" means the rescue force may arrive at the wrong location. Readjusting and moving the force after it is committed can be extremely complex and difficult if not impossible. The advantages of surprise and security might be completely lost. A subsequent attempt might be even more difficult.

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 alternative strategies (such as reinforcement) to regain superiority. As stated above, combat rescue operations do not share that flexibility and the success or failure of the operation depends upon the latest and most accurate 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" is as important as the accuracy of the intelligence itself. It implies that if the information is not organized within the context of a centralized, integrated and coordinated intelligence effort then the lack of organization will weaken the value of the assessments. 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 centralized and integrated assessment capability 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. The importance of human intelligence sources can also be extremely important.

## 2. SPEED

Speed involves the concept of time, effort, and available resources. Speed reflects the degree to which existing or ad hoc organizations facilitate the effective management of time constraints for organizing, planning, training, and executing the operation.

Speed 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 adversaries. Time constraints which impact upon combat rescue operations are particularly restrictive. For example, the availability of forces restricts the "who." The transportation concept determines how to get there and back. Considerations of timing dictate the "when". The composite capability of the U.S. military at the time the crisis occurs is a direct result of the military system. The U.S. either has the forces on hand or not. If not, the preparation time will be significant. These are obvious considerations, but they are important aspects to the management of time, or speed, that have often been overlooked in the past.

Several dimensions of this concept illustrate the importance of speed. It takes time to organize, train, and equip the forces necessary to accomplish the mission. 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 could save valuable time. The existence of a special organization (rather than an ad hoc one), might permit more effective management of the operations. 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. Generally, combat rescue operations tend to be less tidy. However, in all cases, speed plays a critical role in affecting the outcomes.

### 3. SURPRISE

Surprise means catching the enemy unaware, or presenting him with a "fait accompli," thereby frustrating his ability to respond effectively. Surprise necessitates the use of diversions, deceptions, weather, terrain and time in order to create the necessary conditions which result in catching the enemy unaware.

Surprise is a principle of war in every modern army, and the meaning is reflected 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 the presentation of a fait accompli. There are numerous historical examples which illustrate how surprise has operated as a multiplier in military operations, and contributed directly to success. In combat rescue operations it is a necessity.

#### 4. SECURITY

Security is a concept which concerns the prevention of compromise of a CRO. It involves avoiding detection by an enemy employing either active or passive means. Security also has a more physical dimension, i.e., it involves the provision of external supporting forces in the event an operational security (OPSEC) failure occurs, or unforeseen contingencies arise.

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 of the operation.

Also, combat rescue missions require special external support capabilities to deal with unforeseen contingencies, especially a compromise of security. It usually takes the form of additional long range artillery rocket or missiles, aircraft, or naval gunfire support.

#### 5. COMMAND

Command is the exercise of authority and responsibility for major decisions. Proper command is unified, extensively qualified for the conduct of special operations and always properly positioned. The exercise of authority in Combat Rescue Operations does not succeed when the decision making leaders are out of critical positions. In special operations, the critical positions are usually up front and in the center of the operations. Levels above the operation itself tend to be less important after the operation begins than is the case in conventional operations. Commanders must be eminently qualified based upon their leadership qualities and knowledge of special operations.

#### 6. CONTROL

Control involves the regulation and management of the operation

from inception to conclusion. It requires that the actual leaders play an important role in the planning process. Control also means that the plan is focused on the primary mission. Although the operations may be very complex, this focus must not be lost. Finally, control means that extensive "wargaming" is completed in order to add control measures at critical points and that contingency plans are prepared and rehearsed.

## 7. COMMUNICATIONS

Communications are generally treated as technical means rather than as concepts in conventional operations. In special operations, the concept of communications provides the critical links between command and control and the exchange of information during the operation. Communications are based on the most effective techniques, procedures and redundant systems. Communications equipment should include the most advanced and proven equipment available.

## 8. TRANSPORTATION

This concept governs the ideas of movement and travel to and from the objective(s) with reliable and tested systems. It is far more than an element in the planning process which involves a choice of means. The transportation concept should be closely integrated with all other aspects of the operation and tailored to

optimize performance at the objective. CRO's pose unique challenges that are not observed in most conventional operations. Aircraft are generally the most appropriate means.

There are several problems associated with the use of helicopters and airplanes on these kinds of operations. First, secretly penetrating foreign airspace is difficult, especially when sophisticated detection means are available. Second, aircraft, particularly helicopters, are highly vulnerable to rockets 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 do so 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 concept a very important variable.

## 9. FORCE SELECTION

Combat Rescue Operations forces should be selected on the basis of a match of the skills of the force with the specific requirements of the operation. The equipment should also be



selected based upon this "matching" concept, and generally should include the most advanced equipment available.

#### 10. FORCE TRAINING

The training concept for CRO's is significantly different than for other types of operations. The training should be thoroughly integrated and rehearsed for all operational elements. The training concept should also employ the most advanced techniques for evaluating full rehearsals and completing contingency plans.

#### SUMMARY

These ten concepts are the variables which make up the Combat Rescue Operations Model. They are significantly different from any other set of principles, guidelines or doctrinal precepts, including recent U.S. military manuals. The theory holds that these ten variables are the critical operational variables which completely, and uniquely account for and explain success and failure in CRO's.

The first test of these concepts will be conducted in the next chapter. Four major successful cases will be examined in detail using this CRO framework.

## CHAPTER FOUR

### A PRELIMINARY EVALUATION OF THE MODEL

#### INTRODUCTION

Surprise is the most vital element for success in war.

- Douglas MacArthur<sup>1</sup>

What are the most vital elements for success? To General MacArthur, surprise was of paramount importance. To other great leaders and thinkers in military history, other factors may have been more important. Frederick The Great stressed discipline. Napoleon stressed maneuver and massed fires. Patton emphasized aggressive and violent execution. And Clausewitz focused on political objectives and moral forces. This great diversity of opinion reflects the problem of how to identify the most vital elements for success in war and particularly special operations.

A careful reading of any fifteen great analysts of armed conflict leads to fifteen different lists of "elements" with only a modicum of agreement on categories, definitions and priorities. The CRO model developed in the last chapter is more than a distillation of common elements from many lists. The ten CRO elements are in fact either at odds with or not mentioned by many of these great practitioners and theorists.

If the process is so difficult, why then make the effort? Part of the uniqueness of the model is explained by the fact

---

1. Douglas MacArthur, Reminiscences (New York: McGraw-Hill) 1964, p. 349.

that very little has been written specifically about special operations. The other part is explained by the nature of the approach. The application of empirical methods to the study of special operations is new.

This chapter constitutes an initial effort to identify and verify the existence of vital factors or variables for success in combat rescue operations. Is MacArthur's surprise an important factor? How so? The CRO model provides a framework of ten factors which can be applied to historical accounts and evidence of successful operations. The application of the CRO model to historical cases provides a means for the satisfaction of two preliminary tests.

The first test of the model is: "What descriptive power does the model demonstrate?" Does the model provide a comprehensive framework which allows for the meaningful organization of facts, and the analysis of forces which determined the outcomes? Can widely divergent cases be examined through the camera lens of this model? The four cases which are examined in this chapter provide good case samples to which the first test can be applied. The cases are examined specifically in terms of the model's framework, and the answers to the questions posed above are actively pursued. The test hypothesizes that if the model permits an organized and comprehensive analysis of these four successful operations, then its descriptive utility will be confirmed.

The second test is: "To what extent do the variables in the model present the conditions which are necessary and sufficient for success?" Although the analysis of a small number of cases does not permit the derivation of totally objective conclusions, it does allow an initial favorable or unfavorable evaluation of the variables. MacArthur felt that surprise was necessary and most important, but not "sufficient". This author shares the view that sufficiency is a difficult question. Through detailed study, the most important factors should emerge. The focus of "necessary" therefore, is upon the presence or absence of each variable; its strength or weakness of influence upon outcomes; and its consistency in meaning in each case.

The "sufficiency" issue was first approached through an active search of the primary and secondary research sources for evidence of other influences. A second approach, reflected in this chapter, is to challenge the collective explanatory power of the ten variables through detailed analysis. Although no sweeping conclusions regarding sufficiency are likely, this research and analytical emphasis will move the study closer to a legitimate test of the "comprehensiveness" of the model. The underlying analytical questions are: "What other factors may have influenced the outcomes?"; and, "Do the ten variables in the model constitute the sufficient conditions for success?".

The degree of success may in truth be accounted for by variables

which are totally independent of the model. For example, it may not matter whether surprise was achieved, intelligence was accurate, or the troops were well trained and led. The outcomes may depend more on chance and firepower calculations (as some "experts" have sincerely argued).

The successful completion of these tests will permit further refinement, testing and analysis in subsequent chapters. If the model "works" in these four cases, it should work when applied to other cases in this class.

Four well documented and successful cases were selected for a preliminary evaluation of the model. The cases were selected with the following ideas in mind:

- a. The cases should be as dissimilar as possible;
- b. The cases should fall within the class of operation under study (CRO's).

The cases which were selected fulfill those criteria very well. The Bruneval Raid was conducted by the British against a German radar position on the French coast in 1942. The Eben Emael Operation was conducted by German forces against a Belgian Fort in 1940. The Cabanatuan POW Rescue Operation was conducted by U.S. Rangers in the Philippines in 1945. The Entebbe Hostage Rescue Operation was conducted by Israeli Defense Forces in Uganda in

1976. All four cases were highly successful (although not one was flawless.)<sup>2</sup> They were conducted by different nations, armed services, and units; at different times and locations; in different contexts; and employed different concepts and methods. They are so different in almost all respects, the only obvious similarity is that they are specialized combat operations. This implies that they involved soldiers, weapons, and combat with the enemy. This diversity and dissimilarity is both important and helpful to a successful preliminary evaluation of the model.

Among the two hundred or so experts interviewed for this study, most felt that an empirical approach was unworkable - the dissimilarity in cases is simply too overpowering. Herein lies the paradox. This chapter is an initial challenge to the conventional wisdom. Does the model provide a comprehensive framework for the analysis of combat rescue operations?

---

2. Much attention was devoted to an analysis of the "degree" to which a variable influenced the outcome, and the "quality" of its contribution to success. The results of this subsequent and more rigorous analysis are summarized in Chapter Seven. These results reflect a more detailed application of the refined model to the same four cases. Because the model did not originate from these cases, the subsequent addition of these cases to the "data base" does not create a tautology. The successful initial review of the cases presented in this chapter encouraged further refinement and testing. The reapplication of the model later does not alter the conclusions of this chapter, nor did it invalidate the methodology.

### CASE ONE - BRUNEVAL RADAR SEIZURE<sup>3</sup>

In June of 1940, Lieutenant Colonel Dudley Clarke, a staff officer in Whitehall, conceived of a special force which might help Britain in its hour of need. He recalled from his 20 years of military experience and his study of history that nations in similar military situations; i.e., driven from the battlefield as in Dunkirk, resorted to special forces to provide interim military power. In particular, he had personally witnessed a small group of fanatical Arabs tie down nearly a corps of regular British Army Troops in Palestine in 1936. The Arab ability to fight, maneuver and continuously achieve local superiority, with only small specialized forces, was inspirational.

His idea was translated into action in the summer of 1940 through his superior -- Sir John Dill of the Imperial General Staff -- to Winston Churchill. With the support of the Joint Chiefs, the first operation, albeit unsuccessful, was launched on June 24th. (This unpropitious beginning for the British commandos did not foretell of their future success.) The growing pains

---

3. There are a number of excellent accounts of the Bruneval radar operation: Commandos and Rangers of World War II, James Ladd, 1978; The Bruneval Raid, George Millar, 1974; The Raiders, Richard Garrett, 1980; Who Dares Wins, Thomas Geraghty, 1980; and, Combined Operations: The Official Story of the Commandos, Vice-Admiral, Lord Louis Mountbatten.

associated with the development of a commando force from scratch were not pleasant, but they helped restore the British offensive spirit in the aftermath of the demoralizing Dunkirk evacuation. Despite initial problems, these operations held great promise for disrupting the Nazis up and down the continent from Norway to North Africa.

On July 17, 1940 Fleet Admiral Sir Roger Keyes was appointed Director of Combined Operations. This new organization was established to oversee and direct all raiding missions and to coordinate them with Royal Navy and Air Force Operations. By October, 1940, the commandos were about 2,000 strong and organized as a Special Service Brigade. Each of the twelve commando units in the Brigade was composed of three troops of about 50 men each.

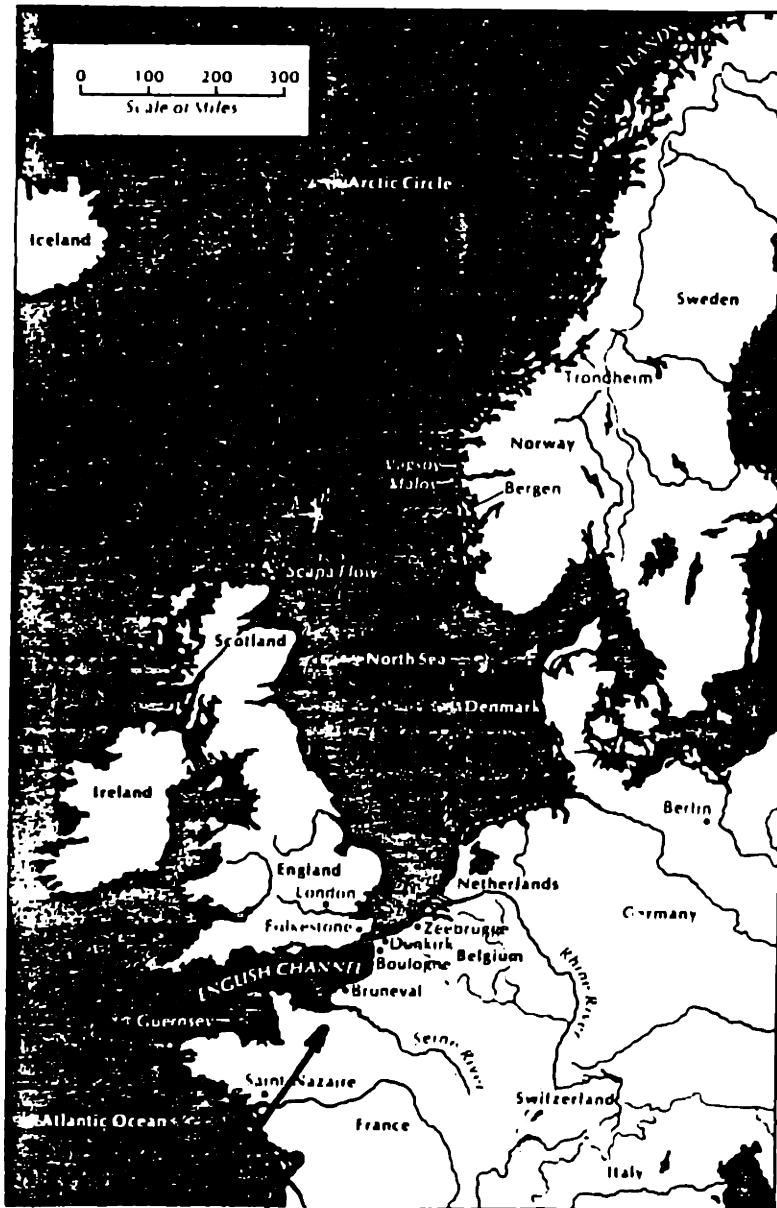
By August 1, 1941, the mixed record of success led to the appointment of Captain Lord Louis Mountbatten. He was a naval officer with good connections, and was highly regarded as a military leader. As Chief of the Combined Operations Directorate he was appointed Acting Vice Admiral in the Navy with honorary rank in the Air Force and Army. This step was necessary in order to enhance his effectiveness in the effort to cut through the bureaucratic impediments to the creation of an effective commando organization. The successful combined interservice forces raid on Vaagsoy in December 1941 established the commandos as a truly effective force. This raid also set the stage for sophisticated



and strategic operations such as Bruneval.

The Bruneval raid was conceived as a "hit and run" operation on the French coast to seize and evacuate a new and sophisticated German radar device. Allied intelligence feared that the Nazis had developed a new radar capability which could drastically alter the air war balance in the Axis' favor. This new radar enabled the Germans to accurately describe the bearing and altitude of approaching aircraft. The strategic air defense implications were serious. A successful German air defense jeopardized the entire allied air strategy.

Intelligence located a new radar station in the small coastal village of Bruneval, between Le Harve and Etr tat (see map). The radar station was located on an isolated plateau along the French coast and adjacent to the English Channel. A precipitous 300 foot sheer cliff protected the station from ready access from and to the sea. The sea approach was heavily defended, and attack from the sea was out of the question. Mountbatten proposed a parachute assault via the open terrain to the rear of the radar station and subsequent evacuation by sea. An attack on the defensive position which guarded access to the sea was possible if attacked from the rear. Based upon the available intelligence concerning the defensive positions, the parachute and sea evacuation concept was adopted.



---

4. The Commandos, 1982.

On February 27, 1942, (around midnight) British forces parachuted into Bruneval. Successful deceptive measures permitted the Whitley bombers to deliver their troop cargoes unopposed by German aircraft. Most of the men landed directly on target, but one group was mistakenly dropped about a mile away. The implications of the misplaced unit were potentially disastrous.

With the available forces, the commander directed his teams on their separate missions. The first two teams captured the station and a German soldier in the building nearby. The third team set up a blocking position to prevent reinforcement and counteraction by a large German force quartered at La Presbytère to the north. A reconstituted fourth team moved to clear the narrow passageway to the beach which provided access to the only route of escape. The actual fourth team was trying to rejoin the main force.

The first two teams successfully neutralized the German defenders near the radar and at the station itself. The blocking force placed effective counter fire against reinforcements from the farm near La Presbytère. The fourth team, however, nearly failed in its mission. The hastily organized substitute fourth team was organized as a contingency when the original team landed off course. The new team was too weak to overcome the pillbox and other defenses guarding the route to the beach. However, the original team fortuitously arrived just in time to assist in the assault on the defenses and clear the narrow defile down the cliff to the beach.

Key components of the radar itself were disassembled and hauled to the beach. The station was blown up to make the Germans believe that the commandos were sent to destroy, rather than capture, the new radar.

Once on the beach, the Navy boats standing offshore were signalled with lights and called by radio. Naval elements quickly moved in to pick up the radar and the commandos and withdraw to England.

All total, the commandos lost one killed, 5 wounded and 7 missing in action. With the radar delivered to British intelligence the German secrets were unveiled. The capture of the radar permitted the Allies to develop successful countermeasures which saved innumerable lives in the air war which followed.

The successful Bruneval raid was the catalyst for two other seminal events. First, the British institutionalized their "experimental" commandos by expanding and providing better and higher priority support for these special units. They also established a special school for Commandos at Achanacarry, Scotland. This Scottish Highlands location, with its moors, cliffs, rivers and lakes, was extremely challenging and demanded the maximum of all who trained there. Eventually 25,000 allied soldiers received training at Achanacarry. Second, Americans took the success to heart, and under the leadership of Brigadier General Lucian K. Truscott, Jr., created the United States Army Rangers.

### SURPRISE:

In terms of the model, the attackers achieved total surprise. They landed almost directly on the target and were quickly able to neutralize the defenses and proceed to dismantle the radar. Surprise was aided by deceptive measures. Bombers were flown on air attacks up and down the coast in the weeks before the raid to accustom the German defenders to their presence. On the night of the raid it was hoped that allied air traffic would not unduly suggest an airborne operation. The diversion worked as the bombers dropped men instead of bombs at Bruneval. The parachutists landed unharmed by German air and anticraft responses. The rapid reorganization after the parachute drop and the violent assault on the German positions multiplied the surprise through shock effect -- immobilizing the defenders.

### SPEED:

The time from conception of the plan until execution was less than two weeks. The speed of preparation was important in order to assure that the raiding force could take advantage of the opportunity before German intelligence or German defenses in the area could be improved. Existing specially trained forces under the command of an existing headquarters dedicated to the conduct of these operations permitted the operation to proceed quickly and smoothly.

#### ASSESSMENT AND SECURITY:

The intelligence was excellent. The detailed analysis of the terrain, beach defenses and the location and position of the radar were extremely important to the success of the operation. The strict security surrounding all of the preparations for the raid was typical of the standard operating procedures employed by the commandos. Because it was a joint operation involving naval, land and air elements, the security procedures were improved and expanded. Only those who had a strict need to know were given the details of the true mission. British security on site at Bruneval was also good. The teams assigned to perform the blocking position tasks assured the completion of the operation with minimum external interference. Additionally, fire support was provided by Spitfire fighter-bombers. The security for the naval extraction force was provided by an escorting destroyer. These measures further enhanced security and provided protection against a large number of unfavorable contingencies.

#### COMMAND, CONTROL, AND COMMUNICATIONS:

The leaders selected for the mission were experienced and tough professionals. They were positioned in the lead at all times and exercised aggressive leadership throughout the operation. The command and control procedures were simple and effective. The

Task Force Commander was located aboard a destroyer in the English Channel off the coast near Bruneval. He had radio communications with the raiding force and provided coordination and liaison with the aircraft providing close air support. The raiding party leaders had radios (although they were not very reliable) for internal control over the four teams scattered across the area. Additionally, the commander and his team leaders had intensively rehearsed the operation and had developed a variety of signals and codes for the maintenance of command and control. The radios however, were not very portable, nor on hand in sufficient numbers to assure that at least one radio was operational to call in air support and to bring in the landing craft for the evacuation. Each team had a radio but sub-elements within the teams did not.

#### TRANSPORTATION:

The air delivery of parachutists via bombers was one of several transportation concept alternatives considered by the planners. The operation itself confirmed that the intelligence regarding the defensive position which blocked access to the beach was absolutely correct. Because the defile leading from the beach to the top of the cliff was heavily defended, a beach approach would have failed. Gliders were considered, but based upon a variety of factors (time, experience, availability) the well established airborne method was selected. Dropping from low altitude, the commandos were on the ground and commenced operations within

minute after exiting the aircraft.

#### FORCE SELECTION AND TRAINING:

The selection and training of the forces clearly reflected the British dedication to selecting the best soldiers available. The troops and their leaders, and the supporting naval and air elements, were the best in the British armed services. They were intensively trained and rehearsed in most details and aspects of the operation. The training of the raiding party itself was intense. Each soldier was prepared to perform the mission of nearly every other soldier. Specialists were added to deal with the radar, explosives and communications. The mental intensity that was achieved helped to create a shared "single mind" of the concept of the operation. This level of intensity paid off when one critical team landed far off the target. The acting ground commander quickly shifted and reorganized his forces to continue with the basic plan. The quality of the troops and their intensive and thorough training permitted them to flexibly execute a major unforeseen contingency and to avoid failure. The flaws in the concept of the plan were overcome by excellent leadership and training.

Even though the mission was a great success, there were several significant flaws which could have spelled disaster for the force.



First, although well trained, the troops were not as well rehearsed as they should have been. Full scale training devices were limited and gave the commandos only a general sense rather than a detailed "feel" for the buildings, radar, terrain and the enemy positions.

Second, the commander made himself part of the assault force which was designated to seize the radar station. Because he was on the move during the initial period, he was unable to control all of the teams during the initial period. Only discipline and intensive training, along with the timely arrival of the fourth team, permitted the escape to the beach.

Next, the communications equipment caused a potentially disastrous situation. They were neither completely reliable nor on hand in sufficient numbers to assure command and control of all the elements.

Finally, the ground commander was not as involved in the planning process as he should have been. Several of his concerns were overruled by the planning staff. The concentration of specially trained and equipped personnel within each of the teams, as opposed to a distribution of key personnel across the teams, could have created serious problems if a single team was lost. This contingency almost occurred.

Overall, Bruneval was a clear success, but the weaknesses in

the planning process, communications and contingency preparations were significant. The British learned from their mistakes and went on to conduct even more complicated (and successful) operations. They were not satisfied with the mere accomplishment of the mission.

CASE TWO - EBEN EMAEL<sup>5</sup>

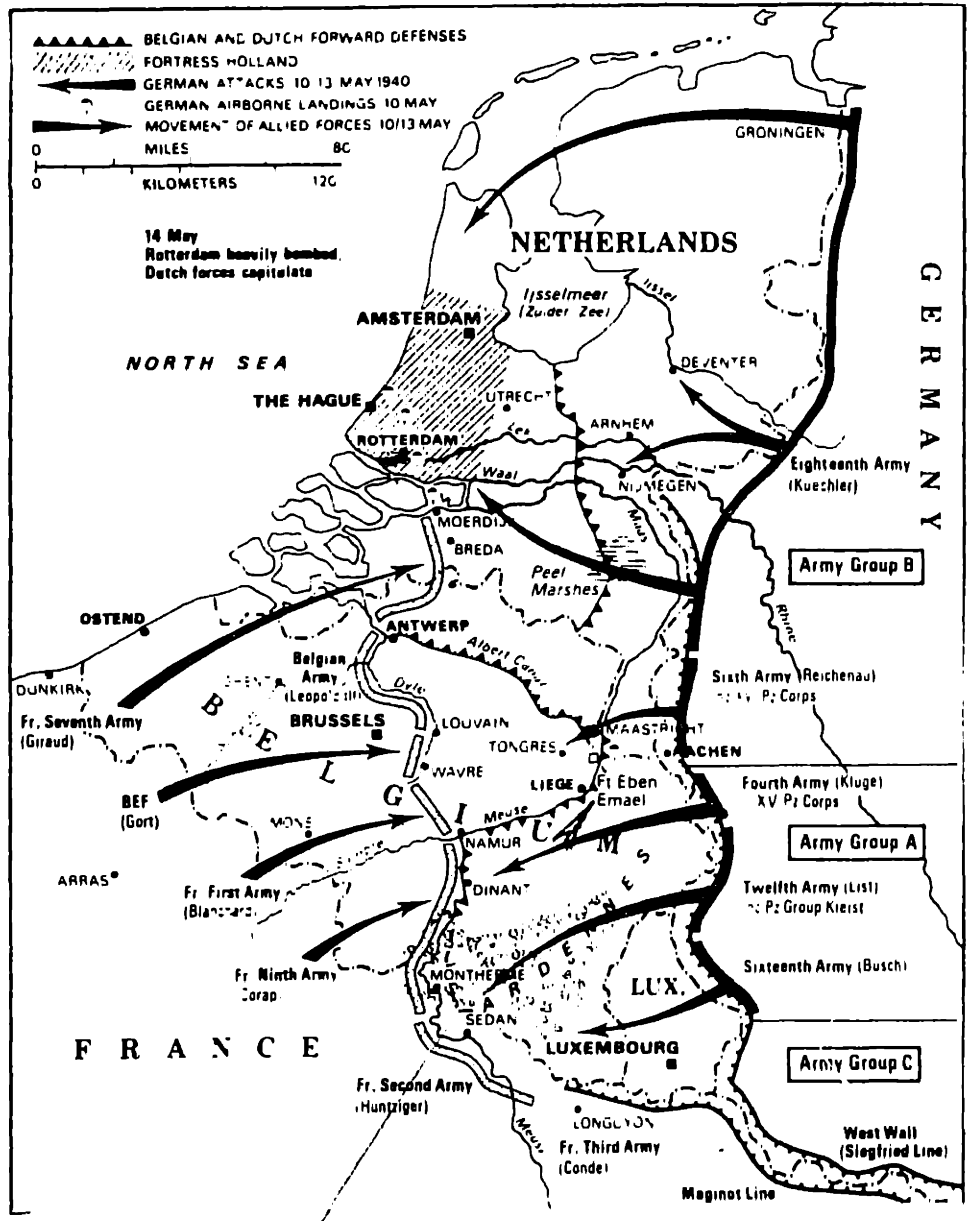
Eben Emael was the first major military operation for the German Wehrmacht on the western front in World War II. The Third Reich had already seized Poland and driven the Allies from Norway, but Hitler was not yet ready to launch his blitzkrieg army westward against Holland, Belgium and France. On the night of May 9, 1940, special teams of the German Army struck Eben Emael. The entire course of western history was immutably changed.

- 
5. There are a variety of accounts of the conduct of the Eben Emael operation and some of the inconsistencies are resolved here based on this author's judgment of the quality of the sources. The following sources provided the most useful insights: The Battle of Fort Eben-Emael, 10 and 11 May 1940, Belgian Ministry of National Defense, History Section, part 8 (no date); The Fall of Eben Emael: Prelude to Dunkerque, by James E. Mrazek (McKay, Inc. 1970); "Eben-Emael," in After the Battle (magazine) by Winston G. Ramsay, 1974; "Die Einnahme der Festung Eben-Emael am 10/11/1940," in Militarzeitschrift, by Werner Pissen, 1959; and "The Commandos," in World War II, by Russell Miller, Time-Life Books, 1981.

The French-Belgian strategy, in the face of increasing hostilities with Nazi Germany, was to defend in strength along the Belgian and French borders. The French General Staff and the Allies had learned a vital lesson from the 1914 Schlieffen Plan -- they must protect the northern flank against a wheeling German right wing which could march through Holland and Belgium. The Allies arrayed their forces accordingly, keying upon the Liège defense system of fortifications and bridges as the critical center of the strategy. General Maurice Gamelin of the French General Staff felt that he understood the German invasion strategy. The allied defenses were alerted and poised to stop the German threat.<sup>6</sup>

---

6. Lynn Montross, War Through the Ages, (Harper and Row: New York) 1960, p. 813.



7. Ibid. p. 805.

Not surprisingly, the German General Staff also appreciated the strategic importance of the Liège battleworks system. Their assessment of the front was that Eben Emael was the key fortress overlooking the crossings of the Meuse River. This heavily armed and manned fort was believed to be virtually impregnable. The German intelligence network confirmed that the Allies depended upon the Liège defensive system to hold up the Nazis for several days.<sup>8</sup> A quick and bold strike against Eben Emael would collapse the front and lead to catastrophic failure for the Allied defense plan.

The German operation against Eben Emael was one of the most brilliantly conceived and executed special operations in the history of modern warfare. A small German task force landed on top and in the surrounding areas of the fort in gliders. Using rapid assault techniques and special demolitions, they neutralized the defenses of the fort, seized two of the three surrounding critical bridges intact, and struck a fatal blow to the pivot point of the entire Liège defense system. Along with the attack on Eben Emael, the German Sixth Army roared across the German border in blitzkrieg style to coincide with the attack on the fort. The fall of Eben

---

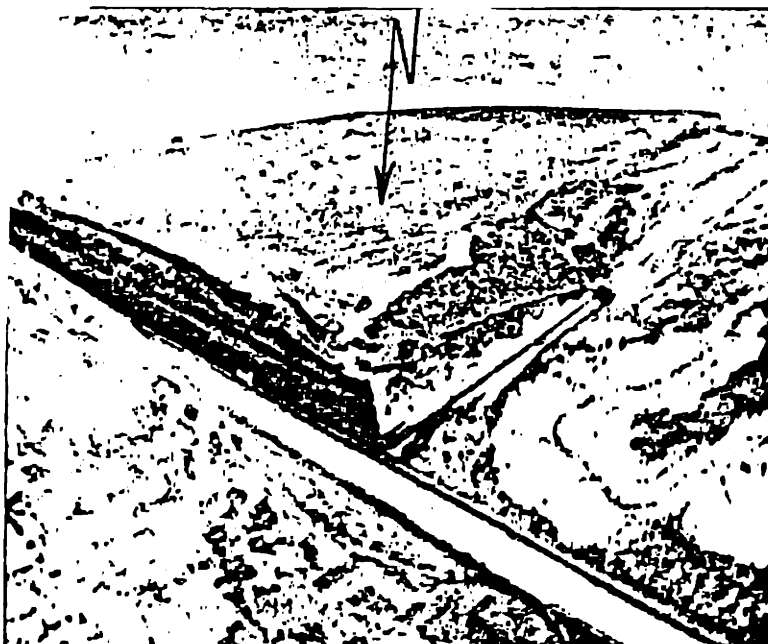
8. Ibid., p. 804.

Emael on May 10th quickly led to the fall of other strongpoints along the defense line. By the 11th of May the German Sixth Army had a clear avenue into Allied territory. General Gamelin's worst nightmare was realized.

The Eben Emael operation was a classic example of a deliberate raid to seize a critical piece of key terrain. At first glance this case does not appear to fit the type of operation of interest in this study. However, upon closer scrutiny it is very similar and fits the typology previously discussed. It shares the following characteristics with the typology: it required special units, techniques and training; had great psychological and strategic significance; was conducted across the borders of a hostile country; involved joint or combined operations; involved a complicated and multiphased plan; and had a specific detailed mission which could permit a clear judgment about its success or failure.

Eben Emael was a formidable redoubt on a promontory above the Albert Canal, 15 miles west of the German border. The fort had a large number of powerful weapons including two 120mm and sixteen 75mm guns housed in steel reinforced concrete bunkers. The fort was invulnerable to the most powerful artillery.

Above ground, the wedge-shaped fort was protected on one side by a rocky cliff that dropped 130 feet straight down to the canal. The other two sides were fringed with minefields, machine guns, barbed-wire entanglements and a moat. Below ground were five miles of tunnels that linked one gun to the other and gave cover to the fort's 780 defenders. By the standards of conventional warfare, Eben Emael seemed impregnable.

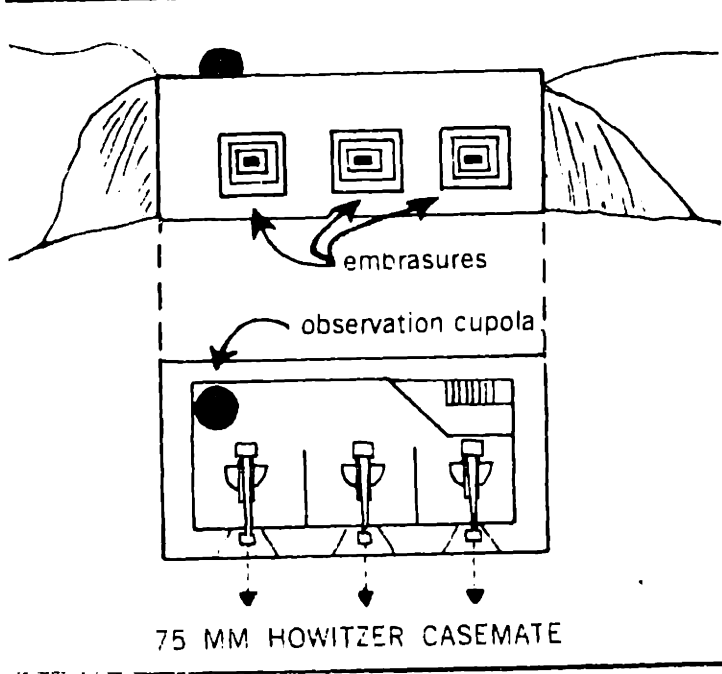
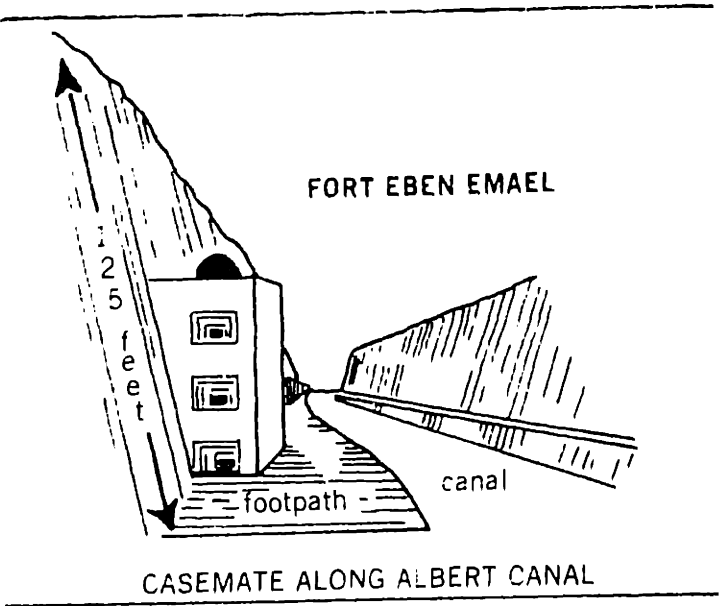
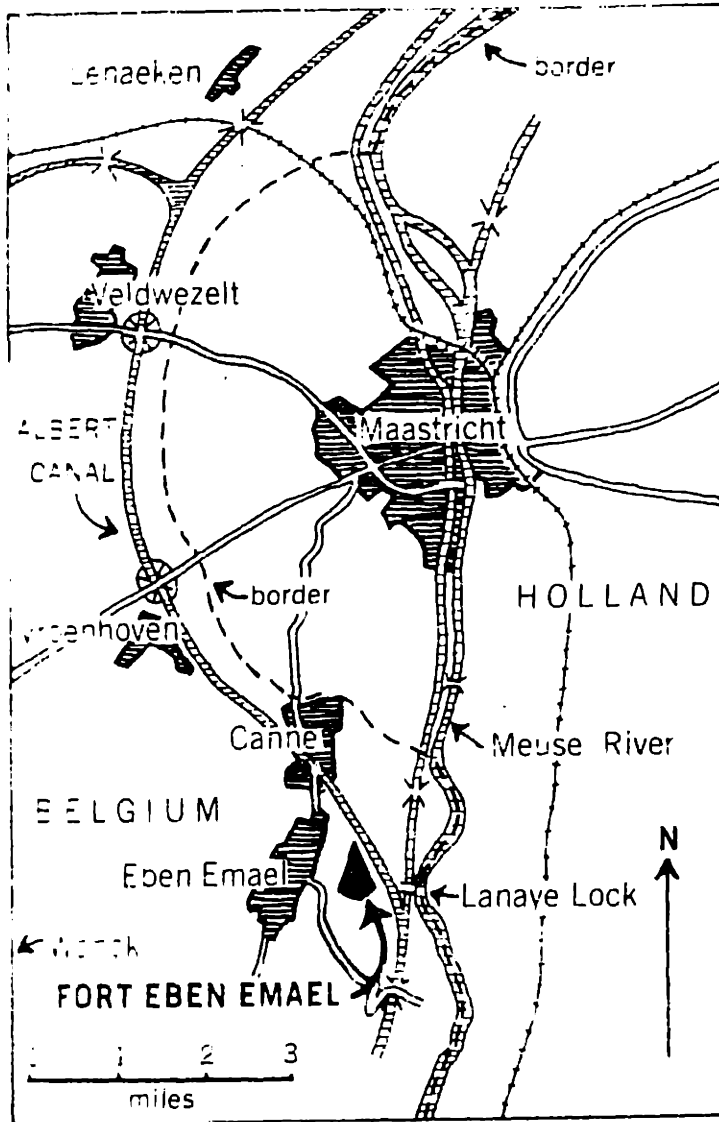


---

9. Russell Miller and editors, "The Commandos," World War II, (Time-Life Books) 1981, p. 8.



# DEFENSIVE WORKS OF FORT EBEN EMAEL



(From Luttwak, et al, and Commandos )

In the darkness of May 10th, 1940, nine silent gliders swooped down on the grassy roof of the fort, catching its defenders totally by surprise. Within 20 minutes, 70 German soldiers captured 14 out of 18 big guns. Simultaneously, other specialized German forces landed on or near the bridges which were overlooked and protected by the fort. Two of the three bridges were captured intact. The Belgian defenders at the fort itself were so quickly captured, they had no choice other than to retreat to the interior of the fort. Once trapped inside, they were defeated in detail by the German commandos.

This operation was conducted by a small group of highly trained and specialized commandos. Their success had repercussions which echoed far beyond the walls of the quiet Belgian towns along the Albert Canal. With the fall of Eben Emael and the capture of the bridges, the German Sixth Army could pour through the gap. Reminiscent of WW I, the limitations of fixed and inflexible defenses were proven again. After the fall of Eben Emael, the Allied defense plan began to quickly unravel. Within one month, the Allies were totally defeated.

ASSESSMENT (Intelligence):

The fort was originally constructed by German contractors and engineers during the period 1932 to 1935. When they returned to Germany in 1935, the contractors brought the blueprints with

them. The German Army obtained these plans and gained detailed knowledge about the fort and its defenses. Mock training facilities were constructed to provide realistic training for the commandos. The German intelligence services employed a variety of means to gather additional detailed information about the fort's defenses. These aerial and ground, human, electronic and photographic measures revealed detailed information about the defenses: the size and composition of the defending forces; routine security measures; the state of alertness and psychological state of mind of the occupants; contingency plans for the defense of the bridges; watchfulness of the local civilian population; and a host of special items needed for the planning of contingencies. The detailed information regarding the structure and composition of the steel and concrete cupolas and casements permitted the design of special explosive charges. These hollow charges were deadly in their effectiveness. Without this extensive multi-source intelligence effort, the operation would probably not have succeeded.

#### SPEED, SURPRISE AND SECURITY:

The importance of speed in planning the operation was dictated by Hitler's timetable for the invasion of Belgium, France and Holland. Because he controlled the timing decision, the German General Staff could plan backwards from the target date to efficiently

manage the available time. The pressure of time was nonetheless fixed upon the target date, and six months did not permit the planners or the force much latitude in light of the difficulty and complexity of the mission.

The planners made good use of the available time. A special force was created along with a specialized supporting staff. High priority was given to all of the related activities. The available time permitted the creation of an ad hoc force and controlling element. The speed of preparation was important. By the time the first full dress rehearsals began, the staff and forces were a fully integrated operational unit. The usual problems associated with ad hoc military organizations had been overcome by the effective training program and the management of time.

The assault force achieved total surprise by landing their gliders literally on top of the fort and adjacent to the gun positions which were their assigned targets. The gray color of the gliders and the uniforms contributed to their near invisibility at the morning's first light. Even the team which landed off target near Kannes managed to so surprise the residents that there was little resistance. However, the delay in arriving at the Kannes bridge gave the Belgians time to explode the pre-positioned demolitions and occupy their fortified defensive positions on the far side of the canal.

Surprise was aided by deceptive measures. For several weeks prior to the actual raid, the Germans deliberately flew large formations of aircraft in the vicinity of the border to accustom the Belgian warning system to their presence. It was hoped that on the actual date of the assault, the Belgian response would be fairly routine and they would not become unduly alarmed. The technique worked. Several diversions were also planned to coincide with the assault on the fort. Dummy parachutes with small explosives were dropped behind and to the flanks of the defenders. Prepositioned Brandenburg agents (from special operations units) also created their own diversions with attacks on smaller positions and bridges between the border and the bridges across the Meuse River and Albert Canal. These diversions and deceptions were specifically designed to confuse and befuddle the Belgian defenders.

On the strategic level, Hitler continued to manipulate the diplomatic channels to persuade his enemies that his intentions did not include attacking westward. Although he was not believed, he sowed doubt in the minds of many. This doubt was also fed by the hope that war could be averted.

For the Belgians in the fort at Eban Emael, every distraction, diversion and deception helped the commandos. The doubt regarding outbreak of war (and hope) affected their readiness. In this case a few seconds made a huge difference. Had the defenders not

hesitated when they first observed the gliders, they may have been able to fight off the initial assault.

Security measures were extensive. A strict need to know was observed at every level in the German operational and support commands. General Student, Commander of the VIII Air Corps, was solely responsible for the planning and coordination of the mission. He reported only to the Fuehrer himself. With such high access, emphasis on security received exceptional treatment. Deceptive measures were also employed successfully to assure the security of the operation during the preparation and training phases.

Captain Koch, (the assault force commander) and General Student, (the mission commander) were so sensitive to security that they received the intelligence reports verbally in order to minimize the potential for compromise. The troops were not allowed any outside contact until they had completed a thorough indoctrination on security measures. Even then, contact with outsiders was extremely limited. The troops were given only the minimum necessary information.

External security was provided during the operation by German aircraft of the Luftwaffe. Fighters and bombers were available and on call to provide close air support. Within the assault force, special teams were prepared to execute a variety of contingency plans.

The high level of security achieved by the Germans was also

enhanced by the discipline and leadership within the force. Attention to detail and the routine utilization of active and passive security measures required great discipline. This was a quality the commandos had in excess.

COMMAND, CONTROL AND COMMUNICATIONS:

The Command of the German forces at Eben Emael was nearly flawless. All of the commanders and their subordinate leaders were proven and experienced leaders. They were thoroughly involved in the planning process from the early stages. As a result they knew the mission inside and out. The ground commander, Captain Koch, was placed in charge of the detailed planning. He and General Student firmly believed that full scale rehearsals and live fire exercises on realistic mock up training replicas of the fort were essential. The continuous rehearsals created unity in the force that also supported the confidence building the commanders felt was so important to the accomplishment of the mission. In all phases of the operation, the leaders were positioned up front. They led their men by example, exposing themselves to equal risk.

Command at the highest level resided in the Fuhrer himself. But because of the deliberate insulation of the planning and training from the German General Staff, real command authority

was vested in General Student. During the operation, Captain Koch was totally in command, with little interference from above.

The control measures which were employed and rehearsed were simple but effective. Captain Koch positioned himself near the center of the action, at the bridge near Vroenhoen. There he could establish a secure command post and direct the action against all of the objectives in and around the fort. Using radio, telephone, signal flares and messengers, the communications system was adequate to enable him to send instructions and orders to the various elements. He was also positioned to coordinate air support from the Luftwaffe. The rehearsals also had the effect of creating great efficiencies in the exercise of control. Subordinate leaders knew what to expect and when. The result was an assault which was so well timed and controlled that a far superior enemy was overwhelmed.

The communications system consisted of standard German radios employed by the Wehrmacht. There were some compatibility problems. For example, Captain Koch could not directly speak to all of the supporting air elements. He had to coordinate through a liaison officer who had a special radio. Instructions and information from General Student were received, and reports sent without significant difficulty. The network of communications was adequate to satisfy the requirements of the mission.



#### FORCE SELECTION AND TRAINING:

The troops were recruited in November 1939 from among the most elite parachutists, skilled demolition experts, assault engineers and aviators (particularly those with glider experience). They trained intensively for nearly six months in a hidden location in the Harz Mountains. They practiced on a mock fort that exactly matched the specifications of Eben Emael and the surrounding bridges. They also practiced placing the explosives and blowing up targets. Using captured gun emplacements along the Czechoslovakian border, they proved the effectiveness of the new hollow charge explosives. This realistic training permitted the development of the unit's confidence in its ability to quickly neutralize the fort's many gun positions.

The men were divided into squads, and each was given an assigned target. (See the list below.) They also prepared alternate targets so that a variety of prepared reactions were established to deal with contingencies. Even the pilots who flew the gliders were trained in the assault procedures and played an important back-up role in the operation. Intensive training for the glider pilots helped them to perfect their ability to glide for miles and land in a circle less than 300 yards across. The Germans rehearsed exiting the gliders and assaulting the positions the instant the gliders landed. It took hundreds of runs to perfect the sequence, but the time was reduced to a few mere seconds. These seconds were critical to success.

<u>Team</u>	<u>Target</u>	<u>Forces</u>
"Iron"	Veldwezelt Bridge:	10 gliders, 1 officer, 89 NCOs and men
"Concrete"	Vroenhoven Bridge:	11 gliders, 5 officers 94 NCOs and men
"Steel"	Kanne Bridge:	9 gliders, 2 officers, 79 NCOs and men
"Granite"	Fort Eben Emael	10 gliders, 2 officers, 85 NCOs and men <sup>10</sup>

During the mission, the forces faced three major actual contingencies: the gliders near Kanne landed far off the mark and the men failed to reach the bridge in time; 3 of the 10 gliders failed to land on top of the fort, including the assault leader; and there were problems at the fort as a result of a series of deceptions that the Belgian defenders had prepared, including dummy positions and traps. The Kanne bridge mission was a failure. The response to the contingency was to press the attack against the Belgian defenders until they were eliminated. They held out for several hours before surrendering. In the other two situations, the assault teams reacted according to plans rehearsed in training -- to proceed with alternate plans. The absence of the assault leader on top of the fort proved the ability of that element

---

10. Edward Luttwak, et al, A Survey of "Commando" (Special) Operations, 1983, p. II-28.

to continue the mission even when the leadership was temporarily out of the action; and operating under more difficult circumstances than anticipated.

#### TRANSPORTATION:

The choice of gliders for the delivery of the force was based upon careful study of the fort's defenses. The fort was inaccessible by vehicle or boat. There were no airfields nearby which would permit the landing of a force large enough to overcome the defenses. Airborne delivery capabilities were extensive, but there were severe problems with that alternative. The parachutists could not be guaranteed to simultaneously land precisely on target, and the presence of a large formation of aircraft overhead would have totally alerted the defenses. The interconnecting underground tunnels and mutually supporting defensive positions made surprise a necessity. Airborne delivery was simply too risky.

The German Army contained a number of experienced glider pilots (a popular and competitive sport in pre-war Germany). The choice of gliders was unique and innovative. This was the first time in military history that gliders were to be used in this fashion. The planners were imaginative and bold in their analysis of the transportation challenge. They refined the final concept to such a degree that barbed wire was wrapped around

the skids to quickly slow the glider and reduce the time between landing and the assault.

If the mission did not succeed, the evacuation means of transportation was to be by foot -- to exfiltrate and link up with the advancing Sixth Army. The plans reveal that very little attention was paid to this contingency. The planners were fully confident that they would succeed. A land evacuation was not believed to be difficult even if it became necessary.

### CASE THREE - PACIFIC RESCUE<sup>11</sup>

The Japanese war machine cut a swath across the southwest Pacific during all of 1941 and 1942. The sequential collapse of Singapore, Bataan and Corregidor marked the end of all organized fighting north of unoccupied Papua, New Guinea. Allied guerrillas continued to operate in many locations, including coast watchers and intelligence agents, but they were a pathetic remnant of the original fighting forces. In the process of conquering these islands, thousands of Americans and Allies were captured and marched off to Japanese prison camps.

- 
11. The details regarding this operation were extracted primarily from Combat Reports, World War II, 6th Ranger Battalion. Specific sources include: the Narrative of the Sixth Ranger Infantry Battalion from January 2, 1945 to July 1, 1945; Ranger Mission at the Pangatian Prison Camp (A Report to G-3, South Army, APO 442, undated); Journal, 10 January 1945 to 13 March 1945; S-2 Journal, 10 January 1945 to 20 June 1945; G-3 Operations Reports, 14 January 1945 to 26 March 1945. The map and sketch of the compound are reproductions of original plates and prints prepared by John Hilton Bradley and contained in his historical theses on the Pacific War "From the Dark Side of the Moon," May 1970.

Additional insights and commentary were provided by: LTC Henry A. Mucci, "Rescue at Cabanatuan," Infantry Journal (March-April 1945); CPT Ray M. Stroupe, "Rescue by the Rangers," Military Review (December 1945); George E. Jones, "Luzon Prison Camp Rescue Made in Region Thick with Japanese," New York Times, 3 February 1945, pp. 1, 5; and Carl Mydans, "The Rescue at Cabanatuan," Life (26 February 1945). Controversial or supplemental citations are noted separately.

Although there were literally hundreds of different commando operations in the Pacific theatre during the war, the operations surrounding the rescue of these prisoners were among the most exciting. They also most closely correspond to the type of operation which is of interest in this study. One of the most notable of these operations was the rescue of American POW's from a Japanese prison compound -- the Cabanatuan Rescue.

The rescue of American POW's held at Cabanatuan was the first of several operations in the Pacific theatre which liberated American and Allied POW's.<sup>12</sup> The operation was not of great strategic importance, but the favorable impact on Allied morale and the corresponding negative impact on the Japanese was significant.

The survivors of the Bataan Death March ended up at a desolate place called Camp O'Donnell. When it was abandoned by the Japanese in mid-1942, most of the surviving prisoners were transferred to an even more foreboding prison compound on Luzon in Neuva Ecija Province where they were joined by prisoners from the action at Corregidor.<sup>13</sup>

---

12. Two other major rescues took place in the winter and spring of 1945 in the Phillipines -- the University of Santo Tomas in Manila and the Agricultural College near Los Baños.

13. Bars from Bilibad Prison (San Antonio, Texas, 1947) pp. 33-34.

The Japanese did not treat the POW's according to the rules of the Geneva convention and their abuses and crimes were well-documented.<sup>14</sup> General MacArthur had sworn to return to the Philippines and his awareness of the brutal and harsh treatment received by those he had left behind was an important part of his decision to retake the Philippines as early as possible.<sup>15</sup>

On January 27, 1945, vital intelligence information reached the Assistant Chief of Staff for Intelligence (G2) of the American Sixth Army. It indicated that between 300 and 500 Americans were held as prisoners near the town of Pangatian in the "Cabanatuan" POW camp. The Sixth Army Commander, General Walter Krueger, decided that a rescue attempt was feasible and that the effort would have to be launched as soon as possible. With the rapid success of the first American landings on Luzon, it was feared that the Japanese might relocate or even execute the POW's -- time was therefore critical. The prisoners at Cabantuan would become the target of the first successful POW rescue attempt in the Pacific in World War II.

---

14. Hundreds of verified documents, including Japanese records, document the history of these camps. A particularly graphic depiction is provided in The Dyess Story by LTC William E. Dyess (New York, 1944) pp. 97-136.

15. MacArthur, Reminiscences, pp. 197-198, p. 246.

The operation was planned by the G2 using his existing staff and intelligence contacts. The G2 selected specially trained and combat experienced reconnaissance teams to operate behind enemy lines, gather detailed intelligence of the area and to help organize guerrilla support in the area. The scouts operated from Guimba (see the attached map), the closest town to Cabanatuan which was under Allied control. There were several Japanese combat units in the vicinity of the prison camp including a large guard force and a permanent garrison. The map shows the general layout of the terrain and the distance of the camp from the front lines. The infiltration route that the recon force would follow was designed to avoid enemy concentration, and main avenues of transport and supply. It was deliberately indirect and extended. The area was fairly dry during the winter season and the teams could cross the rice fields, streams and rivers with little difficulty. Their route would be similar to that followed by the rescue forces which would leave a day later.

The Sixth Rangers were chosen as the force to conduct the rescue. This highly experienced Infantry Battalion provided the 4 officers and 115 enlisted men for the mission. The force was composed of volunteers who represented a slice of some of the best fighting men in the Pacific. The force was essentially organized into three platoon-sized elements with supporting medical and headquarters sections. The force was led by the battalion commander himself.





The G2 briefed the Rangers on the general plan using aerial photographs and the available maps. But the final plan would have to be developed in the field based on the results of the reconnaissance and the deployment of enemy forces around the camp at the actual time of the rescue. Due to the Japanese defensive maneuvers along the battle front, the situation around the camp changed constantly. Additionally, the camp sat astride an all-weather main resupply route and the Japanese presence in the area was expected to be significant.

The evacuation of a large group of POW's, many of whom would almost certainly be unable to travel without assistance (perhaps even hundreds of POW's), posed numerous challenging problems for the planners. The Sixth Army Headquarters played a critical role in planning the evacuation procedures, especially regarding medical support.<sup>16</sup>

The 121 Rangers arrived in Guimba on January 28, 1945, less than 32 hours after the first intelligence report was received by the G2. They met with local Allied commanders and linked up with the command of the guerrilla leaders who controlled the partisans in the vicinity of the camp. They coordinated procedures

---

16. See Sixth Army, Report of the Luzon Campaign, Vol III, and General Walter Krueger, From Down Under to Nipon, The Story of the Sixth Army in World War II, Washington, D.C., Combat Forces Press, 1953.

for passing through friendly lines into enemy territory. Several miles behind the lines, the force was joined by 80 armed guerrillas. Travelling quietly and quickly, they progressed undetected deep into enemy territory. The task force occupied an isolated bivouac area and were joined during the night by an additional 90 armed partisans and a large number of unarmed partisan helpers.

The guerrillas were to play an extremely important role in the rescue by assuring the cooperation of the local population and providing information on the whereabouts of enemy forces. They also provided the manpower and resources to evacuate and feed the 500 POW's they hoped to rescue.

Early the next morning, the now sizeable (464 men) combined force left the bivouac at Balincari and continued on the indirect route towards the camp. They met up with the scouts who had been sent out earlier. The scouts had discouraging news. Sizeable Japanese forces were in the vicinity of the camp -- a rescue would not be feasible under those conditions. The commander decided to wait for better conditions. The delay gave the force commander the chance to conduct detailed planning, assisted by further reconnaissance. They also benefitted from the opportunity to get some rest.

The final plan was briefed and rehearsed by the afternoon of January 30th. The situation was difficult, but not impossible.

There were apparently 123 Japanese soldiers in the camp. However, a force of 800 Japanese soldiers with tanks and heavy trucks was located less than a mile away from the camp. Another 7000 enemy troops, with even more tanks and trucks, were in a town only five miles away.

The decision was made to attack around dusk. The emphasis on surprise was total -- success required a simultaneous attack on all sides of the camp. By necessity, the final plan was complicated.

The commander identified three major tasks:

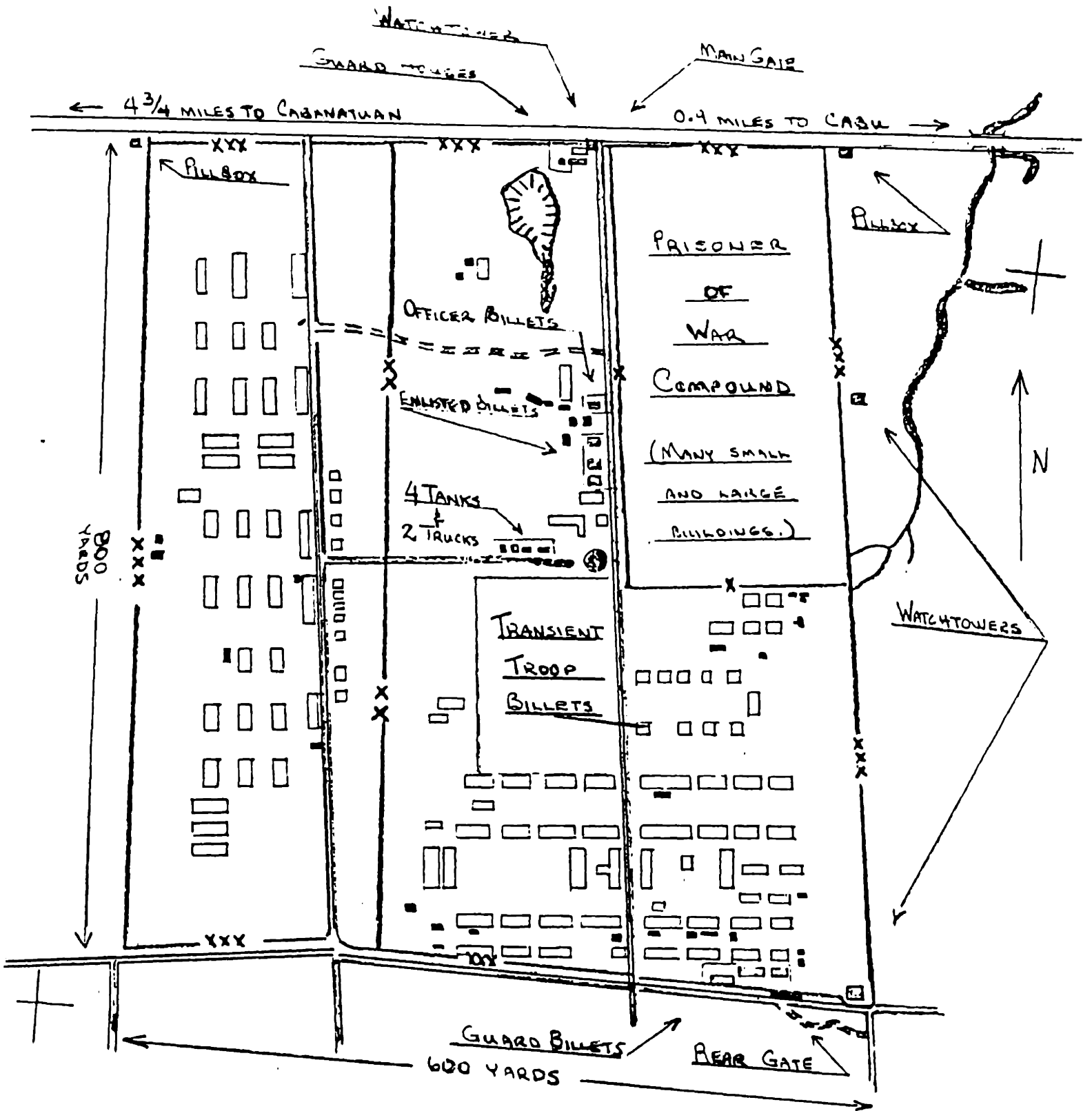
- isolate the objective
- release, assemble and evacuate the prisoners
- withdraw quickly across the Pampanga River and then return to Guimba (or new friendly lines).



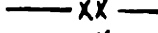

The plan was completed in the field and was organized around those three critical tasks. One force was positioned to block the highway eight hundred yards southwest of the stockade with 80 men. This would prevent an enemy force in the town of Cabanatuan from surprising an interrupting the operation of the camp. The second blocking force was positioned several hundred yards to the northwest of the camp long the main road. This force consisted of 90 armed guerrillas and had a similar mission -- stop the Japanese. In this case, the object was to prevent interruption by the Japanese located at Cabu. Because of the magnitude of

the effort and time required to evacuate the large number of prisoners, both teams knew that they might have to fight an extended holding action against counterattacks and far superior forces.

The actual assault mission was assigned to the Ranger platoons. They were given detailed and complicated simultaneous and sequential actions to assure that the prison compound was hit from all sides at once with overwhelming firepower and total surprise. The camp was about 600 yards wide and 800 yards long and contained over 60 bunkers and major buildings. A successful assault depended upon every soldier doing his job correctly. For example, if the team designated to cut all the communications to the camp failed in their mission, enemy reinforcements could be called and would be on the way within minutes. Other failures might give the guards a chance to kill the prisoners or to make any rescue impossible. Nearly 30 miles behind enemy lines and surrounded by over 10,000 Japanese troops, the rescuers would have had very few alternatives other than fight to the death or surrender.

The individual teams infiltrated carefully to within striking distance of the camp. They positioned themselves and waited for the signal. By 1900 hours all of the assault teams were in position. At 1945, the lead assault team fired their weapons and all the other teams attacked on this signal. Executed almost perfectly according to plan, the Rangers totally surprised and quickly eliminated the defenders. Within five minutes all enemy



-  Enemy Occupied Buildings and Positions
-  XXX — 3 Parallel Barbed Wire Fences
-  XX — 2 Parallel Barbed Wire Fences
-  X — 1 Barbed Wire Fence

CABANATUAN PRISON CAMP  
 PANGATIEN NUEVA ECIJA PROVINCE  
 LUZON, PHILIPPINES  
 30 JANUARY, 1945

resistance within the camp had been overcome. Within thirty minutes, all of the prisoners had been evacuated -- 512 men were rescued. They were assisted to an assembly area, crossed the river and linked up with the partisans, who provided stretchers and carts to carry the wounded and the disabled POW's.

Meanwhile, the western roadblock did not see action and withdrew to form a flank guard for the lengthy column escaping through the jungle. At the eastern blocking position, the guerrillas came under attack by a Japanese force of approximately 800 men supported by 8 tanks. In the confusion and darkness, the Japanese elected not to risk their tanks in a trap, and were content to pound the guerrilla position rather than assault it. The guerrillas were fortunate because they did not have the firepower to stop a frontal tank attack. After an hour, the guerrillas broke contact, faded into the jungle in small groups and rejoined the retreating Ranger and POW column.

Allied losses were remarkably small. The Rangers suffered 4 wounded (2 of whom later died); the guerrillas lost 25 men; and 2 POW's were killed. The Japanese lost over 600 killed or wounded.

The column travelled all night, coordinating a variety of deceptive measures and protective air support plans. American day-night fighters were available to hit any tanks or trucks that attempted to pursue. The column successfully evaded Japanese

detection. By 9 a.m. on January 31st, the column reached a small town that was by then under Allied control. The Sixth Army medical teams and trucks were rushed in to evacuate the POW's and wounded to safe areas. The operation was a remarkable success.

The experience the Rangers gained in previous operations paid off at Cabanatuan. The guerrillas also played an extremely important role in holding the critical eastern roadblock, organizing the behind the lines movement, and providing food and manpower for the evacuation of 512 former POW's.

#### ASSESSMENT:

The available intelligence information for use in planning the rescue was limited and not very detailed. Even the maps were incomplete and in some cases were no more than sketches. The camp's location and the presence of American POW's were confirmed, but other details, especially the location of enemy forces, were generally unknown. The planners could confirm only general intelligence. However, the feasibility of the plan was grounded in the belief that experienced Rangers and special reconnaissance units, called Alamo Scouts, could successfully complete the planning in the field.

The quality of the troops involved helped produce an accurate final intelligence picture. The scouts who reconnoitered the camp area were the best and most experienced specialists the



Army had in the Pacific. The assault plan was based entirely upon their input.

Quality intelligence was critical throughout the planning and execution of the rescue. The choices of forces and their size and special weaponry were based upon the G2's analysis of the available data assisted by experienced commanders. The detailed reconnaissance of the camp permitted the development, in the field, of an extremely complicated plan in less than 24 hours.

#### FORCE SELECTION AND TRAINING:

The Sixth Rangers had seen extensive action across the Pacific. Their tactical expertise and impressive record of outwitting the Japanese had been proved on several occasions. The "volunteers" for this mission were the best in the battalion. The Alamo Scouts were the best recon troops available anywhere. The extensive special operations personnel in the Pacific, from coastwatchers to partisans and agents in enemy territory, were honed in the fires of extensive combat.

The force was equipped with special weapons to provide extra firepower for security as well as for the assault on the camp itself. Each platoon had a special weapons section which consisted of a bazooka team (anti-tank) and ten men with machineguns. The remaining troops were equipped with a variety of rifles, submachine guns, pistols and explosives.

The guerrillas played a critical role in the successful outcome of the operation. They were also highly experienced and most had the additional advantage of fighting in their own country. Most of the guerrillas were locals who knew the terrain better than anyone. Many partisan leaders were American. Further, their familiarity with Japanese rear area security measures was instrumental to the successful infiltration and escape. The guerrillas also assured that the local populations did not compromise the mission. They guided the force along the least populated routes and neutralized the danger of inadvertent compromises. (One of the measures they employed was to require the locals to muzzle their dogs and keep all their chickens inside.) Overall, the mission success is wholly shared with the partisans.

The combined quality and level of experience of all forces was outstanding. Very little additional specialized training was required. However, once in the field, the leaders took advantage of every opportunity to prepare and rehearse the operation.

#### COMMAND, CONTROL AND COMMUNICATIONS:

Command from higher headquarters was limited due to the long range nature of the operation and the need for security. The force remained in close contact with the G2 for intelligence and for coordination of air support when within radio receiving distance, but the force commander operated almost autonomously.

It was clearly understood that the final plan was his to make and follow. Radios were available and used to report progress and receive the latest relevant intelligence, whenever possible. The radios were out of range most of the time.

Internally, the chain of command was clearly defined and well-understood. Despite the motley nature of this combined force, the commander was able to focus the Rangers, scouts, partisans and supporting civilian groups on the same objective. The strength and quality of the leadership throughout the force helped to assure its success. The leaders were always up front, endured the same hardships as their men, and inspired them to the highest levels of performance.

Control measures were extremely detailed. Operating behind enemy lines against an enemy as skilled as the Japanese required every skill at their disposal. Control was maintained through the use of sophisticated visual and audio signals, as well as radio and wire communications. Standard operating procedures within the Ranger battalion enabled the team to execute sophisticated operations with a minimum of additional control measures. The commander's decision to maintain unit integrity by specialized missions, rather than integrate the forces, reflected this understanding.

In the actual assault on the compound, the action was initiated by the team that had the greatest distance to move from the jungle to the compound. Upon their signal, firing their weapons and

charging the gate, the other squads were supposed to begin the assault on their segment of the compound's defenses. It worked perfectly.

The completion of each phase of the rescue was marked by firing red signal flares. These red signals were unmistakable and required neither the breaking of radio silence nor undue reliance upon questionable electronic means. The blocking forces followed the progress of the rescue based on these flares and knew precisely when to withdraw. Overall, command and control were excellent.

Communications with division headquarters was limited by necessity. When in range, the communication was adequate to transmit and receive coded information. Radios capable of monitoring Japanese radios were also on hand to enhance the intelligence gathering capability. Communications procedures were, like control measures, well-grounded in the training procedures of the Rangers. The guerrillas were, not surprisingly, also very conscious of communications security. Additionally, they contributed to interpreting the Japanese radio traffic.

#### SPEED, SURPRISE AND SECURITY:

The combat situation on Luzon was very fluid at the end of January 1945. Far from defeated, the Japanese were digging in for a fight to the death. Intelligence photographs indicated that

there were likely sites for POW's on Luzon and there was deep concern about their safety in the hands of a desperate and retreating enemy. There was no doubt in General MacArthur's mind that liberation of POW's would require swift action to capitalize on opportunities as they presented themselves. When the details arrived on January 27th, the division was ready to capitalize. In this case, a mere four days transpired between the receipt of the first raw intelligence and the return of the POW's to freedom.

This rapid preparation time was permitted by the existence of an active intelligence network and the ready availability of special units. This speed of preparation was essential to success.

Surprise was an absolute necessity for not only rescue, but survival. Deep behind enemy lines, any compromise would have guaranteed the failure of the mission and jeopardized the very survival of the force. It was achieved through a variety of means -- careful movement to the objective, thorough reconnaissance, a sensible and straightforward plan (however complicated) and a violent assault along the entire compound perimeter at precisely the same moment.

The efforts to maintain security throughout all phases of the operation were substantial. Operational security during the planning phase was maintained within the normal combat operations

of a tactical division headquarters. Existing security measures negated the problems that are often created when ad hoc organizations are established. Security en route was attained through careful reconnaissance and route selection and active and passive security procedures within the force itself. Further, the Japanese had no reason to suspect a rescue, and their units were preoccupied with defensive preparations that were unrelated to the POW camp. The natural diversions of combat activities in the vicinity provided a major advantage which enhanced the security of the mission.

#### TRANSPORTATION:

The G2 and his planning staff considered a wide range of alternatives for delivering and retrieving the forces. Airborne forces were available (and in fact were used in subsequent rescues on Luzon) but the terrain in the vicinity of the objective was not conducive to airborne operations. Further, the size and disposition of the Japanese made it totally unworkable. An air landing scheme was considered but rejected. The compound was literally carved out of the jungle and there were no landing sites that would permit the force to arrive undetected. The imagination of the planners led them to consider the impossible -- a land approach and a land evacuation. The idea seemed ludicrous at first. The concept of launching a combined force of over 400 men behind enemy

lines to seize a heavily defended enemy compound in the midst of thousands of Japanese soldiers and walk back to friendly lines with over 500 POW's, must have seemed impossible. Careful study revealed that with the help of the partisans, a land approach (aided by makeshift carts and stretchers) was indeed a viable alternative.

CASE FOUR - ENTEBBE RESCUE<sup>17</sup>

The Entebbe rescue mission is recorded in the annals of military history as one of the most successful rescue operations ever conducted. On July 3, 1976, a special joint task force of the Israeli Defense Forces (IDF) launched a team of Israeli airmen and soldiers across a distance of over 2500 miles. They executed a plan which had progressed from conception to completion in less than 5 days. The Entebbe rescuers liberated 105 French and Israeli citizens who were seized in an Air France hijacking and held at Entebbe airport in Uganda. The rescue force achieved total surprise and quickly overwhelmed the terrorists (from the Palestinian Front for the Liberation of Palestine [PFLP]) and the Ugandan soldiers who were guarding the hostages. With a minimum loss of lives, the hostages were liberated and the entire force was evacuated to Israel.

The total time spent by the rescue force on the ground was 53 minutes. The IDF forces suffered 2 military killed and several wounded. Three civilians were also killed along with 5 of the terrorists and approximately 25 Ugandan soldiers. The speed and shock effect of the rescue prevented the loss of more lives.

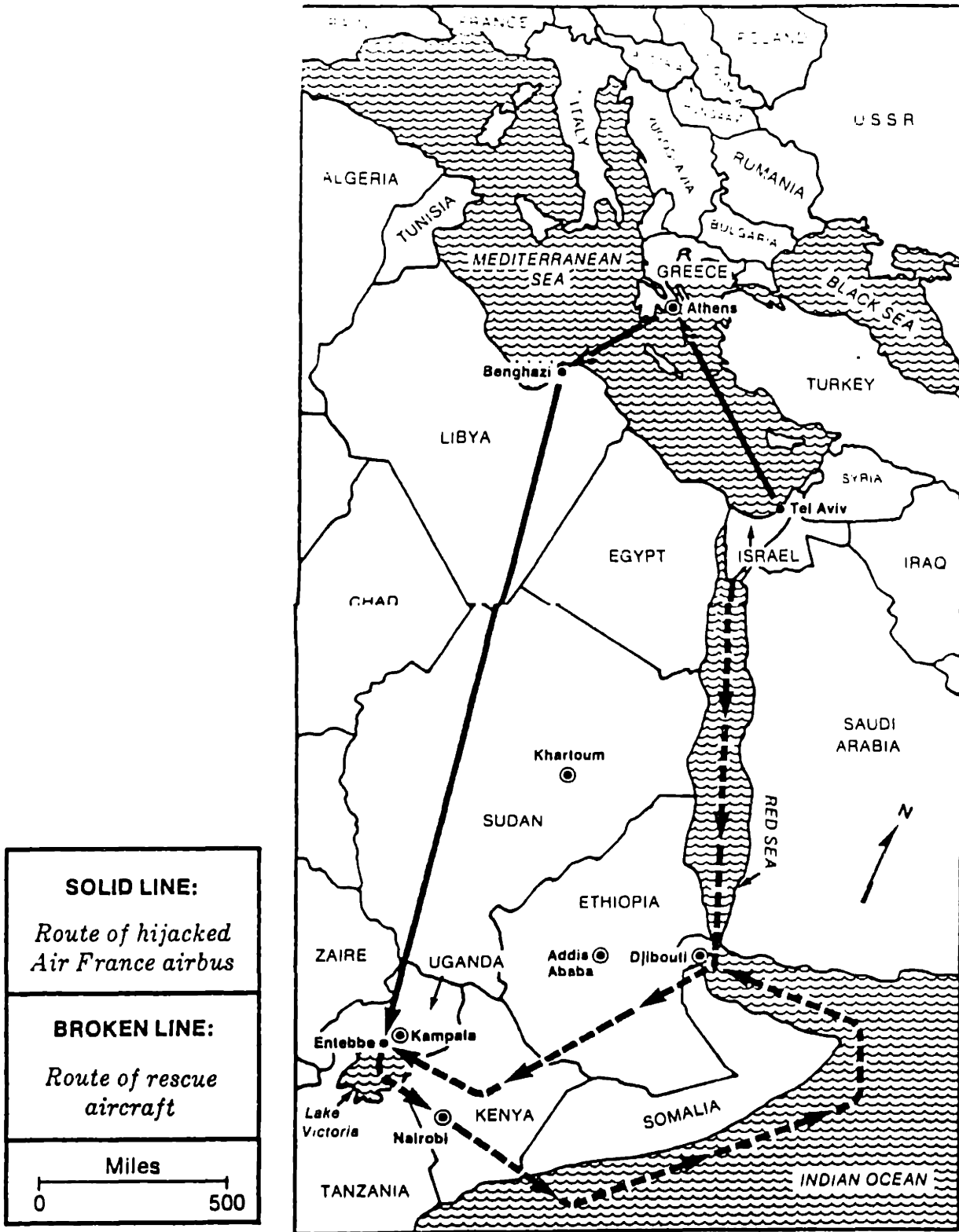
---

17. The Israeli Defense Forces (IDF) have remained highly sensitive regarding many of the techniques and details of the operation. Interviewees tend to speak in general terms and most Israeli documents are still classified. However a number of books, articles, interviews and reports are available and help to reconstruct the details of the preparation and execution of Operation "Jonathan".



This daring rescue captured the imagination of the world, restored Israeli national morale in the face of incessant terrorist attacks, and humbled the PFLP and Idi Amin, the President of Uganda. In terms of modern military operations it is a classic example of the combat rescue operation and merits detailed study.

The Entebbe Rescue Operation was an extremely complex and supremely challenging undertaking for the Israeli Government and the Israeli Defense Forces. Although Israeli military professionals had extensive experience with counterterrorism, the situation posed by Entebbe was unique. The distance was staggering. Israel had no bases nor close allies in the region. Coordination of the intelligence gathering means was difficult. Simultaneously, the negotiation time-table was limited by the terrorist demands. Could Israel afford to say no to the terrorist demands and risk the lives of so many of its citizens? Could Israel say yes to the demands, which included the release of over forty dangerous terrorists held in Israeli prisons? Would the accompanying national humiliation open Israel to even greater hostage and blackmail situations? The military alternative was a vital national security choice.



18. Ira Peck, Raid At Entebbe.

The planning and execution of Operation Jonathan<sup>19</sup> was conducted in total secrecy and covered less than six days.

ASSESSMENT:

As soon as the Israeli General Staff became aware of the seizure of Air France flight #139 from Tel Aviv to Paris by Arab terrorists, the order was given to begin planning for a possible military operation. The Chief of Staff of the Israeli Defense Forces, General Mordechi Gur, issued initial instructions for the planning. It was clear to him at the outset that "everything depended upon getting reliable intelligence."<sup>20</sup>

The officer ultimately selected to command the rescue, General Dan Shomron, was equally convinced that good intelligence was of paramount importance. "Success depends on us knowing exactly where the terrorists and the hostages are. Everything depends on intelligence."<sup>21</sup>

---

19. The original code name of the operation was "Thunderball." It was later officially changed to Jonathan in memory of the assault force commander, LTC Jonathan Netanyahu.

20. Ira Peck, Raid At Entebbe, p. 47.

21. Entebbe Rescue, p. 274.

Organizationally, the Planning Committee of the General Staff was well-integrated with the Israeli intelligence network. There was no need for an ad hoc intelligence set up, nor extensive liaison efforts with the supporting intelligence services -- Israeli Military Intelligence and the Mossad. The Prime Minister, Yitzhak Rabin, issued orders to begin serious planning on June 28, 1976. His advisor on intelligence and counterterrorism, Major General Rahavain Zeevi wasted no time in issuing guidance for the intelligence effort.

- Get data and distribute it to competent authorities.
- Produce situation scenarios for the PM and the Ministerial Team.
- Keep the heads of the secret services in the diplomatic and operational picture.
- Evaluate the possibilities of diplomatic and military action.<sup>22</sup>

The power of the entire Israeli intelligence network was brought to bear during the week of the crisis. International intelligence sharing efforts were initiated. Close cooperation with the United States, France, Germany and Great Britain provided vital intelligence that was essential to the planning process. The United States even provided sensitive satellite photos of the Entebbe area to the Israeli planners.<sup>23</sup> The West German services provided detailed information on the profiles of the terrorists, particularly regarding the most likely modus operandi

---

22. Entebbe Rescue, p. 180.

23. Raid At Entebbe, p. 82.

and state of mind. The French and British also shared in this process. Further, the French and British were particularly helpful on the diplomatic front. This cooperation paid off handsomely when a group of hostages were released and evacuated to France. The detailed information they provided regarding the situation and physical layout at Entebbe was vital. International cooperation made this possible.

Other intelligence efforts included the use of spy planes, the infiltration of agents from Kenya to Uganda, and the acquisition and study of the construction blueprints of Entebbe airport. (The airport was constructed by Israeli contractors during a previous era of close Ugandan-Israeli cooperation. The Solel Boneh Construction Company brought the blueprints back to Israel many years earlier.<sup>24</sup>) The efforts also included using the assistance of a number of experts on the terrorists and on the Ugandan Army. A detailed picture of how to penetrate their security measures, through capitalization on their procedural weaknesses and psychological foibles, was extremely important. Finally, a number of military experts were included to help resolve the extremely complex problems related to: the conduct of a rescue across 2500 nonstop miles; how to arrive undetected; how to overcome the defenses; and how to evacuate the hostages to Israel.

---

24. Ibid.

The importance of intelligence to the outcome of this operation cannot be overstated. The Israeli's pulled out all the stops by utilizing every available source of information which could have contributed to a successful operation. The planning team at the General Staff level was an experienced in-house team that had contributed to the planning and execution of numerous counter-terrorist operations and raids. The nature of the Entebbe operation challenged their capabilities to the maximum. The fact that no special ad hoc intelligence group had to be established in support of the operation had numerous positive benefits for the intelligence operation. It:

- facilitated the speed with which the right intelligence questions were generated and the answers obtained.
- assured the rapid dissemination and analysis of raw intelligence and redirected it to the planners almost instantly.
- provided a focus for the intelligence effort -- no time or effort was wasted.
- contributed to the overall security of the operation by avoiding the special problems which ad hoc intelligence groups seem to encounter.

Another important observation about the role of intelligence is that the planners were very aggressive in exercising their system to assure that the intelligence was accurate and reliable. For example, at one point early in the planning, General Gur felt frustrated by the lack of intelligence. He directed that all involved redouble their efforts.

On Wednesday morning a number of plans were submitted to me, all of them in keeping with the objectives of the operation, and all capable of hitting the terrorists. But there were weak points in all of them, so I could not clearly and single mindedly support and recommend them as operations for execution. The main point was that I could not guarantee the safety of the hostages.<sup>25</sup>

Finally, all of the key leaders in the rescue attempt were deeply involved in the planning process. Experience with this type of special operation helped the process of how to generate the right questions. The role of these leaders had a dramatic impact on the intelligence process. The importance of this dual role to the intelligence effort was that it honed the effort to a razor sharp edge through each successive refinement of the plans. The time saved was substantial. The fact that the planners would also execute the plan generated a level of pragmatism that is frequently absent from planners, who are not also the "doers."

In less than five days, the Israeli intelligence effort paid off. The force landed at Entebbe airport on the night of July 3rd, 1976, and using the precise intelligence that everyone had recognized as essential from the start, conducted the rescue.

---

25. Raid At Entebbe, p. 69.

SPEED, SURPRISE AND SECURITY:

The Entebbe rescue was executed with great speed, complete surprise and total security. The achievement of all three to the degree witnessed in 1976 reflects the Israeli skill and knowledge in the conduct of these operations. To prepare an operation of this sophistication and magnitude and launch it 2500 miles each way, and to complete it in less than five days, is amazing. To plan, prepare and rehearse and move the force such great distances undetected in international airspace is a feat that few military forces can match. To maintain security in the face of the intense world focus on Israel during the crisis is especially remarkable. (The Iran planner who said this was not as challenging as the Iran rescue, apparently did not study this case very closely.)

Early in the crisis the Prime Minister (PM) and his Defense Minister, Shimon Peres, recognized that they would need more time than the terrorists were going to allow them, to plan an operation.

We did not have any idea how to save the lives of the passengers. My first thought was, if we don't have a plan, either because we lacked information or time, our plan must be to gain time. By gaining time we would be able to prepare something.<sup>26</sup>

The PM faced a series of intolerable terrorist demands for the release of the hostages. The demands included the release

---

26. Raid At Entebbe, p. 36.



of 43 terrorists held in Israeli prisons. The threats against the lives of the people held at Entebbe airport were real. The memory of the massacre of Israeli athletes in Munich in 1972, and the recent airport massacres in Israel were fresh on their minds. The necessity for either a speedy diplomatic or military resolution was obvious. The PM and his cabinet developed a two tiered strategy: to crank up the military and intelligence services to develop a plan; and, keep up the appearances of a willingness to negotiate.<sup>27</sup>

The speed with which the intelligence effort was organized was discussed above. Diplomatic efforts were similarly rapid, aggressive and extensive. The speed with which the military forces were prepared was also rapid. The quick selection and preparations were only possible due to the nature of the Israeli military system and the organization of the IDF.

The unit selected to plan and lead the operation was the IDF's "Reconnaissance Unit," the GSR. This unit fell under the direct operational control of the General Staff. Its Commander, General Dan Shomron, was highly experienced and had an on-hand and ready group of planners and leaders who could start the planning process almost immediately. It was no accident that the GSR was well-staffed, highly professional and competent, and thoroughly

---

27. Raid At Entebbe, p. 36.

integrated into the command and intelligence networks of the IDF. It was also no accident that the priority this unit enjoyed permitted it to quickly tailor task forces to specific missions in total secrecy. In this case, the Chief of Staff of the Air Force, General Benny Peled, was also extremely important to the operation. The Air Force and the Army leaders were both experienced and possessed the capability to plan and train joint task forces in a minimum amount of time -- and in total secrecy.

The core planning group was supplemented by specialists and assistants from the IDF. Elite forces from the Golani and Paratroop Brigades were selected to assist the GSR troops. Special teams were added to the basic force. Air force assets were identified and prepared as requirements emerged from the planning process. If the mission called for a specialist who was not on active duty, the extensive reserve system permitted the Chief of Staff to call up the necessary personnel.

Finally, the speed of the preparation was facilitated by the experience level of all concerned. Because many of the tasks involved the use of procedures, routines, and "how to do it" concepts that were shared by the planners, a single "mindset" helped make the process extremely efficient. These efficiencies were the rule rather than the exception for the IDF, and reflected the great value which they placed upon the maintenance of special units and staffs.

In order to safeguard the lives of the hostages in the assault, the force would have to achieve total surprise. The Israeli rescue force would have to arrive at Entebbe undetected, move to within a few yards of the Old Terminal Building where the hostages were kept under guard by the seven terrorists and elements of the Ugandan Army. General Shomron and others were concerned "...that the whole thing depended on surprise -- the first minutes were going to determine success or failure."<sup>28</sup>

The efforts taken to achieve surprise included airtight and sophisticated security measures (described below), the use of deceptive techniques, and natural conditions which facilitated surprise. The diplomatic effort continued with all sincerity up to the last minute. However, disinformation was communicated from all levels of the Israeli government to convince the terrorists, and those who might help them, that a rescue was not an alternative. The distance from Israel to Entebbe was also an important element of surprise. The Israeli's hoped that the Ugandans and the terrorists would accept the apparent impossibility of any such long range operation. The disinformation also emphasized the military impracticalities in order to support the advertised futility of military operation alternatives.

---

28. Entebbe Rescue.

The PM and members of the staff also contributed to the deception efforts. Cabinet Ministers were deliberately seen in public daily. On the actual day of the operation, some Cabinet Members even walked to the PM's office out of respect for the Sabbath -- maintaining the image of routine operations.

Electronic deception measures were used to mask the movement of the force from Israel through international airspace and to land at the airport in Uganda. The details of how the Israeli's fooled the radar at Entebbe are unknown, but some sort of radar jamming was used along with a routine radio request for a commercial landing clearance. Masked in route and at the objective, it was hoped that the airport tower operators would have no advance warning and would not suspect the radar "noise" (similar to natural electronic radar interference). The aircraft themselves also contributed to the deception. The Lockheed C-130's were capable of flying below the radar and landing on rough surfaces, and in very short distances.

On the tactical level, the assault force employed a number of deception measures to get the force from the airplanes to the terminal. The Israeli's knew that the Ugandan and terrorist guards were accustomed to seeing Idi Amin arrive in a black Mercedes automobile accompanied by two landrovers. It was hoped that duplicating the image (complete with blackened skin and Ugandan weapons and uniforms) in the approach to the terminal would improve

the chances of surprise. It worked. When the lead vehicle was seen by two Ugandan guards, they hesitated. They were shot with silenced weapons before they could alert the guards and terrorists at the terminal.

On all levels, diplomatic, strategic and tactical, these measures directly contributed to the achievement of surprise. The force arrived at the terminal without alerting the guards and quickly eliminated them. A lack of surprise would have been fatal for the hostages.

Secrecy in the operation was airtight. The Chief of Staff issued clear orders:

Nobody who isn't connected with this mission is to know about it. Not even the slightest hint. Nothing was to be said over the phone. Not a word was to be typed. Everything was to be on a "need to know" basis. And no one was to inform the Staff Generals who weren't already involved.<sup>29</sup>

In short, routine security procedures were in effect but were raised to a level of strictness appropriate to the situation.

Even the Cabinet Ministers were accustomed to observing these procedures and were careful to follow the detailed instructions they were given.

Operational security was greatly enhanced by the nature of the military organization itself. Once again, the General Staff

---

29. Entebbe Rescue.

Reconnaissance Unit was tightly shrouded in secrecy as were other elite units in the IDF. Training exercises were frequent, and strict operational secrecy was a way of life for both the planning staffs and the units themselves. Also, because Israeli units were continuously in training for antiterrorist operations, unit activity was never a signal to outsiders that an operation was imminent. The Chief of Staff was very aware of this fact and took specific measures to assure that no revealing signals would be sent in this situation.

Tactical security was enhanced by the development of a variety of contingency plans. Given the uncertainty of conditions on the ground at Entebbe, even with precise intelligence, the unforeseen could always occur. The Task Force built a variety of contingency plans into their routines and rehearsed them well. They identified special teams to assure the integrity and security of the force. Security en route was provided by a tactical fighter escort, and by aircraft equipped with sophisticated navigation, communication and electronic-countermeasure aids. The choice of route was designed to avoid detection by both friends and enemies, especially unfriendly spy ships in the Red Sea. Operational security measures included the imposition of radio silence and reliance upon visual signals. Specific security missions were assigned to forces designed for security roles at Entebbe -- establish blocking

positions to prevent reinforcement, destroy the Ugandan Air Force planes, eliminate enemy patrols, and cover the withdrawal of the hostages from the terminal area.

The selection of specialized items of equipment reflected the emphasis upon security. Light armored vehicles were transported, along with recoilless rifles, heavy machineguns and bazookas. The array of capabilities to deal with contingencies was extensive. The rescue force was prepared, with both men and equipment, for the worst situation they could reasonably expect to encounter. The emphasis on active and passive security measures was rewarded during the actual operation.

Diplomatic and domestic civilian security measures were equally strict and successful. The Cabinet Ministers were briefed in detail and at the last possible moment. In fact, the force was in the air headed for Entebbe when the Cabinet's final "GO" was received. The existence of routine operational security measures was a desirable condition which avoided the "signals" that are usually sent when procedures are changed.

#### COMMAND, CONTROL AND COMMUNICATIONS:

The Entebbe rescue was a superb example of the establishment of effective command and control, and the utilization of proper communications equipment and procedures.

From the command aspect, several dimensions are important: the selection system; the strength of command leadership at all levels; the role of the commander in the planning process; and the exercise of command.

The Israeli's established a system for assuring that the ablest and most talented officers were assigned to their commando forces. The men who participated in the Entebbe operation were the finest in the IDF. From General Shomron and LTC Jonathan Netanyahu (Assault Force Commander) to the individual team leaders, the quality of the soldiers was first class. Achieving this level of excellence was not easy. (The American experience from 1956 to 1980 reflects the difficulty of attracting and holding the most qualified officers for assignment to special operations units.<sup>30</sup>)

The Israeli's succeeded by establishing a long term program which emphasized the special characteristics commandos seem to share. The entry standards were tough and only the best were selected. Successful assignments were rewarded with quick promotions, recognition and preferential follow-on assignments in the regular forces. The system is important because, in a crisis, the system

---

30. Several studies cited elsewhere confirm the problems encountered in maintaining special operations units.



will dictate the availability of the most highly trained and skilled leaders. In the face of the time constraints imposed by the Israeli hostage crisis, the Israeli's had to live with what their system produced. The quality is a testament to their success.

The combined combat military experience of the key leaders was extensive. General Shomron saw action in four Israeli wars and a host of lesser operations of all types. LTC Netanyahu was not only a skilled soldier but a Harvard educated philosopher, and his military expertise was well documented.<sup>31</sup> The ability of the IDF to call upon specially trained leaders was an irreplaceable asset on June 30, 1976. Veterans of many wars, these commanders and their subordinate leaders were thoroughly proficient and aggressive. For special operations, the Israeli's firmly believed that the quality of leadership must be the best. At Entebbe, it assured effective command.

Another advantage of having strong commanders was the ability to get involved with and influence the planning process. Leaders from the level of the Planning Staff to the smallest teams were encouraged to produce ideas and evaluate the continually evolving plan. Many of the good ideas that made up the final plan came

---

31. Yoni, Hero of Entebbe.

came from the junior leaders. The vital role of junior commanders in the planning process is well documented and can be illustrated by the Mercedes deception scheme. One of the assault subordinate team leaders thought up the Idi Amin imitation scheme. As the operation demonstrated, this idea alone proved to be extremely important to the achievement of success.<sup>32</sup> They also believed that those who plan the operation should conduct it. In interviews with military leaders of the IDF, they stressed the importance of this rule in all of their operations.<sup>33</sup> "Insulated planning staffs almost always produced risky and inflexible plans." To the Israeli's, it is a cardinal rule that leaders plan the operations.

Finally, the exercise of command was nearly error free. At the strategic level, the operational headquarters remained in Tel Aviv. The HQ deliberately decided not to interfere in the operation in any way. Once in action, the field commander would not have time to deal with distracting communications with HQ in Tel Aviv. The Israeli's recognized that military necessity dictated the command relationships, not egos or titles. Tactically,

---

32. Entebbe Rescue, p. 248.

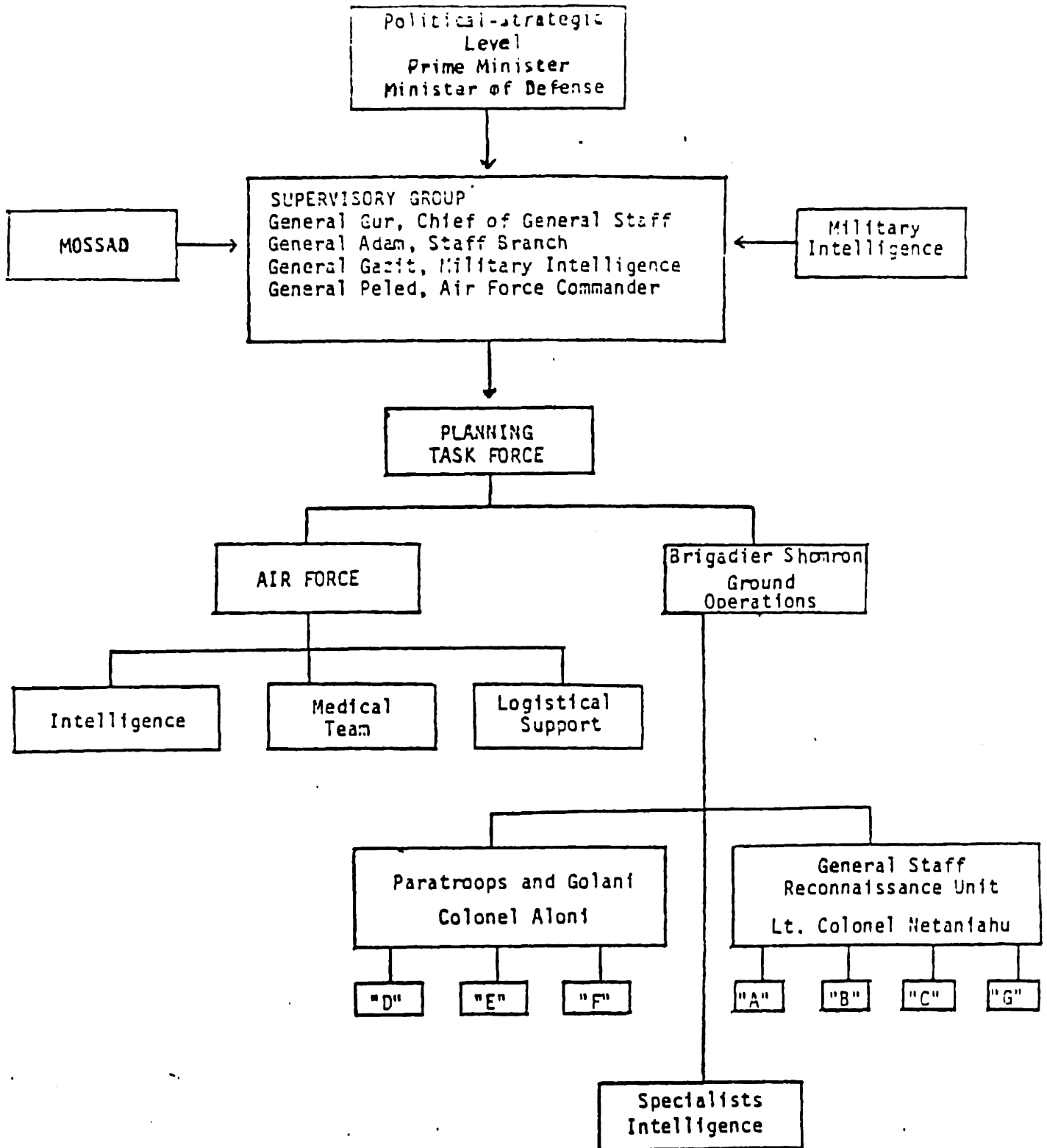
33. Interview with Brigadier General Teitelbaum of the IDF, February 1980.

the senior on-scene air and ground commanders positioned themselves in a command post Boeing 707 flying at high altitude in the vicinity of Entebbe. On the ground, Shomron positioned himself to control all of the diverse elements and teams. The diagram on the next page illustrates these relationships.

The commanders in Tel Aviv and in the air above Entebbe felt that the ground commander was in the best position to control the operation. Once the operation was underway, the commanders in the air limited their command to: supporting the force in case of contingencies; directing assets and forces outside of Entebbe; and relaying information. Their deliberate restraint demonstrated their concern for "overcommanding." Trust, confidence, and non-interference in subordinate operations were important tenets in Israeli doctrine and were reflected in the command relationships at Entebbe.

In the assault force and special teams, the commanders were positioned up front and led by example. LTC Netanyahu was fatally wounded early in the rescue because he was up front and in the open, directing the rescue. The command at Entebbe was outstanding.

In terms of control and communications, several facts are readily apparent about the operation. The IDF employed the most advanced technologies in their communications systems. They had acquired sophisticated navigational equipment for all-weather, long distance missions to maintain control of their forces.



34. Edward N. Luttwak, et al, p. II-73

Even though they encountered heavy thunderstorms along the route, they managed to arrive at the end of the 2500 mile flight within minutes of their target time and all four C-130's under control and in close formation. The communications were backed up by an effective system of visual communications and control methods.

On the ground, the leaders employed a variety of techniques to maintain effective control -- good radios, standard illumination and audible control signals, hand and arm signals, careful timing of events, and proper positioning of the commanders. BG Shomron was ideally positioned to direct the forces around the airport to face the contingencies as they developed -- and there were many.

The combination of strengths in the C<sup>3</sup> systems at Entebbe directly aided the successful outcome.

#### FORCE SELECTION AND TRAINING:

The system which attracted the best commanders to commando operations also worked effectively for the soldiers. The elite GSR troops commanded by LTC Netanayhu were the natural choices for a mission as difficult as Entebbe. The soldiers in that unit were among the most highly trained and specialized commando troops in the world.<sup>35</sup>

---

35. Interviews with U.S., German and British military professionals involved with special operations clearly demonstrated the respect felt for the GSR.

The members of the GSR unit were combat experienced veterans who had participated in numerous operations throughout the Middle East, especially Lebanon and Syria. The commanders felt that they had, in fact, conducted operations that were far more complicated than the Entebbe situation. BG Shomron was heard to say before the mission that the rescue "...could be 100% successful. We have done things a thousand times more complicated."<sup>36</sup> He could make this claim because several documented Israeli missions into Lebanon directed against the PFLP were in fact more complicated and difficult. The ground commander did not feel the distance of 2500 miles was a problem. His job began when he left the airplane.

Another observation is that the level of proficiency within the unit was so high that the men shared a common "mindset" on how to perform mission tasks. This atmosphere permitted them to react as a unit rather than as individuals. This condition is the product of combat experience, hard training, and time spent working together.

Other forces were selected to accompany the GSR unit. Elite units within the Golani Brigade and the Parachute Brigade were

---

36. Raid At Entebbe, p. 72.

added to the force. They were to be employed in the more conventional aspects of the mission -- establishing blocking positions, conducting ambushes, destroying equipment, and securing the perimeter. These more conventional missions were ideally accomplished by these other units. Bureaucratic pressures also contributed to the decision.<sup>37</sup> The list below shows the final organization for the mission.<sup>38</sup> It reflects both the sophisticated planning and the tailoring of the forces for the peculiarities of the situation.

- (1) Team A: First assault unit for the rescue of the hostages: probably 9 men from General Staff Reconnaissance (GSR), with one Mercedes; under Lt. Colonel Netanyahu. Plus Brigadier Shomron and his command unit.
- (2) Team B: Second assault unit charged with securing the upper floor and roof of the old terminal (to prevent Ugandan guards there located from firing on hostages or commandos), probably 20 GSR men, with 2 Landrovers.
- (3) Team C: First ground security unit responsible for control of area between old terminal (where hostages were held) and the C-130 when moved to the terminal to remove the hostages; probably 40 men of the selected Golani infantry.
- (4) Team D: Third assault unit responsible for seizure and neutralization of new terminal building and control tower, to permit landing of additional Israeli aircraft and subsequent take-off; probably 60 paratroopers under the command of Colonel Aloni; 1 M-2 half-track armored carrier, 2 jeeps.

---

27. Yoni, Hero of Entebbe, p. 229. Senior Israeli military leaders had been looking for years for ways to upgrade the quality and prestige of the Golani Brigade. Including elements from that Brigade reflected a deliberate concern for that problem. Adding elite Golani Brigade Troops to an operation of the caliber and potential of Entebbe would be a plus, regardless of the outcome.

28. Luttwak, p. II-78.

- (5) Team E: Second security unit, responsible for securing the runway for the C-130s and prevention of attack on parked aircraft; probably 12 paratroopers.
- (6) Team F: Sabotage unit, responsible for the destruction of Ugandan MIG fighter aircraft parked near new terminal; probably 12 GSR men under Lt. S. Lavi; 2 RBY cars.
- (7) Team G: Blocking unit, to erect roadblock on main airport road leading to Kampala, and ambush any reinforcements; probably 6 GSR men, 1 vehicle (RBY?).
- (8) Intelligence Group: Collect documents, remove Soviet-built radar and electronic equipment; number and composition unknown.

The selection process for the pilots and specialty teams (interrogation, intelligence, etc.) was equally rigorous. The Israeli Air Force routinely took their C-130 pilots on short distance landing and take-off training missions at night and under all weather conditions. The composite capability of the entire force was the best the Israeli's could have assembled.

The training and rehearsals were greatly limited due to the compressed preparation time. The existence of highly trained units permitted their rapid assembly and adoption of well-established skills to the unique requirements of the mission. Essentially, all of the various units employed at Entebbe adopted their skills, repertoires of capabilities and procedures to the plan for Entebbe. Rehearsals assured the timing and coordination of most of the major simultaneous activities at the objective.



There were no comprehensive rehearsals for all aspects of the operation, but all the key players were thoroughly briefed on all aspects of the overall plan. Scale models and a large mockup were constructed to assist in the training. Specific mission requirements were rehearsed in real time, over and over, until they were ready. For example, BG Shomron stated that they practiced exiting the aircraft and exiting the vehicles dozens of times until the timing was perfect.

#### TRANSPORTATION:

The transportation problem was not a major issue. They chose the Lockheed C-130 for the task, loaded it with sophisticated electronic gear and put their best pilots on board to fly it. In its final configuration it was all-weather, capable of penetrating below radar, could fly over 2500 miles without refueling, and could land at Entebbe on time after the long flight. The C-130 was a proven aircraft and was upgraded for the mission by the addition of the latest technological improvements. It was also a natural transportation choice because of its utility in the face of unforeseen contingencies. It could fly on one engine -- three other engines was a wide margin of safety. It could also take a great deal of abuse and still fly. Finally, there were few alternatives. A commercial aircraft under disguise might get a force into Entebbe, but it was felt that it would

not be capable of achieving the necessary surprise. The choice of four C-130's added flexibility and redundancy to the plan and provided a high probability of success.

#### RESULTS:

The Combat Rescue Operations Model was applied to the research and analysis of four successful historical cases. These cases reflect a broad range of dissimilarities -- different time periods (1943, 1940, 1945, 1976); different nations (U.K., Germany, U.S., Israel); different war/peace contexts; and different organizational, systemic and doctrinal environments. In spite of the apparent "non-comparability" of the cases, the CRO framework permitted a systematic, consistent and logical analysis of each case.

The purpose of Test One in this chapter was to evaluate the descriptive utility of the model. The test results show that the model seems to have great descriptive utility based upon answers to the questions posed earlier in this chapter.

- a. Does the model provide a conceptual framework which allows for the meaningful organization of facts and the analysis of forces and influences which determine the outcomes?
- b. Can widely divergent cases be explained through the perspective of the model?

The answer to both questions is "yes". The ten variables provide conceptual areas of investigation that represent distinct aspects of each operation. These variables appear to operate in each case and the evaluation of each variable provides useful analytical insight into the essence of a dynamic and complex phenomenon. The model is useful not only for the analysis of various aspects of each operation, but is also useful for the exploration of relationships. For example, the relationship between surprise and security seems to be very close (mutually dependent variables?). The analysis of speed reveals common themes that can be easily compared across all four cases. The selection of forces, and training of forces, emerge as related but probably independent variables. A final example is that assessment appears to be a very dominant factor in each case. The model, in short, is descriptively powerful and useful, and provides a framework for more detailed and comparative analysis.

The purpose of Test Two was to evaluate the extent to which the variables in the model present the conditions which are both necessary and sufficient for success.

First, the examination of a small sample of successful cases leads only to tentative conclusions. But the initial results indicate that the answer to the question in Test Two is also "yes".

The variables seem to constitute the necessary conditions for success. Each variable was present, active and directly influential on the outcome. The strength or weakness of a variable appeared to reduce or increase the risk of failure in a consistent and proportional relationship -- the better the command, the fewer the opportunities for the disruption of command performance and for increasing the risk of command failure (and also operational failure). The Bruneval Operation was closest to failure at several key points. That risk can be closely linked to clearly weak performing variables. On the other hand, the strength of the same variables appeared to make the Entebbe Operation much less at risk at the same critical points in the operation. Many other similar examples provide evidence that all ten of these factors are necessary to achieve success: they are present and play important roles in each case; their strength or weakness directly affects the outcome; and the meanings of the variables are consistent in each case.

The question of sufficiency leads to a more tentative answer than necessity. The ten variables seem to provide a comprehensive account of outcomes. Other variables may also be operative, particularly technology, chance, and planning. But these variables can be subsumed and implied in the ten variables of the model and are in fact relevant to and already included in each variable.

The consideration of alternative explanations led to results

which were less consistent with the facts in each case. This question will be resolved in the detailed comparative analysis of three U.S. cases in Chapter Six. However, the declining plausibility of alternative explanations enhances confidence in the model. The model therefore, seems to provide the sufficient conditions which account for success.

In summary, the preliminary evaluation of the model leads to favorable results. The model is both descriptively useful and appears to provide both the necessary and sufficient conditions for success.

The next chapter presents a reorganization and restatement of the model in an hypothetical format, further explanation of the hypothesis testing method, and an introduction to the three American cases to be analyzed in the next phase of this study.

## CHAPTER FIVE

### DEFINING THE STUDY, FORMULATING HYPOTHESES, AND ANALYZING THE CASES

#### Introduction

Each major advance in the technology of war has found its prophet ready to proclaim that war is no longer possible..,Unfortunately, these prophets have all been false.<sup>1</sup>

Many prophets have also sought to extract lessons from history. Unfortunately, disagreements over the "proper" lessons abound. What is the right approach? This author is continually surprised by the diversity of opinion concerning even relatively clear cut and well-documented cases. In consecutive interviews with special warfare personnel at the John F. Kennedy School of Warfare in 1983, the experts described the lessons of Mayaguez in great detail.<sup>2</sup> One felt that the most significant problem was the use of Air Force pilots to fly what were essentially Marine Corps missions. The other felt that the two biggest problems were the lack of surprise and the inadequate intelligence on the size and

- 
1. Kenneth N. Waltz, Man The State And War (Columbia University Press: New York) 1959, p. 235.
  2. These three interviews (of the 44 interviews conducted at the J.F.K. School of Warfare during the period 28 September - 3 October 1983) demonstrated the extensive knowledge and experience possessed by special operations personnel. Unfortunately, much of that expertise is intuitive, and does not demonstrate a comprehensive view of what makes the operations succeed or fail above the tactical level of operations.

disposition of enemy forces on Koh Tang Island. A third expert, interviewed the next day, felt that the phased insertion of the Marines was the most significant contribution to failure. Assuming all of these observations were accurate, what were the lessons? Not surprisingly, the recommendations were equally diverse.

It is difficult to expect decision makers to make coherent decisions concerning the organization and use of special forces capabilities when the experts themselves do not have a shared view of the underlying causes of success and failure. This experience was repeated dozens of times in interviews with a wide range of military and civilian experts. It is even possible to find several versions of the clearly stated lessons of the JCS Special Operations Review Group Report in published sources. Although there is also much agreement, the failure to seriously investigate the causal roots of outcomes in these operations precludes (and has precluded) successful corrective action.

Converting these underlying concepts "...into comprehensive 'theory' that encompasses the complexity of the phenomenon or activity in question..."<sup>3</sup> is the task of this research. The last chapter provided an initial step towards that goal by verifying the descriptive utility of the CRO theory and the ten conceptual factors which constitute its framework.

---

3. Alexander George, "Case Studies and Theory Development..." in Diplomacy, edited by Paul G. Lauren (Collier Macmillan Publishers: London) 1979, p. 43.

This approach is a combination of historiography and political science. The detailed study and analysis of idiosyncratic cases is conducted with a continuing and pressing need for the derivation of generalizations. In this chapter, it involves verifying and validating the generalizations developed in the CRO model. Testing the model leads to further refinement of the generalizations to discover the important independent, dependent, and intervening variables; to unravel their relationships; and to arrive at a comprehensive and useful theory. This empirical approach, which is based upon a systematic analysis of these limited cases, is a desirable way to prove any model's prescriptive value and relevance to policy makers. This is what this study strives to achieve.

#### The Controlled Comparison Research Strategy

The small number of CRO cases makes systematic statistical research methods very difficult. There are many variables to address, but few cases in which the researcher can systematically control the relationships of the variables under investigation. The controlled comparison research strategy is an intensive comparative analysis of a few cases, and provides a useful alternative to standard statistical approaches. (Later, the refinement of the



model will permit some limited statistical analysis.) The success of this strategy depends upon the fulfillment of four requirements:<sup>4</sup>

1. employment of general variables for the purposes of description and explanation (CRO framework);

2. adequate refinement and limitation of the "class" of events/phenomenon under study (restrictive definition of this class of operation);

3. focused study of each case (preliminary analysis of three cases in this chapter);

4. structured focused comparison of the cases (subsequent chapters).

The first two requirements have been met and were discussed in earlier chapters. The latter two are completed in this, and subsequent, chapters. The fourth requirement is critical to the success of the research strategy: the cases are examined with detailed cross-comparisons and analysis in a search for a variety of different causal patterns. The strategy and the analysis lead to an understanding of how the variables (both independent and intervening) operate to produce outcomes (dependent variables).

---

4. George, p. 50.

Unlike statistical comparisons, this strategy seeks to identify the "...conditions under which each distinctive type of causal pattern occurs rather than attempting to address the question of how often each outcome and/or causal pattern does occur or can be expected to occur."<sup>5</sup>

The structured focused comparison method is most effectively followed by posing questions in the form of hypotheses which reflect the theoretical focus of the CRO model. The hypotheses are relevant to all the cases but are not overly specific. They are sufficiently general to allow for discussions of nuances and idiosyncracies within cases without losing the general focus of the analysis. Likewise, the analysis of case idiosyncracies adds plausibility to the research by challenging the ability of the model, and its theoretical foundation, to explain and predict outcomes.

Unlike single case study methods, the rigor of comparative analysis also leads to more appropriate statistical techniques. As will be seen, the results permit the use of chi-square contingency techniques and some limited Bayesian probability calculations. The non-quantitative comparative analysis lays the foundation for further testing with more quantitative approaches.

---

5. Ibid., p. 60.

## Hypotheses

The ten variables can be grouped and associated to permit logical comparisons of the cases without either: (a) compromising the meaning, independence or dependence of the variables; or, (b) biasing the sorting and analysis of the facts of each case. A preliminary test of the ten variables of the model demonstrated that logical associations do exist. For example, command, control and communications are closely related operational factors. Intelligence is closely related to all the other factors, yet it shows a great deal of singular independence in the larger picture of the assessment process, and the results of that process. The transportation factor also lends itself to separate analysis. Speed, surprise and security lend themselves to associated analysis because of the apparent interrelationship (or perhaps synergistic impact) they demonstrate in operations. Force training and force selection also reflect logical associations. These variables are associated for purposes of analysis and explanation, but great care has been exercised to avoid compromising the real relationships of these variables. The ten variables have been associated into five hypotheses. When more than one variable is included in an hypothesis, or the hypothesis has multiple parts, the individual variables are treated as parts "a", "b", or "c". The five hypotheses are stated as follows:

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.

HYPOTHESIS II: Success is critically dependent upon effective SPEED, SURPRISE and SECURITY (hereafter abbreviated as S<sup>3</sup>) which includes:

- (a) Speed, in terms of the degree to which existing of 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 (includes both strategic and tactical dimensions);

(c) Security, in terms of preventing the compromise of the operation through both active and passive means during any phase prior to the actual rescue and providing external support in the event of a security failure or the development of unforeseen contingencies.

**HYPOTHESIS III:** Success is critically dependent upon effective COMMAND, CONTROL, and COMMUNICATIONS.

(Referred to as C<sup>3</sup>) which includes:

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

- (b) Control that is adequate to regulate the performance of the mission, including the role of the TF commander in the planning process, the focus of the entire plan around the primary mission, and critical measures employed during the operation (including contingencies);
- (c) Communications that are integrated into the command and control concept, utilize the most advanced equipment, and which are based on effective techniques, procedures, and redundant systems.

HYPOTHESIS IV: Success is critically dependent upon TRANSPORTATION, which includes travel to and from the objective(s) with reliable and tested systems and employs transportation concepts which are thoroughly integrated into the overall plan.

HYPOTHESIS V: Success is critically dependent upon  
FORCE SELECTION and FORCE TRAINING  
and includes:

- (a) the Selection of tailored and specialized forces, and equipment; including the use of state-of-the-art technology; and,
- (b) the proper Training of the forces; which consists of integrated training for all operational elements, full rehearsals, comprehensive evaluations, and contingency preparations.

Much of the success of the comparative strategy depends upon an historical sensitivity to the contexts and idiosyncracies of each of the operations. These case nuances are often obstacles to successful case-to-case cross-comparative analysis, but an in-depth understanding of those case variations is important to the analysis, especially the test of the applicability of the model.

Three American cases are examined in detail in the next chapter utilizing the hypotheses developed above. The contexts and operations of each of the cases are presented in this chapter as an introduction to the case analysis, and as an initial step towards the full examination of the contexts and "environments" of the cases. The Son Tay operation was conducted during the Vietnam war by a specially directed and trained force. The Mayaguez assault on Koh Tang Island was conducted in the aftermath of the fall of Cambodia and South Vietnam primarily by U.S. Marines. The Iran rescue was conducted by elite U.S. "Delta Force" troops, marine and air units during the Iran hostage crisis. These great dissimilarities pose a significant test to the universal applicability of the model. The following preliminary case analyses will show this great diversity, and lay the foundation for the comparative hypothesis testing in Chapter Six.

CASE ONE -- Son Tay, 1970<sup>6</sup>

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 which appeared to contain 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 objects on the ground in the vicinity of the prison compound, which were analyzed and deciphered by the intelligence analyst. The analyst's theory was that American POW's, probably performing hard labor, had piled rocks and arranged drying laundry in such a fashion as to form a coded message. The message indicated the presence of American POW's and requested a rescue. This information was disseminated from the intelligence community to the Chairman of the Joint Chiefs of Staff (JCS) at the Pentagon, and eventually to an organization named SACSA (Special Assistant for Counterinsurgency and Special Activities). SACSA eventually became the organization which managed the operation for the Chairman of the JCS. By

---

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



May 23rd, the Chairman (General Earl Wheeler) had made the decision to study the feasibility of a rescue operation, and to 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.<sup>7</sup> 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. It also triggered heightened polemics and tensions with adversaries at home and abroad.

---

7. See Schemmer, page 27.

## Domestic Context

Several preceding events in the spring of 1970 complicated the domestic context for President Nixon. Protests against the war in Cambodia reached a new high with demonstrations at the White House. The protests and threats reached such a threatening level that the Secret Service surrounded 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. 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. Reports of the mistreatment and death of a number of POW's, coupled with the general frustration over the stalemated talks and mounting casualty rates, helped to create a context in which a raid into North Vietnam to free American POW's was seen as highly desirable. Nonetheless, it remained a politically risky alternative.

## The Operation<sup>8</sup>

In phase one of the operation, beginning around June 19th, 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, while the planning progressed, the American POW's were moved out of the Son Tay prison camp (July 14th). Ironically, this was also the day after the ground force commander, Colonel Simons, was chosen to lead the rescue mission, but still months before the rescue attempt. Unknown at the time, the planning continued. By August 28th, the plan was finalized, subject to improvements and changes necessitated by revised intelligence estimates.

Phase two began about September 9th, and included the completion of the process for 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

---

8. 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.

considerations. But the first window was delayed by the President because of signs of progress at the Paris talks and reservations over the potential impact of an "invasion" of North Vietnam. By early November (and after the first window had passed), it was 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. This combination of perceptions led President Nixon to reconsider the use of the rescue force. The second launch window was selected -- 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 which was considered necessary for the mission's success. The break came on November 21st, and the force launched from Thailand, flew over Laos, and 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. The U.S. force departed the area without a single rescued prisoner of war and after only 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.<sup>9</sup> There were other failures and problems as well, and these will be discussed in more detail in Chapter Six.

---

9. For a vivid example of the Congressional criticism see the testimony of Melvin Laird before the Senate Committee on Foreign Relations, November 24, 1970, in Bombing Operations and the Prisoner of War Rescue Mission in North Vietnam. Ninety-First Congress, Second Session, Washington, D.C., 1971.

Origins of the Crisis

The S.S. Mayaguez was a thirty-one year old cargo ship, captained by Charles T. Miller and had 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,<sup>11</sup> the Mayaguez was fired upon by Cambodian gunboats, boarded, and seized by Khmer Rouge coastal forces in the vicinity of Pulo Wai Island about sixty miles west of the Cambodian mainland, and about six miles south of the Island. During the seizure,

---

10. U.S. Congress, House Subcommittee on International Political and Military Affairs, Hearings, Seizure of the Mayaguez, Part I, U.S. Government Printing Office, Washington, D.C., May 14 and 15, 1975, page 61. (Hereinafter referred to as "Hearings - Part I"). Also, facts utilized throughout the remainder of the Mayaguez case study discussions are based on primarily: books by Rowan, Head, Patrick, DesBrisay; Congressional Hearings; Transcripts of Briefings and Interviews; Periodicals; Official Reports; and Interviews. Contested or controversial points are cited individually.

11. 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.

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.<sup>12</sup> 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 the move.

#### 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 without apparent success, and the credibility of U.S. power was seriously weakened by the physical defeat of the South Vietnamese on the battlefield.<sup>13</sup> Maxwell Taylor concluded that

---

12. Roy Rowan, The Four Days of Mayaguez, (W.W. Norton and Company, Inc: New York), 1975, pp. 15-66.

13. Wall Street Journal, April 16, 1975, page 1.

"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."<sup>14</sup> 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.<sup>15</sup> 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.<sup>16</sup> 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 had succeeded to the presidency under the storm clouds of Watergate and the Nixon

---

14. New York Times, May 9, 1975, page 1.

15. U.S. News and World Report, April 21, 1975, page 23.

16. Richard G. Head, et al, Crisis Resolution. (Westview Press: Boulder, Colorado) 1978, page 102.



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. 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."<sup>17</sup> 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.<sup>18</sup> These domestic factors were interrelated with the international ones, and they combined to create a situational context in which the President perceived that a strong and forceful response was necessary.

#### The Operation<sup>19</sup>

The first phase of the crisis covered essentially the first

---

17. Robert Shaplen, "Southwest Asia - Before and After," Foreign Affairs, April, 1975, page 540.

18. Gerald R. Ford, A Time To Heal, (Third Press: New York) 1979, page 276.

19. See Note 8.

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.<sup>20</sup> In addition to developing objectives, the first NSC meeting initiated: the diplomatic process; movement of military forces to the area; contingency planning; and a plan to inform 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. Cambodian gunboat machinegun fire, which was directed at U.S. observation planes, seemed to signal hostile Cambodian intentions.

---

20. See Head, page 110.

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 were received at the White House, the President and his advisors grew more concerned with the problem of how 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.<sup>21</sup> Eventually, the Cambodian gunboats disregarded the warnings and the President authorized the sinking of any gunboat attempting to sail to the mainland. A fishing boat with "caucasians" aboard was allowed to move into Kompong Som on the mainland, but only after warning shots had been fired 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. Reports also revealed that four Cambodian gunboats had been sunk by this time.<sup>22</sup>

---

21. Ibid., pages 112-113.

22. U.S. Congress, Hearings Before the Subcommittee on International Security and Scientific Affairs, War Powers: A Test of Compliance, U.S. Government Printing Office, Washington, D.C., May 7 and June 14, 1975, page 115.

The National Security Council met for the second and third times during this phase. The second meeting was concerned with a review of the latest intelligence, refinement of contingency plans and a discussion of the strategy for the 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 the news of discouraging and unfruitful diplomatic efforts, revealed that the available options were decreasing. Shortly after the meeting, planning guidance was issued for the likely rescue operation.<sup>23</sup> 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 was issued to launch 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

---

23. See Head, page 117.

would strike the Cambodian mainland and support the other operations; third, a Marine battalion would conduct a heliborne assault on Koh Tang Island in two waves to rescue the crew of the ship (believed to be on the Island). 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 the actual resistance of 150 heavily armed 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-owned fishing boat. The boat was eventually 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 during 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,<sup>24</sup> and the American public.<sup>25</sup> But the rescue operation on Koh Tang Island was clearly not a "good" operation, and merits further study as to "why?".

---

24. New York Times, May 15, 1975.

25. 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 reflected a significant improvement over previous months.

CASE THREE -- Iran, 1980<sup>26</sup>

Origins of the Crisis

On November 4th, 1979, Iranian student militants stormed the United States Embassy in Teheran, Iran, and seized American embassy personnel, visitors, and several 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. The hostages were released on January 20, 1981, 14 months later.

Shortly after the seizure of the embassy, it became apparent that the students were acting with the blessing of the Ayatollah Khomeini, 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

---

26. 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.

government in modern history had participated in such a blatant violation of international law and had become a party to what was formerly considered a terrorist tactic.<sup>27</sup> 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), and 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 demands through unofficial channels heightened the seriousness of the situation, and the U.S. denounced the seizure as criminal international blackmail.

---

27. 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.



## 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 frustrations and crises for the U.S. and the world.<sup>28</sup> 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.

---

28. See William Griffith, "1980: A Year of Crisis," M.I.T. Paper, November, 1980, for an excellent composite view.

Domestic Context<sup>29</sup>

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 news renditions of chanting anti-American crowds in the streets of Teheran had a galvanizing effect on the public. It seemed incredible that such an act could be committed -- 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 moved forward. The President deliberately fostered the deception that a military rescue option was not feasible.<sup>30</sup>

---

29. See November 1979 to May 1980 issues of primarily the New York Times, Time, and U.S. News and World Report.

30. Time, May 5, 1980.

The Operation<sup>31</sup>

In phase one,<sup>32</sup> 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 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 if not impossible. The equipment was assembled, and the forces were trained. Many serious military capability 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 a military course of action. Mission constraints were an important part of the decision process. The window for the launch was narrowing as light and weather conditions began to work against the concept of the plan -- the need for a specified

---

31. Admiral James L. Holloway, III., USN (Ret), Rescue Mission Report. United States Joint Chiefs of Staff Special Operations Review Group, August 1980.

32. See Note 8.

amount of darkness and a limited minimum to maximum range of acceptable air temperatures for heavy lift helicopters.

In phase two, lasting roughly until the 23rd of April, the plan was finalized and late-developing changes were incorporated into the plan. On the 16th of April, the JCS approved the plan and briefed the President. President Carter 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 issued 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 have: moved under cover of darkness to a "Mountain Hideout"; linked up with agents; infiltrated the following night into Teheran; overcome security and resistance at the embassy; then called for the helicopters; extracted the force and hostages;

and, then flown to a second desert site. In the final phase, the entire group would have transferred to C-130's and flown 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 most of 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.<sup>33</sup> Cyrus Vance, the Secretary of State, strongly felt that the operation had only a small chance of success. He resigned in the face of the President's decision to go ahead.

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 (referred to as the Holloway Report) identified twenty-three areas of significance which were worthy of criticism.

---

33. Transcript of President Carter's press conference and message to Congress, April 25 and 26, 1980, in Department of State Bulletin 80, June, 1980, pages 38-43.

## CHAPTER SIX

### TESTING THE FRAMEWORK IN THREE U.S. CASES

...the principal failing of special operations forces is simply that the Services, and we ourselves, to be perfectly honest, have little more than an intuitive sense of what those forces ought to be doing.<sup>1</sup>

#### Introduction

In Chapter Three, the ten concepts (variables) of the model were addressed and explained. In Chapter Four, the concepts were descriptively tested against four widely divergent, and successful cases. In Chapter Five, the hypotheses were formulated. In this chapter, the five working hypotheses will be analytically tested (using the structured and focused comparative methodology) against three seriously flawed, and largely unsuccessful operations. This process will lead to clear conclusions about the CRO model.

The five hypotheses will be presented one at a time. The hypothesis will be followed by a brief discussion and then will be applied to each case in turn. The conclusions and ratings (high, medium or low) will be summarized as the analysis progresses. The results are tabulated at the end of the chapter.

- 
1. Noel C. Koch, Principal Deputy Assistant Secretary of Defense, International Security Affairs, from an interview in the Armed Forces Journal International (March 1985, Vol 122, No. 8), p. 40.

## Hypothesis Testing

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.

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 does not imply that assessment is unrelated to other hypotheses and variables, such as speed or transportation. In fact, evidence of these relationships will be illustrated throughout the analysis. Intuitively, the cases point to the importance of assessment. In the Son Tay case, there was a strategic intelligence failure. In Mayaguez, there was also a serious intelligence failure which cost the assault force both lives and equipment. In Iran, certain aspects of the intelligence process contributed to the problems enroute to, and at Desert One. The rigorous comparative analysis which follows goes beyond intuitive notions concerning assessment. It empirically tests the hypothesis that unless the conditions stated above are fulfilled, then the operation will fail. The confirmation of this hypothesis will have organizational, systemic and doctrinal implications which have not previously been considered.

## HYPOTHESIS ONE -- CASE ONE<sup>2</sup>

### 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 who were shot down increased dramatically. The year before (1966), the intelligence community began to organize a systematic effort to exploit every source of intelligence on the status and location of POW's. As of the time of the bombing halt in 1968 however, 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, locations 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

---

2. See Note 12, Chapter Three.



American presence at Son Tay, and an analyst detected a code in the rocks and laundry shown in photographs. Indeed, throughout the entire preparation for the operation, the team involved with the rescue relied heavily on reconnaissance from drones and manned 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 -- one at Ap Lo and one at Son Tay. At the latter location the prisoners sent a message which indicated that there were 55 POW's, 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. 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 which 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 that 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 receipt of the latest assessments on the expected threat from the Son Tay guard towers. The planners concluded that they did not have sufficient firepower to deal with the threat and added a helicopter gunship to the mission. It 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, the 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 just before launch time. The operation is replete with evidence that the assessment drove the planning, training and execution, and that continual reevaluation greatly improved the performance of the

force in the actual attempt.

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.<sup>3</sup>

First, there were problems in the 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 program in 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

---

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.

that the prisoners had been moved when the intelligence revealed that possibility at the last minute. This hypothesis states that comprehensive 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 there was a strong possibility that the prisoners were no longer at Son Tay prison. Photographs confirmed that the prisoners were present until around mid-July. Later the photographs seemed to show that the compound had been 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 flew over the compound, but it maneuvered a moment too soon. The resulting photograph showed only 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 whether the POW's were there or not.<sup>4</sup>

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, that the operation was launched with a significant portion of the success "riding" on hope. Had the operation been delayed, the raid might have been directed 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.

A third example of the coordination problem was the effort to coordinate intelligence assets with the Strategic Air Command (SAC), 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. However, none of the SAC personnel were cleared for the operation - which caused delays. Similar delays were encountered in coordinating drone

---

4. Henry Kissinger, White House Years, 1978, p. 982.

flights with the 7th Air Force in Saigon for the same reason. In the latter case, 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 in order to assure that the mosaic painted of Son Tay 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 was to conduct a controlled crash landing in the interior of the prison compound, nearly crashed out of control. 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-defended -- 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<sup>5</sup> 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 to avoid compromising 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.<sup>6</sup>

---

5. "Controlled American Source." See Schemmer, pp. 100-101.

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 exclusive reliance on photo interpretation.



Does the hypothesis fit? 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. It can be argued, 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 the methodology, the Son Tay assessment operation would receive a "low" to "medium" rating in light of the overriding problems identified above.

#### HYPOTHESIS ONE - CASE TWO<sup>7</sup>

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.<sup>8</sup>

---

7. See Note, Chapter Five.

8. Comptroller General's Report to the Subcommittee on International Political and Military Affairs, U.S. Congress, The Seizure of the Mayaguez, Part IV, U.S. Government Printing Office, Washington, D.C., October 4, 1976, pp. 100-101. (Hereinafter referred to as "GAO Report".)

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 to arrive in Washington, and photographic analysts and interpreters were not immediately available to assure the timely evaluation, and more importantly, dissemination of the intelligence on the crew's location.<sup>9</sup> 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 most of the crew were 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.<sup>10</sup>

---

9. Ibid.

10. Ibid.

The in-theatre intelligence assets of PACOM provided the initial analysis 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 known of the DIA assessment. The lack of any preparatory fires, coupled with a nontactical assault, were violations of existing doctrine regarding marine assault operations. However, the choice of plans was dictated by considerations for the safety of the crew (believed to be on the Island) and minimum anticipated enemy resistance. 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 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<sup>3</sup>" problem (discussed in Hypothesis II), but it illustrates the impact that timely assessment can have on this type of operation. 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. It appears

that the delay was questionable, and the mainland attacks were somewhat punitive. Assessment was therefore critical to the termination of the operation, as well as its initiation, and confirms the hypothesis -- assessment is an ongoing process.

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.<sup>11</sup>

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

---

11. See Chapter Five discussion for more detailed evidence and analysis.

combined to make the assault costly and unsuccessful. For these reasons the assessment rates a "low".

#### HYPOTHESIS ONE - CASE THREE<sup>12</sup>

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 expended. Not only was the distance an overriding problem, but there was a complicated refueling problem, an air space penetration problem, and a host of other problems -- all of which depended upon 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 international intelligence activities, such as the Canadian Intelligence Service, which continued to operate after November 4th in Teheran. 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

---

12. See Note, Chapter Five.

Red Cross (however unwittingly), contributed to the assessment effort.<sup>13</sup> 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.<sup>14</sup> 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.<sup>15</sup>

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 profile

---

13. Time, May 5, 1980.

14. Time, May 12, 1980.

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

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 to training an expert on a certain helicopter to handle a totally new and complex type of mission.<sup>16</sup> This was a failure of 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 came into clearer focus. 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

---

16. Aviation Week and Space Technology, September 1, 1980, p. 37.



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 the evaluation of the Iranian air threat and the preparation of 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.)<sup>17</sup>

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 three times. 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

---

17. Time, February 2, 1981, pp. 53-54.

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 directly contributed to its failure.<sup>18</sup>

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 importantly, 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 uninvited Iranian visitors, 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

---

18. See Holloway Report, pp. 57-60.

twenty-four hours to pass on his observations 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 all 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 of no radio communications was influenced by the assessments of the Iranian air defense system, and also the assessment of the Soviet capability to detect the flight.<sup>19</sup> 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

---

19. Shaw interview.

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 (reciprocal relationships) 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.<sup>20</sup> 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; incidents 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.

---

20. See Holloway Report, p. 19.

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.<sup>21</sup> The first capability to launch a precision operation with a good chance of success came around March of 1980.<sup>22</sup> The uncoordinated and unintegrated nature of the assessment effort delayed the preparations. The effort was centralized however, in the J-2 of the Joint Task Force (JTF). It was criticized, however, 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 plusses (most of which are relevant to planned operations beyond Desert One), the three most serious problems were: the choice of the rendezvous site; discounting weather and dust problems; and the overemphasis upon security en-

---

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

22. Ibid.

route. In the latter case, the assessment may have been absolutely correct, but the reaction ruled out the capability to deal with contingencies. The assessment variable in the Iran case, therefore, rates a "medium".

HYPOTHESIS II: Success is critically dependent upon effective SPEED, SURPRISE AND SECURITY (hereinafter abbreviated as S<sup>3</sup>) 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 (includes both strategic and tactical dimensions);
- (c) Security, in terms of preventing the compromise of the operation through both active and passive means during any phase prior to the actual rescue and providing external support in the event of a security failure or the development of unforeseen contingencies.

The key aspect of speed is the degree to which existing or ad hoc organizations facilitate the effective management of time

constraints for organizing, planning, training, and executing the operation. Creating a special force, as in Son Tay and Iran, takes months. The use of conventional forces drastically reduces the time required to reach a minimum capability, as in Mayaguez. But there are apparently great risks associated with this course of action unless the conventional unit is highly trained and familiar with the requirements of the mission. (See also Hypothesis V.)

The speed with which a decision maker reacts to a situation depends directly upon the availability of specialized forces and the integration of those forces into the overall effort. The use of existing plans and capabilities would have saved time in both the Iran and Son Tay cases. The existence of a specialized organization (rather than an ad hoc one) in Mayaguez might have enabled a more successful rescue attempt. The Mayaguez decision makers did use existing forces, which saved time. However, they were joint forces which were not properly prepared for the mission. The tension between specially prepared forces and existing forces is not a new idea. However, this hypothesis asserts that the time line of the decision maker must incorporate these concerns. A focus on the outcomes will provide a good test of this issue.

Surprise means catching the enemy unaware, or overwhelming his ability to react effectively. The challenge of surprise can mean

presenting the enemy with a fait accompli -- often referred to as a coup de main. The importance of surprise cannot be overstated. The critical importance of this variable is demonstrated in every case. The cases seem to indicate that unless surprise is achieved, then the operation will be seriously imperiled. In all three cases, the degree of surprise had a clear impact on the degree of success -- especially in terms of personnel and material costs.

In Son Tay, total surprise was achieved and there were almost no casualties. In Mayaguez, the exact opposite occurred -- there was no surprise and there were numerous casualties. The delays of Desert One led to concerns over the loss of protective darkness. Fear of the loss of surprise may have contributed to the accident which hopelessly destroyed any future surprise. This hypothesis will test the meaning and importance of surprise.

Security has two distinct but related meanings in this hypothesis. First, it deals with measures which are necessary to prevent the compromise of the mission during any phase prior to the arrival at the objective. Second, it means that contingencies must be prepared to deal with circumstances should security be compromised. This dual meaning is tested as a single variable, even though the two dimensions may vary. The hypothesis test will imply a test of this as well. In the three cases analyzed below, the hand-in-glove nature of this dual meaning was confirmed. (In other cases,



the results may indicate that it is necessary to theoretically separate these aspects into two related but unique variables.)

#### 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 typified a crisis environment.

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; and logistical preparations. 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 calculations of risks and chances of success. A conventional force or forces from MACV-SOG 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 build and assemble a specialized force (in the U.S. and not in the theatre) from the ground floor. 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 13th. The question becomes: "Could the U.S. have assembled a force and launched a rescue into Son Tay between May 9 and July 13?" Had the planners known that July 13th 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: the preparation of a high confidence operation and the President's timing 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 July 13th 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 real POW rescue opportunity passed. An existing capability launched quickly would have at least had a chance to rescue the POW's. 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.<sup>23</sup> 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, along with a potent air defense capability. The surprise was created by: excellent pre-operations 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 local air defense radars 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 southern part of North Vietnam. Further, the surprise created by the rapid, violent and lethal arrival of the ground force overwhelmed the North Vietnamese and the other forces they encountered. The sophisticated pre-operations planning facilitated

---

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

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. Without surprise, 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". The relationship between surprise and security is very close.

#### 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 support post-holes. 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.

During the operation itself, the team exercised excellent radio security in the flight across Laos to Son Tay. The tight operations security (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 ever detected and both were far removed from the scene and 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 in judgments between tight security and reduced security -- especially in the face of unforeseen contingencies. Security and surprise reinforced one another 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.

#### 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 Marine 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, for it appears that a somewhat conventional operation was envisioned at the time.<sup>24</sup> In any case, the directives demonstrated the speed with which orders can be issued and units relocated, equipped, briefed, and prepared for an operation. Along with speed however, came problems of assessment and planning. Facing the reality of the crisis, the rapid pace of preparations created severe problems for the rescue planners.

There were several other factors which could have contributed to a more successful operation. First, the use of existing contingency plans would have helped. Many precedents existed for the success of prepared plans. The final emergency evacuation of U.S. citizens from both Vietnam and Cambodia had been relatively smooth despite the short notice. This success was due primarily to the existence of "off the shelf" plans. However, no specific plans existed for the rescue of a commercial ship and crew in the Gulf of Thailand. Second, the availability of a special unit would have permitted more detailed planning and coordination. The only alternative was to waste valuable time assembling a force and training it

---

24. Holloway Interview.

for a special operation. Further, it is often extremely difficult to prepare a conventional force to conduct a sophisticated special operation even when time is a luxury. Short notice preparations will cause units to revert to what they do best under pressure -- what they have been prepared to do. 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 tolerated by creating the necessary conditions for surprise at a later time.

In this case, the crisis management team assembled an ad hoc force very quickly. The Marines in the assault force were deployed as a conventionally trained unit. However, in combination with other service elements in a Joint Task Force, this combined force differed significantly from the typical organization that would be found in a Marine assault operation. The result was a mismatch between the forces and the mission.

The decision makers reacted quickly and utilized available forces. The fact that poor performance was related to the decision (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 terms of time, the operation was prepared very quickly.

However, the severe problems caused by the ad hoc nature of the organization showed that what was gained in time was lost in readiness and training. Speed overall receives a rating of "medium".

### SURPRISE

Surprise was achieved only in the initial attacks by U.S. war planes on the Cambodian gunboats two days before action on Koh Tang Island. This alerted the Cambodians to the probability of more action against their remaining boats and possibly even the Island or the mainland. They were especially alerted by the numerous missions flown by a variety of aircraft in the area, and the many open and uncoded conversations on the radio. When the assault was launched, the helicopters were exposed for several minutes during 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 coordinated machinegun and rocket fire at nearly point-blank range just as the first wave of helicopters approached the two designated landing zones on the beaches.<sup>25</sup> The defenders executed a near-perfect ambush. Three helicopters were shot down and several others damaged in the first

---

25. See GAO Report.



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 to the ground troops was provided by routine measures within the existing structure of Standard Operating Procedures (SOP's), and the Crisis Action System (CAS). But on the operational level it was very difficult to conceal the deployment of the Marines, the redirection of the carrier forces and destroyers, the preparation of B-52 bombers on Guam, and the other indicators of an impending operation. It is not known whether or not these movements were detected by the Cambodians or by countries friendly to them, but it appears reasonable to assume (after having lost most of their navy and observed numerous reconnaissance missions) that the Cambodians were aware of the impending action. 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 a reported aerial observation. The pilot reported that the Cambodians appeared to be sending reinforcements to the Island during the time between the attack on the gunboats and the assault.<sup>26</sup>

The Mayaguez presented a difficult situation. After the first gunboat was destroyed, the attainment of surprise and the preservation of security were difficult. There were a variety of mistakes, the avoidance of any of which would have reduced the difficulty of the problem. The movements, communications, and reconnaissance missions 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. In addition, preparations to deal with contingencies were almost non-existent. There was no air or naval gunfire support immediately available to the Marines. They were totally exposed in the initial phase to the commander's nightmare first contingency -- a larger than anticipated, well-armed and well-prepared enemy. In short, security preparations were poor and it therefore receives a rating of "low".

---

26. Ibid.

## 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 Teheran with a high confidence of success. The requirements for 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 (strategic deception). 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 problems and complications. First, as in Son Tay, the chairman of the JCS became the overall commander for the operation and supervised the direction of the effort through the creation of the Joint Task Force. The TF commander reported directly to the Chairman.<sup>27</sup> Second, like Son Tay, the Chairman chose to use an unconventional approach rather than utilize existing organizations, plans and procedures; even though, one usable and appropriate plan already existed.<sup>28</sup> It called forth detailed requirements for people

---

27. Holloway Interview.

28. Holloway Report.

and equipment including security procedures and interagency communications. The management of time tends to be very problematic for the ad hoc organization, especially when existing plans are either not available or not used.

The ad hoc approach led to a number of delays and problems. The most notable were the difficulties faced in the coordination of the effort; the lack of proper security standard operating procedures; the failure to call upon the widest possible range of active and retired experts (especially those accomplished in long range helicopter operations); and, the failure to 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. One of the dilemmas is that the existing structure may not be the right structure to handle the operation. One must assume that the judgment of the NCA was that an ad hoc organization was a superior choice. On balance, the ad hoc approach did not facilitate the effective management of time, and even worse led to a number of even more 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 Iranian government, and their defensive forces were not activated.<sup>29</sup> However, the surprise was quickly lost and the operation endangered by the arrival of local 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.<sup>30</sup>

It is a tribute to the personnel involved that a force of this size and composition could have been trained, deployed, and launched half way around the world without detection. Surprise was achieved at least initially at Desert One and it rates a "high".

The Iran case was also 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 their radar and air defense forces as well. The President's public statements on the "non-use" of military force and the supplementary justifications in public statements of top Pentagon experts contributed to the

---

29. New York Times, April 25, 1980.

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

perception that the U.S. would not attempt a rescue.<sup>31</sup> Like Entebbe, the effort was intended to create the perception that a rescue would be both risky and infeasible, and was therefore not contemplated.

Most analysts of the Carter Presidency, the press, and the public, were surprised by the attempted rescue. Statements by Iranian authorities carried on the wire services after the operation indicated that they too, 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 had been transferrable 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 deliberately and rigidly compartmentalized. Surprisingly, the Holloway Report concluded that the security arrangements weakened the plan.

---

31. Time, May 5, 1980.

There is such a thing as too much security. The overriding concern with the operational security created problems in several areas: the number of helicopters; limited rehearsals, contingency preparations (especially communications); the election 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. The rating should perhaps be "too high." This also supports part "b" of Hypothesis V. Security is important, but not at the expense of integrated training, full rehearsals and comprehensive evaluations. If the President cannot have both, perhaps he should reconsider the operation.

Security also appears to be closely related to surprise in this case as well as the other two cases. 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 a fatal trap. 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, more extensive analysis will focus on the relationships among these three variables as the evidence indicates that there are sophisticated trade-offs and mutual reinforcements among them. (Several efforts were made to explore these relationships statistically, but the limited population size presented problems which were too serious to permit the derivation of any statistically "proven" conclusions. However, the statistics reinforce the correlations which are revealed in the analysis. (See Chapter Seven.)

**HYPOTHESIS III:** Success is critically dependent upon effective COMMAND, CONTROL, and COMMUNICATIONS, (Referred to as C<sup>3</sup>) which includes:

- (a) Command that is unified (with clear lines of authority), is mission qualified, and is properly positioned;
- (b) Control that is adequate to regulate the performance of the mission, including the role of the TF commander in the planning process, the focus of the entire plan around the primary mission, and critical measures employed during the operation (including contingencies);
- (c) Communications that are integrated into the command and control concept, utilize the most advanced equipment, and which are based on effective techniques, procedures, and redundant systems.



Command, control and communications enjoy a special relationship. They are critical to almost all types of operations, but their importance to Combat Rescue Operations is magnified. This is true 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

C<sup>3</sup>. On the strategic scale, the political and diplomatic implications of the operation are heavily dependent upon communications as well.<sup>32</sup> In summary, all three are especially important in combat rescue operations.

In most cases, the effectiveness of the C<sup>3</sup> contributes 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 jeopardizes the entire effort.

#### 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.<sup>33</sup> The unified and specified commands of PACOM and the theatre service commands in Southeast Asia were not informed of the nature of the operation

---

32. 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 crew's release.

33. See Schemmer, p. 133.

(except for a few key Commanders like CINCPAC), but they were tasked to support it and not interfere with it. They exercised no command and control authority over the force except for particular elements within their commands which were designated 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. He simultaneously exercised command and control of the force, and remained in direct communication with the JCS authorities at the National Military Command Center at the Pentagon. MG Blackburn and the SACSA 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.<sup>34</sup>

The force was tested to the utmost in the first few minutes when the ground commander landed in the wrong location. The assistant commander 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 failed to receive the order to depart the area and was almost left behind.

Beyond the events at Son Tay, BG Manor was supposed to have C<sup>3</sup> of the operation from 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

---

34. Ibid., page 110.

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. This problem is illustrated, for example, by the fact that 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 of control of the operation was so tenuous that they had not been informed of the augmentation to the plan.

Overall, the excellent C<sup>3</sup> within the rescue force facilitated the relatively smooth rescue attempt. But, the TF CO was neither in a good position, nor properly equipped with adequate 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.<sup>35</sup> Rating command and control is difficult,

---

35. 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 unrealistic based upon U.S. crisis decision-making experiences over the last twenty years.

because within the force it was nearly flawless while the problems above the level of the TF were flawed. Although these higher level relationships were not in reality critical to the operation, 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.

#### COMMUNICATIONS

The communications plans for the Son Tay rescue were very complex. The pre-operation 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 were established at "Monkey Mountain" near Da Nang and were 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 all the frequencies of the Son Tay force rather than complicate the operation with a requirement for long range reports. He would 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 within the rescue force, despite the problems above it.

Overall, the C<sup>3</sup> 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 had 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 addressed in this hypothesis.

#### HYPOTHESIS THREE - CASE TWO

##### COMMAND AND CONTROL

Command and control in Mayaguez were established under more constrained circumstances than in the other two cases. Consequently, the President used some of the 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 Marine 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 which 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 Island were not assault tactics trained or oriented. There were discussions and disagreements between the two services on the assault plan.<sup>36</sup> 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

---

36. See GAO Report.

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 generally exercised without significant difficulty.

In the operation on Koh Tang Island, the importance of command and control was clearly demonstrated by the numerous failures. First, the lead assault wave lost three helicopters, and approximately fifteen men were killed before the first Marine landed on the beach. The Commander of the ground force landed at the wrong location and was separated from his other two units. These two units were themselves pinned down on opposite sides of the Island. The heavy enemy fire made the beachhead a very tenuous position as the three separate 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 on the ground. A similar situation of confusion, as might be expected, existed in the TF CO's airborne command post.

The situation on the Island became 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 adapted 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 these reasons 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 communications between the airborne HQ, tactical aircraft, and the ground forces because of the variety of unintegrated radio types; FM, UHF, and 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 concept. 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, preparation 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 the final withdrawal. The combination of problems rates the performance of command, control and communications overall as "low".

## HYPOTHESIS THREE - CASE THREE

### COMMAND, CONTROL AND COMMUNICATIONS

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).<sup>37</sup> The force was organized through an independent TF organization with channels of C<sup>3</sup> outside the normal existing route, and similar to the Son Tay scheme. This ad hoc organization created severe difficulties 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 to the JTF CO, or even the President if it became necessary.<sup>38</sup> 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.<sup>39</sup> This problem is clearly illustrated in two distinct phases -- the penetration to Desert One, and the refueling operation.

---

37. Holloway Interview.

38. Aviation Week and Space Technology, September 1, 1980, page 37.

39. Holloway Report, pages 50-52.

First, problems began for the helicopter force about two hours into the flight. The helicopters had taken off from the Nimitz in a loose formation (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 contingencies. A sophisticated system of light signals between aircraft had been designed and rehearsed but it was useless in the storm. The authorized procedures allowed only for the flight commander to speak to the JTF CO. In case of an internal contingency, only visual signals were authorized. The security was so strict that radio listening silence was not to be broken under any circumstances. As a result, the combination of dust and maintenance problems 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 pilot concern for survival 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. In fact, he would have exited the dust cloud 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 unreparable hydraulic leak. With only five helicopters available to continue the mission, (a minimum of six was required) the President approved Colonel Beckwith's recommendation to terminate the mission. The overriding concern for operations security led to the severe restrictions on communications. The sacrifice of communications flexibility, and the lack of control contingency planning, cost the operation severely.<sup>40</sup>

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 who was the 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 twenty-four C-130 engines; swirling dust; and no alternate C<sup>3</sup> 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.

---

40. Gray Interview.

The late arrival of the helicopter flight commander and the latest 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 country. With effective C<sup>3</sup> 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 impossible. As a result of the fireworks at Desert One, the hostages were removed to separate locations and the Iranians greatly improved their security.

The degree to which the C<sup>3</sup> problems contributed to the accident itself is unclear, but the C<sup>3</sup> problems after the accident were a reflection of the poor conditions at Desert One. Intact helicopters were abandoned without executing destruction plans. Sensitive and classified equipment, plans, maps, and even money were not removed from the abandoned aircraft.<sup>41</sup>

---

41. See Holloway Report.



Throughout the operation, and at all levels, good communications equipment was on hand. However, there were other systems which could have been used which 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 regarding the use of that technology were lacking, as were the command and control of the penetration phase and the refueling site phase.

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 rated, at best, a "medium".

**HYPOTHESIS IV: Success is critically dependent upon TRANSPORTATION, which includes travel to and from the objective(s) with reliable and tested systems and employs transportation concepts which are thoroughly integrated into the overall plan.**

Simply stated (but complicated in reality) this is the transportation problem. In all three cases, helicopters and aircraft were employed in the transport of the rescue forces to and from the objectives or in support of the moves with logistical or tactical aircraft. The hypothesis states that if the transportation systems are not tested and reliable and thoroughly integrated into the concept of the plan, then the performance of the operation will be degraded.

In the following three cases the transportation problem was addressed by the planners in three different ways. (However, some of the similarities are striking.)

#### HYPOTHESIS FOUR - CASE ONE

In the case of Son Tay, the transportation dimension of the operation was a near-perfect model of planning and execution. 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 in helicopter operations. He handpicked the crews and support teams based on their experience and dependability and matched them with the well-researched demands that he anticipated would be required. The HH-53 transport helicopter and one AH-3 were selected based on their 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 confined space of 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 as well as during 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 equipment, pilot preparation, and concept were excellent. They rate a "high".

#### HYPOTHESIS FOUR - CASE TWO

In the Mayaguez case, the natural choice of means for transportation was the helicopter. The choice was necessitated by the order for

a quick capability to assault the Island and the non-availability 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 were also limited. The Task Force Commander was therefore limited from the start 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 helicopters. 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 insertions with planned naval gun and close air support fires. Finally, the art of the insertion required a quick landing, rapid offload

of the troops, and a speedy departure. The requisite skills for successful insertions are very different from routine take off's and landing's.<sup>42</sup> Air Force pilots were designated to fly the mission over complaints by Marine Corps personnel. They felt that the pilots lacked the necessary "combat insertion" experience. This experience is necessary in order to assure adherence to doctrine and to exercise 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 commencement of the assault. Two others were damaged. In the smoke and confusion, the ground commander was inserted about a mile 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 controllable and uncontrollable reasons. It is therefore rated "low". The transportation issue in this type of operation is much more than a simple ticket to

---

42. Gray Interview.

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 careful and thorough analysis of how the concept fits into the overall plan (including contingency plans).

#### 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 Teheran itself was over 550 miles from the Persian Gulf. The embassy was located in the middle of a densely populated and unfriendly city. The guards and the population were well-armed. The situation presented a seemingly impossible task of transporting a force 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 concept up to that point was seriously flawed. The excessive preoccupation with OPSEC precluded the incorporation of reasonable contingency procedures into the transportation plans. Equipment failures were reasonable to expect on long and arduous flights

that taxed the capabilities of the men and equipment to the utmost. But the planners erroneously minimized the potential for loss by the choice of a margin of only two helicopters. Additionally, prohibiting radio communications, or whatever means might be required in failure or abort circumstances, was a poor procedure in terms of equipment failure expectations alone -- not counting the other problems it caused, as were discussed earlier. The means existed to provide a secure, "last resort" type of communications capability which would not have greatly increased the danger to security. The means existed to prevent the loss of several helicopters from stopping the operation.

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 per cent loss.<sup>43</sup> But, there is a wealth of practical experience among those who have worked with the 53 series of helicopters, and many have criticized the margin as far too small for a flight profile which pushed the aircraft to the limits of its performance.<sup>44</sup> Additional fuel was available for more helicopters without a major change in plan. Hindsight is

---

43. Time, May 12, 1980.

44. Gray Interview.

of course very clear, and the debate will continue in and out of military circles. But the twenty-five per cent margin was 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 wider margins of safety. Some experts even feel that two-to-one is not always enough based on practical experience in training exercises.<sup>45</sup>

A third problem area was 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 upon security considerations and confidence in the sophisticated navigational aids on the helicopters themselves. The use of the C-130 would have provided some protection against four remote but potentially serious contingencies. It could: (1) have led the flight through unforeseen and difficult weather conditions; (2) have provided a quicker and more unified movement to prevent delays which would impact on the daylight problem (especially if equipped with sophisticated state-of-the-art electronics);<sup>46</sup> (3) have assured the arrival of key leaders and equipment for operations at the site; and (4) have assisted in an organized withdrawal from Iranian airspace in the event

---

45. Ibid.

46. It was essential that all helicopters arrive, refuel and depart Desert One before daylight.



of contingencies 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. Flight training was, however, extensive.

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

**HYPOTHESIS V: Success is critically dependent upon FORCE SELECTION and FORCE TRAINING and includes:**

- (a) the Selection of tailored and specialized forces, and equipment; including the use of state-of-the-art technology; and,
- (b) the proper Training of the forces; which consists of integrated training for all operational elements, full rehearsals, comprehensive evaluations, and contingency preparations.

Force selection and Force Training are clearly important to the outcomes of these operations. The highly specialized requirements of CRO missions necessitate that adequate attention be paid to

those two concepts. It is also interesting to note that historically, the U.S. consistently excels in these two areas. In cases where the performance of the forces seemed poor, other variables helped to explain what happened. Careful analysis demonstrates that performance is often degraded by failing to blend forces and equipment properly, or properly train the force for the mission.

As the analysis will show, there are also apparent relationships between these two variables and the variable of speed. The existence of forces (and their preparation for standing missions) has an impact on performance as well.

In all three cases the quality of the forces was excellent. The motivation, courage, discipline, and dedication of the personnel involved were clearly demonstrated throughout these operations. The questions raised in this hypothesis concern the selection and training of the forces. The focus of this hypothesis is primarily upon the ground forces. (Pilot selection and training were included in the previous hypothesis concerning transportation.)

#### 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.). These adaptations prevented 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 which was assembled for the operation included specialized visual aids that were obtained from outside 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 rate "high".

#### HYPOTHESIS FIVE - CASE TWO

In the Mayaguez case, the operation was compressed in time and there was no opportunity for handpicking people, conducting specialized training, assembling specialized advanced equipment, or completing 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 -- especially concerning unit integrity.

The Marine units were disciplined, were blessed with good leaders, had received excellent training, and possessed functional

equipment. They were briefed on the situation and attempted to adapt conventional assault tactics to this mission -- a rapid assault on the beaches and then proceed to liberate the crew in the island compound. The Marines even had time to conduct limited dry run rehearsals for the insertion on the beach and subsequent actions. However, even with surprise, it is difficult to imagine that a conventional approach would have succeeded. The lack of time and specialized units to execute special training routines (such as overwhelming an enemy in a few seconds, special weapons training to minimize firing, special stealth techniques for surprise, etc.) contributed to the mission unpreparedness. Even if the assault phase had been successful, it would have seriously endangered the lives of any prisoners held on the Island. Surprise must be attained at the point of the rescue, otherwise, the defenders will have time to kill the prisoners or hostages.

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 proven here that only highly specialized forces can or should be used in these operations. All units conduct specialized training beyond basic soldiering. The Marines committed to the rescue operation may have been capable of performing the mission given enough time and preparation. However, it is clear

that the forces must be tailored to the specific requirements of specialized operations. It only takes one demonstration of an infantry platoon versus a specially trained antiterrorist squad to prove the point. Even simple special operations routines require special talents and training. For example, an infantry platoon is not generally capable of executing demanding, complicated and phased operations, even with extensive training.

The lack of adequate time to conduct full integrated training was the most severe shortcoming, particularly regarding the tactical insertion. Even if the landing had succeeded, other training shortcomings would have hindered the operation. A full comprehensive review of the plan would likely have revealed the vulnerability of the force to unforeseen contingencies. Planners might have realized that other plans or alternatives would be required. For these reasons force selection rates "high", but force training rates only "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 which 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 which would be expected to occur 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 qualified "high".

#### TABULATION OF RESULTS

Table I (next page) reflects the results of the five hypotheses tests. With the possible exception of Hypothesis Five - Case Three (because the operation was not completed) all of the hypotheses were readily applicable to the operations. A tentative "finding" therefore, is that these hypotheses are useful in describing and analyzing these operations. The variables organized within the hypotheses do in fact cut across and through the unique and distinguishing characteristics and circumstances of the individual cases. This analyses suggests that the ten factors provide a framework for stating the necessary and sufficient general conditions for success. After completing a detailed analysis of the results (next chapter) and analyzing the results of research of 20 new cases, a refined model can be developed. It can then be tested against the Grenada

case. The detailed analysis of the variables and the cases, and the value of the model will be discussed in the following chapter.

HYPOTHESIS RATING FOR EACH CASE

	HI	HII			HIII			HIV	HV	
		a----b----c			a----b----c				a	b
CASE ONE	L-O	L	H	H	H	H	H	H	H	H
CASE TWO	L	O	L	L	L	L	L	L	H	O
CASE THREE	O	L	H	H	O	O	H	L-O	H	H

H = High

O = Medium

L = Low

TABLE I

## CHAPTER SEVEN

### ANALYSIS OF RESULTS AND REFINING THE MODEL

In forming a plan...one must foresee everything the enemy may do and be prepared with the necessary means to counteract it.

-Napoleon, 1830

#### PART ONE

In Part One, the results obtained from the application of the CRO model to three recent U.S. cases, and the four historical cases from Chapter Four, will be analyzed. The discussion will be developed in four steps:

- A. form a working definition of "success";
- B. apply the definition to the cases and rank order them on a scale from best to worst performance;
- C. combine the results from Chapters Four and Six with the case-ranking results; and manipulate the resulting array to permit scaling analysis;
- D. derive conclusions about the CRO model.

#### A. Definition of Success and Failure

A workable, widely applicable and generally acceptable definition of "success" (and "failure") is an evasive creature. Many different studies have wrestled with this problem.<sup>1</sup> In this study, the

---

1. See for example, Barry M. Blechman and Stephen S. Kaplan, Force Without War, The Brookings Institution, 1978. The nature of the definition problem was illustrated by Stephen M. Walt's cogent attack upon it in "...A Critique of Force Without War", Center for Naval Analyses, Professional Paper 279, May 1980.



challenge is not to measure success or failure precisely, but rather to propose a sufficiently adequate definition which permits the establishment of a relative order of success among the cases. The definition must also be independent of the hypotheses stated in the previous chapter -- otherwise the use of statistical scaling methods would be invalid. (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/targets are rescued/seized with minimum casualties to the force and the "rescued"; and,
- (b) the operational phases are completed in an "efficient" manner.

These phases are arbitrarily established as bench marks, or major phases which are characteristic of this class of operation.

They are:

- (a) deployment from staging areas to the objective;
- (b) activities at the objective; and
- (c) redeployment/consolidation from the objective (if applicable).

"Best" efficiency 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 problems impacted on the next phase. This is not intended to be a formal absolute evaluation, but rather a relative comparison and ranking of the cases.

Before applying the definition to the cases, two issues need to be clarified. First, the results of the Mayaguez case are somewhat counterintuitive because all of the crew members and the ship were rescued! But this author suggests that there was little demonstrable 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 appearance before Congress.<sup>2</sup> In his testimony, he explained his treatment during captivity and the events surrounding the release of he and his crew. He felt that the release was the result of the bombing attacks on the gunboats, and the threat perceived by the Cambodians to their limited navy, air force, and port facilities. As a fledgling revolutionary government, they began to "feel the heat" of U.S. pressure. The second source of convincing evidence is the fact that close analysis of the General Accounting

---

2. See Hearings - Part I.

Office Report's chronology, as well as several others,<sup>3</sup> shows that the release of the crew from the mainland occurred almost simultaneously with the arrival of the Marines on the Island. 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. The Cambodian government at one point did make a public radio broadcast stating their intention to release the ship (before the assault began), but the statement was discounted by U.S. decision makers because there was no mention of the crew.<sup>4</sup> In conclusion, it appears that some event, perhaps the bombing (or even diplomatic pressure), persuaded the Cambodian government to release the crew. But it was clearly not the result of 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

---

3. See the chronology in Head, especially.

4. See Rowan.

problems associated with each were widely divergent.<sup>5</sup> Additionally, where there were similar problems, such as in maintaining security, the operations were "light years" apart in the degree of difficulty. Is it fair to conclude that one operation was more or less successful than another because of these weighting differences? This author would argue no, because all of the cases are relatively equal. The three U.S. cases, for example, presented uniquely challenging circumstances to U.S. decision makers, planners and participants. The measure of success was not difficulty, but identifying the requirements necessary to achieve success, and fulfilling them. A second concern is that Iran is analyzed and treated here as an incomplete case. This author concludes that 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. The same holds true for the four cases in Chapter Four. No weighting scheme is either desirable or necessary.<sup>6</sup>

---

5. Gray Interview.

6. 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 sections.

## B. Application Of The Definition<sup>7</sup>

Louis Guttman, in the American Sociological Review, developed a method of statistical scaling which bears his name. It is a scale which can be employed to combine one or more measurements, in order to form a single score that is assigned to each variable of each operation. It is, of course, a simplification of reality because it converts the values of each variable into a set of scaled values (high, medium and low). However, if done accurately, persuasively, and with the consensus of experts, the unidimensional scale can provide indications of the relative (as opposed to absolute) values of the variables. Additionally, it can help to explain the relationship between the variables of the model and the outcome -- success or failure.<sup>8</sup>

Great attention to detail was paid in these case studies specifically in order to duplicate the derivation of accurate values and to avoid errors which plague scalar methods (halo, generosity and contract errors). The comparative analysis should support and reinforce the conclusions generated by the use of scalar methods, and thereby add to the credibility of the method as a valid approach.

---

7. Louis Guttman, "A basis for scaling quantitative data", American Sociological Review, 1944, pp. 139-150.

8. See also Claire Selting, et al., in Research Methods in Social Relations, 3rd Edition (Holt, Rinehart and Winston: New York) 1976.

The method can be adapted to the cases studied here. The most important issue at this point is what pattern, if any, is displayed by the results of the comparative case analyses. By borrowing Guttman's idea for scaling, the patterns displayed by the variables in these seven cases can be very revealing. Conversely, if the results are meaningless, then alternative approaches will have to be pursued. In fact, the demonstrated patterns are strong and consistent. This initial support for the scalar methodology encourages further research to build up the number of cases in order to do more statistically meaningful analysis with the CRO model, and the theoretical framework (see Part Two).

In order to apply scaling methods to the case study results, a relative ranking of the seven cases must be determined. The method utilized below is based upon the operational record of performance in each case. Although Son Tay was a mission "failure", it was a brilliantly planned and executed operation. It should therefore rank high among the seven cases in operational terms.

The scalar method permits the analyst to sort out the dimensions of performance in each case.<sup>9</sup>

Historically, the tendency has been to ignore all the good aspects of a case and to focus on the lessons, or the "bad" aspects. Because Son Tay had many successful aspects, the good lessons need to be recognized and recorded as well. This procedure is specifically designed to permit the derivation of both types of lessons.

Each case was assigned a rank based upon a judgment of performance for each phase. No two cases would be assigned the same rank. The ranks were summed across the three phases to provide a total which then permitted a relative ranking. The judgments reflect an evaluation by this author as well as a general consensus of opinion found in the research, and especially the interviews.

---

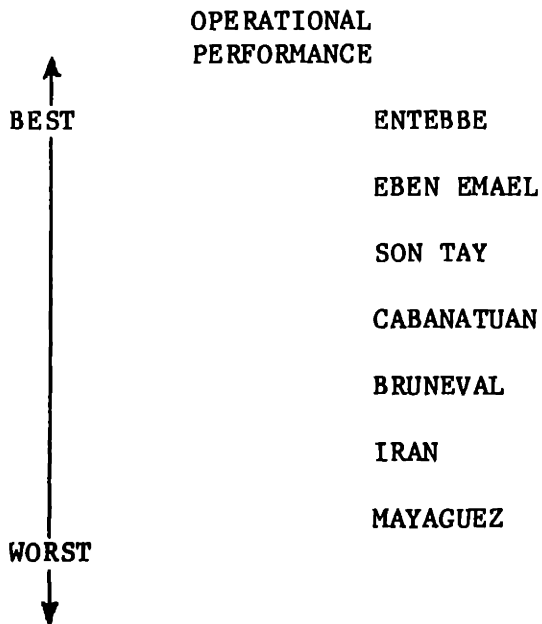
9. The application of the definitions to the cases is deliberately omitted. The discussion involves a complete reorganization of the data and events of the cases in order to evaluate performance with a different "yardstick". The only difficulty which this presented was accounting for the indirect "claimed" impact of the Koh Tang Island assault as a counterintuitive case. It was necessary to address this issue and the issue concerning the level of difficulty problem. The relative case positions on the scale are fairly obvious. The degree and frequency of problems with Mayaguez far exceeded the others. Conversely, the Entebbe operation was significantly better than four others and slightly better than two others. Iran falls near the bottom. The other cases fall within this range. The relative ranking of cases was generally not a controversial issue in either interviews or surveys.

TABLE I.

RANKING TABLE

	<u>DEPLOYMENT TO THE OBJECTIVE</u>	<u>ACTIVITIES AT THE OBJECTIVE</u>	<u>REDEPLOYMENT CONSOLIDATION</u>	<u>MINIMUM DAMAGE/ CASUALTIES</u>	<u>TOTALS</u>	<u>RANK</u>
BRUNEVAL	5	5	5	4	19	5
EBEN EMAEL	2	2	3	3	10	2
CABANATUAN	4	4	4	2	14	4
ENTEBBE	1	1	1	1	4	1
SON TAY	3	3	2	5	13	3
MAYAGUEZ	7	7	6	7	27	7
IRAN	6	6	7	6	25	6

(The relative ranks are not significantly effected when a sensitivity analysis is performed.) The operational ranking is therefore:





C. COMBINING THE CASE ANALYSIS WITH THE SCALING METHOD

The next step is to summarize the results of the analysis of each of the seven cases in terms of the hypotheses and ranking. The results are shown below. (H = High; O = Medium; L = Low)


TABLE II.  
HYPOTHESIS RESULTS AND RANK ORDER

	HI	HII	HIII	HIV	HV
Best Performance ↑		a--b--c	a--b--c		a--b
Entebbe	H	H H H	H H H	H	H H
Eben Emael	H	H H H	H H H	H	H H
Son Tay	L-O	L H H	H H H	H	H H
Cabanatuan	H	H H H	H H H	H	H H
Bruneval	H	H H H	O O O	H	H H
Iran	O	L H H	O O H	L-O	H H
Mayaguez ↓	L	O L L	L L L	L	H O

The table below reworks the raw data above into the final format for scaling results and analysis. First, note that the cases are ranked by operational performance from best at the top, to worst operational performance at the bottom.

TABLE III

Success or Failure?

	(HV-a) FORCE SELECTION	(HV-b) FORCE TRAINING	(HII-b) SURPRISE	(HII-c) SECURITY	(HIV) TRANS.	(HI) ASSESS.	(HII-a) SPEED	(HIII-c) COMMO	(HIII-a) COMMAND	(HIII-b) CONTROL	
ebbe	H	H	H	H	H	H	H	H	H	H	S
en Emael	H	H	H	H	H	H	H	H	H	H	S
a Tay	H	H	H	H	H	L-O	L	H	H	H	
anatuan	H	H	H	H	H	H	H	H	H	H	S
uneval	H	H	H	H	H	H	H	H	H	H	S
an	H	H	H	H	L-O	O	L	O	O	O	F
aguez	H	O	L	L	L	L	O	L	L	L	F

↑  
Performance

↓  
Performance

Second, the hypotheses have been rearranged to permit the comparison of results for each variable. The variables were originally grouped for convenience. Separating them for scaling analyses is not a problem.<sup>10</sup> The names of the variables have also been added for purposes of clarity. Third, the overall assessment of success or failure (mission accomplishment) is indicated on the right side of the table. Fourth, the variables are grouped from left to right according to the quantity of "high" to "low" ratings for each variable. "Force Selection" scored among the most high's, and it is therefore placed in the far left column. "Force Training" scored six "high" and one "medium" and it is placed one column to the right. This method of rearrangement continues across the table.

After the construction of this table, a line can now be drawn across the values which highlight the dividing line between "high" ratings for each variable and lesser ratings. This Guttman-type scaling permits the derivation of a number of intriguing insights and conclusions about these operations.

---

10. Recall that the association of the variables originally was an artificial arrangement to facilitate the discussion and analysis and that it did not detract from their hypothesized independence.

#### D. ANALYSIS OF THE RESULTS

1. In general, the heavy line shows that a large number of high performing variables constitute the highest overall success. This line shows a very positive relationship between increasing success and the identity and number of "high" rating variables. Entebbe is independently ranked as the most outstanding operational success. It also achieved high ratings in all variables (speed, surprise, etc.) and produced an outstanding overall success -- hostages rescued plus few casualties. Mayaguez, on the other hand was rated low operationally. The overall operational result was a failure. Not only would they not have rescued the prisoners, they in fact would have suffered excessive casualties. Mayaguez had only one "high", and two "mediums."

CONCLUSION: The ten variables are closely correlated with outcomes -- outstanding performance in all variables equates to success. The opposite also holds true. Therefore, the ten variables seem to accurately describe and account for success.

2. Several associations of variables are reflected in the results. The associations are the natural outcome of the scaling process and suggest that they are interrelated in reality. Boxes are drawn around these associations in the diagram for clarity.

a. Force Selection and Force Training. Nearly all of the operations were able to attain a high or medium level in these areas. The scaling effect in the table along with the peculiarities

of the variables suggests that perhaps these variables are more "controllable" than others. Force Selection and Force Training are two variables over which the decision makers, planners and trainers exercise a great deal of control. The fact that these variables rated high (one medium rating) supports the point. Even in the least successful case, the force's performance was good.

b. Command, Control and Communications are also grouped together in the resulting scaling pattern. This result also tends to confirm intuition about  $C^3$  relationships. One would also expect  $C^3$ , by the same logic of the "controllables" (discussed above), to rate better because they are more "controllable". However, according to the results in the table, this is not the case. This is because the design of effective  $C^3$  is an extremely difficult challenge -- probably far more so than we have believed in the past.

c. Surprise and Security also appear to be closely related. Pairs of results were either both highs or both lows. Intuitively they are interactive, and the association tends to confirm that intuition. Surprise is probably greatly influenced by security.

3. Assessment and Speed are absolute prerequisites for success. No case which suffered an assessment failure, or failed

to effectively manage the time achieved overall success. The Son Tay anomaly clearly shows the importance of Assessment and Speed; as do Iran and Mayaguez.

4. The number of other than "high" ratings an operation can receive and still achieve success is two -- as shown in the Bruneval case. Any case which received a "low" in any area, even if it was the only low, also failed. This observation confirms the hypotheses that CRO's are very delicate. A single failure can have a drastic impact on the outcome. It also confirms the value of the model as an empirical representation of that fact.

If the "H" 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 under even the best circumstances. There are so many potential unforeseen circumstances, 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 area 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 men prepare for in the course of intensive and specialized training of individuals and units.<sup>11</sup> For example, 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 specialized unit training process apparently minimizes the impact of unforeseen contingencies. This apparent fact is another strong supporting point in favor of the preparation of an existing capability which would require only minor "tuning" to fit the unique requirements of imminent operations.

Turning to the least successful case, could the probability of success have been so low in the case of Mayaguez?

---

11. Interview with Lieutenant Colonel Robert A. Costa, USA, expert on Special Forces and Special Operations (J-3, Operations, Pentagon), March 1981.

$(.98)*(.85)^2*(.92)*(.65)^6 = .05$ . 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 probability model may be a little harsh, but poor assessment, planning and execution endangered the operation from the start. The helicopters were extremely vulnerable and needed protection and support. There were very few helicopters, which made the time delay between insertions of troops on the Island too long. There was little or no coordination of supporting fires. More effort is required to refine the probability analysis. An awareness of how these operations unfolded, coupled with an understanding of the denigrating effects of multiple probabilities, should encourage decision makers and planners to look closely at the requirements for success in these operations. A tentative prediction on the eve of the operation, utilizing the model, would have pointed to a high probability of failure.

The accumulation of comparative data from more cases will permit more detailed work on the probability question in the next section.

The results of the comparative analyses, hypotheses testing and scaling, clearly verify the descriptive utility of the model. The ten variables provide a framework for analysis which fully



accounts for the outcomes in all seven cases. These variables seem to constitute the necessary and sufficient conditions for providing success. The utility of this descriptive capability to military and political leaders is that it enables them to address the specific requirements which are implicit in each variable. For example, command imposes specific requirements upon U.S. organizations and systems. Decision makers can use the results of the model to evaluate our organizations and systems in order to produce future successes.

In the next section, the data base will be expanded to bring the total number of cases to twenty-seven. The refined model will be presented after the Chi-Square and probability methods have been applied to the cases.

## PART TWO

The results of Part One show that the model provided a comprehensive framework for describing how and why these operations achieve success, suffer failure, or end with mixed results. The results of the hypothesis testing and scaling methodologies demonstrated the applicability of the model and methods to this class of operation. However, in order to develop the model's prescriptive and predictive utilities, further research and testing is required.

In Part Two, four major categories of research and analysis will be presented:

- A. the results of the research and analysis of twenty additional cases;
- B. chi-square contingency analysis and the results;
- C. probability analysis and results;
- D. the refined CRO model.

### A. Additional Cases

The twenty cases which follow bring the total number of cases to twenty-seven. Although this is still a small number, it does permit some statistical validation, especially through the use of chi-square contingency tables. The correlation of the variables also permits the limited application of Bayesian theory to the model in order to help in the development of its predictive potential.

The cases were selected according to the same criteria which was applied in earlier chapters. The cases were researched and analyzed according to the same procedures and methods as in Chapter Six, using comparative methods.

Three problems emerged in the process of attempting to perform this comparative analysis. First, the volume of text required to present the comparative analysis, as was done in chapters Four and Six, was too voluminous to include in this study. Therefore, only brief summaries of the cases and the results of the analysis are presented here. Second, the twenty additional cases do not all precisely fit the definition of CRO's. In order to maintain the rigor of the analysis (preserving the uniqueness of this class of operations) only minor variations in the nature of the operations were allowed. Sensitivity analysis of the results shows that these variations in contexts and operations do not alter the conclusions. (In fact, nine other cases were researched but were not utilized because they were too much at variance with the criteria -- mostly conventional wartime operations such as conventional airborne operations.) Third, some of the cases are weakly documented. Soviet and Israeli operations are almost always based on inferences due to the restrictive security measures employed by those nations -- even concerning old operations. Nonetheless, none of these problems were significant barriers to proceeding with the analysis.

In order to permit the identification of relationships between the variables and the outcomes, the chi-square and probability analysis require a more outcome-oriented (mission results), as opposed to operations-oriented, definition of success and failure. A more objective definition grades the outcome into four categories, based upon the answers to the following questions: (1) "Was the mission accomplished?"; and, (2) "Were the personnel and equipment costs excessive?".

A grading system, using the letters A, B, C, and D allows all twenty-seven cases to be graded into the following four categories:

A=CLEAR SUCCESS (mission accomplished, low cost)

B=PARTIAL SUCCESS (partial mission accomplishment, and/or excessive costs)

C=PARTIAL FAILURE (mission not accomplished, low cost)

D=CLEAR FAILURE (mission failure, and/or high cost).

These grades are objective and noncontroversial because the judgments by case regarding the grade are clearly evidenced in both the interviews and the literature.

Each case will be summarized in turn, and the results tabulated at the end of this section.

1. Operation Fanning Head: 20-21 May 1982 (ten hours); U.K. Royal Marine Commandos operated against Argentine soldiers in the Falkland Islands. The operation began on the night of

20 May 1982, and lasted into the next day. It was primarily a diversionary raid and a supporting operation for the main British landing at San Carlos the next day. It was largely a success owing to the initiative and courage of the Commandos.<sup>12</sup> (A)

2. Operation Longshanks: 9 March 1943; U.K. Special Operations Executive (SOE) troops operated against German ships in a neutral harbor in Gao, Ceylon. A small unit from the SOE commandos penetrated into the neutral harbor of Gao to seize Axis ships and force them out of the harbor where the Allies could engage them. The operation was a failure due primarily to the ability of the German sailors to scuttle the ships before the commandos could seize them.<sup>13</sup> (C)

3. Operation Moody Brook: 2 April 1982; Argentine Marine Commandos operated against British Royal Marines on the Falkland Islands. In the wake of the breakdown of negotiations between the British and the Argentines over the fate of the Falkland Islands, the Argentines mounted a surprise invasion on 2 April 1982. The initial attack by the "Buzo Tactico" (Tactical Frogmen) of the Argentine Special Forces was a success, although they suffered significant casualties.<sup>14</sup> (B)

---

12. See Bibliography and James D. Ladd, SBS: The Invisible Raiders.

13. See Bibliography and SOE in the Far East.

14. See Bibliography and Max Hastings, The Battle for the Falklands.

4. Operation Shadwan Island: 22-23 January 1970 (thirty hours); Israeli Defense Forces (IDF) operated against Egyptian Army troops on Shadwan Island. This operation was conducted by IDF naval commandos and paratroops against an Egyptian radar base. This operation was prepared on short notice and was successfully conducted with only a few casualties.<sup>15</sup> (A)

5. Ponte Grande: 9-11 July 1942: U.K. airborne troops operated against German and Italian troops in a special bridge-seizure mission in Sicily in 1943. On 9 July 1943, under the command of Field Marshall Montgomery, the Allies used gliders to land near Syracuse to shock the enemy; seize key points and hold them until reinforced. The assault on the important Ponte Grande bridge was a special part of that operation. The British First Airborne Brigade was well-qualified to accomplish this task. Unfortunately, due to high winds and other failures, only a small number arrived at the objective and were unable to secure the bridge. Only the fortuitous landing by amphibious forces the next day permitted the seizure of the bridge before the Germans could destroy it.<sup>16</sup> (D)

---

15. See Bibliography and Chaim Herzog, The Arab-Israeli War.

16. See Bibliography and John Weeks, Assault From The Sky.

6. Dragon Noire: 26 November 1964; Belgian troops parachuted into the Congo to rescue hostages from the Simba revolutionaries. Dragon Noire was a follow-up rescue operation in the aftermath of Dragon Rouge near Stanleyville, Congo. On 26 November 1964, Belgian forces parachuted into Paulis, searched the city to find and rescue 375 foreign nationals from the Simbas. Unlike Dragon Rouge, they did not wait for reinforcement after the parachute landing; rather they immediately proceeded to attack the rebels and rescue the hostages. Planned on short notice, it was a good operation conducted with experienced troops.<sup>17</sup> (B)

7. Operation Vodka: 22-23 December 1978; Selous Scouts of the Rhodesian Air Force and Army conducted a rescue of Rhodesian POW's held in Zambia. The highly trained Selous Scouts of the Rhodesian Armed Services raided Zipra prison in Zambia on 22-23 December 1978 in order to release Rhodesian POW's. Infiltrating by ground and parachute, the rescue force actions were highly successful with only one major disappointment -- 50 of the 82 POW's were away from the camp at the time of the rescue; but the 32 remaining were rescued.<sup>18</sup> (A)

---

17. See Bibliography and Fred E. Wagoner, Dragon Rouge.

18. See Bibliography and Peter Steifel, Selous Scouts: Top Secret War.

8. Prague: 20 August 1968; Soviet Guards Airborne Division seized the Prague, Czechoslovakia airport prior to the Soviet invasion. The elite troops of the Soviet Guards Division were inserted into the Prague airport in a near bloodless seizure of the facility. This preliminary special operation was critical to the success of the Soviet plan for quick and massive military intervention. Over the course of two hours on 20 August 1968, the Soviet troops surprised and overcame the defenders in a well-planned and executed operation.<sup>19</sup> (A)

9. Beirut Raid: 10 April 1973; special commandos of the IDF penetrated Beirut, Lebanon to find and eliminate PLO leaders. The commandos penetrated by sea and overland to the heart of Beirut, Lebanon to conduct a surgical strike on a Palestine Liberation Organization Headquarters. The operation was successful due primarily to precision intelligence, superb training and great initiative on the part of the commandos.<sup>20</sup> (A)

10. Vaagsoy Island Raid: 27 December 1941; U.K. forces invaded the Norwegian coast near Vaagsoy to destroy German positions -- the first big combined operation against the German-held coast. On 27 December 1941, U.K. forces launched an amphibious raid against Vaagsoy, Norway. A large force of 576 men successfully

---

19. See Bibliography and John Weeks, Assault From The Sky.

20. See Bibliography and Edward Luttwak, A Survey of Commando Operations.



surprised the German garrison, destroyed their facilities, captured prisoners, and liberated a large number of Norwegians who returned to the U.K. Some operational problems could have been avoided with better preparation, but it was an excellent commando operation, considering its size and the fact that it was the first of its type conducted by the British in World War II.<sup>21</sup> (B)

11. Lucky Leaf: 3 October 1967; U.S. special forces attempted to rescue American POW's in Vinh Binh Province. In October, 1967, the 5th Special Forces Group attempted a rescue of two American POW's believed held by the Viet Cong in the vicinity of Can Tho, in southeastern Vinh Binh Province. Original large scale operations were replaced by smaller, covert penetration operations, but the camp was not located, nor were the POW's found. In fact, reinterrogation of the original intelligence source revealed that he was an enemy spy on a counterintelligence mission.<sup>22</sup> (D)

12. SagebrushII: 8 December 1968; U.S. special forces operated in Phong Dinh Province, to rescue POW's. The 5th Special Forces group launched this battalion-sized operation on 12 December 1968 to liberate what was believed to be 3 U.S. and 40 ARVN (Army of the Republic of Vietnam) POW's. The Viet Cong prison camp was

---

21. See Bibliography and John Durnford-Slater, Commando.

22. See Bibliography and Fifth Special Forces Group After Action Reports.

found, and 9 ARVN (but no American prisoners) were rescued. Several camps were also found recently abandoned raising questions about the timing and assessment aspects of the operation.<sup>23</sup> (B)

13. Liberty Blackjack: 4 April 1967; U.S. special forces operated to locate and rescue U.S. POW's in Binh Long Province in April 1967. This operation was conducted by the Fifth Special Forces Group to rescue U.S. POW's held by the Viet Cong in southern Binh Long Province. The operation was probably compromised by operational security problems related to the size and deployment concept for the forces. The prison camp was eventually found abandoned, and no POW's were rescued.<sup>24</sup> (D)

14. Operation Agreement: 23-24 November 1942; Allied special units operated in northern Africa to seize Tobruk in a special operation; a series of special missions were prepared and organized in support of larger operations. This was one of the worst commando-type operations conducted by the Allies during WW II. During 23-24 November, 1942, the Allies discovered the problems caused by sequential and overly complex special operations conducted under adverse weather conditions. Although parts of the operation were singularly well done, the mission failed overall.<sup>25</sup> (D)

---

23. Ibid.

24. Ibid.

25. See Luttwak, "A Survey..."

15. Mogadishu: 17 October 1977; German Border Group Nine troops operated to rescue hostages held by Arab terrorists in Somalia. The German GSG-9 troops, assisted by troops from the British Special Air Service, intervened in Mogadishu, Somalia on 17 October 1977 to rescue hostages held on a hijacked airplane. The success of this operation demonstrated the effectiveness of special assault techniques and the importance of technological innovation.<sup>26</sup> (A)

16. Pschecha River Bridge: 12 August 1942; a special German Brandenburg unit operated behind Russian lines in WW II. Select units of the German Brandenburg Regiment were inserted behind Soviet lines in order to seize the bridge over the Pschecha River on 12 August 1942, and hold it until the arrival of advance units of the main Panzer force. The operation was highly successful and typified the success that can be attained by units which are highly trained in deception and diversion.<sup>27</sup> (A)

17. Kolwezi: 19-20 May 1978; combined French, Belgian and U.S. operation to rescue hostages held by revolutionaries in Zaire. On 19 May 1978, a joint operation was conducted to rescue prisoners held in Shaba Province, Zaire, from the Front for the National

---

26. See Bibliography and David Charters, "Special Operations: Military Lessons From Six Selected Case Studies".

27. See Luttwak, "A Survey..."

Liberation of the Congo. American aviation assets supported the insertion of Belgian and French troops in what was a fairly successful operation.<sup>28</sup> (B)

18. Los Baños Rescue Operation: 23 February 1943; joint air, ground and amphibious forces operated behind Japanese lines in the Philippines in WW II to rescue Allied prisoners and internees. The Los Baños operation was one of the largest, most complicated and most successful rescue operations ever conducted. General MacArthur directed the 11th Airborne Division to launch a special rescue deep behind Japanese lines. The concept of operations involved guerillas, amphibious elements, parachute elements, and supporting aircraft. Planned and executed on short notice, it demonstrated the great success which highly trained and prepared units could enjoy, even if given only a limited time to prepare and execute a complicated plan.<sup>29</sup> (A)

19. Dragon Rouge: 23 November 1964; U.S. Air Force operated in support of Belgian ground forces in the rescue of hostages from the Simba revolutionaries in the Belgian Congo. Belgian Paracommandos, delivered by U.S. Air Force aircraft, deployed into Stanleyville, Congo on 23 November 1964 to rescue Europeans and Congolese hostages held by the rebels. Although 33

---

28. See Charters, "Special Operations...".

29. See Bibliography and Anthony Arthur, Deliverance at Los Baños.

hostages out of 1,650 were killed during the delays in the operation, the outcome was generally successful.<sup>30</sup> (B)

20. Operation Eiche: 12 September 1943; Special German units operated in Italy during World War II to locate and capture Benito Mussolini from the Italians. Otto Skorzeny led a special team of the German Friedenthal Special Unit to the top of a mountain near Aquila, Italy, to capture and rescue Mussolini. The operation was preceded by extensive intelligence preparations and was very successful.<sup>31</sup> (A)

---

30. See Bibliography and Fred E. Wagoner, Dragon Rouge.

31. See Bibliography and Otto Skorzeny, Skorzeny's Secret Missions.

The results of the comparative analysis and hypothesis testing are summarized in the TABLES below:

TABLE IV.

OPERATION

	1	2	3	4	5	6	7	8	9	10
ASSESSMENT	HI	LO	MED	HI	MED	MED	MED	HI	HI	HI
SPEED	MED	MED	MED	HI	HI	MED	HI	MED	HI	HI
SURPRISE	MED	MED	MED	HI	HI	MED	HI	HI	HI	HI
SECURITY	HI	HI	MED	HI	HI	HI	HI	HI	MED	HI
COMMAND	HI	HI	HI	HI	MED	MED	HI	HI	HI	HI
CONTROL	HI	MED	HI	HI	LO	HI	HI	HI	MED	MED
COMMUNICATION	HI	HI	HI	HI	HI	MED	HI	HI	HI	MED
TRANSPORTATION	MED	MED	MED	HI	HI	HI	HI	HI	HI	HI
FORCE SELECTION	HI	MED	MED	HI	MED	MED	HI	HI	HI	HI
FORCE TRAINING	MED	MED	MED	HI	LO	MED	HI	MED	HI	MED
OVERALL RATING	A	C	B	A	D	B	A	A	A	B

TABLE V.  
OPERATION

	11	12	13	14	15	16	17	18	19	20
ASSESSMENT	LO	MED	LO	HI	MED	HI	MED	HI	MED	HI
SPEED	HI	MED	MED	LO	HI	HI	HI	HI	MED	HI
SURPRISE	LO	HI	MED	HI	HI	HI	MED	HI	HI	HI
SECURITY	LO	HI	MED	LO	MED	HI	MED	HI	HI	HI
COMMAND	HI	HI	HI	LO	HI	HI	MED	HI	HI	HI
CONTROL	HI	HI	MED	LO	HI	HI	MED	HI	MED	MED
COMMUNICATION	HI	HI	HI	LO	HI	HI	HI	HI	MED	MED
TRANSPORTATION	HI	HI	HI	LO	HI	HI	HI	HI	HI	MED
FORCE SELECTION	HI	HI	LO	HI	HI	HI	HI	HI	HI	HI
FORCE TRAINING	HI	MED	MED	MED	HI	HI	HI	MED	MED	HI
OVERALL RATING	D	B	D	D	A	A	B	A	B	A

TABLE VI.

OPERATION

	21	22	23	24	25	26	27
ASSESSMENT	HI	HI	MED	HI	HI	MED	LO
SPEED	HI	HI	LO	HI	HI	LO	MED
SURPRISE	HI	HI	HI	HI	HI	HI	LO
SECURITY	HI	HI	HI	HI	HI	HI	LO
COMMAND	HI	HI	HI	HI	MED	MED	LO
CONTROL	HI	HI	HI	HI	MED	MED	LO
COMMUNICATION	HI	HI	HI	HI	MED	HI	LO
TRANSPORTATION	HI	HI	HI	HI	HI	LO	LO
FORCE SELECTION	HI	HI	HI	HI	HI	HI	HI
FORCE TRAINING	HI	HI	HI	HI	HI	HI	MED
OVERALL RATING	A	A	C	A	A	D	D

(These cases correspond to: Entebbe; Eben Emael; Son Tay; Cabanatuan; Bruneval; Iran; and Mayaguez, in that order. In between ratings (high-medium, low-medium, etc.) were rounded off to the most appropriate level.)



## B. Chi-square Contingency Tests and Results

Building a data base of 100 or so cases through this empirical approach and the use of the CRO model would permit the application of many statistical methods to the results. This author experimented with several approaches. Although none were persuasively encouraging, one in particular showed great promise. The problem is, of course, the small number of available cases.

A very useful application of the chi-square test occurs in connection with testing observed and expected values in two way contingency tables. The high-medium-low rating system used in this dissertation's methodology for hypothesis testing permits the construction of contingency tables to study the relationship between variables -- two at a time. By using the chi-square test, it can be hypothesized that there is no relationship between the variables. If the results exceed the expected critical value of chi-square for the appropriate number of degrees of freedom (here,  $v = 4$ ), then the hypothesis of independence can be rejected -- that would indicate a dependent and interacting relationship. With this testing procedure, the variable relationships can be further defined and understood.

The ten variables in the CRO model can be tested by 45 different applications of the test (45 possible combinations). An example of the method is shown below.

The chi-square test hypothesizes that the two variables are independent; Ho=Independence. For example:

CONTINGENCY TABLE WITH CALCULATIONS

TABLE VII

SURPRISE

ASSESSMENT	HI	MEDIUM	LOW	TOTALS
HI	12(9.1)	1(2.9)	0(1)	13/27=.48
MEDIUM	7(7)	3(2.2)	0(.7)	10/27=.37
LOW	0(2.9)	2(.9)	2(.3)	4/27=.15
TOTALS	19	6	2	27

$$X^2 = \frac{(12-9.1)^2}{9.1} + \frac{(1-2.9)^2}{2.9} + \frac{(0-1)^2}{1} + \frac{(7-7)^2}{7} + \frac{(3-2.2)^2}{2.2} + \frac{(0-.7)^2}{.7} + \frac{(0-2.9)^2}{2.9} + \frac{(2-.9)^2}{.9} + \frac{(2-.3)^2}{.3} =$$

$$X^2 = .92 + 1.2 + 1 + 0 + .3 + 7 + 2.9 + 1.3 + 9.6 = 17.9$$

The 95% confidence value of  $X^2$  for  $v=4$  is 9.5.

Because the value of chi-square is 17.9 in this case, and is greater than 9.5, the results indicate that the variables are not independent. A relationship therefore exists between ASSESSMENT AND SURPRISE.

The chi-square tests were conducted using all twenty-seven cases in the complete data base. Although the sample is small, the value of "n" is significant because it approximates the population of cases which fall into this class. The results should closely approximate the relationships in reality.

The remaining 44 combinations were tested using the same procedure as illustrated above. The results are summarized below. (The variables are coded for brevity: AS=Assessment; SP=Speed, SUR=Surprise; SEC=Security; CMD=Command; CTRL=Control; CMO=Communications; TR=Transportation; FS=Force Selection; FT=Force Training.)

	SP	SUR	SEC	CMD	CTRL	CMO	TR	FS	FT
AS	7.4	17.9	14.1	8.3	3.	3.3	2.6	10.6	1.8
SP		9.4	2.1	6.3	2.	4.9	15.2	13.4	17.5
SUR			23.2	7.4	4.9	7.6	10.6	12.3	5.1
SEC				17.5	12.1	19.4	10.9	5.3	1.3
CMD					22.4	30.2	20.5	3.5	8.5
CTRL						22.7	12.	2.9	10.4
CMO							18.4	.9	4.
TR								5.1	2.9
FS									10.7

TABLE VIII

These results largely confirm the analysis from Part One, especially concerning the relationships among the variables.

There are some variations, and they will be addressed below.

Many relationships appear to exist as indicated in the contingency table that were not evident through the Guttman scaling (Surprise, for example). These relationships are explored two at a time below. There is much factual support in the qualitative analysis of the cases which supports the indicated relationships.

#### SURPRISE AND ASSESSMENT

In order to achieve surprise, detailed knowledge of the mission requirements must be acquired, analyzed and incorporated into the planning, training and execution processes throughout the mission. It is not surprising therefore to observe the statistical relationship between these two variables. All the cases analytically support the hypothesis that Surprise is critical to success and that Surprise is largely dependent upon Assessment. Surprise therefore appears to be an intervening variable.

#### SURPRISE AND SECURITY

Many examples illustrate the hand and glove relationship of Surprise and Security, especially the Iran case which showed that too much Security can impact on many other variables, especially Surprise. What the chi-square and analytical results show is that Surprise is a function of Security as well. Security used both

active and passive means to prevent compromise. Security creates the conditions necessary for measures associated with Surprise itself to function as planned. Security measures also provide insurance in the event Surprise is lost or the mission is otherwise compromised. Security drives planning for external support in the face of unforeseen contingencies. Surprise therefore appears to be somewhat dependent upon Security, and as noted with Assessment, above, indicates that Surprise is an intervening variable.

#### SURPRISE AND TRANSPORTATION

These two variables are clearly related in the analysis and the chi-square results. The importance of Transportation to the achievement of Surprise was most clearly evident in the Mayaguez case in a negative sense, and Entebbe and others in a positive sense. Again, Surprise appears to be dependent upon Transportation as well, and Surprise increasingly appears to be an intervening variable.

#### SURPRISE AND FORCE SELECTION

The lack of independence between these two variables is repeatedly supported in the analysis and statistically indicated above. The tailoring of specialized forces and specialized equipment to mission requirements is an essential ingredient to the achievement

of Surprise. In cases where ad hoc forces were used, Surprise was not attained as frequently nor as easily as in cases where trained and existing forces were available. More importantly, it appears that the match between the forces and the mission requirements is extremely important to the achievement of Surprise.

#### SURPRISE AND SPEED

These two variables are on the borderline between independent and interactive. It is easy to see how the management of time can influence the achievement of Surprise, but the relationship is not strong enough to include Speed as one of the critical determinant variables. Speed will impact in a general way in the interactive model.

Surprise is an intervening variable. It has a value of its own, but it is also very much a function of four other variables. These variables appear to impact upon Surprise about equally. The performance of the Surprise variable is largely impacted upon by these four other variables, even when extensive measures are pursued in order to achieve it. If equated to probabilities, the relationship would have to take into account the initial value of Surprise, based upon active planning measures to attain it, as well as the impact of the other variables. Conceptually, Surprise

can be thought of as a variable which clearly impacts upon performance and which has a value of its own based upon preparations directed towards achieving it; but it is also degraded by the performance of four other variables. This might be written as:  $P(\text{ACTUAL SUR}) = P(\text{PLANNED SUR})[P(\text{AS}) + P(\text{SEC}) + P(\text{TR}) + P(\text{FS})]$ .

#### ASSESSMENT AND SECURITY

Assessment and Security are interacting variables according to the analysis and the chi-square results. The variables interact on one another as follows: security procedures influence the collection evaluation and dissemination of information throughout all aspects of the operation; assessments are required in order to achieve Security in both the planning and operational dimensions; Assessment influences planning for the physical security associated with contingency planning and operations in the event of Security failures; Security plans are partially driven by changing Assessments; and, Security can degrade Assessment if it leads to excessive compartmentalization. These variables are therefore mutually interdependent, in addition to independently impacting on other variables.

#### SECURITY AND SURPRISE (discussed above)

## SECURITY AND: COMMAND, CONTROL AND COMMUNICATIONS

Security measures also have a positive or negative influence on C<sup>3</sup> (similar to Security and Assessment), as well as vice versa. Too much Security can retard the unification of Command and possibly lead to improper selection and positioning of the commander. Security can also impose obstacles to clear lines of authority, and thereby negatively impact on the command performance. Command can also impact on Security if the line of authority, and selection and positioning of commanders is not properly accomplished. Too much or too little Security can degrade the performance of Control, especially during the planning phases or during the actual operation. In the cases, this is most often reflected as a distortion of the role of the commander in the planning process, or, the lack of appropriate control measures to assure the smooth progression of mission phases which allows for reacting to problems and contingencies. Control also impacts upon Security, because the commander's planning and leadership are important to all aspects of the mission and especially Security. Excessive or insufficient Security can also influence Communications. The commander may suffer a complete loss of Communications if security measures are not adequate -- to prevent enemy countermeasures for example. Communications also impact on Security during all phases of the operation. Command, Control and Communications also seem to be



strongly interrelated (discussed below) as well as interrelated with Security. Collectively, the cases and chi-square results demonstrate the close proportional relationship between these variables.

#### SECURITY AND TRANSPORTATION

Transportation, like  $C^3$ , is an important performance variable. The success of transportation consistently varies with the performance of security. Likewise, transportation impacts upon security. Many examples in the analysis support this relationship, particularly when security problems compromise the transportation performance, or transportation problems lead to poor security performance.

Security impacts upon Assessment, Surprise,  $C^3$  and Transportation. They also impact upon security. The general proportionality of the relationship is consistently demonstrated in the case analysis. At some point, all of the variables may reach excessively high values individually which may then begin to degrade other variables. The excessive security in the Iran case seriously impacted on all of these variables. Other cases illustrate how excessive attention to the value of any one variable can degrade other variables. Perhaps this is not an inverse relationship, but rather an indication that at some point, excessive security (or assessment, or surprise,

etc.) can create conditions which are mutually exclusive for the performance of other variables. A sensitivity to this phenomenon is reflected in the interviews with those who have conducted special operations successfully. A balance among these variables is clearly important both in terms of their individual relationships, and their collective values.

#### COMMAND, CONTROL AND COMMUNICATIONS

These three variables are so intertwined, both in the chi-square results and in the analysis, that attempts to separate them, in order to measure their relationships with other variables, are very difficult. It is appropriate to label these three extensively interacting individual variables as a single variable,  $C^3$ . If Command and Control are good, then Communications tends to be good. Command and Communications clearly demonstrate a close relationship, as do Communications and Control. The high chi-square values, and the supporting analytical results show the validity of treating these three variables as a single larger variable in the model of interacting relationships.

#### $C^3$ AND TRANSPORTATION

The transportation plan must be highly integrated into the Command, Control, and Communications concepts. Poor  $C^3$  makes successful Transportation difficult. Difficulties in Transportation

(Mayaguez) make  $C^3$  difficult.

### $C^3$ AND FORCE TRAINING

The chi-square results indicate a relationship between Control and Force Training. Control, especially the role of the TF CO in the planning and training of the operation, is important to the performance of Force Training -- rehearsals, contingency plans, evaluations, etc. Although the chi-square results do not support a relationship between Command and Control, and Force Training, the analytical results show a strong correlation there as well. The combined chi-square and analytical results generally support the idea that  $C^3$  should be treated as a collective variable.

The values of the  $C^3$  variable should be composed of the three equally weighted values of Command, Control and Communications. It is both more logical and effective to relate the performance of these variables to other variables on a collective, rather than an individual basis. In the final model,  $C^3$  can be treated as a single variable. This combination into a single variable has the added advantage of addressing the "level of difficulty problem" among different cases. The single weight of the  $C^3$  variable might also correct somewhat for the excessive weight which three mutually dependent individual variables, as opposed to a single variable, might carry in an interactive model.

#### SPEED AND TRANSPORTATION

Speed is a clearly independent variable which impacts on other variables. Speed also reflects a strong organizational and systems influence on variable values and outcomes. The time line for the decision maker is critical. If only ad hoc alternatives are available (as opposed to specially prepared and existing ones), then the problems with the transportation systems and training will reflect this and will generally be degraded. Therefore, the performance of Transportation is highly influenced by Speed.

#### SPEED AND FORCE SELECTION

The relationship is clearly established in the analysis. Ad hoc, not specially trained units do not perform well. If ad hoc units are chosen and then properly trained over a period of time until they are ready, then the operation can succeed. However, the time gap created by this delay means that opportunities for action may have passed. In this population of cases (perhaps not true all of the time) time delays were usually, if not always, fatal to the ultimate outcome of the mission. (This makes sense given the problems of security and the ability of defenders to make the specialized operations more difficult.) This concept of Speed should not be related to timing. Timing is implied in

Surprise and Assessment.) Speed is also important to Force Selection in the organization and systems senses. The existence of organizational and systems to plan, train and execute the operations increases the chances of success. Ad hoc organizations apparently do not do as well. Again, Speed appears to have a strong influence on Force Selection, but the reverse is not the case.

#### SPEED AND FORCE TRAINING

Proper training requires time. The lack of existing forces and equipment capable of performing the mission on short notice leads to improvisational training methods and organizations. In almost every case, ad hoc choices, unless units were allowed time to train up to the level of pre-trained units, led to poor performance in these operations. Force Training does not seem to impact on Speed.

#### FORCE SELECTION AND FORCE TRAINING

In cases of unspecialized forces and equipment, proper force training can help to overcome some of the obstacles which result. However, the training will not overcome mission-related deficiencies caused by improper or inadequate forces and equipment. Conversely, Force Training sharpens and improves the properly tailored forces

and equipment. The greater the value of the Force Selection, the greater the value Force Training may have. The weaker the value of Force Selection, the less value Force Training may have in maximizing the performance of the forces and equipment. Force Training increases performance, but how much depends upon the starting value of Force Selection, as well as the value of Force Training itself.

#### FORCE SELECTION AND ASSESSMENT

Assessment processes drive the selection of forces. When a decision maker faces a situation, he needs to know how to tailor the forces and equipment for the mission. The better the Assessment of what will be required, the better the potential quality of the decision concerning forces and equipment selection. Likewise, the lack of detailed information and assessment of mission requirements can lead to poor choices of men and equipment.

The combination of chi-square contingency analysis and comparative hypothesis testing has generally confirmed the descriptive utility of the model. There are common causal variables which operate across these cases and which explain success and failure. These ten variables are interactive as the preceding analysis indicates. They also suggest that there are strong organizational, systemic

and doctrinal components to these variables. For example, Speed relates to the effective management of time. The existence of generally prepared specialized units, versus the creation of special units from scratch, has a strong organizational component. In another example, the existence of centralized, coordinated and integrated Assessment has a strong organizational and systemic meaning. All of the variables possess implications for what exists prior to the situation and the decision to pursue the military option.

Several interim conclusions about the relationships of the variables, and their collective relationships to the outcomes necessitate refinement of the model.

1. Ad hoc forces have not done well.
2. Non-specialized forces have not done well.
3. Existing, highly trained units with specialized training have consistently done well.
4. The degradation of Command, Control, or Communication individually, has a synergistic effect on all three. This triad like relationship is almost inseparable. The three variables are most appropriately grouped into a single functional variable.
5. Security has two closely related but distinct meanings. On the one hand, it includes the measures to prevent compromise of the mission. On the other hand, it includes a more physical

component which is the planning and capability to deal with contingencies should security become compromised. This dual meaning however, does not warrant splitting the security variable into two variables.

6. Assessment demands must be met at all levels and phases of the operation. Although the chi-square results do not clearly indicate the influence of Assessment, all of the variables are influenced by the Assessment function. This is extensively indicated in the analysis. Subtleties in the assessment process and  $C^3$  for example, can have a tremendous impact on outcomes. In many cases, the involvement of the TF CO in generating intelligence demands had a major positive impact on the outcome (Entebbe, Son Tay, Eben Emael, etc.). Where the TF CO was not involved, or where there were problems with command, the right questions and answers were not generated and the outcomes were degraded (Mayaguez, Bruneval).

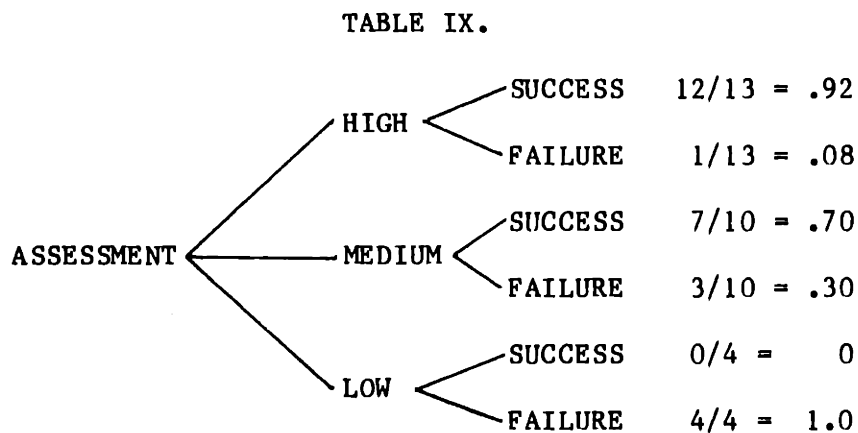
7. Assessment also implies an emphasis on quality intelligence. It is difficult to design organizations which generate and assess the precise information required, and do it in a rapid and accurate fashion. This requirement is an integral part of the Assessment variable. Implied until now, its importance is borne out in this analysis.



### C. Probability Analysis

Howard Raiffa, in Decision Analysis, presents several methods for the use of critical path analysis and Bayes theorem to develop probability models to aid decision makers. The relationships of the variables, when related probabilistically, can be extremely helpful to decision making, by providing a decision maker with an understanding of variable relationships and outcomes based upon their individual values.

The notion of path probabilities can be of great use in discovering the importance of individual variables to overall outcomes, although less so for the interactions among the variables themselves. For example, in the diagram below, the path probability for success based on the population size of twenty-seven historical cases is as follows:



The overall probability of success, given that Assessment is high ( or  $P(S \text{ HIGH})$  ) is  $12/13$  or  $0.92$ . In contrast, the probability of achieving success if Assessment is low ( or  $P(S \text{ LOW})$  ) is  $0$ . The conclusion is that the data base can be used to construct a probability model for calculating outcomes. Although it is a simplification due to its unidimensional nature, and the fact that it does not reflect the interaction of Assessment with other variables, it does give the decision maker a sense for the general overall probabilities.

If you take this example back to the "environmental" level (in advance of an operation), this model might also suggest that current decision makers have the choice to prepare or not to prepare for such operations in advance. In cases where nations were well prepared for these specific types of operations (in terms of the Assessment requirements included in the model), they maximized the probable outcome for success. If the high, low, medium paths are looked at probabilistically as having equal chances of success, then the impact of overall probabilities on these operations can begin to be appreciated. What is the probability of success if there is an equal chance that a nation is capable of performing a high, medium, or low assessment? The answer, using Bayes theorem is:

$$P(H/S) = \frac{(.92)(.333)}{(.92)(.333)+(.70)(.333)+0} = .57$$

If a nation builds a capability to guarantee a high or medium performance only, the results do not improve:

$$P(H/S) = \frac{(.92)(.5)}{(.92)(.5)+(.70)(.5)} = .57$$

In all cases, the low course results in no success.

If only high performance could be permitted to occur, then the result would be increased to .92.

The obvious shortcoming of these probability calculations is that they are only indicative of probabilities rather than actual probabilities. (The reasons are that these diagrams relate the variables to outcomes as independent variables, and with no other variables accounting for the success/failure outcome; and they are based on a population size of only twenty-seven cases.) However, these indicated probabilities are a useful way of showing the abstract relationship between the variables and the outcomes. The following diagrams summarize these relationships by variable.

TABLE X

SPEED	HIGH	SUCCESS	13/15 = .87
		FAILURE	2/15 = .13
	MEDIUM	SUCCESS	6/9 = .67
		FAILURE	3/9 = .33
	LOW	SUCCESS	0/3 = 0
		FAILURE	3/3 = 1.0

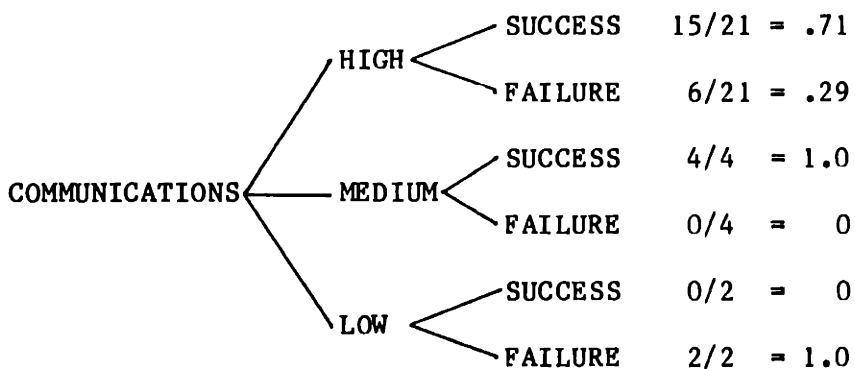
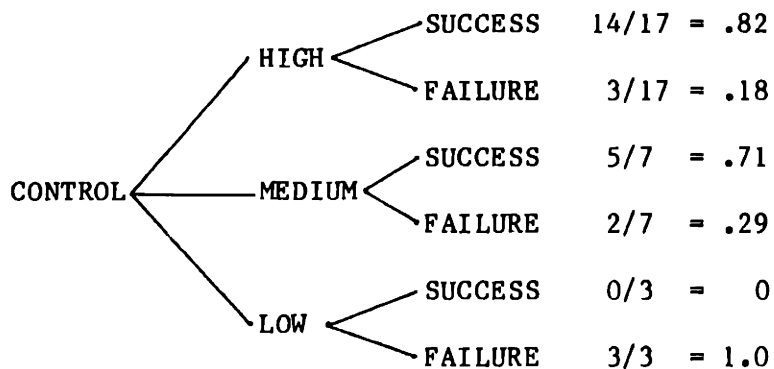
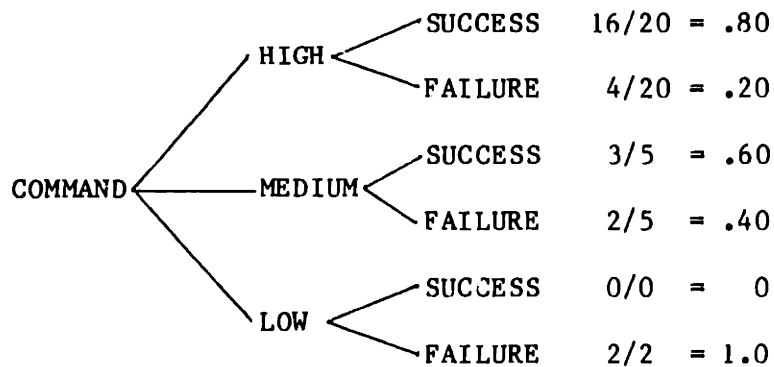
---

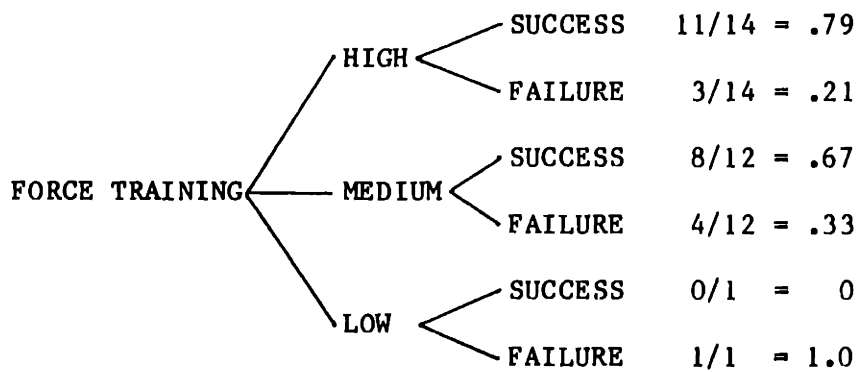
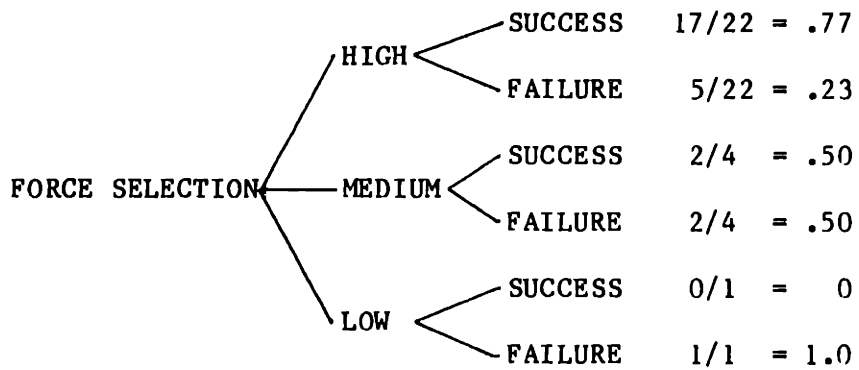
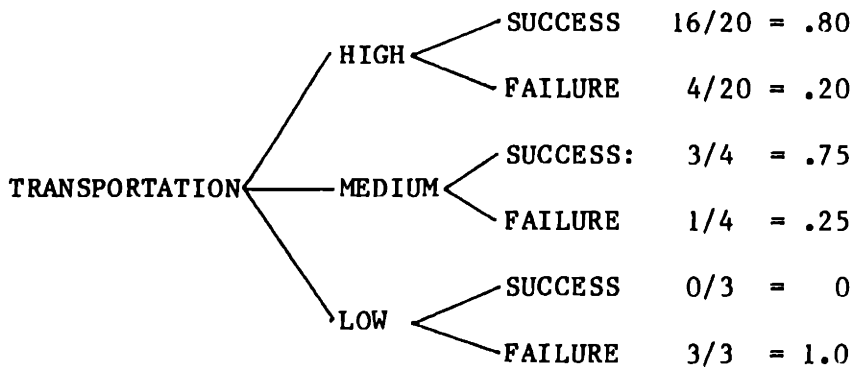
SURPRISE	HIGH	SUCCESS	16/20 = .80
		FAILURE	4/20 = .20
	MEDIUM	SUCCESS	3/5 = .60
		FAILURE	2/5 = .40
	LOW	SUCCESS	0/2 = 0
		FAILURE	2/2 = 1.0

---

SECURITY	HIGH	SUCCESS	15/19 = .79
		FAILURE	4/19 = .21
	MEDIUM	SUCCESS	4/5 = .80
		FAILURE	1/5 = .20
	LOW	SUCCESS	0/3 = 0
		FAILURE	3/3 = 1.0

---





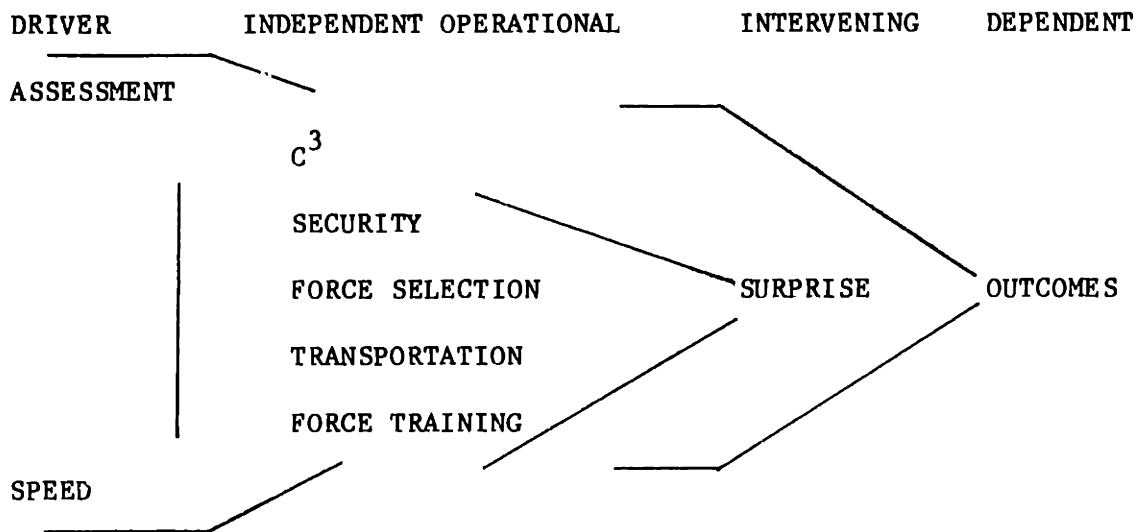
#### D. Refining The Model

In this section, all of the previous analysis will support the creation of a final probability model. The model is empirical but not explicitly mathematical. The lack of rigor in quantitative methods precludes excessive confidence in the model when considered alone. However, the combination of qualitative and quantitative analysis leads to a useful universal framework for analyzing these operations and predicting success.

The variables can be grouped into four major classes. Two dominant "driver" variables impact on all the other variables and display great independence -- Assessment and Speed. A second group of variables, "independent operational" variables interact with one another, and with the "driver" variables. Within this group of operational variables are Command, Control, Communications, Security, Force Selection, Transportation, and Force Training. Command, Control and Communications are so interrelated as to be almost inseparable. They co-vary in operations with great consistency. It is possible to collapse these variables into a single large variable, titled  $C^3$ . A third type of variable is the "intervening" variable of Surprise. Unlike the other nine variables, surprise does not appear to be a truly independent variable. It falls between the independent and dependent variables and is largely the product of four other variables. Surprise is essentially a

function of Assessment, Security, Force Selection, and Transportation, and can be expressed in that fashion. The final variable is the dependent variable, outcome (success or failure). These four types of variables can be expressed as follows:

TABLE XI



Although the model does not precisely fit every case, the meanings and relationships which it represents can be useful. These relationships reflect the results of the hypothesis testing, scaling and chi-square analysis. The model will also allow for some probability analysis. With successful probability modeling, the model permits a test of its predictive utility.

Dozens of attempts were made to relate these variables mathematically, including regression, weighting schemes, and association techniques.



The number of cases is simply not sufficient to result in a mathematical model that possesses a high degree of confidence. Several modeling methods developed in A First Course in Mathematical Modeling were tried, including Monte Carlo simulations, without success. The complexity of the variable relationships and their relative weights in influencing one another and the final outcome makes precise modeling impractical with so few cases. Nonetheless, one method appeared to provide a system for addressing the probability problem. The most promising technique was the analysis of the variables and outcomes, and the discovery of clear patterns of relationships.

A careful comparison of the case outcomes (graded A-D) to the variable values permits the derivation of a series of rules concerning probable outcomes. These rules are logically consistent with the conclusions derived from all three methods of analysis utilized in this chapter. The rules produce a working model for projecting probable outcomes. The results of the analysis, titled Probability Outcome Rules, are listed below.

#### PROBABILITY OUTCOME RULES

1. Failure occurs when low ratings are recorded:
  - a. complete failure occurs when 2 or more low ratings are recorded.

- b. partial failure occurs when 1 low rating is recorded.
2. Complete success occurs when: 6-10 variables receive high ratings; 1-4 receive medium ratings; and 0 low ratings.
3. Partial success occurs when: 3-7 variables receive high ratings; 3-7 variables receive medium ratings; and 0 low ratings.

These rules are fully satisfied when applied to the twenty-seven cases. The tables presented earlier clearly show the patterns of variable values when related to case outcomes. If these rules are valid, then they should be applicable to other cases.

In the next chapter, the CRO model will be applied to the Grenada case. The ten variables, in an hypothesis testing format, will be applied to this 1983 operation. The Probability Outcome Rules can then be applied to the results to formulate a prediction based upon the pattern of variable values.

In this final validation test of the CRO model, all aspects of the model will be tested: descriptive utility; insights into environmental influences; necessary and sufficient conditions; and predictive potential.

## CONCLUSION

The model is useful and works well for the twenty-seven cases analyzed thus far. A test of the predictive power of the model will occur in the next chapter when the model is applied to the 1983 intervention in Grenada. It is difficult to objectively evaluate any operation retroactively, but a deliberate attempt will be made to apply the model based upon what was known at the time; or what would have been known at the time, had an objective observer looked at the operation through the lens of the CRO framework.

It is also clear by now that these variables also reflect environmental conditions and constraints. Moving forward in the inductive-deductive process, the Grenada case will also illustrate the importance and relevance of organizations, systems, and doctrines as they impact upon the variables in the model.

## CHAPTER EIGHT

### APPLYING THE CRO MODEL TO THE GRENADA CASE

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.

- Henry Kissinger

#### OVERVIEW

United States military action in Grenada on October 15, 1983 presented an excellent case for testing the applicability and utility of the CRO model. The initial phases of the operation typified the special operations typology which has been used in this study. The first twelve hours of the Grenada operation fulfill all of the criteria for treating this case as a combat rescue mission.<sup>1</sup> The remainder of the action in the Grenadan intervention, from the afternoon of October 25, through November 3, 1983, assumed a more conventional appearance and approach.<sup>2</sup> The arrival of reinforcements from the 82nd Airborne Division via

- 
1. The Grenada intervention was a deliberate military operation whose intended purpose (among others) was the rescue of U.S. citizens trapped in Grenada. Initial action was undertaken by special units across a foreign border into a combat environment. It involved planning and direction from the highest levels of government, and required unconventional and imaginative methods for accomplishing the missions.
  2. When the 82nd Airborne landed on the afternoon of October 25 in C-141 air transports, the military action assumed a different complexion. The operation was characterized more by the application of conventional tactics of the infantry battalion with accompanying artillery, air, and naval support.

Air Force jet transports on the afternoon of October 25, generally marked the cessation of special operations and the beginning of conventional military operations. This event provides a logical dividing point for the analysis.

The problems that surfaced in the early hours of the operation expanded and worsened through the first and second days. By the third day, operations began to improve. This study will focus on the events preceding the intervention, and extending through the afternoon of the first day. It will also include some analysis of the systemic and organizational problems which were more fully manifested after the first day of operations.

The "invasion" of Grenada is widely regarded as a successful operation.<sup>3</sup> The conventional wisdom among military experts is that all of the major military and political objectives were accomplished.<sup>4</sup>

- 
3. Reflected in U.S. polls, opinions of the participants, and many military analysts. Even members of the House of Representatives, who were initially very critical of the operation, changed their opinion after visiting Grenada in November 1983. Internationally, most U.S. allies were critical of the decision to use military force especially the Prime Minister of Great Britain.
  4. The major objectives (collated from a number of open sources) were: rescue of endangered U.S. citizens and allies; elimination of Grenada as a Cuban/Soviet base for expanded hemispheric operations; restoration of democracy in Grenada; and restoration of the American will to use military force to accomplish its objectives.

However, even the highly edited unclassified version of the OPERATION URGENT FURY REPORT by the Commander in Chief of the U.S. Atlantic Command acknowledges that there were serious deficiencies. Many of those serious deficiencies were clearly revealed in the first phase of the operation. Because this analysis takes an operational systems approach rather than a strict national mission accomplishment approach, the results may be at odds with generally accepted beliefs.<sup>5</sup> This approach is necessary in order to objectively and empirically evaluate U.S. performance in the conduct of combat rescue operations in Grenada.<sup>6</sup>

- 
5. Not all of the "experts" believe it was a success. For example, William S. Lind, member of the private Defense Reform Forum, prepared a scathing critique of the entire operation. His thesis was that the U.S. has failed to learn and apply any of the lessons of our previous "failures". Without a major reform effort, the U.S. will continue to repeat the same mistakes.
  6. Detailed information on the Grenada operation, especially the special operations dimension, remains classified. The exclusion of media representatives from the first few days of the operation also limited a traditional source of information. However, several reliable reports and commentaries containing essential details have emerged since November 1983 in the public domain. The details contained in the analysis which follows are extracted from the public record and open interviews. Sources include: published reports (both official and unofficial), speeches; Congressional testimony; and interviews with military and civilian State Department and Defense Department personnel. It is believed that this information is sufficiently accurate and complete to permit a fair analysis of the operational performance.

## ORIGINS OF THE CRISIS

At least seven months prior to the invasion of Grenada, the President of the United States made public his concerns regarding developments in Grenada. In a televised speech on March 23, 1983, President Reagan criticized the leaders of Grenada for establishing close ties with the Cuban and Soviet governments. He pointed to a photo of the Point Salines air strip and stated that "The Soviet militarization of Grenada can only be seen as power projection in the region."<sup>7</sup> This military activity was accompanied by the evolution of a more radicalized and leftist foreign policy. The internal political situation also indicated that the ruling party, led by Maurice Bishop, was clearly taking the country into the Soviet-Cuban camp.

U.S. fears were based on several concerns. Grenada was important, not because of its intrinsic value as a country per se, but rather because of its geostrategic position. The first specific

---

7. President Ronald Reagan, in a nationally televised speech, ABC Evening News Transcript, March 23, 1983, p. 2.

concern was economic. Within a 500 mile radius of Grenada, there were oil fields, refineries and tanker lanes which supplied the United States with almost three-fifths of its imported oil. Within a one hundred mile radius of Grenada, more than 2 1/2 million barrels of oil were produced per day.<sup>8</sup> Additionally, there were more than seven critical sea choke points through which more than half of all U.S. sea trade and oil imports passed.<sup>9</sup> The danger to free passage also applied to the free movement of U.S. naval vessels in the event of war. A squadron of nuclear-capable Mig-23's in Grenada would pose an enormous military threat to those routes (most notably the Panama Canal). The presence of three squadrons of these Mig's in Cuba was already worrisome.<sup>10</sup> The prospect of a Cuban-Soviet controlled 10,000 foot air strip posed too much of a threat to these vital economic and military concerns to go unanswered.

---

8. "Quarterly Review of Oil in Latin America and the Caribbean," (London: The Economist Intelligence Unit Ltd, 1st, 2d and 3rd quarters, 1980).

9. Grenada: A Preliminary Report, released by the Department of State and Department of Defense, Sec 16, 1983, p. 4.

10. Ibid.



The third geostrategic concern involved regional security. President Reagan's foreign policy in the Caribbean Basin was threatened by the destabilizing effects that an armed Grenada might foster. U.S. intelligence sources believed that Grenada was becoming a base for the export of arms, information and expertise for insurgent movements throughout the region. President Reagan again asserted his view of the potential impact on the region in April 1983 when he reminded citizens of the covert transportation of arms and ammunition to Nicaragua from Libya.

We are all aware of the Libyan cargo planes refueling in Brazil...on their way to deliver medical supplies to Nicaragua. Brazilian authorities discovered the so-called medical supplies were actually munitions and prevented their delivery. You may remember that last month, speaking on national television, it showed an aerial photograph of an airfield being built on the Island of Grenada. Well, if that airfield had been completed, those planes could have refueled and completed their journey.<sup>11</sup>

U.S. concerns were heightened in the intervening months. The ruling party of Grenada led by Maurice Bishop seemed to temper its more radical elements and tried to alleviate U.S. fears regarding

---

11. President Reagan, "Central America: Defending Our Vital Interests", Address by Ronald Reagan Before a Joint Session of Congress, April 27, 1983.

its threat to U.S. security. However, political violence shook the Island. In early October 1983, the People's Revolutionary Party placed Prime Minister Bishop under house arrest and took control of the country. On October 19th, thousands of Grenadans protested the harsh new government and the collapse of basic governmental services. They marched to the Prime Minister's residence and freed him from house arrest. Together, they and members of the Cabinet went to Fort Rupert in an attempt to free more political prisoners. Violence erupted when the People's Revolutionary Army seized Bishop and three of his Cabinet Ministers and two labor leaders, brought them into the fort and executed them. The troops also fired on the crowd causing over fifty casualties. The Revolutionary government imposed a dawn-to-dawn curfew and issued orders that any violator would be shot on sight.

Concerned by these events, the President ordered that detailed preparations commence to evacuate U.S. personnel. Over the following several days the conception of the operation grew from a permissive naval evacuation to a full military intervention in the face of collapsing diplomatic alternatives.

#### INTERNATIONAL CONTEXT

The United States was concurrently deeply involved in the Middle East crisis. U.S. Marines in Beirut were under siege and

mounting casualties were raising serious questions about the efficacy of U.S. involvement. Recent peace initiatives were scuttled by the Israelis and Syrians, and the inability of the Lebanese government to form a working coalition. The bombing of the Beirut embassy was a somber reminder of the vulnerability of U.S. personnel and a premonition of the devastating suicide attack on U.S. Marines at the Beirut airport.

America was also deeply involved in attempts to get arms control negotiations going with the Soviet Union, assuaging Allies on the deployment of Pershing and cruise missiles to Europe and coordinating a complex Caribbean policy.

The invasion of Grenada was met by harsh criticism from the USSR and generally negative reactions from allies and adversaries alike.

A few days prior to the decision to intervene, the six members of the Organization of Eastern Caribbean States (OECS) requested U.S. intervention under the provisions of their regional security treaty. Coupled with a secret message from the British Governor-General of Grenada, these requests lent strong support to intervention alternatives.

Intervention would also send a clear signal to both Cuba and Nicaragua regarding the U.S. willingness to employ force to protect its perceived interests in the region. As planning for

the intervention proceeded, the objectives were broadened to include: rescuing and evacuating U.S. citizens; removing Soviet and Cuban influence; and restoring democracy.<sup>12</sup>

#### DOMESTIC CONTEXT

The events unfolding in Grenada posed a clear threat to the security of the U.S. citizens on the Island. The possibility of a hostage-type seizure of the students, officials and tourists was a potential development which was unacceptable to the President. In a nationally televised speech on October 23rd, the President spoke of his concern and asserted the right and obligation of the American government to take appropriate action to protect the lives of its citizens. "I believe our government has a responsibility to go to the aid of its citizens if their right to life and liberty is threatened. The nightmare of our hostages in Iran must never be repeated."<sup>13</sup>

---

12. Statement by Langhorne A. Motley, Assistant Secretary for Inter-American Affairs, before the House Armed Services Committee, January 24, 1984, in Current Policy No. 541, "The Decision to Assist Grenada", January 24, 1984, Department of State, Washington, D.C., p. 1.

13. President Ronald Reagan in a nationally televised speech to the nation, CBS Reports transcripts, October 23, 1983, p. 1.

1983 was also an election year. The clear memory of the Iran debacle, its impact on the Carter presidency in 1979, and President Reagan's special role in that experience strongly influenced his motivation to act decisively in Grenada.

#### THE OPERATION<sup>14</sup>

The State and Defense Departments conducted a number of Interagency and Interdepartment assessment meetings during 1983. Serious planning however, did not begin until ominous political signs developed in Grenada on October 13th, and when the evacuation question became a primary concern. The President asked the Secretaries of State and Defense and the Chairman of the Joint Chiefs of Staff to review contingency plans for an evacuation. On October 17th, Langhorne Motley, Assistant Secretary of State for Inter-American Affairs, chaired a special interagency meeting to review all of the available information and to examine the progress of preparations for an evacuation. The President and Vice-President were updated regularly on all developments.

---

14. There are some conflicting accounts of preparatory actions and operations in Grenada. Controversial points are cited separately. Primary reliance is placed upon: Hearings of the Senate and House Armed Services Committees; OPERATION URGENT FURY REPORT; the 22nd Amphibious Marine After Action Report; State Department publications; journal/magazine and newspaper articles; and recorded and personal interviews.

On October 19th, the planning emphasis changed from a permissive evacuation to a possible combat intervention. The violent developments in Grenada earlier that day led to the JCS order to divert ships and Marines bound for the Middle East to Caribbean waters.<sup>15</sup> On October 22nd, the President broadened the mission to include restoring order and democracy to the Island. Serious planning began that day, and the first special operations were launched early on October 25th, 1983.

The Task Force Commander envisioned a two pronged attack against Grenada's defenders. A Marine Amphibious Unit would seize Pearls Airport in the northeast, and the 75th Rangers would seize the Point Salines air strip in the southwest. Cut off from any outside assistance, U.S. and OECC forces would then move quickly to secure the safety of U.S. citizens and allies at various locations on the Island. The final step would be to disarm the Revolutionary Guards and their Cuban assistants.

Major conventional operations on Grenada were preceded by a number of special operations. Special units from both the Army

---

15. The 22nd United States Marine Amphibious Group was enroute to the Mediterranean to relieve Marines in Beirut, Lebanon. The MAG was accompanied by the Sixth Fleet Carrier Task Force led by the Independence to relieve ships stationed in the Mediterranean. Additionally, a U.S. Air Force fighter and an AWACs wing were deployed to Roosevelt Roads, Puerto Rico, for regional security missions.

and the Navy were utilized. A Navy SEAL team was sent to reconnoiter the Pearls landing zone. Their precise and accurate intelligence contributed to major modifications of existing plans which averted a potentially serious problem for the Marine landing.<sup>16</sup> Another SEAL team was sent to reconnoiter the Point Salines area but they were tragically lost at sea due to a navigational error on the part of the aircrew who delivered them. A third SEAL team moved in the early hours to seize the Island's one and only radio station, Radio Free Grenada. It succeeded, primarily due to the lack of defenders. A fourth team of 22 SEALS infiltrated the city of Saint George's to reach the home of the British Governor-General, Sir Paul Scoon, and assure his safe evacuation. However, the SEALS were unable to complete their missions and were pinned down by a Grenadan reaction force and supporting small arms fire from Fort Frederick. Army special teams from the elite antiterrorist unit, DELTA, and the Rangers also received several missions. The first mission was to parachute into Point Salines and secure the landing zone for the Rangers who were to follow at 0500 hours.

---

16. Their intelligence input revealed the presence of a series of reefs which would have made an amphibious beach assault impossible. The Marines elected to land by helicopter instead. The final choice for landing sites was influenced by the SEAL's reports regarding the airport's defenses and the vulnerability of helicopters to anti-aircraft fire.

Due primarily to a lack of intelligence regarding the defensive preparations at Point Salines, the first group of Rangers were unable to secure the air strip. The Rangers had to divert from their scheduled drop due to the intense anti-aircraft fire from six Russian made ZS-20 guns. The Rangers rerigged their parachutes in flight to jump below the angle of fire of the guns, 500 feet, and exited the transports at 0526 hours. The second mission was for the DELTA team to infiltrate and reach the Richmond Hill prison where political prisoners were to be liberated. But they encountered heavy fire and were unable to accomplish their mission.

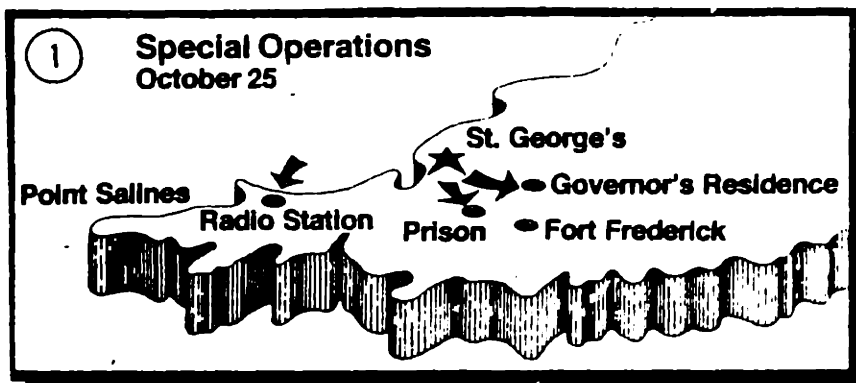
The Marines landed near Pearls Airport at 0500 and quickly overcame the weak but ready defenses. In the south, the Rangers parachuted into the Point Salines area and began to move to secure the air strip. Once the area was secured they moved east to the medical school and the True Blue Campus. At around 0850, over three hours after landing, they "rescued" 138 American students at the campus. Unfortunately, there were two other groups of students who were not liberated until the 26th and 28th of October, respectfully.

In the late afternoon of October 25th, soldiers from the infantry battalions of the 82nd Airborne began to land at Point Salines. They relieved the Rangers and pressed forward to Saint George's to the north and points east to accomplish their missions. During the subsequent days of fighting, part of the Marine Amphibious

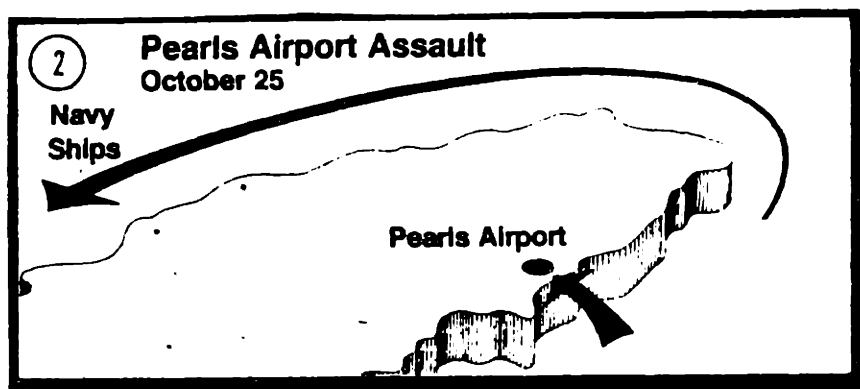


Force was redeployed to Saint George's to relieve the beleaguered SEALS pinned down at the Governor's mansion. On October 26th, 224 students were liberated by the Army at Grand Anse. On October 28th, 202 more students were liberated at Lance aux Epines.

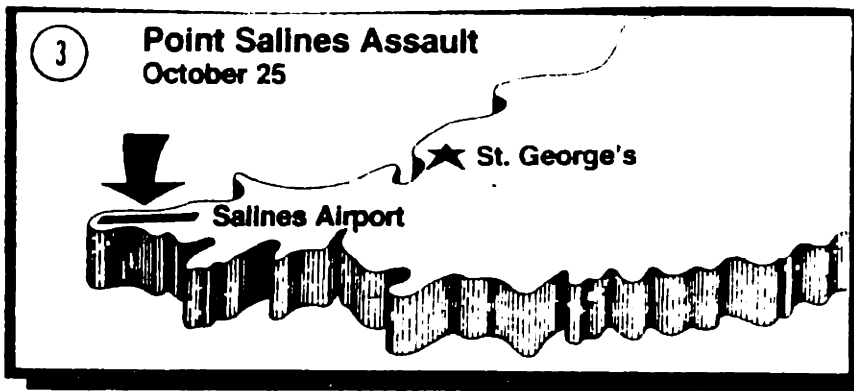
The sketches below depict the major events of the operation.



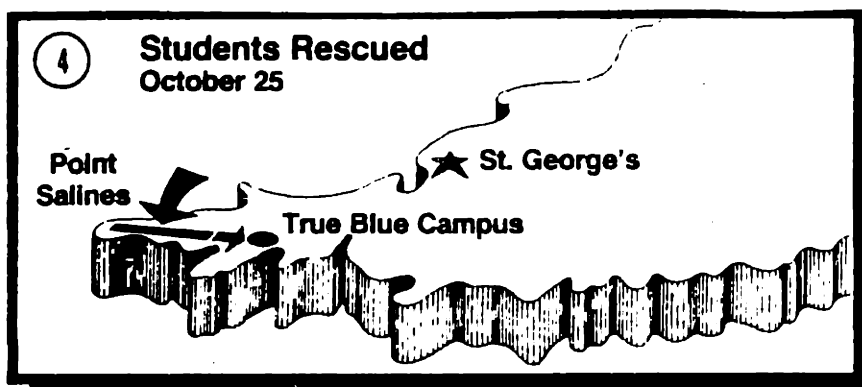
Pre-invasion attacks include successful assault by Navy SEALs on Radio Free Grenada and seizure of Governor General's house. Mission to capture Richmond Hill Prison was unsuccessful.



0500 — Helicopter assault on Pearls Airport by about 400 Marines from 22d Marine Amphibious Unit aboard U.S.S. Guam. 0700 — Area secured. Ships move around island during day.



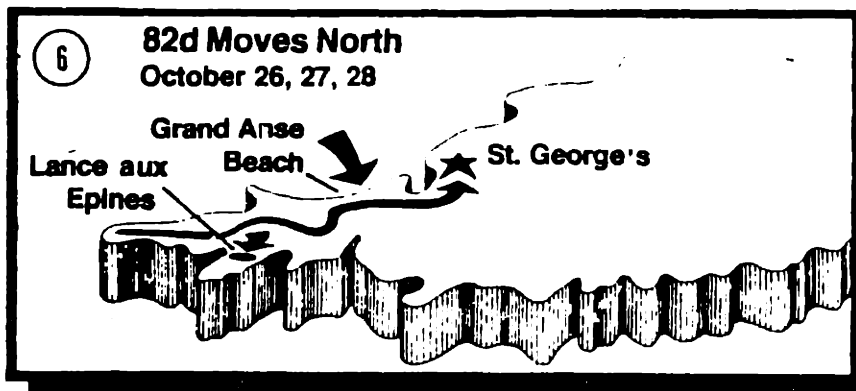
0536 — About 500 Rangers from 1st and 2d Battalions, 75th Infantry, and two soldiers from 82d Airborne Division, make low-level parachute assault on Point Salines airfield.



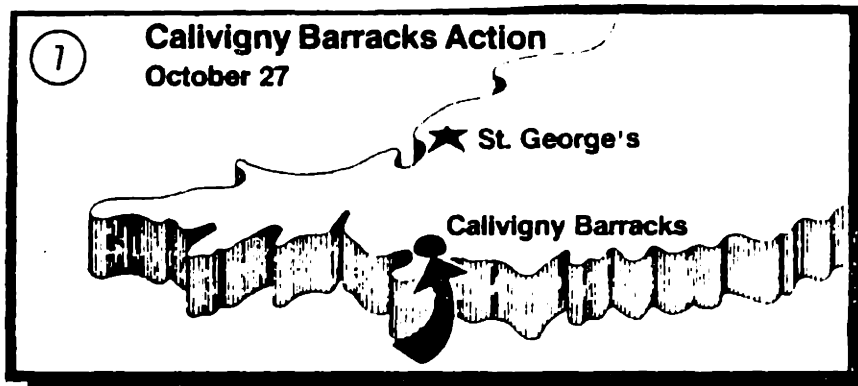
0850 — Rangers rescue 138 American medical students at True Blue Campus. Point Salines secured, 200 Cubans captured, 20 killed or wounded. 1405 — First elements of 82d Airborne land at Point Salines.



1930 — About 250 Marines land near Grand Mal. 0712, October 26 — Marines relieve SEALs at Governor General's house. 1725 — Fort Frederick taken. 1220, October 27 — Richmond Hill Prison taken.



1615 — Rangers rescue 224 American students at Grand Anse Beach.  
October 27, 28 — 82d Airborne enters St. George's, Grenada capital.  
October 28 — 202 American students rescued at Lance aux Epines.



1630 — Rangers in Black Hawk helicopters assault Calivigny Barracks. Helicopter hit by ground fire, collides with a second, a third lands on its side. Crashes kill three, injure 12. 1730 — Area secured.

(Sketches from the Army Times, November 5, 1984)

## TESTING THE PREDICTIVE UTILITY OF THE CRO MODEL

Testing the model from a post-operations perspective, with the full benefit of hindsight, is a difficult but not impossible problem. The model generates a number of questions in each conceptual area (ASSESSMENT, SPEED, etc.) and almost all of the questions can be answered without full knowledge of the actual outcomes of the operations. More importantly, the questions can be answered without bias from knowledge of the outcomes.

For example, the ASSESSMENT variable leads to three questions when the model is reorganized into a predictive format:

- Was the widest range of intelligence assets utilized to provide a complete and precise picture of the operational milieu?
- Were intelligence efforts centralized, organized, and coordinated?
- Were plans continually modified to reflect the latest intelligence?

If the answer to all three questions is "YES", then the model would call for the assignment of a "HIGH" rating. If the answers to all three questions are "NO", then the opposite would be the case -- a rating of "LOW". Mixed answers result in "MEDIUM" ratings.

Each of the variables and associated questions will be addressed in sequence. The final prediction will be based upon the decision rules developed in Chapter Seven.

## ASSESSMENT

Was the widest range of intelligence assets utilized to provide a complete and precise picture of the operational milieu? The intelligence picture of the situation in Grenada on the evening of October 24th was incomplete. The Combined Joint Task Force Commander did not know precisely where all the Americans were located. They were believed to be at the medical school on the site of the True Blue Campus, but Admiral McDonald indicated in an interview that it was never confirmed.<sup>17</sup> The picture of the enemy situation was also incomplete. Many critical details regarding the size, nature and capabilities of the defenders at Point Salines and the other critical targets were generally unknown.<sup>18</sup> Only the picture at Pearls Airport was clearly in focus. The DELTA force and Rangers were surprised by the defenses they encountered.<sup>19</sup>

The sources of intelligence were limited to primarily aerial photographs and electronic intelligence sources. Very little HUMINT was employed, other than the SEAL reconnaissance of the

---

17. Admiral Wesley McDonald in an interview reported in the Army Times, November 5, 1984, p. 34.

18. Charles Maechling, Jr., "Grenada Intelligence Simply Wasn't", New York Times, November 17, 1983, p. 7B.

19. New York Times, October 26, 1984, p. A6.

Pearls Airport area. Other available means such as the infiltration of agents, use of telephones, or other human means were not employed but could have been.<sup>20</sup> The answer to the question above is generally "NO."

Were intelligence efforts centralized, organized and coordinated? In spite of months of growing pressure within the Administration regarding the situation in Grenada, no single agency was identified as the central coordinating agency for planning the intelligence effort for any type of major intervention in Grenada. Much activity was taking place on the National Security Staff, at the State Department, and in many offices in the Pentagon, but it was not centralized until October 22nd, 1983. The JCS directed that CINC Atlantic plan and command the operation. He, in turn, vested the centralized effort in the Second Fleet Commander and his staff. The organic staff elements of that staff then became the core around which all other intelligence efforts were organized. The organization and coordination of that effort was seriously limited by five "frictions": experience; location; unfamiliar working relationships caused by the rapid infusion of CIA, DIA, NSA, 1st SOCOM, etc. intelligence and other personnel into the working network; complexity of the operation; and the shortage

---

20. Maechling, p. 7B.

of time. The supreme effort that was made was a testament to the dedication and capability of U.S. military personnel. However, it was far from ideal. At the moment of the crisis decision to pursue a military alternative, there was no specialized agency or command which could plan and execute the operation with a highly centralized, organized and coordinated assessment effort. Compared to that potential "ideal" set up, the acceptance of the inefficiencies and frictions of the existing system call for an appropriate ranking -- MEDIUM.

Were plans continually modified to reflect the latest intelligence? Plans were continually modified based upon receipt of the latest intelligence prior to the operation. The success at Pearls airport is an example of the critical nature of that interactive process. Other modifications were limited by the simple lack of intelligence. During the operation itself, it would have been likely that there would be significant difficulties in maintaining that process. As will be discussed below, predictable difficulties in C<sup>3</sup> would likely hamper ongoing intelligence operations. This is particularly true at the tactical level. The local commander in contact must have the ability to keep his higher commander fully informed. There were many simultaneous operations planned on Grenada, and it is likely that the tactical intelligence flow would become delayed and confused due to the C<sup>3</sup> system problems. The answer to the question, therefore is generally NO -- and the ranking



is MEDIUM.

Overall, the ASSESSMENT problems could have been apparent to an objective observer the night before the operation. The model would predict an overall rating of between LOW and MEDIUM. Rounding up yields a MEDIUM.

#### SPEED

To what extent did existing or ad hoc organizations facilitate the effective management of time constraints for organizing, planning, training, and executing the operation?

The CJTF CO was not appointed until October 22nd, less than three days before the operation began. The forces involved were not given detailed planning guidance until less than 48 hours prior to the beginning of the operation. Only the fortuitous availability of an aircraft carrier task force and a Marine Amphibious Unit, and on-call special forces teams and Air Force Units permitted a major military option at all. (Had they not been available it would have been interesting to see the JCS call upon the JSOC and 1st SOCOM to prepare a SOCOM-only operation.)

All of the units were deployed or redeployed on a timely basis. The units were generally well prepared for a variety of missions. The centralization of command and control within a specified command such as the Second Fleet assured a "not totally" ad hoc approach would save valuable time -- no special commands

or major overhauls in the control system would have to be developed. However, the nature of the mission made it both a joint operation (more than one service) and a combined operation (more than one nation). The sheer complexity of the interservice relationships degraded the efficiency of the Second Fleet Staff and various interfacing and supporting staffs such as SOCOM, MAC, TAC, etc.; not to mention the intelligence dimension (discussed above). The model would predict that even an extraordinary effort would not escape the pressures and problems created by the time element and its impact upon organizing, planning, training, and executing the operation.

Overall, the operation would appear to suffer from the effects of this factor and would rate a LOW.

#### SURPRISE AND SECURITY

The CRO model postulates that surprise and security are virtually inseparable in their impact on operations. Did the operation catch the enemy unaware? Did the efforts prevent the compromise of the operation and provide adequate external support in case of contingencies?

The defenders on Grenada were probably alerted to the impending invasion. First, the President of the United States had made his position public and clear. It was widely reported in the open press that the 22nd Marine Amphibious Unit and its accompanying

carrier task force had been diverted to the Caribbean. The deployment of U.S. Air Force fighters to Roosevelt Roads in Puerto Rico was also unusual. Stepped up communications and military preparations throughout the region were easily observed by Cuban intelligence sources. Finally, there is a strong suspicion that the State Department informed both the Cuban and the Soviet governments of U.S. intentions in Grenada the night before the operation.<sup>21</sup> U.S. intelligence also knew that the Cuban Colonel flew into Grenada on October 24th, presumably to take command. In summary, there was no real surprise and no sophisticated strategic deception scheme. The elements of surprise that did remain however, were all tactical: where, when and how. These uncertainties at least preserved some advantages for U.S. action. Surprise, however, is LOW.

Security efforts, on the other hand were extensive. Operational security was generally good. Units were not alerted until the last possible minute. Routine security measures were practiced by all of the participants. Further, the planning for general contingencies was good. Extensive efforts were made to provide for Navy, Air Force, and Army air support, and to provide the necessary teams to effect proper coordination. Overall, security was good and rates a HIGH.

---

21. Timothy Elder, "State Department Denies Cuba Got Grenada Alert", Washington Times, January 5, 1984, p. 1.

## COMMAND

Was the command unified (with clear lines of authority), qualified and properly positioned?

The chain of command extended from the NCA- JCS- CINCLANTCOM CJTF CO (2d Fleet CO)- Marine and Army ground commanders, including special operations. Prior to the operation, the Chairman of the JCS, General Vessey, made it clear that he would not interfere with the command of operations in Grenada. The on-scene commander would be permitted to direct his full attention to the mission without interference from Washington.<sup>22</sup> This attitude reflected an understanding of the myth of omniscient cybernetics.<sup>23</sup> Vice-Admiral Metcalf was the on-scene commander and commanded from the Guam positioned off the coast of Grenada. From the President to Admiral Metcalf, the chain of command was clear. Below the level of the CJTF CO the lines of authority were less clear. There was no single ground commander designated to command two different services which would eventually need to closely coordinate their actions. The superimposition of special operations requirements upon the conventional command structure was difficult. Special operations representatives were placed in an advisory position

---

22. McDonald Interview in Army Times, p. 32.

23. A recent study prepared at the Army Command and General Staff School shows a high correlation between high level involvement ("interference") and failure. Titled the "Myth of Omniscient Cybernetics," it challenges the notion that technological abilities to command the microaction are beneficial.

on the CJTF Staff for contingency decisions.

The qualifications of the commanders to operate their units within the environment of a combined joint task force operation were less clear. To what extent were the Army and Marine ground commanders prepared for complicated movements and actions which involved: delivery by the Air Force or Marine Air; fire support by Marine or Army artillery; close air support by Air Force or Navy aircraft; naval gunfire support; and overall command exercised by a Navy Vice-Admiral? It is not easy to answer, but the complexity of the interservice combat environment had no precedent in the experience of all the commanders involved. For example, the last combat parachute jump of that size was "Vietnam" in 1965; and None of the commanders had the benefit of either of those experiences. Although the commanders were thoroughly professional and dedicated leaders, the experience question is a valid one. Coupled with the fuzziness of command relationships in a mixed service environment there were bound to be significant problems.

The commanders were carefully positioned to assure that they were capable of exercising positive leadership. Overall, the potential command problems below the level of the CJCTF CO degrade an otherwise outstanding command concept to a MEDIUM.

## CONTROL

Was the overall plan built around the special operations?

Were the commanders in control of the planning process?

Were the commanders prepared to exercise control through appropriate measures?

Did the control measures allow for a wide range of contingencies?

The initial special operations dimension of the plan was critical to the overall effort. A loss of control over the special operations forces could have serious consequences -- proper reconnaissance, securing the airfield for follow-on Rangers, and airborne, etc. The plan was built around these operations, but was too dependent upon their success. The overall operation should have been treated as a combat rescue organizationally, by allowing the SOF units to plan and execute the operation.

The plan was prepared by the expanded staffs of the Atlantic and Second Fleets.<sup>24</sup> Representatives from all of the major units participated in the process to the extent permitted by the available time. The detailed planning by subordinate unit commanders was limited by time and the lack of detailed intelligence. The lack of (or the decision not to use) "off-the-shelf" contingency plans permitted only a general control concept in conjunction with the command concept. For example, how were the Ranger commanders

---

24. OPERATION URGENT FURY REPORT, p. I-1.

to call for and receive supporting fires (from four different sources) while simultaneously clearing the targets with adjacent units, special teams in the area, and tactical intelligence sources (to avoid hitting friendly targets, for example)?<sup>25</sup>

This type of control problem has historically been encountered in combat, along with another ten equally difficult problems, and seemingly always at the same time. The control measures were simply not refined to the level of detail necessary to make the control system work smoothly. Serious problems in control were inevitable.

The control problems noted above were exacerbated by the lack of military topographic maps for all units. Reportedly, the 1st SOCOM managed to provide regular topographic maps for some of their units.<sup>26</sup> One or two cases of proper maps notwithstanding, the majority of units were using tourist maps. But worse, there was no centralized control of map issue to assure that all of the superimposed grid reference systems were the same. Proper control of all units and fires on Grenada would dictate that all units

---

25. In reality this is precisely what happened. The fact that it can be easily predicted is disturbing. Jack Dorsey, in the Norfolk-Virginia Pilot, January 26, 1985, p. 6 reports that 16 U.S. soldiers were wounded by misdirected aircraft gunfire, one fatally, as a result of control problems.

26. Interview with Rangers who participated in the mission, November 1983.

read off the same sheet of music. This was entirely predictable, and also points to one of many subtle but serious problems posed by different services planning operations for other services.

Finally, the contingency planning was not very good. What would happen if the first special units landed in the wrong places or could not accomplish their missions on schedule? Control measures within those contingency plans were limited by the same problems discussed above.

Overall, the control concept was hastily prepared and not planned in detail, and was destined to encounter significant difficulties if the operation did not unfold precisely as planned. Control rates a MEDIUM, at best.

#### COMMUNICATIONS

Were communications integrated into the concepts for command and control?

Was the most advanced equipment utilized?

Were effective techniques and redundant systems employed?

All of the questions could be answered with a YES for the special operations phase of the operation. However, numerous problems could be expected for the follow-on units. It is difficult to refine a communications concept to deal with a complicated



battlefield environment when the command and control concepts themselves are at a high level of generalization. The equipment was generally very sophisticated and included the latest manpack satellite radios.<sup>27</sup> However, some of the units were equipped with AN/PRC-77 radios which represent the problems and technology of the 1950's. Generally, the communications equipment within each unit or aircraft was very good.

The greatest potential area for failure would be the effectiveness of unit standard operating procedures and techniques when contact outside of the unit was required. Interoperability problems always exist in joint operations. Could the SEAL teams call for evacuation by Army helicopters? Would a squad of Rangers be able to adjust naval gunfire? Would a pinned down airborne unit be able to coordinate a Navy jet air strike?

The potential problems extended beyond fire control. The communications were also not very conducive to movement control and the flow of tactical intelligence. Interviews reveal that there were at least twenty different types of radios operating across over a hundred frequencies with three different code procedure systems by the afternoon of October 25th. It is difficult to imagine such a complex system functioning smoothly without

---

27. Aerospace Daily, "McDonald Reviews C<sup>3</sup>I During Grenada Operation", December 12, 1983, p. 210.

intense and thorough planning and extensive integrated training. Fortunately, most of the operations retained unit integrity and the individual units were well-trained with their own systems and techniques. Special operations communications could have been projected to have been good.

On the strategic level, the communications were superb. From the CJTF CO up, the integration of equipment and techniques was excellent. The tactical level for COMMUNICATIONS however was more problematic but serious difficulties could probably be avoided. Communications rates a HIGH.

#### FORCE SELECTION AND TRAINING

Were the proper blends of forces and equipment provided for the operation?

Was proper training, consisting of integrated training for all operational forces, including full rehearsals, comprehensive evaluations and contingency preparations completed?

The forces and equipment were well-matched to the missions. The Rangers, DELTA's and SEAL's were assigned missions which they were thoroughly prepared to accomplish. Beach reconnaissance, infiltration, facility seizure, hostage rescue, and close combat all involved routines and skills that were second-hand to these units. The model would predict a high level of success for these

units. The Marines and 82nd Airborne soldiers were trained for more conventional operations, and they were employed properly for those missions.

Routine shortcomings in training could be expected. Grenada was a foreign country, but most of the people were not counted as the enemy. Separating friend from foe and dealing with the politico-military end of the operation was not a dimension of the training accomplished at the squad and soldier level.<sup>28</sup>

The greatest deficiency would appear to be the lack of time to conduct integrated training with evaluations and contingency preparations. The problem was not alleviated by the experience levels of the units. It was possible to finesse part of the problem by giving the different services missions on opposite ends of the Island and regulating their interaction when they approached one another. But it was difficult to get around the fire control, intelligence, and maneuver problems that integrated operations include. The lack of time to prepare for specific missions by particular special units was also a problem. There was no opportunity for the DELTAS to adjust their capabilities

---

28. In fact, an 82nd Airborne officer came very close to calling an air strike on a building which was flying an unfamiliar flag. Small arms fire was coming from the vicinity of the building. Cooler heads prevailed until the building was identified. It turned out to be the Venezuelan embassy. George C. Wilson, "Flaws Seen in Grenada Invasion", Washington Post, March 12, 1985, p. 8.

to the specifics of the Richmond Hill Prison mission -- no mock ups, no careful assessments of the enemy positions, armaments and so forth.

Overall, these problems reduce the ideal effectiveness of the forces. Therefore, the overall rating for Force Selection would be HIGH and Force Training would be a MEDIUM.

#### TRANSPORTATION

Did the forces travel to and from the objectives with reliable and tested systems?

Was the transportation concept integrated thoroughly into the overall plan?

All of the delivery means were tested and proven, although the 500 foot combat parachute drop had not been utilized in nearly 20 years. The sea infiltration techniques employed the latest technological delivery means. The concept was generally good with only one significant failing. The sequential nature of the delivery of units at Point Salines (advance group, Rangers, 82nd Airborne) depended greatly on each unit succeeding in turn. Any major problem at any stage would have complicated the timing for the delivery of the next unit. Overall, TRANSPORTATION rates HIGH.

## EVALUATION OF THE MODEL

The model provides a thorough and rigorous framework for describing all of the complex dimensions of the operation in general conceptual terms. The model also appears to account for both the necessary and sufficient conditions for success. The overall relationships of the variables are not completely clear however for two reasons. First there were multiple special operations occurring simultaneously. Second, the true relationships of the variables are difficult to confirm.

A summary of the results is as follows:

TABLE I

AS	SP	SUR	SEC	CMD	CTRL	CMO	TR	FS	FT
MED	LO	LO	HI	MED	MED	HI	HI	HI	MED

The application of the decision rules from the previous chapter requires the summary of HIGH's, MEDIUM's and LOW's in order to test for the pattern of variable values and outcomes. The model would predict, based upon the results (4-HIGH, 4-MED, and 2-LOW) that the special operations in Grenada would experience either partial or total failures. The repetition of problems has great similarity in fact to operations discussed in earlier chapters.

Does the model stand up against the reality of operations on October 25th? At first, it would not appear so. The CJTF Commander

accomplished all of his major objectives. There were even some additional benefits of the operation which were beyond what was expected.<sup>29</sup> But were the special operations missions of the first day successes or failures? The table below reflects the missions and outcomes.

TABLE II

	SUCCESS	FAILURE	PARTIAL SUCCESS
RADIO FREE GRENADA	X		
RICHMOND HILL PRISON		X	
GOVERNOR GENERAL RESCUE		X	
STUDENT RESCUE		X	
PEARLS AIRPORT	X		
POINT SALINES AIRPORT			X

The missions at Radio Free Grenada and Pearls airport were clear successes. But in both cases, a major part of the success was due to the fact that those facilities were lightly defended or not defended at all. The Richmond Hill Prison and Governor General rescues were clear failures. In both cases the forces were unable to overcome the defenders. The SEALS were later

---

29. Langhorne A. Motley, before the House Armed Services Committee, January 24, 1984, in Current Policy No. 541, "The Decision to Assist Grenada," U.S. Department of State, January 24, 1984, p. 4.

rescued themselves by an amphibious unit consisting of tanks and Marines. The "rescue" of the students was not due to the action of the military forces but rather due to the inaction of the Grenadans and Cubans. Had they chosen to take the American students prisoner after the initiation of military hostilities, the operation could have become a disaster. It took over three hours to reach the first group of students; 36 hours to reach the second; and nearly 80 hours to liberate the third group of students! Operationally, the students were not truly rescued. The model predicts the probability of success based on U.S. action and initiative. The predicted "frictions" created significant delays in accomplishing the mission. The Point Salines air strip mission was neither a clear success nor a clear failure. It was finally secured, but much later than planned and with a greater expenditure of lives and equipment than originally expected.

The Urgent Fury After Action Report identified a number of major problems which occurred during the operation. Many others have appeared in a variety of sources. These problems clearly flowed from the conceptual and systemic problems implied in the model. Examples abound. The map problem created very serious problems. An air strike was called against a mental hospital and at least 20 patients were killed.<sup>30</sup> Over two-thirds of the

---

30. Ed Offley, Norfolk Virginia-Pilot, "Urgent Fury", February 2, 1985, p. 11.

actual U.S. casualties were non-combat deaths and injuries.<sup>31</sup> In one instance enemy small arms hit one helicopter which led to a chain reaction that destroyed three helicopters and killed or injured 9 men.<sup>32</sup> Progress toward Saint George's was very slow. There were many good reasons for this<sup>33</sup> but the C<sup>3</sup>I problems played a major role in the delays. Most of the initial mission failures were due to assessment failures and were compounded by the other problems. The SEAL mission to the Governor's home had no ready contingency. An amphibious force had to be organized and redeployed all the way around the Island to then land and move toward the house. It took over 24 hours to complete the rescue of the "rescuers." There were also many other significant problems.<sup>34</sup>

No military operation conducted in the "fog of war" is ever going to be perfect. But near perfect operations have been

---

31. Ibid.

32. Charles Mohr, "Grenada: Will Its Lessons Be Taught", New York Times. October 26, 1984, p. A6.

33. The JCS Chairman, General Vessey, responded to William Lind's criticisms in a report to Congress, noted in the Charles Doe article, p. 50.

34. See OPERATION URGENT FURY REPORT, especially Sections I-IV, VI, and VII.



conducted in very short periods of time. The Grenada operation was a success from the macro point of view largely due to good fortune, good soldiers, and strong leadership.<sup>35</sup> These are traditionally nearly immutable and unique characteristics of American forces. The real descriptive utility of the model is that it forces an objective and impartial review of the micro view of the operation. The real lessons to be learned will be most useful when placed in that framework (or any empirically based framework). Some interviewees indicated that the problems were all relatively minor because the final outcome was such a huge success. However, if the operational lessons are not learned, the same mistakes will be repeated. There were many Mayaguez-type errors repeated in Grenada. (Mayaguez was also judged a "success" by conventional wisdom.)

The predictive utility of the model is that had it been objectively applied the night before, members of the National Command authority may have balked at giving the final order. More time may have permitted a diplomatic resolution. Another 24 hours would have permitted significant opportunities to infiltrate special forces rather than launch a frontal assault. More time would have permitted the resolution of a number of the obvious and known problems in systems and concepts. On the other hand, a delay may have

---

35. George C. Wilson reinforces this point in his analysis in, "Flaws Seen In Grenada Invasion", Washington Post, March 12, 1985, p. 8. Also see the OPERATION URGENT FURY REPORT, pp. 1-3.

given the defenders more time to prepare their defenses and actually take the students under their control as hostages to be used as bargaining chips. Whatever the decision and alternate outcomes, the decision would have at least been empirically based, and not strictly based upon an unstructured "guestimate"; however professional the guesser.

In the next chapter, the implications of the model will be discussed. With its powerful (although not perfect) descriptive and predictive uses, a framework now exists for evaluating organizations, systems and doctrines in preparation for future operations. What are the true lessons which need to be learned?

## CHAPTER NINE

### ANALYSIS AND IMPLICATIONS

The most plausible conflict scenario for the future is that of a continuous succession of hostage crises, peacekeeping actions, rescue missions and counterinsurgency efforts...

The analyses of the twenty-eight cases in this study provide convincing evidence that combat rescue operations are difficult and risky under even the most ideal conditions. The CRO model provides a framework which permits the analyst to hold these complex operations up to the light and to view their many facets and internal reflections. Only an empirical approach to the problem of understanding past failures will lead to a thorough understanding of what is required to achieve success in the future.

The first four steps on the stairway to knowledge about these complex phenomena have been completed. Step one (Chapters One-Three) provided an initial and preliminary analysis of an intuitively and historically based series of variables. Chapter Four tested the preliminary model against four representative successful operations. In step two, the data base was reformulated to permit

- 
1. N.C. Livingstone, "Fighting Terrorism and 'Dirty Little Wars', Defense Planning for the 1990s (National Defense University Press: Washington, D.C.), 1984, p. 167.

the development of a series of hypotheses against which three American cases could be tested (Chapters Five and Six). This step also permitted a test of the ten variables with a focus upon determining their descriptive value in accounting for success and failure in these operations. The third step (Chapter Seven) led to conclusions about the descriptive validity of the model and its refinement for use as a potential predictive analytical model. In step four (Chapter Eight) the model was applied and tested against the American intervention in Grenada. The results reveal that the model has both descriptive and predictive utility and is potentially useful to planners and decision makers in evaluating the viability of the military alternative in critical foreign policy contexts. The final step, this Chapter, is to address the greatest potential value of the model -- what insights it reveals about organizations, systems and doctrine. What are the "lessons" that can now be derived to assist in difficult and complex national defense decisions.

Do issues surrounding how we organize our military forces, design our command, control and communications systems (cybernetics), as well as other systems, and develop our doctrine really make a difference? They of course do. But the difficulties of just designing our force structure to cope with low intensity warfare threats in general, and combat rescue operations in particular, are mammoth. There is no consensus as a guide for action. As

was pointed out in Chapters One and Two, there is also no generally accepted methodology for analyzing military operations of this type. The range of lessons drawn from a single case can be quite variegated and contradictory.

The inductive approach followed in this analysis is designed to cut across the different contexts, details and unique aspects of the cases to provide a single, empirically based methodology. Cutting through this confusion and debate is the critical leap forward which permits understanding, and ultimately, perhaps a consensus, to enable corrective action. This inductive approach is far different from the derivation of "lessons" based upon a general outline of war principles.

The final step is to answer the "so what" question and demonstrate what the research, analysis and model say in terms of implications for U.S. defense planning. By projecting the organizational, systemic and doctrinal questions across all twenty-eight cases, a final picture can be formulated. From this snapshot, a recommendation for an idealized "solution" to our past problems can be proposed. We will have progressed from the puzzle of "why no success" to a framework for future success.

Many of these conclusions have been hotly debated in political, military and academic circles. Over the past four years, special

operations have received a great deal of political attention, have been the recipient of a degree of military reform, and the object of study and research by many analysts and students. However, there is still no recognizable consensus. Was Grenada a success or not? What are the true lessons of that operation?

The various reform groups argue strenuously that special operations deserve their own separate military structure. The service chiefs and CINC's strenuously argue that special operations are only valuable in the context of conventional operations. The debate has largely paralyzed significant reform. Some progress however, has been made. The formation of the Joint Special Operations Agency, the Joint Special Operations Command, the 1st Special Operations Command, revival of the 5th Special Forces Group and the activation of now three Ranger battalions, represent progress in the Army. Similar enhancements are evident in the Navy and Air Force.

The creation of additional forces and commands, however, does not solve the fundamental problems. As yet, there is no comprehensive doctrine at the national level for the use of special operations forces.<sup>2</sup> Within SOF, there is a flurry of activity and planning

---

2. John O. Marsh, Jr., "Keynote Address," in Special Operations in U.S. Strategy (National Defense University Press: Washington, D.C.), 1984, p. 19.

that is impressive. But the fundamental failure to formulate a strategic concept for the use of these forces persists. The barriers to change are significant.

One must remember too...that people wedded to dogmas will often continue to cherish them undiminished despite ongoing experience that to any detached observer would prove these dogmas wrong. Awkward events can be explained away as being either due to special circumstances not likely to recur or to a misreading of the evidence.<sup>3</sup>

The 1983 intervention in Grenada illustrates the point. What was conceptually a special operation and theoretically manageable by SOF, was treated first as a conventional permissive evacuation; and then, as a non-permissive combat evacuation with mostly conventionally trained units. The historical precedents for that approach are non-existent. The organization, systems and doctrine guiding that operation were extemporaneous, and were assembled like a patchwork quilt. As of 1983, and indeed today, there is still no authoritative expression of a willingness to resolve these fundamental debates.

#### ORGANIZATIONAL IMPLICATIONS

The fundamental question becomes: How do we best organize to produce success? The model leads to a close focus on all the variables which possess a significant organizational dimension --

---

3. Bernard Brodie War and Politics (New York: The Macmillan Company, 1973), pp. 457-458.

SPEED, ASSESSMENT, FORCE SELECTION AND FORCE TRAINING. Applying the framework of the model to this fundamental question leads to the formulation of three "issue" questions.

- Does the United States need an existing SOF capability specifically committed and prepared to respond to CRO contingencies?

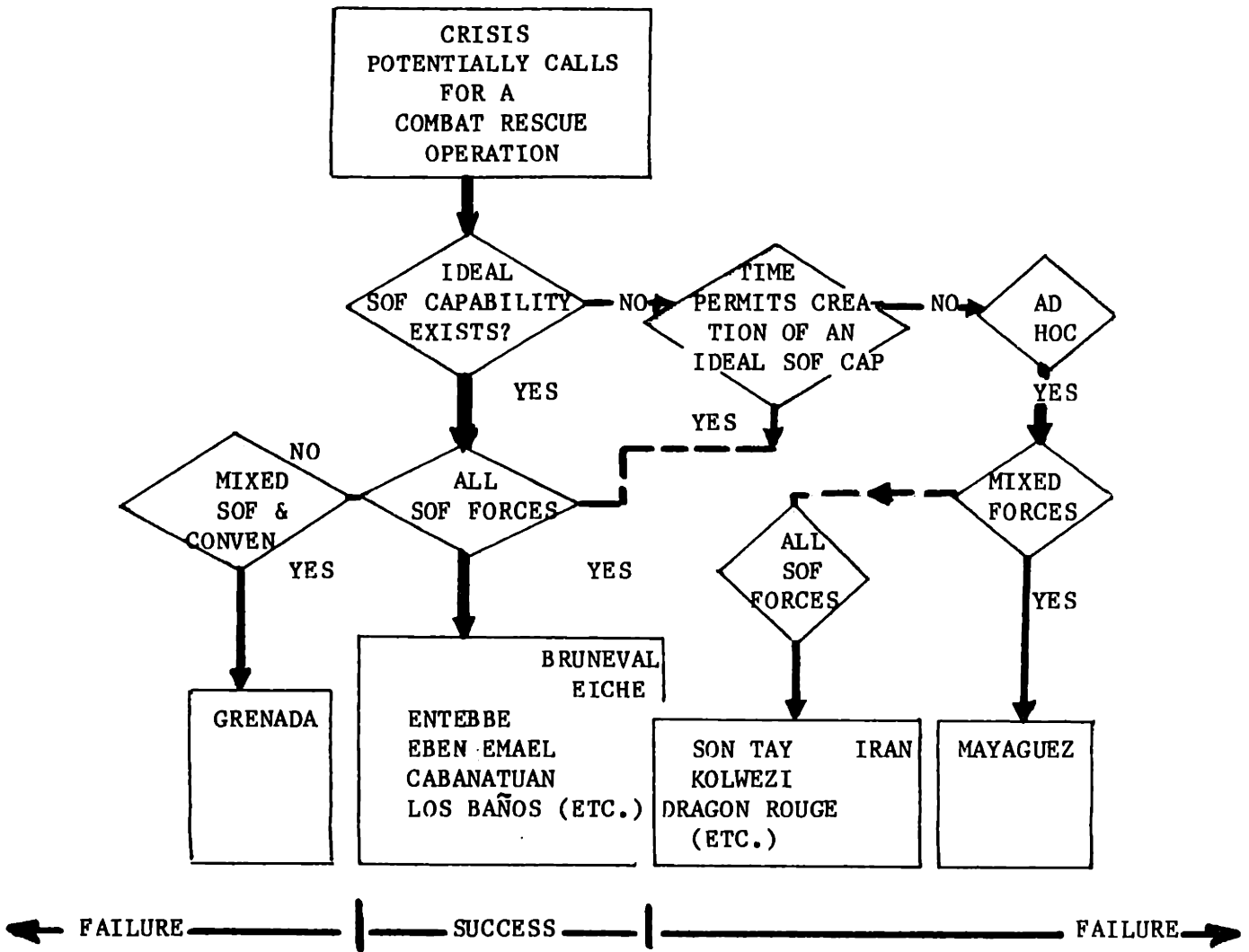
- What types of forces and how many of those forces should be included in the force structure?

- What relationship should exist between SOF and conventional forces?

The analyses of the twenty-eight cases in this study clearly show that the organizational dimensions of these operations greatly affect the outcome. In fact, an existing capability is absolutely essential unless the NCA has such available time and total control over the situation that it permits the creation of an extensively prepared special operations force. In all four American cases, an existing capability was either not available or was available but not utilized. In the Son Tay case, the planners could have called upon MACV-SOG to conduct the rescue. But there were legitimate questions regarding its capability to handle such an operation.

Answers to these organizational questions (issues) can be illuminated by the results of the research and with the help of the flow chart shown below.





At the moment the crisis occurs, the consideration of a military alternative necessarily revolves around the availability of military forces. If an ideal SOF capability exists, then the planning can proceed rapidly and the selection of the proper mix of specialized forces and equipment can be completed. When SOF forces are available, dominant, and in-charge, the operations have been outstanding successes (Entebbe, Cabanatuan). When the operations have been dominated by conventional planners and

forces, the operations have been less successful (Grenada). If an ideal capability does not exist, but time permits the creation of one, then the operation may also produce success (Eben Emael), unless the delay costs valuable opportunities. If the force is totally ad hoc, the cases uniformly tend to be less successful. The degree of success is further degraded by the degree to which the force is influenced by SOF planning and units (Son Tay, Iran, Mayaguez). In short the relationships between organization and success, as illustrated in the flow chart and the charts in Chapter Seven, show the critical importance of an existing capability. The compelling nature of these conclusions leads to:

ORGANIZATIONAL IMPERATIVE NUMBER ONE: SOF CAPABILITY. The United States needs an existing SOF capability specifically designed, committed and prepared to respond to CRO contingencies.

The second question addresses the issue of what types and how many of these dedicated forces should be included in the force structure. The nature of CRO operations dictates a clear requirement for forces composed of officers and soldiers who are highly motivated and trained in a wide variety of sophisticated techniques. They must be thoroughly professional, and have the special personality traits necessary to succeed in complicated special operations. There is some debate as to how well conventional forces can perform special operations missions, but the results of recent

studies reveal that SOF are far superior to conventionally trained units in these type of missions.<sup>4</sup> Operational experience in the most recent four U.S. cases supports the argument as well.

The size of the force should be adequate to meet the anticipated threat. All of the eight cases studied involved units of battalion size or smaller. Designing a force for continual readiness with supporting staffs and logistics might call for at least a brigade or regimental sized force, not too disisimilar to what the current force structure contains. But the size determination requires much more study after a comprehensive national strategy and doctrine are developed. This leads to:

ORGANIZATIONAL IMPERATIVE NUMBER TWO: FLEXIBILITY. The United States should identify highly trained special forces units for the standing contingency mission and have an adequate force designed to meet likely contingencies (battalion strength, 600-700 men?) ready at all times. The size and training methods should be continuously reviewed to assure that the force is prepared to deal with a wide range of contingencies and geographic regions.

---

4. Edwrd Luttwak, et al. A Systematic Review of 'Commando' (Special Operations), (C&L Associates: Potomac, Maryland), 1983.

The third question gets to the heart of the most sensitive of the organizational issues -- the relationship between SOF and conventional forces. Current organizational procedures call for unified commands (like ATLANTIC COMMAND) to plan and control operations for their regions. The responsibility has led to an irresistible use of multiple services. Mayaguez, Iran and Grenada clearly reflected this tendency.<sup>5</sup> Son Tay was an exception only in that it had no immediate and obvious role for the Navy. However, Navy aircraft played a major role in creating the air diversion around Haiphong and Hanoi.

A second level of concern is the combination of SOF and conventional units in these operations. Organizationally, the SOF units tend to be pushed to the "back of the bus" when they are combined with conventional forces. (Other aspects of this problem will be discussed in the following section on systems.) The answers lead to:

**ORGANIZATIONAL IMPERATIVE NUMBER THREE: INDEPENDENCE.**

Special Operations Forces used in combat rescue operations should operate independently of conventional units. If conventional units are employed they should be utilized to support the primary mission of the special operations force. Supporting missions

---

5. Edward N. Luttwak, "Notes on Low-Intensity Warfare," in Defense Planning for the 1990s, (National Defense University Press: Washington, D.C.), 1984, p. 207.

generally include security missions and contingencies.

There are many other specific organizational "lessons" which are apparent from the study of these cases which can supplement the three major principles outlined above. For example, the creation of special units and their dedication to a wide variety of contingency missions (especially CRO's) has many positive results: unity of command; increased security; fewer dangers of compromise and loss of surprise; and good personnel management (permits stability, retention of quality personnel, and incentive programs). The presence of an existing organizational assessment structure would be of great benefit to the assessment process by reducing the "frictions" of ad hoc arrangements.

ORGANIZATIONAL IMPERATIVE NUMBER FOUR: REFORM FROM TOP DOWN

The JCS has been attentive to organization problems down to the Joint Special Operations Command (JSOC) and the 1st Special Operations Command. But, as was demonstrated in Grenada, there was no clear cut line of authority until well into the crisis. There was no initial priority or formalized relationship between the decision makers and the special operations bureaucracy. There is no assurance that the special operations community will be treated any differently in the next operation and future crisis. Unless the entire organization issue is resolved from the National Security Council down to the unit level, future operations will likely look and end up like the Grenada operation.

The obvious problem with these imperatives is that they are at odds with current organizational concepts and face impressive bureaucratic impediments. There is a fundamental distrust of elite units which persists in the armed forces.<sup>6</sup> CINC's are strongly opposed to permitting independent special operations of any kind in their region of direct command. A recent interview with Noel Koch (ISA), who is responsible for DOD policy on terrorism, revealed that service resistance to a reduction of perogatives is very severe. The recent argument with the Air Force over helicopters was a good 1985 bureaucratic example.<sup>7</sup>

SOF reform is closely tied to formal JCS reform which was recently proposed in Congress. The clear results of the organizational implications of this study should help overcome bureaucratic impediments and permit decision makers to make the difficult organizational decisions which will lead to success.

## SYSTEMS

The discussion of systems in Chapter One introduced the complex challenges which influence how we design our systems to

- 
6. Eliot A. Cohen presents an excellent theoretical framework for understanding the U.S. "problem" with elite units in: Elite Military Units In Modern Democracies (Center for International Affairs, Harvard University: Cambridge, Massachusetts) 1978.
  7. Deborah Mayer and Benjamin Schemmer, "Noel C. Koch", Armed Forces Journal International, March 1985, pp. 40-42.

produce the desired results. The variables in the model which drive the systems implications are ASSESSMENT, COMMAND, CONTROL, COMMUNICATIONS AND TRANSPORTATION. System implications are a natural and complementary facet of organizational implications. The systems issues go beyond organizational issues to address how the men, organizations of men, data, and equipment are controlled. Systems issues focus on how organizations fit together -- procedures, personalities, equipment, etc.

A variety of different command, control and communications systems were employed across the twenty-eight cases. Some of the C<sup>3</sup> systems were extremely effective, others were less so. The detailed analysis in the individual case studies illustrated the various strengths and weaknesses of those systems. To help derive implications for C3 systems, the data table below summarizes the results specifically for C<sup>3</sup> in four successful and four unsuccessful cases. (A plus indicates a YES and a minus a NO.) The patterns of plusses and minuses make associations with outcomes clear: Success equates to good C<sup>3</sup> at all levels.

	UNIFIED COMMAND WITH CLEAR LINES OF AUTHORITY		SOF PLANS & LEADS	PLANS BUILT AROUND THE SOF MISSION	EXTENSIVE CONTROL MEASURES	COMMUNICATIONS SUPPORTS THE C2 CONCEPT	
	strategic tactical						strategic tactical
Bruneval	+	-	-	+	-	+	-
Eben Emael	+	+	+	+	+	+	+
Cabanatuan	+	+	+	+	+	-	+
Entebbe	+	+	+	+	+	+	+
Son Tay	+	+	+	+	+	+	-
Mayaguez	+	-	-	-	-	-	-
Iran	+	-	-	+	-	+	-
Grenada	+	+	?	-	-	+	-

From the results summarized above, clear principles of the C<sup>3</sup> system can be enunciated. Eben Emael and Entebbe (and Son Tay to a slightly lesser extent) provided excellent examples of how combat operations should be commanded and controlled and how communications must supplement the C<sup>2</sup> concept. Much of the failure of U.S. combat rescue operations can be attributed to the lack of adequate preparations in C<sup>3</sup>. The tendency has been to add technology and means without a clear picture of how they should fit into the system. The variables in the model operate across all eight cases and lead to the following seven system imperatives.



SYSTEM IMPERATIVE NUMBER ONE: AUTHORITY. The authority to make decisions must be clearly vested in qualified, experienced and properly positioned commanders at both strategic and tactical levels. Violations of this principle tend to create confusion, especially at the tactical level (Bruneval, Mayaguez, Iran, etc.).

SYSTEM IMPERATIVE NUMBER TWO: NON-INTERFERENCE. During the operation, higher commanders must permit subordinate commanders the widest possible latitude in making decisions and providing reports. The situation during the operation usually develops very quickly. Outside interference only creates additional "friction" for the commanders in action. Communications from higher commanders should be limited to absolutely necessary exchanges of information. Failure to observe this principle can have serious consequences as was demonstrated in the Mayaguez case.

SYSTEM IMPERATIVE NUMBER THREE: PLANNER EQUALS LEADER. The designated commanders of the operation must also plan the operation. The system must be designed to permit these two functions to be performed by the same people. In past cases where the planners received an externally prepared plan, the plan tended to be unimaginative, rigid, and inadequate. No men will do a better job of planning than the men whose lives are at risk. In Mayaguez,

the ground commander's instincts correctly led him to question the plan. The unwillingness to address his concerns (tactics, enemy strengths, pilots, air support, communications) directly illustrates the importance of the commanders in the planning process. The compartmentalization of the planning process in the Iran case also precluded effective leader involvement in putting the entire plan together. In the Grenada case, the details of planner/leader relationships are not clear, but problems in this area suggest that representatives or liaison members other than the actual leaders, completed the plans.

SYSTEM IMPERATIVE NUMBER FOUR: FOCUS. The overall plan should always focus on the primary mission. If the rescue of hostages or prisoners is the primary mission then everything else in the plan should be designed to support that effort. In successful cases, this focus was constantly demonstrated throughout the planning process. In unsuccessful cases (Mayaguez and Grenada) it was not constantly demonstrated. In both cases the lack of clarity in the primary mission led to a variety of diversions and confusion in the planning process -- a loss of focus. Were the prisoners/hostages the primary mission or not? Had the crewmen and students been in immediate danger in the respective cases, their plights would have been worsened because of the failure to focus the plan on their rescue.

SYSTEM IMPERATIVE NUMBER FIVE: CONTROL. Extensive control measures must be incorporated into the control concept. Because of the inherent complexity of these operations, the tactical concept must provide for a variety of different control systems and implementing measures. The Cabanatuan case is an excellent example of the importance of effective control measures to the conduct of a precision operation that allows very little room for error. Son Tay control measures were refined to the point that the control annex to the operations order was several pages long. They must however, be also as simple as possible, to avoid unnecessarily complicating the plan.

SYSTEMS IMPERATIVE NUMBER SIX: COMMUNICATIONS. Communications techniques and equipment must be sophisticated, advanced and totally integrated into the command and control concepts. Every single case reinforces the importance of communications to the overall system. The communications "nerves" of the operation mean the difference between success and failure. In Brunei, the marginal performance of communications led to near disaster. In Mayaguez, Grenada and Iran, the communications problems were detrimental to the success of the operations. Grenada also demonstrated that even the addition of sophisticated equipment such as manpack satellite systems did not contribute much unless

their use was carefully integrated into the overall concept of command and control.

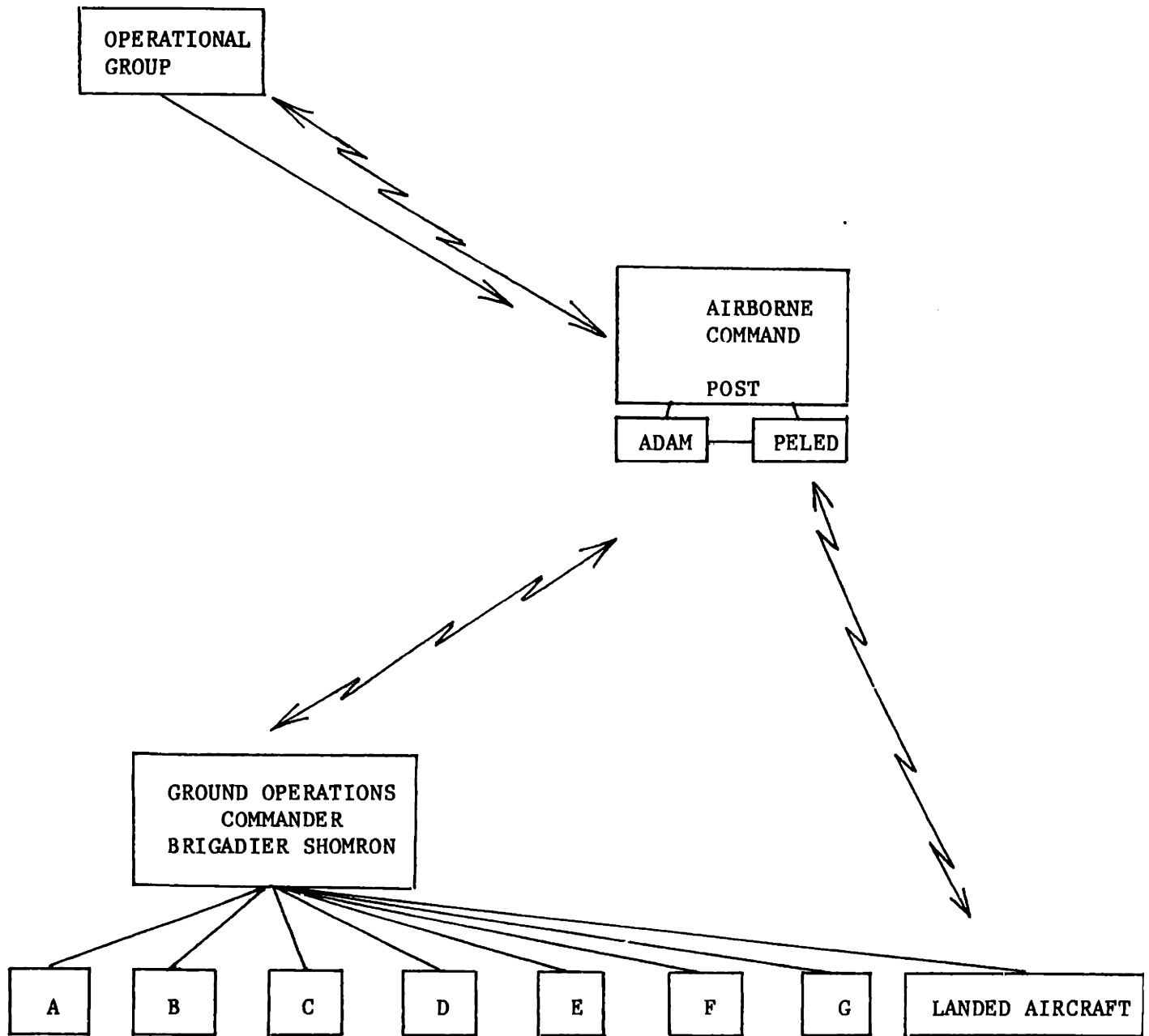
SYSTEMS IMPERATIVE NUMBER SEVEN: PEOPLE. The system must reflect the importance of people. Great sensitivity must be paid to the human dimension -- selection, training, career incentives and stability. One of the greatest errors of U.S. personnel policies during the seventies was to create disincentives for outstanding men and women to pursue special operations careers. Action has been taken to alleviate these problems, but they require continual review and strong support from all the Services. Providing the highest quality people to lead and participate in these operations is essential. The support system must foster that objective.

SYSTEMS IMPERATIVE NUMBER EIGHT: EQUIPMENT. Equipment systems are an integral part of SURPRISE, SECURITY, C<sup>3</sup>, FORCE SELECTION, FORCE TRAINING, and TRANSPORTATION. CRO's are high technology operations which will remain so into the foreseeable future. The art of rescue (and raids) can push the technology barrier forward faster and faster, because technological advantage plays a major role in the success of these operations. The special operations community should have a centralized and independent equipment procurement and testing agency, and it should have adequate funding to permit it to remain in an advantageous position relative to U.S. enemies.

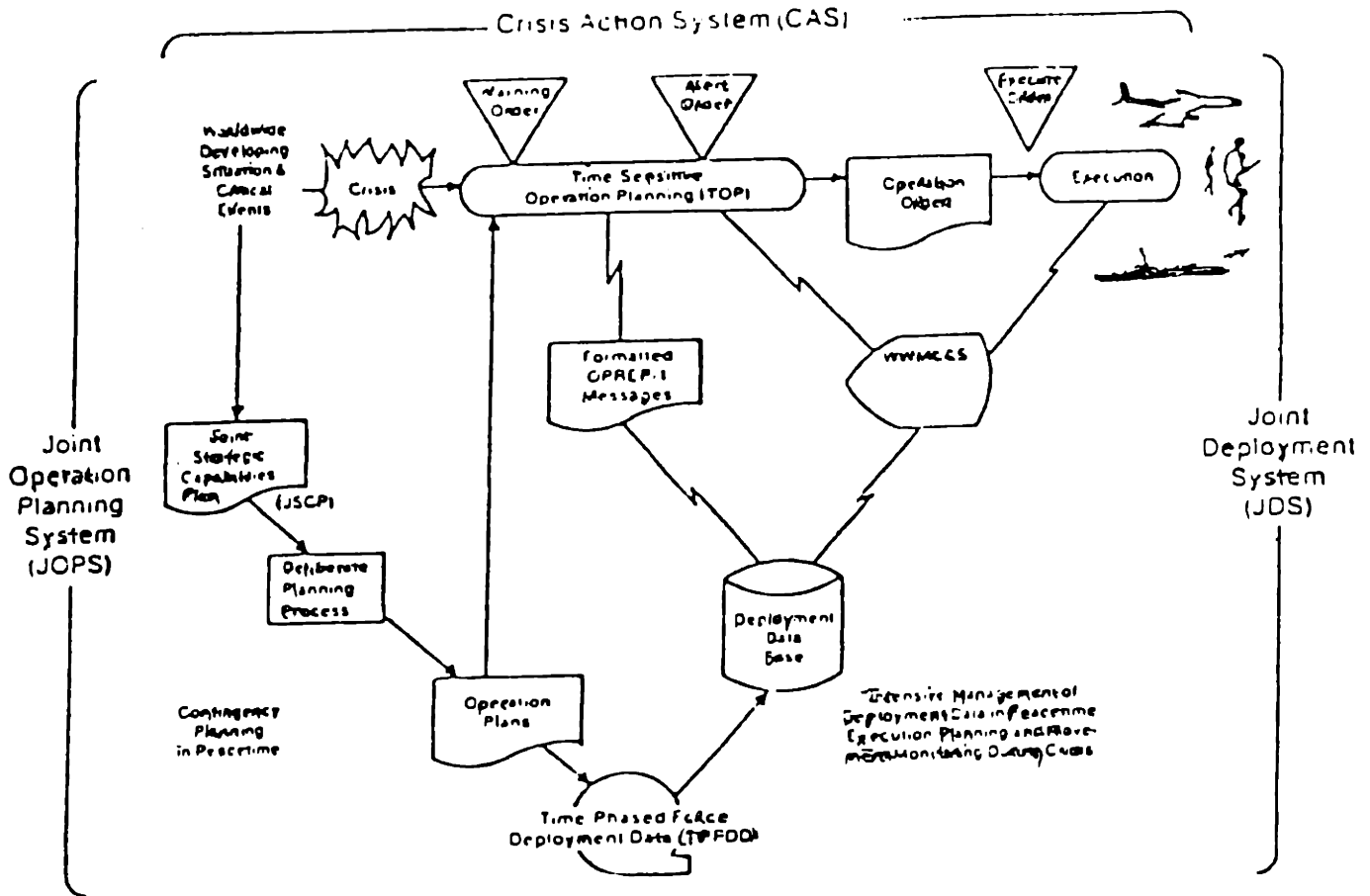
These eight system principles are generally reflected in the diagram below which shows the personnel and the C<sup>3</sup> scheme for the Entebbe operation. It is outstanding because it worked nearly flawlessly. The system fulfilled all eight systems principles, while retaining a maximum degree of simplicity.

One final implication for systems issues is that future planners and decision makers should evaluate the continued applicability and utility of the Crisis Action System and the Joint Operational Planning Systems. Because their use reflects the dominance of conventional over unconventional concepts, the entire system should be redesigned specifically to deal with SOF situations and guided by the eight systems principles discussed above.

ENTEBBE C3 CONCEPT<sup>8</sup>



8. Luttwak, et al, p. II-78.



Crisis and Deployment Management Overview

9. Source: U.S. Department of Defense. An Executive Overview of the Joint Operation Planning System, the Crisis Action System, and the Joint Development System (1980), 1.

## DOCTRINAL IMPLICATIONS

Until very recently, there has been little progress in building a body of institutional knowledge encompassing the entire range of special military operations, and particularly combat rescue operations. This knowledge is critically necessary in order for our national leaders to match our strategies to doctrine, means and tactics. Doctrine, in turn, provides specific guidance on how to utilize and conduct special operations capabilities within the context of the national strategy. The United States currently does not have a national strategy for the use of special operations forces in the world. Our development of doctrine therefore suffers. The absence of doctrine compounds our problems.

...our failure in the past to link special operations with national security through the Defense Guidance -- and thereby to develop doctrine -- has prevented special operations in the Army from gaining permanence and acceptability within the ranks of the military.<sup>10</sup>

This situation is very unusual given the emphasis that the Soviet Union places upon special operations capabilities in both peace and war. Their special operations doctrine flows from a comprehensive world view. From that view the Soviets have derived a national strategy within which military power plays a critical role. The Soviets have emphasized and developed extensive "Spetsnaz"

---

10. John O. Marsh, Jr., p. 19.



concepts and forces. Their efforts demonstrate the level and sophistication of the Soviet commitment to special forces capabilities.<sup>11</sup>

Taken as a whole, this study has moved the body of special operations knowledge closer to better understanding. The ten variables presented in the CRO model may have great applicability across a wide range of other types of special operations. Perhaps through further study, an even more comprehensive and accurate model could be developed. Combined with the organizational and systemic implications discussed above, these remaining variables constitute a considerable advance in our ability to build upon our past mistakes.

Building success upon a foundation of carefully derived lessons will require more than a few studies. However, bringing order and science to a heretofore unscientific class of operations is a significant step forward. Perhaps at no other time in the last twenty years has there been a better opportunity than now to reform the system.<sup>12</sup> It is hoped that this dissertation will contribute to reforms which capitalize on American genius, talent and flexibility; and no longer upon just hope, firepower, and good fortune.

---

11. John J. Dziak, "The Soviet Approach to Special Operations," in Special Operations in U.S. Strategy (NDU Press: Washington, D.C.) 1984, pp. 97-120.

12. Philip A. Odeen, "Prospects for Reform," Toward a More Effective Defense, The Center for Strategic and International Studies, Georgetown University, Washington, D.C., p. 53.

## Initial Decisions As An Example

One way to illustrate the relationships between the variables in the CRO model, the lessons derived from the analysis, and the implications proposed here, is to trace the initial decision process. This initial focus, even though it occurs at a high planning level, reflects the traits of large bureaucracies.

When the President decides that planning should begin for the pursuit of the military option, what happens? Military and civilian planners in the National Security Council, the State Department, the Justice Department, the Joint Chiefs of Staff (and so forth) would probably come together for planning and decision making. They will face a list of critical decisions such as the following, in a very compressed time period:

What is the planning time line?

Use existing special, or ad hoc forces and equipment?

Where will the Task Force Headquarters be established?

Who will be the TF CO?

What will be the chain of command?

What special forces/equipment will be required?

What special training program will need to be established?

Where, how and with what will the Assessment effort be completed?

How will security be managed?

How does continuous coordination occur with outside federal agencies?

What transportation, and transportation training assets will be required?

What support will be necessary to complete planning?

What external measures will be necessary to assure surprise?

How and where will the training be conducted?

What control measures will be necessary for the operation?

What communications will be necessary?

What specialized equipment will be required?

How and from where will the equipment be obtained?

The answers to the questions have reflected and will continue to reflect improvisations and ad hoc procedures. Simply stated, the U.S. has not yet developed a doctrine for the employment of special forces in these situations. Additionally, the service chief's and CINC's refuse to give up perogatives concerning the use of organic forces in their areas of responsibility. It is easy to understand how and why Grenada occurred in the manner in which it did. Unfortunately, the U.S. may not be as fortunate in the future as she was in 1983.

The SOF capability, doctrine and plans for the future should be geared towards a single goal -- achieving success. In order to achieve it, it will require reform from above.

#### PROPOSAL

The following proposal constitutes one approach to consolidating the implications of this study into a usable working proposal. The objectives are not to achieve organizational, systemic or doctrinal perfection. Perfection is an elusive goal at best. Rather, the object is to propose a modification of the existing "environment" which reflects the applications of the lessons and implications of the CRO model. Hopefully, the message of General Maxwell Taylor's admonitions will lead decision makers to study the past to help make the right decision. "Unfortunately, there

was no thorough-going analysis ever made of the lessons to be learned from Korea, and later policy makers proceeded to make many of the same mistakes" (General Maxwell Taylor, 1972).

#### PROPOSED SOF ORGANIZATION FOR CRO CONTINGENCIES

##### ORGANIZATION

a. General. The Headquarters would be designated as a unified Strategic Special Operations (SSO) Command directly under the Chairman of the Joint Chiefs of Staff. It would be fully staffed and equivalent in rank structure to similar unified commands. Its mission statement would include clear guidance on the preparation of special forces units for global missions in both peace and war. The HQ would have institutionalized and specialized links to the intelligence community; dedicated training facilities; an R&D technical section; and a core of planners and leaders to direct operations.

b. Command. The CINC would command joint subordinate commands of the Army and Air Force. Navy special operations units would remain under Navy CINC's for training and exclusively naval operations; but under the SSO CINC during joint operations. All of the unified and specified commands would retain their special operations staffs as planning and liaison elements. Current Army, Navy and Air Force special operations units would be retained as

currently configured, and expanded as necessary.

c. JSOC would continue as is with a focus upon anti-terrorist missions.

d. A single-hatted Deputy Under Secretary of Defense would assume responsibility for all Special Operations Policies.

e. Forces and Training. Progress in the existing SOF community would be continued and funding increased by at least 100% (to .002 of the Defense Budget), and held at that level for a minimum for three years.

#### CONCEPT

The SSO would serve as the single U.S. operational command for the global coordination or pre-crisis contingency preparations in support of: conventional operations for war; and directly (in liaison with CINC's) in uniquely special operation scenarios. During crisis, the SSO would coordinate and direct all planning, training, and execution. Logistical support would generally be internal, however liaison staffs with unified CINC's would complete planning for support requirements. The SO Commander would report to the JS Chairman directly and would serve as the primary military advisor to the NCA on Special Operations.

In short, the proposal would recognize the need for separate organization to cope with evolving international threats to U.S.

national security. Our military posture would then be more attuned to the three levels of challenges we face: nuclear; conventional; and unconventional -- particularly combat rescue operations.

**SELECTED  
BIBLIOGRAPHY**

SELECTED BIBLIOGRAPHY

"Aftermath of a Heroic Failure." US News and World Report, May 12, 1980.

"Aircraft Play Major Role in Ship Incident." Aviation Week and Space Technology, Vol. 102, May 19, 1975, p. 23.

Alger, John I. Definitions and Doctrine of the Military Art. West Point, New York: Department of History, USMA, 1981.

Allison, Graham T. Essence of Decision. Little, Brown and Company, Boston, 1971.

"The American Dilemma." US News and World Report, Vol. LXXVIII, No. 16, April 21, 1975, p. 17.

"American Prisoners of War in Southeast Asia. 1971," Hearings Before the Subcommittee on National Security Policy and Scientific Developments, Committee on Foreign Relations, Ninety-Second Congress, First Session, Parts 1 and 2, Washington, D.C.: Government Printing Office, 1971 and 1972.

"Angry Allies (Public Opinion of U.S. Invasion of Grenada)." Time, 7 November 1983, 47.

Area Handbook for the Khmer Republic (Cambodia). American University Foreign Area Studies, Washington, D.C., U.S. Government Printing Office, 1973.

Armed Forces Journal, "Better Deal for Service Spooks?," December 1971.

\_\_\_\_\_, "Dissent," July 1974.

\_\_\_\_\_, "Last Medals of Honor of the Vietnam War," March 1976.

\_\_\_\_\_, "Our Outgunned Spies," December 1971.

Armed Forces Staff College Publication Number I, Handbook, AFSC, Norfolk, Virginia, 1 March, 1979.

Army Regulation 11-8; The Army Logistics System, 1982.

Army Regulation 71-9; Force Development, Material Objectives and Requirements, 1983.



- Arnold, Elliott. Rescue (New York: Duell, Sloan and Pearce, 1956.
- Arthur, Anthony. Deliverance At Los Banos, St. Martin's Press New York, 1985.
- Atkinson, Rick. "Pentagon Defends Grenada Invasion Troop Performance." Washington Post, 21 June 1984, A30.
- "Auditing an Invasion." Time, 23 July 1984, 49.
- Barnett, Frank R., B. Hugh Tovar, and Richard H. Shultz. Special Operations in U.S. Strategy. Washington, D.C.: National Defense University Press, 1984.
- Baron, Richard, Major Abe Baum, and Richard Goldhurst. Raid! The Untold Story of Patton's Secret Mission. New York: G.P. Putnam's Sons, 1981.
- Becker, Elizabeth. "Cambodia: Didn't Order Ship Seized," Washington Post, September 8, 1975.
- Beckwith, Charles A. DELTA Force, Harcourt, Brace and Jovanovich, New York, 1983.
- Belgian Ministry of National Defense, History Section, The Battle of Fort Eben-Emael, 10 and 11 May 1940. Translated by the U.S. Army Historical Division, European Command. No date.
- Benjamin, Milton R. "Victory at Sea" Newsweek, Vol. 85, May 26, 1975, pp. 18-27.
- Ben-Porat, Yeshayahu, Eitan Haber, and Zeev Schiff. Entebbe Rescue. Trans. Louis Williams. New York: Delacorte Press, 1977.
- Betts, Richard K. Soldiers, Statesmen and Cold War Crises. Harvard University Press, Cambridge, Massachusetts, 1977.
- Binder, D. "German Parable." New Republic, July 31, 1976.
- Blaufarb, Douglas S. The Counterinsurgency Era: U.S. Doctrine and Performance, 1950 to the Present. New York: The Free Press, 1977.
- Blechman, Barry M. and Stephen S. Kaplan. Force Without War. The Brookings Institution, Washington, D.C., 1978.
- Bohnone, Don. "Caribbean, Where U.S. and Marxists Vie for Influence." U.S. News and World Report 94, 16 May 1983, 27-29.

- Bohning, Don, and the U.S. Department of State, Office of External Research. "Future Prospects for the Eastern Caribbean." Unclassified Report, 1981.
- "Bombing Operations and the Prisoner-of-War Rescue Mission in North Vietnam," Hearings Before the Committee on Foreign Relations, United States Senate, Ninety-first Congress, Second Session, Washington, D.C.: Government Printing Office 1971.
- "Briefing on the Mayaguez Seizure." U.S. Congress. House, Committee on Appropriations. Subcommittee on the Department of Defense. Department of Defense Appropriations for 1976. Hearings. Washington: U.S. Government Printing Office, 1975.
- Briefing on the Son Tay Raid, Brigadier General Leroy J. Manor, USAF, 1971: untitled, undated.
- Brown, Charles. Bars from Bilibid Prison. San Antonio, Texas: The Naylor Company, 1947.
- Browne, Malcolm W. "Thais Accept U.S. Regrets; Crisis Over Base is Eased." The New York Times, May 20, 1975, p. 1.
- \_\_\_\_\_. "Thais Accuse U.S. of Breach of Faith." The New York Times, May 16, 1975, p. 16.
- \_\_\_\_\_. "Thais, Angry with U.S., Call Thai Envoy Home." The New York Times, May 17, 1975, p. 1.
- Bundy, William P. "A Portentous Year." Foreign Affairs 62, 3 (1983): 485-520.
- Butler, Francis Paul. The Executive Power to Make War: The Power to Deceive. PhD Thesis. University of Utah, 1975.
- "Cambodia: Time Running Out." US News and World Report, Vol. LXXVIII, No. 12, March 24, 1975, pp. 13-15.
- "Cambodia in Perspective: Vietnamization Assured." Department of State. President's Interim Report to the Nation on June 3, 1970. Publications No. 8536. U.S. Government Printing Office, Washington, D.C., 1970.
- "Cambodian Seizure of U.S. Merchant Ship Mayaguez; Department of Defense Announcement; Statement by the White House Press Secretary, May 14, 1975; Text of a Message to the Cambodian Authorities from the United States Government May 14, 1975; the President's Letter to the Speaker of the House and the

President Pro Tempore of the Senate in Accordance with  
Section 4(a)(1) of the War Powers Resolution, May 15, 1975."  
Weekly Compilation of Presidential Documents, May 19, 1975.

"A Cambodian View of the Mayaguez Case; Phnom Penh Wasn't Aware  
Ship Had Been Seized, Deputy Premier Says." The New York Times,  
September 9, 1975, p. 13.

"Cambodians Cite Timing of Air Raid." The New York Times, May 17,  
1975, p. 11.

"Cambodians See U.S. Attack Plot; Say the Mayaguez Incident Was  
Pretext for Plan to Destroy Ports." The New York Times,  
May 18, 1975, p. 6.

"Cambodia's Rebel Rulers - Waiting in the Shadows," US News and  
World Report, Vol. LXIII, No. 15, April 14, 1975, p. 32.

Campbell, H. "The American Invasion of Grenada and the Struggle  
in the Caribbean." Black Scholar 15 (1984): 2-7.

Carlile, Donald E. "The Mayaguez Incident - Crisis Management."  
Military Review, Vol. 56, October 14, 1976, p. 3.

Carter, Jimmy. Keeping Faith. Bantam Books, New York, 1982.

The Centre for Conflict Studies, University of New Brunswick.  
Special Operations. Contract Study for the Joint Special  
Operations Command, Fort Bragg, North Carolina, November 1982.

Charters, David, et. al., Special Operations: Military Lessons  
From Six Selected Case Studies. Center for Conflict Studies,  
University of New Brunswick, DOD Contract #F01600-80-D0299,  
Fall 1982.

Chernow, Ron, et al. "Letters to the Editor: Of the United  
States, Cambodia, and the Mayaguez Affair." The New York Times,  
May 22, 1975, p. 38.

"China Says Retaking of Vessel by U.S. Was an 'Act of Piracy'."  
The New York Times, May 16, 1975, p. 16.

Chinoy, Michael. "A Closer Look at the Mayaguez." Far Eastern  
Economic Review, October 3, 1975, p. 18.

Clayton, Foster, et al. "Friendly Dissuasion. (British and  
Grenadan Invasion) (Letter). The Wall Street Journal,  
4 November 1983, W27, E35.

- Cody, Edward. "Medical School Director Says He Backs Invasion. (Dr. Geoffrey Bourne)." Washington Post, 1 November 1983, A23.
- Colby, Carroll B. Special Forces. New York: Coward McCaun, 1964.
- Commander-in-Chief, Pacific. "Appendix VI - The SS Mayaguez Incident," in CINCPAC Command History 1975. (San Francisco: CINCPAC Command History Branch, 1976.)
- Connellsmith, G. "The Grenada Invasion in Historical-Perspective -- From Monroe to Reagan." Third World Quarterly 6 (1984): 432-445.
- Cook, Graeme. Commandos in Action. New York: Taplinger Publishing, 1974.
- "Copters Evacuate U.S. Marines and Ship-Rescue Mission Ends; Toll Includes One Known Dead: Cambodians Tell Why They Yielded." The New York Times, May 16, 1975, p. 1.
- Davis, Heather. Operation Rescue. New York: Pinnacle Books, 1971.
- "Debacle in the Desert." Time, May 5, 1980.
- "Defense Department Issues Detailed Analyses." Aviation Week and Space Technology, May 19, 1980.
- DeFrank, Thomas M. "The Invasion Countdown. (Grenada)." Newsweek, 7 November 1983, 75.
- Department of the Army. The Army, FM 100-1, 1978.
- \_\_\_\_\_. Infantry, Airborne, and Air Assault Division Operations, FM 71-101, 1983.
- \_\_\_\_\_. Infantry, Airborne Infantry and Mechanized Infantry Battalions, FM 7-20. (Washington, D.C.) 1946.
- \_\_\_\_\_. Infantry, Airborne Infantry and Mechanized Infantry Battalions, FM 7-20. (Washington, D.C.) 1965.
- \_\_\_\_\_. Infantry Field Manual 7-5, Organization of Infantry, The Rifle Battalion. 1940.
- \_\_\_\_\_. Infantry Field Manual 7-20, Rifle Battalion. 1942.

- \_\_\_\_\_. Operational Concept for Special Operations Forces (Draft). U.S. Army John F. Kennedy Special Warfare Center, Fort Bragg, North Carolina, August 1983.
- Department of the Army. Ranger Training and Ranger Operations, FM 21-50. 1984.
- \_\_\_\_\_. Special Forces Techniques, FM 31-20. 1983.
- \_\_\_\_\_. Staff Officer's Field Manual. Field Manual 101-5. 1984.
- \_\_\_\_\_. Staff Officer's Field Manual: Organizational, Technical and Logistical Data (Unclassified Data), 1984.
- \_\_\_\_\_. Vietnam Studies; U.S. Army Special Forces, 1961-1971. Washington, D.C.: Government Printing Office, 1973.
- Department of State. "Transcript of President Carter's Press Conference April 25 and 26, 1980." Department of State Bulletin 80, (June 1980): 38-43.
- DesBrisay, Thomas D. USAF Southeast Asia Monograph Series, Monograph Five, U.S. Government Printing Office, Washington, D.C., 1975.
- Detwiler, Donald S., and Charles B. Burdick. Japanese Military Studies 1937-1949: Command, Administration, & Special Operations: Japanese & Chinese Studies & Documents. Vol 3. War in Asia & The Pacific Series, 1937-1949.
- Diamond, Robert A. President Ford: The Man and His Record. Congressional Quarterly, Washington, D.C., 1974.
- Dickey, Christopher. "Central America: From Ouagmire to Cauldron." Foreign Affairs 62, 3 (1983): 659-694.
- Dominguez, Jorge I. "It Won't Go Away: Cuba on the US Foreign Policy Agenda." International Security 8, 1 (1983): 113-128.
- Dornberg, J. "West Germany's Embattled Democracy." Saturday Review, June 10, 1978.
- Durnford-Slater, John. Commando. London: William Kimber, 1953.
- "Dutch Entebbe." Newsweek, June 20, 1977.
- Dyess, Lieutenant Colonel William E. The Dyess Story. New York: G.P. Putnam's Sons, 1944.

- Edwards, Roger. German Airborne Troops, 1936-1945. New York: Doubleday, Inc., 1974.
- Elder, Timothy. "State Department Denies Cuba Got Grenada Alert." Washington Times, January 5, 1984.
- Eleventh Airborne Division. Phillipine Islands Campaign, Part 2, Luzon, 31 January 1945 to 30 June 1945. 1946.
- Faerran, Judith C. "Chronology of Events and Dramatis Personae." Caribbean Review 12, 4 (1983): 10-13.
- "Failure in Peking Reported." The New York Times, May 14, 1975, p. 18.
- Finney, John W. "Copters Evacuate U.S. Marines and Ship Rescue Mission Ends; Toll Includes One Known Dead; Operation Hailed; Schlesinger Asserts It Affirmed Freedom of the High Seas." The New York Times, May 16, 1975, p. 1.
- Finney, John W. "U.S. Frees Cambodian-Held Ship and Crew; Marines Storm Island, Suffer Casualties; Planes Hit Airfield, Sink 3 Patrol Boats; 3 Copters Lost." The New York Times, May 15, 1975, p. 1.
- Fiualka, John J. "In Battle for Grenada, Commando Missions Didn't Go As Planned." The Wall Street Journal, 202, 15 November 1983, 1.
- First Cavalry Division, Eighth Cavalry Regiment. Historical Report, Eighth Cavalry, Admiralty Campaign, 6 March to 20 May 1944. APO 324, 1944.
- "511th Signal Man at Los Banos." Voice of the Angels. 56 (January 1984): 18-19.
- Flanagan, Edward M., Jr. (Major). The Angels: A History of the 11th Airborne Division 1943-1946. Washington: Infantry Journal Press, 1948.
- Ford, Gerald R. A Time to Heal. Harper and Row and the Reader's Digest Association, Inc., New York, 1979.
- \_\_\_\_\_. "Text of Presidential Message, May 6 News Conference." The New York Times, May 7, 1975, p. 2.
- "Ford is Backed." The New York Times, May 15, 1975, p. 1.
- "Ford Sends a Signal; He Displays U.S. Power in Saving a Ship's Crew." The New York Times, May 18, 1975, p. 1.

- "Foreign and Military Intelligence," Book 1, Final Report of the Select Committee to Study Governmental Operations with Respect to Intelligence Activities, United States Senate, Ninety-Fourth Congress, Second Session, Washington, D.C.: Government Printing Office, 1976.
- Foth, James R. "Grenada: A Challenge to U.S. Security, Is it Too Late?" Unpublished research report, Air War College, Maxwell Air Force Base, Alabama, 1983.
- Franklin, G.W. "International Law Aspects of the Use of Force -- Grenada Examined." Unpublished research paper, Naval War College, Newport, Rhode Island, 1984.
- Gallagher, Thomas. Assault in Norway. New York: Harcourt Brace Jovanovich, 1975.
- Gallup Opinion Index--Political Social and Economic Trends. American Institute of Public Opinion, Report No. 120, Princeton, New Jersey, 1975.
- "Gallup Poll Finds Little Evidence of a Trend Towards Isolationism." The New York Times, May 11, 1975, p. 16.
- Garrett, Richard. The Raiders New York: Van Nostrand Reinhold Company, 1980.
- Gazit, Shlomo. Risk, Glory & Rescue Operations. Harvard Studies in International Affairs Series, No. 47. Harvard University, 1982.
- Gelb, Leslie H. "U.S. Weighed Use of B-52's in Crisis." The New York Times, May 19, 1975.
- George, Alan. "Did Washington Ghost-Wrote Scoon's Appeal?" New Statesman, 11 November 1983, 5.
- George, Alexander L. Presidential Decisionmaking in Foreign Policy. Westview Press, Boulder, Colorado, 1980.
- George, A.L., David K. Hall, and William E. Simons. The Limits of Coercive Diplomacy, Little, Brown and Company, Boston, 1971.
- George, A.L. and Richard Smoke. Deterrence in American Foreign Policy. Columbia University Press, New York and London, 1974.

- Geraghty, Thomas. Who Dares Wins. London: Arms and Armour Press, 1980.
- Geraghty, Tony. Inside The Special Air Service, The Battery Press, Nashville, Tennessee, 1980.
- "Germany's Finger Squads." Newsweek, November 21, 1977.
- Giboney, Thomas B. "The Myth of Omniscient Cybernetics," Masters Thesis. U.S. Army Command and General Staff College, 1983.
- Godson, Roy, Editor. Intelligence Requirements for the 1980s: Counterintelligence. Washington, D.C.: National Strategy Information Center, Inc., 1980.
- Goldman, Peter. "Ford's Rescue Operation." Newsweek, Vol. 85, May 26, 1975, pp. 16-18.
- Graham, Paul. "The Invasion of Grenada: An Eyewitness Account." Canadian Dimension, March 1984, 27.
- Great Britain. House of Commons, Foreign Affairs Committee. Second Report From the 1983-84 Session: Grenada. House of Commons 226, 1 & 8 Feb. 1984, London: H.M. Stationery Office, 1984.
- Gregory, W.H. "Iranian Morass." Aviation Week and Space Technology, May 5, 1980.
- Griffith, William E. "1980: A Year of Crisis." Center for International Studies, MIT, November, 1980.
- Guidry, Vernon A., Jr. "Mayaguez Captain Tells of Rescue." The Washington Star, September 4, 1975, p. 1.
- Gwertzman, Bernard. "Kissinger Calls Ship Action Proof U.S. Stands Firm." The New York Times, May 17, 1975, p. 1.
- \_\_\_\_\_. "U.S. Sees Foray for Ship as Signal to Communists." The New York Times, May 16, 1975, p. 14.
- \_\_\_\_\_. "Washington Silent on the Thai Protest." The New York Times, May 15, 1975, p. 18.
- Haley, K. Brian, and Lawrence D. Stone, Ed. Search Theory & Applications. Vol. 8. NATO Conference Series II, Systems Science. New York: Plenum Press, 1980.



- Halloran, Richard. "Japanese Firmly Support U.S. in Freeing of Mayaguez." The New York Times, May 16, 1975, p. 16.
- Hamby, Larry B. (LTC), "A Realignment of U.S. Army Low Intensity Conflict Doctrine." Field Circular 100-39 Low Intensity Conflict. U.S. Army Command and General Staff College, Fort Leavenworth, Kansas. (1984): 79-97.
- Harris, Andrew J. Special Operation Executive Aid. Arlington, Virginia: CACI-Inc.-Federal, 1984.
- Harrison, D.I. These Men are Dangerous. London: Cassell Publishers, 1957.
- Hastings, Max. Yoni: Hero of Entebbe. New York: The Dial Press, 1979.
- Hastings, Max, and Simon Jenkins. The Battle for the Falklands. New York: W.W. Norton & Company, 1983.
- Head, Richard G., Frisco W. Short, and Robert C. McFarlane. Crisis Resolution: Presidential Decision Making in the Mayaguez & Korean Confrontations. Boulder, Co: Westview Press, 1978.
- Headquarters, 5th Special Forces Group (ABN), 1st Special Forces. 29 Field Reports Dating from 1965 to 1969. Lessons Learned. Washington, D.C.: Adjutant General's Office, 1965-1969.
- Hearings on Iran Rescue Attempt. Subcommittee on Defense Appropriations, U.S. House of Representatives, Washington, D.C., April 28 and June 2, 1980.
- Heilbrunn, Otto. Warfare in the Enemy's Rear. New York: Praeger Publishing, 1963.
- Hiatt, Fred. "Grenada Invasion a 'Success.'" (Undersecretary Fred C. Ikle). Washington Post, 25 January 1984, A2D.
- Hildebrand, George, and Gareth Porter. Cambodia, Monthly Review Press, New York, 1976.
- Hoel Paul G. Elementary Statistics. Fourth Edition, New York: John Wiley and Sons, 1976.
- Holloway, James L. Admiral, US Navy (Retired). Rescue Mission Report. Joint Chiefs of Staff Special Operations Review Group, August, 1980.

- Holsti, Ole R., and James N. Rosenau. Vietnam, Consensus, and the Belief Systems of American Leaders. Institute for Transnational Studies, Los Angeles, 1977.
- Howarth, Patrick. Undercover: The Men & Women of the Special Operations Executive. London: Rutledge & Keegan Paul, 1980.
- "How Oil Fueled the Invasion of Grenada." Business Week, 7 November 1983, 42.
- Howe, George F. United States Army in World War II, Mediterranean Theater of Operations. Northwest Africa: Seizing the Initiative in the West. Office of the Chief of Military History, Department of the Army, 1957.
- Hudson Institute. Alternative 1975-1985 Political and Strategic Environments for Military Planners, Volume I. Croton on Hudson, New York: Hudson Institute, 1971.
- JCS Pub 1; Department of Defense Dictionary of Military and Associated Terms, June, 1979.
- JCS Pub 20; Joint Unconventional Warfare Policy, Concepts and Procedures, 1983.
- JCS Pub SM-776-76; Joint Operation Planning System, 1984.
- Johnson, J.M. "United States Army and Amphibious Operations." Unpublished research paper, Naval War College, Newport, Rhode Island, 1984.
- Joint Chiefs of Staff. After Action Report, Part I: "U.S. Military Operations, SS Mayaguez/Koh Tang Island 12-15 May 1975". (Washington: DOD, 1975.)
- Joyner, C.C. "The United States Action in Grenada -- Reflections on the Lawfulness of Invasion." American Journal of International Law, 78 (1984): 131-144.
- Jureidine, Paul A., et al. Casebook on Insurgency and Revolutionary Warfare: 23 Summary Accounts. Washington, D.C.: American University Special Operations Research Office, 1962.
- Kaplan, Stephen S. Force Without War: The United States Use of the Armed Forces as a Political Instrument, Manual, The Brookings Institution, Washington, D.C., 1979.
- Katz, Stephen R. "After the Mayaguez; Letter." The New York Times, May 28, 1975, p. 40.

- Keatley, Robert. "Cambodia Seizes U.S. Cargo Ship at Sea; Ford Terms It 'Piracy,' Demands Release." The Wall Street Journal, May 13, 1975, p. 16.
- Kelly, Colonel Frances J., U.S. Army. U.S. Army Special Forces 1961-1971. Washington, D.C.: Department of the Army, 1973.
- Kennedy, William V. "Grenada Invasion: Unanswered Questions." The New York Times, 22 November 1983, N24, A30.
- Kilburn, R.F. "Grenada -- A Regional Study." Unpublished Final Research Report, Air War College, Maxwell Air Force Base, Alabama, 1984.
- Kirk, Donald. Wider War: The Struggle for Cambodia, Thailand and Laos. Frederick A. Praeger, New York, 1971.
- Kissinger, Henry. "Major Topic: Mayaguez Rescue," Secretary of State Press Conference. Bureau of Public Affairs, Office of Media Services, Washington, D.C., May 16, 1975.
- Kissinger, Henry. White House Years. Boston: Little, Brown and Company, 1978.
- Klein, Fred. "House Panel Studies Mayaguez Incident." CO Weekly Report, Vol. 33, June 28, 1975, pp. 1375-6.
- Knickerbocker, Brad. "Study Criticizes Invasion Tactics in Grenada." Christian Science Monitor, 6 April 1984, 1.
- Koch, Noel C. Interview in Armed Forces Journal International, (March 1985): 40-46.
- Krueger, General Walter. From Down Under to Nippon, the story of the Sixth Army in World War II. Washington, D.C.: Combat Forces Press, 1953.
- Kupferberg, Herbert. "Entebbe." Boston Sunday Globe - Parade Magazine, May 3, 1981.
- Ladd, James. Commandos and Rangers of World War II. New York: St. Martin's Press, 1978.
- Lankevich, George J. Gerald R. Ford, 1913-. Oceana Publications, Inc., New York, 1977.
- Lapham, Lewis H. "Building a Better Gunboat. (Wake of Beirut Bombing and Grenada Invasion)." Washington Post, 5 November 1983, A17.

- Lauren, Paul Gordon. Diplomacy, The Free Press, New York, 1979.
- Leifer, Michael. Cambodia-The Search for Security. Frederick A. Praeger, New York, 1967.
- Levine, Richard J. "Marines Recapture U.S. Freighter, about 30 of the 39 Crewman Freed." The Wall Street Journal. May 15, 1975, p. 2.
- Lewis, Anthony. "Barbarous Piracy." The New York Times, May 15, 1975, p. 43.
- \_\_\_\_\_. "The Morning After." The New York Times, May 17, 1975, p. 29.
- Lewis, Vaughan A. "The US and the Caribbean: Issues of Economics and Security." Caribbean Review 11, 2 (1982): 6-9, 50-51.
- Linowitz, Sol M. "Grenada: Critical Questions." Washington Post, 31 October 1983, A13.
- Livingstone, Dr. Neil C. "Fighting Terrorism and 'Dirty Little Wars.'" Air University Review March-April (1984): 4-16.
- "Los Baños." Voice of the Angels. 57 (May 1984): 6-9, 10-12, 21-23, 24-28.
- "Los Baños Inténees Celebrate Liberation." Voice of the Angels 61 (March 1985): 1-3, 21-24, 34.
- Luttwak, Edward N. The Pentagon And The Art Of War, Simon and Schuster Publications, New York, 1985.
- "Machismo Diplomacy," The Nation, Vol. 220, No. 21, May 31, 1975, pp. 642-3.
- Madison, Christopher. "Despite His Complaints, Reagan Going Along With Spirit of War Powers Law." National Journal 16 (1984): 989-993.
- Maghroori, Ray, and Stephen M. Gorman. The Yom Kippur War: A Case in Crisis Decision Making in American Foreign Policy. University Press of America, 1981.
- "Making Contact; Editorial." The New York Times, May 17, 1975, p. 26.
- Maechling, Charles, Jr. "Grenada Intelligence Simply Wasn't", New York Times, November 17, 1983.

- Manley, Michael. "Grenada in the Context of History: Between Neocolonialism and Independence." Caribbean Review 12, 4 (1983): 7-9, 45-47.
- Massing, Michael. "Grenada, We Will Never Know." Index on Censorship 13 (1984): 15-19.
- Masterman, John C. The Double Cross System. New Haven & London: Yale University Press, 1972.
- "The Mayaguez - What Went Right, Wrong," US News and World Report, Vol. 78, June 2, 1975, p. 29.
- Mayer, Deborah, and Benjamin F. Schemmer. "Noel C. Koch," Armed Forces Journal International, March 1985.
- McDonald, Admiral Wesley. Interview in the Army Times, November 5, 1984.
- "McDonald Reviews C<sup>3</sup> During Grenada Operation," Aerospace Daily, December 12, 1983.
- McIntire, Alexander Haywood, Jr. Revolution And Intervention In Grenada: Strategic And Geopolitical Implications (Caribbean). Unpublished PhD Dissertation, University of Miami, 1984.
- "The Meaning of the Mayaguez; Editorial." Strategic Review, Summer, 1975, pp. 8-9.
- Middendorf, J. William, et al. "The Grenada Invasion." Washington Post, 3 November 1983, A20.
- Millar, George. The Bruneval Raid. New York: Doubleday, 1975.
- "Mission Comes to Grief in Iran." Newsweek, May 5, 1980.
- Motley, Langhorne. "The Decision To Assist Grenada," Current Policy No. 541, U.S. Department of State, January 24, 1984.
- Motley, Langhorne A. "The Decision To Assist Grenada," Testimony Before The House Armed Services Committee, Current Policy No. 541, January 24, 1984. Department of State, Washington, D.C., 1984.
- Montross, Lynn. War Through the Ages. New York: Harper and Row, 1960.
- Morgan, Patrick. Theories and Approaches to International Politics. New York: Transaction Books, Inc., 1980.

- Mrazek, James E. The Fall of Eben Emael: Prelude to Dunkerque. London: McKay, 1970.
- Mullin, Dennis. "A Strange Peace After a Strange War." U.S. News and World Report, 28 November 1983, 35.
- "National Security Adviser Brezezinski Interviewed on Issues and Answers." [Transcript of television broadcast.] Department of State Bulletin, April 27, 1980, Number 80.
- "New War on Terrorism: Rescue of Hostages by German Commandoes in Mogadishu, Somalia." Newsweek, October 31, 1977.
- New York Times. The Pentagon Papers. New York: Bantam Books, 1971.
- Nutting, General Wallace H., USA. "A World in Conflict." Defense 83 (1983): 2-9.
- O'Ballance, Edgar. "The Other Falkland Campaign." Military Review January (1983): 9-16.
- Odeen, Philip A. Toward A More Effective Defense, The Center for Strategic and International Studies, Washington, D.C., 1985.
- Offley, Ed. "Urgent Fury," Norfolk-Virginia-Pilot, February 2, 1985.
- "Off-the-Record Wars: A Military Retreat." Newsweek, 20 February 1984, 54. "One Dimensional Student." Progressive, December 1983, 10.
- Operation Kingpin, Briefing Book for the Joint Chiefs of Staff and National Command Authorities, Office, Joint Chiefs of Staff, November 1970.
- Operation Urgent Fury Report, Joint Chiefs of Staff, Unclassified Version, 1984.
- Osborne, John. "Afterthoughts." The New Republic. June 28, 1975, pp. 6-7.
- Paddock, Alfred H., Jr. U.S. Army Special Warfare: Its Origins. Washington, D.C.: National Defense University Press, 1982.
- Palmer, Ransford W., and the U.S. Department of State, Office of External Research. "The Eastern Caribbean: Problems of Peripheral Development." Unclassified Report, 1981.

- Patrick, Urey W. The Mayaguez Operation. (Arlington, Virginia: Center for Naval Analysis, Marine Corps Operations Analysis Group, April 1977.)
- Paust, Jordan J. "The Seizure and Recovery of the Mayaguez." The Yale Law Journal, May 1976, pp. 774-806.
- Peck, Ira, and Pap Schol. Raid at Entebbe. New York: Scholastic Magazines, Inc., 1977.
- Plumb, Charles. I'm No Hero -- A P.O.W. Story as Told to Gwen de Werff. Independence, MO.: Independence Press, 1973.
- Quandt, William B. Decade of Decisions: American Foreign Policy Toward the Arab-Israeli Conflict, 1967-1976. University of California Press, Berkeley, 1977.
- "Quarterly Review Of Oil In Latin America And The Caribbean." The Economist (Intelligence Unit, LTD), 1980.
- "Raging Debate over the Desert Raid." Time, May 12, 1980.
- Raiffa, Howard. Decision Analysis. Reading, Massachusetts: Addison-Wesley Publishing Company, 1970.
- Rainey, Gene E. Patterns of American Foreign Policy. Allyn and Bacon, Inc., Boston, 1975.
- Ramsey, Winston G., ed. "Eben Emael." After the Battle Magazine, No. 5. London, Battle of Britain Prints, 1974.
- Rand Corporation. Terrorism and Beyond: An International Conference on Terrorism and Low-Level Conflict. California: Rand Corporation, 1982.
- Reding, Andrew A. "Backing Democracy and Development." World Policy Journal 1 (1984): 653-67.
- Reding, Andrew. "Grenada as Looking Glass." Christianity and Crisis 44 (1984): 154-160.
- Reid, T. R. "Resolution for Explanation of Grenada Invasion Killed." Washington Post, 8 February 1984, A3.
- "Report on the Son Tay Prisoner of War Rescue Operation," Parts I and II, Brigadier General Leroy J. Manor, USAF, Commander, JCS Joint Contingency Task Group, Office, Joint Chiefs of Staff, Washington, D.C., 1971.

- Report on the War in Vietnam, Admiral U.S.G. Sharp and General W. C. Westmoreland. Washington, D.C.: Government Printing Office, 1968.
- Reports of General MacArthur, Volume I, The Campaigns of MacArthur in the Pacific. Prepared by his General Staff. Washington, D.C.: U.S. Government Printing Office, 1966.
- \_\_\_\_\_, Volumes I and II, Parts I and II, Japanese Operations in the Southwest Pacific Area. Washington, D.C.: U.S. Government Printing Office, 1967.
- "The Reprisal Raids." Voice of the Angels 56 (March 1984): 12-14, 18-20.
- "Rescue Mission Report." Aviation Week and Space Technology. Multiple Issues, September 1, 15, 22, and 29, 1980.
- Reston, James. "'Twas a Famous Victory,'" The New York Times, May 16, 1975, p. 37.
- "Retrieving the Mayaguez: Editorial." The Wall Street Journal, May 14, 1975.
- Risner, Robinson. The Passing of the Night: My Seven Years as a Prisoner of the North Vietnamese. New York: Ballantine Books, 1973.
- Ropelowski, R. "Commandos Thwart Hijackers; Rescue of 85 Hostages on Lufthansa 737 in Somalia." Aviation Week and Space Technology, 107, 14-16 October, 1977.
- Rovere, Richard H. "Letter from Washington," The New Yorker, May 26, 1975.
- Rowan, Roy. The Four Days of Mayaguez. W. W. Norton and Company, Inc., 1975.
- Rowe, Charles. "Bloodbath in Cambodia," Newsweek, Vol. 85, May 12, 1975, p. 30.
- Rowe, James N. Five Years to Freedom. Boston: Little, Brown, 1971.
- Royster, Vermont. "Thinking Things Over." The Wall Street Journal, April 16, 1975.
- Ruhl, Robert K. Airman, "Raid at Son Tay," August 1975.



- Ryan, Paul B. The Iranian Rescue Mission. Naval Institute Press, Annapolis, Maryland, 1985.
- Ryan, Michael. "Scenes of a War." People, 14 November 1983, 40-46.
- Safire, William. "Perdicaris Alive, or ...." The New York Times, May 15, 1975, p. 43.
- "'Samdech' Returns." The New York Times, September 12, 1975, p. 32.
- Sanchez, Nestor D. "What Was Uncovered in Grenada: The Weapons and Documents." Caribbean Review 12, 4 (1983): 20-23, 59.
- Saunders, Hilary St. George. The Green Beret. London: Michael Joseph, 1949.
- Schemmer, Benjamin F. and the Editors of Armed Forces Journal Almanac of Liberty. New York: Macmillan, 1974.
- Schemmer, Benjamin F. The Raid. Harper and Row, New York, 1976.
- Schlesinger, Arthur, Jr. "Grenada, Without Warning." The Wall Street Journal 202, 9 November 1983, 30.
- Schmidt, Stanley. "Loyal Opposition." Analog, May 1984, 6.
- Schwanhausser, Robert R. in Armed Forces Journal, "RPV's: Angel in the Battle, Victim in the Budget," November 1974.
- Scott, Alexander. "The Lessons of the Iranian Raid for American Military Policy." Armed Forces Journal International, June 1980.
- "Secretary Brown interviewed on Face the Nation." [Transcript of television broadcast.] Department of State Bulletin, Washington, D.C., June 1980.
- Selltiz, Claire, Lawrence S. Wrightsman, and Stuart W. Cook. Research Methods in Social Relations. Third Edition. New York: Holt, Rinehart and Winston, 1976.
- Schabecoff, Philip. "Silence in Washington." The New York Times, May 14, 1975, p. 1.
- Shabecoff, Philip. "U.S. Frees Cambodian - Held ship and Crew;...." The New York Times, May 15, 1975, p. 1, 18.

- \_\_\_\_\_. "U.S. Now Reports 15 Dead in Recapture of Mayaguez." The New York Times, May 21, 1975, p. 16.
- \_\_\_\_\_. "White House Says Cambodia Seized a U.S. Cargo Ship." The New York Times, May 13, 1975, p. 1.
- Shani, Colonel Joshua, Israeli Air Force. "Airborne Raids." Air University Review March-April (1984): 41-55.
- Shaplen, Robert. "Southeast Asia - Before and After." Foreign Affairs, April 1975, p. 540.
- Shaw, William B. K. The Long Range Desert Group. London: Collins, 1945.
- Shlaim, Avi. The United States & the Berlin Blocade, Nineteen Forty-Eight to Nineteen Forty-Nine: A Study in Crisis Decision Making. Volume 2. International Crisis Behavior Series. Berkley, CA: University of California Press, 1983.
- Shribman, David. "In Grenada, 2 Views of Invasion." The New York Times, 23 November 1983, N8, A14.
- Schultz, Richard. "Low Intensity Conflict and American Strategy in the 1980s." Conflict Quarterly Winter (1982): 13-22.
- Shuster, Alvin. "U.S. Action Backed in Europe, but Some See 'Gunboat Politics.'" The New York Times, May 16, 1975, p. 16.
- Sixth Army, Report of the Leyte Campaign, 17 October 1944-25 December 1944. Washington, D.C.: National Archives, no date.
- Sixth Ranger Infantry Battalion. Combat Reports, World War II, 6th Ranger Battalion, MD 63-8 [Collection]. Washington, D.C.: National Archives, 1963.
- Sixth Ranger Infantry Battalion. Narrative of the Sixth Ranger Infantry Battalion From January 2, 1945 to July 1, 1945; Ranger Mission at the Pangatian Prison Camp. A Report of the G-3, South Army, APO 442, undated.
- Skorzeny, Otto. Skorzeny's Secret Missions. E. P. Dutton, 1951.
- Smith, Wayne S. "The Grenada Complex and Central America: Action and Negotiation in US Foreign Policy." Caribbean Review 12, 4 (1983): 34-36, 64-65.

- Smoke, Richard. War: Controlling Escalation. Harvard University Press, Cambridge, Massachusetts, 1977.
- "South Moluccan Terrorists -- Commando Raid at Dawn." Time, June 20, 1977.
- Spector, Shoshannah. The Miraculous Rescue Entebbe. New York: Shengold Publishers, 1978.
- Stafford, David. Britain & European Resistance, 1940-1945: A Survey of the Special Operations Executive, With Documents. Toronto: University of Toronto Press, 1980.
- Stern, Ellen P., Editor. The Limits of Military Intervention. Sage Publications, Beverly Hills, London, 1977.
- Stevenson, William. 90 Minutes at Entebbe. Bantam Books, New York, 1976.
- Stinchcombe, Arthur L. From Constructing Social Theories. New York: Harcourt Brace Jovanovich, Inc., 1968.
- Stone, I. F. "Conned in Cambodia." New York Review of Books, Vol. 22, June 12, 1975, pp. 16-18.
- Strasser, S. et al. "Grim postmortem begins." Newsweek, May 12, 1980.
- "A Strong but Risky Show of Force." Time, May 26, 1975, pp. 9-18.
- Sukorov, Viktor. "Spetsnaz: The Soviet Union's Special Forces." International Defense Review 9 (1983): 1209-1216.
- Swinson, Arthur. Desert Strike Force. London: Ballantine, 1971.
- Tarr, David W. "Political Constraints on U.S. Intervention in Low Intensity Conflicts." Parameters X, No. 3 (1980): 51-60.
- Taylor, John B. "Air Mission Mayaguez." Airmen, Vol. XX, No. 2, February 1976, pp. 39-48.
- Taylor, Maxwell D. "The Vietnam Disaster and U.S. Security." The New York Times, May 9, 1975, p. 1.
- Taylor, William J., Jr. et al. The Future of Conflict in the 1980's. Lexington, MA: Lexington Books, 1982.

- TerHorst, Jarald F. Gerald Ford. The Third Press, New York, 1974.
- Terraine, John. The Life and Times of Lord Mountbatten. New York: Holt, Rinehart and Winston, 1980.
- "Terror and Triumph at Mogadishu; New Breed of Commando." Time, 110:42-4, October 31, 1977.
- "Thais Report Withdrawal of Marines after Protest." The New York Times, May 15, 1975, p. 1.
- "The Second Invasion of Grenada." Fortune, 6 February 1984, 36.
- Thompson, Scott, and Donald Frizznell. The Lessons of Vietnam. Crane Company, New York, 1976.
- Tillema, Herbert K. Appeal to Force. Crowell, New York, 1973.
- TRADOC Regulation 11-7; Army Programs, Operational Concepts and Army Doctrine, July 1982.
- Transcript of Secretary of Defense's Press Conference on the Son Tay Prisoner of War Raid, Office, Assistant Secretary of Defense (Public Affairs), November 23, 1970.
- "Triumph at Mogadishu." Reader's Digest. 112:120-6, March, 1978.
- Tugwell, Maurice. Airborne to Battle. London: William Kimber, 1971.
- "Two Key Lawmakers Assess the Impact. (Charles H. Percy and Clement Zablocki on the Grenada Invasion)." U.S. News and World Report, 7 November 1983, 36.
- United Nations. General Assembly. Official Records: Plenary Meetings. 30th Session, New York, October 6, 1975. Address by His Royal Highness Prince Sihanouk, Head of State of Kampuchea (Cambodia), Chairman of the United Front of Kampuchea.
- "United States - Cambodia - Thailand, the Mayaguez Incident." Keesings's Contemporary Archives, Vol. XXI, July 21-27, 1975, pp. 27239-40.

- "U.S. Attempts Rescue of American Hostages in Iran." [Statement and transcript of press conference and message to Congress, President Carter.] Department of State Bulletin, June 1980.
- U.S. Congress, House Committee on Foreign Affairs, Subcommittee on Inter-American Affairs. United States Policy Towards Grenada: Hearing, June 15, 1982. 97th Cong., 2d Sess., 1982.
- U.S. Congress. House of Representatives. Committee on International Relations. Subcommittee on International Political and Military Affairs. Seizure of the Mayaguez. Hearings. Washington, D.C., U.S. Government Printing Office, 1976. Part I, Part II, and Part III. See especially Appendices in Part I and II which contain official statements by the United States and Cambodian governments.
- U.S. Congress. House of Representatives. Committee on International Relations. Subcommittee on International Security and Scientific Affairs. War Powers: A Test of Compliance. Hearings, Washington, D.C., U.S. Government Printing Office, 1975.
- U.S. Department of State, Bureau of Public Affairs. Grenada. Washington, D.C.: U.S. Government Printing Office, 1984.
- U.S. Department of State, Bureau of Public Affairs. "Grenada: A Preliminary Report." Unclassified Report, 1983.
- U.S. Department of State. Foreign Relations of the United States, 1950, Volume I, National Security Affairs: Foreign Economic Policy. Washington, D.C.: U.S. Government Printing Office, 1977.
- U.S. Department of State. "Grenada: Collective Action by the Caribbean Peace Force." The Department of State Bulletin, 83 (December 1983): 67-73.
- U.S. General Accounting Office. "The Seizure of the Mayaguez - A Case Study of Crisis Management." U.S. Congress. House of Representatives, Committee on International Relations. Subcommittee on International Political and Military Affairs. Seizure of the Mayaguez. Reports. Washington, D.C., U.S. Government Printing Office, 1976.
- "U.S. Recovers Merchant Ship Seized by Cambodian Navy." The Department of State Bulletin, June 2, 1975.

- U.S. Senate. Final Report of the Select Committee to Study Government Operation with Respect to Intelligence Activities, Book I, Foreign and Military Intelligence. Washington, D.C.: Government Printing Office, 1976.
- "Vacant Bus Stops at Teheran." Newsweek, May 26, 1980.
- Van Dyke, Jon M. North Vietnam's Strategy for Survival. Palo Alto, California: Pacific Books, 1972.
- Van Gelder, Lawrence. "Seizures by Ecuadoreans, Barbary States Recalled." The New York Times, May 15, 1975, p. 18.
- Walt, Stephen M. "...A Critique of Force Without War," Center for Naval Analyses, professional Paper 279, May, 1980.
- "War Coming if Peace Talks Fail - Talks with Egypt." U.S. News and World Report, April 21, 1975, p. 23.
- Warner, Philip. The Special Air Service. London: William Kimber, 1972.
- Watt, David. "As a European Saw It." Foreign Affairs. 62, 3 (1983): 521-532.
- Weiss, George in Armed Forces Journal, "Battle for Control of the Ho Chi Minh Trail," February 15, 1971.
- Westmoreland, William C. A Soldier Reports. Garden City, N.Y.: Doubleday, 1976.
- Whittle, Richard. "Questions, Praise Follow Grenada Invasion." Congressional Quarterly World Report 41 (October 1983): 2221-2224.
- Wicker, Tom. "Raising Some Mayaguez Questions." The New York Times, May 16, 1975, p. 37.
- Wilson, George C. "Flaws Seen In Grenada Invasion," Washington Post, March 12, 1985.
- "Written Report of Lieutenant General Vernon A. Walters, USA, Deputy Director, Central Intelligence Agency," submitted for the record to the Select Committee on Missing Persons in Southeast Asia of the U.S. House of Representatives, March 17, 1976.

Xavier, Albert. "Plotting That Had the Eastern Caribbean on Edge." The Wall Street Journal, 1 November 1983, W26, E30.

Young, Oran. Politics of Force. Princeton University Press, Princeton, New Jersey, 1968.

Young, Peter. Commando. London: Ballantine Publishing, 1969.