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STUDENT REPORT

LESSONS FOR USAF TACTICAL
DECEPTION DEVELOPMENT

MAJOR DAVID J. BREERWOOD, JR.

88-0375

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PREFACE

Exercise Salty Demo, conducted in the fall of 1985 at Spangdahlem Air Base, Germany, tested the Air Base Operability plan to defend, survive, and recover from a simulated Soviet ground and air attack against the base active and passive defenses. Exercise results revealed a fairly moderate Soviet attack would degrade the capability to generate sorties early in the war. After studying the results a task group constructed 316 recommendations to achieve the air base's ability to defend and survive ground and air attacks and to rapidly recover for sortie generation (14:54-55). Within the element of air base survivability, the group recommended investigating, developing, and acquiring survival measures to protect vital combat and support assets. One measure requiring further investigation was camouflage, concealment, and deception (CCD). In order to meet the challenge, the United States Air Force (USAF) began work in early 1986 to evaluate the feasibility of developing a CCD program enhancing survivability of air base assets during conflicts. For this effort, the USAF defined the operational requirement for CCD protection of critical assets and facilities as the "capability to reduce the effectiveness of ingressing enemy aircraft, tactical missiles, and ground forces which have penetrated active defense measures at operating bases" (19:1).

Designing an effective CCD system in today's open society and high technology environment will be a major challenge for the USAF. The design will undoubtedly be influenced by the existence of sophisticated surveillance equipment, sensors, high-powered computers, and intelligence networks. Paradoxically, this environment has not reduced the value or importance of deception in warfare but has elevated it to a higher, more complex technology plane. United States military planners and strategists must not forget the Soviet Union stresses the use of deception at all levels of planning in both the political and military arenas. Consequently, it is important the United States military continue a systematic development of deception methods. In order to obtain the most cost-effective approach, the US military efforts should strike a balance between super-sophisticated electronic deception and the more traditional deception techniques (6:146). To this end, this paper will highlight the nature and value of deception and, by providing military planners with some lessons from past deception operations in World War II and the Middle East conflicts, will improve our understanding and ability to use deception.

ABOUT THE AUTHOR

Major David J. Breerwood, Jr. entered the Air Force in 1973 through commissioning in the Reserved Officer Training Corps program at the University of Maryland, College Park, Maryland. After attending the Aerospace Munitions technical training course at Lowry Air Force Base, Colorado, he served in numerous munitions maintenance supervisory positions at both United States and overseas air bases. In 1978, he attended the Aircraft Maintenance technical training course at Chanute AFB, Illinois, and became a qualified aircraft maintenance officer. With this background, Major Breerwood was selected as a Maintenance Management Inspector for the Headquarters Air Force Systems Command inspector general. After the headquarters staff assignment, he was accepted into the Air Force Institute of Technology Education With Industry (EWI) program with Hercules, Inc., Magna, Utah. Following EWI, he returned to an operational maintenance assignment with the 366 Tactical Fighter Wing, Mountain Home AFB, Idaho. At the 366TFW, he served as an Aircraft Maintenance Unit Chief and an Aircraft Generation Squadron maintenance supervisor. His most recent assignment was as a USAF Exchange Officer with the Royal Australian Air Force.

Major Breerwood holds a Bachelor of Science Degree in Environmental Sciences with the University of Maryland and is pursuing a Masters Degree in Personnel Management with Troy State University, Montgomery, Alabama. His professional military education includes completion of Squadron Officer School and Air Command and Staff College by seminar.

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EXECUTIVE SUMMARY



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REPORT NUMBER 88-0375

AUTHOR(S) MAJOR DAVID J. BREERWOOD, USAF

TITLE LESSONS FOR USAF TACTICAL DECEPTION DEVELOPMENT

I. Purpose: To examine the use of camouflage, concealment and deception (CCD) in an airpower environment of World War II and Middle East Wars. Based on this examination, provide current military planners with lessons learned from selected deception operations.

II. Problem: Today, the USAF is investigating possible methods to provide CCD protection of critical military assets on air bases. Since the art of deception has played an important role in warfare through military history, valuable lessons may be available for designing today's CCD systems.

III. DATA: The examination of both World War II and Middle East conflicts provides a wealth of lessons learned in the use of CCD. These conflicts in military history were selected for review because of the large number of deception operations and their relative similarity with today's employment of military power in theatre warfare. Examining the Battle of Britain in World War II revealed some ingenious passive and active defensive deception methods used to protect military assets. Eventually, the Germans expended a large portion of their offensive air resources on false targets. On the other hand, another British deception, Operation Starkey, resulted in failure due to its lack of plausibility. Finally, the study of more recent deception operations in the Middle East provided creative deception methods using high technology weapon systems. In all of the examined

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cases, where deception was properly employed, it contributed to achieving the military objectives of the real operations.

IV. Conclusions: The lessons learned on the use of deception in World War II and the Middle East are relevant today. Although deception methods tend to change with technology, the fundamental principles have survived the test of time and lessons of the past can help today's military planners. While deception should not be considered as an end in itself to achieve victory, ignoring its use denies military planners a valuable tool to manage war.

V. Recommendation: A comprehensive examination for lessons of all the deception operations in World War II to present was beyond the scope of this paper. However, the existence of valuable lessons was validated and warrants further study by today's military planners who are designing CCD systems.

Chapter One

INTRODUCTION

Although deceit is detestable in all other things, yet in the conduct of war it is laudable and honorable; and a commander who vanquishes an enemy by strategem is equally praised with one who gains victory by force (9:526).

- Niccolo Machiavelli -

Today's USAF requirement for CCD protection of vital assets on air bases is not without historical precedent. The value of CCD was demonstrated repeatedly throughout World War II. Hence, the study of the use of CCD in past military operations can yield valuable lessons for current military planners who seek cost effective methods for creating a viable air base CCD program. Therefore, the purpose of this paper is to examine the use of CCD in an airpower environment in campaigns of World War II and the Middle East. In order to establish a foundation for understanding the practice of CCD in warfare, chapter one discusses its nature, process, and forms. Complementing this, chapter two discusses the value of deception and factors for success. Chapters three and four will then examine some of the CCD measures used by the major combatants. The examination will focus on, but not be limited to, the measures used to protect military resources. Moreover, since any single CCD measure is normally part of a larger deception plan, this study will evaluate selected deception operations by using the following questions for each:

What was the plan objective(s) and expected result(s)?

What methods were used to achieve objective(s)?

What was the actual result(s)?

What, if any, are the lessons?

NATURE OF DECEPTION

From a military viewpoint, camouflage and concealment are best defined under the headings of deception or misdirection (3:7). For this reason, further discussion of CCD in this paper will consider camouflage and concealment as a part of the deception definition and process. Air Force Regulation (AFR) 55-49 defines tactical deception as "activity designed to mislead the enemy operational commander by manipulating, distorting, or falsifying evidence to induce the enemy to react in a manner

favorable to friendly interests" (17:1). Another similar but non-military definition describes it as a function of one's perception of reality such that it is the "deliberate misrepresentation of reality done to gain a competitive advantage" (4:3). It is important to recognize both definitions include the existence of a deception process which occurs between two key actors: a decision maker who acts as the deceiver, and a decision maker who is the target of the deception. An explanation of the process should clarify the relationship of the actors.

The deception process consists of channeling information or signals between two major groups. Figure 1 is a version of Daniel and Herbig's model of the deception process and shows the group relationships (4:8). The deception group on the deceiver's side shows the primary decision maker, planners, and implementers. The receiving group on the target side consists of a channel monitor, analyst, and primary decision maker. The process begins when the deceiver decision maker establishes or accepts a requirement for planning and performing a deception operation. Given the target and the desired response from the target, the planner designs a plan detailing the aim of the deception and the methods to be used by the implementer. The implementer then sends the deception signals through a channel to the target's intelligence channel monitors. A wide variety of methods for channeling signals are available to the deceiver's organization and can include visual, sonic, electronic, diplomatic, spies, the media, and sensory systems (4:9). After receiving the signal, the analyst evaluates the information for indicators of the deceiver's intentions or capabilities and provides the results to the target decision maker. Once informed with the indicators and the target's own preconceptions, the target decision maker responds. The action or inaction by the target provides the feedback to the deceiver for determining the success, failure, or required adjustment of the deception activity. An historical example will illustrate the deception process at work.

During World War I, a deception operation was required by General Pershing to deceive the Germans into believing the Americans were preparing to attack Belfort in lieu of the real target, St. Mihiel. A successful offensive on the real target would capture German railroads, iron, and coal mines. The deception process began with General Pershing's staff developing a deception plan showing offensive intentions toward the false target, Belfort. Troop movement timetables, maps, orders, munitions requirements were developed to cover the real intentions. General Pershing and his survey teams visited the target area for surveillance. The Germans perceived these indicators and others to mean exactly what the Americans wanted them to think and acted by moving ground forces to counter the American threat. This action completed the desired feedback for General Pershing to proceed with the real operation against St. Mihiel (5:61-75).

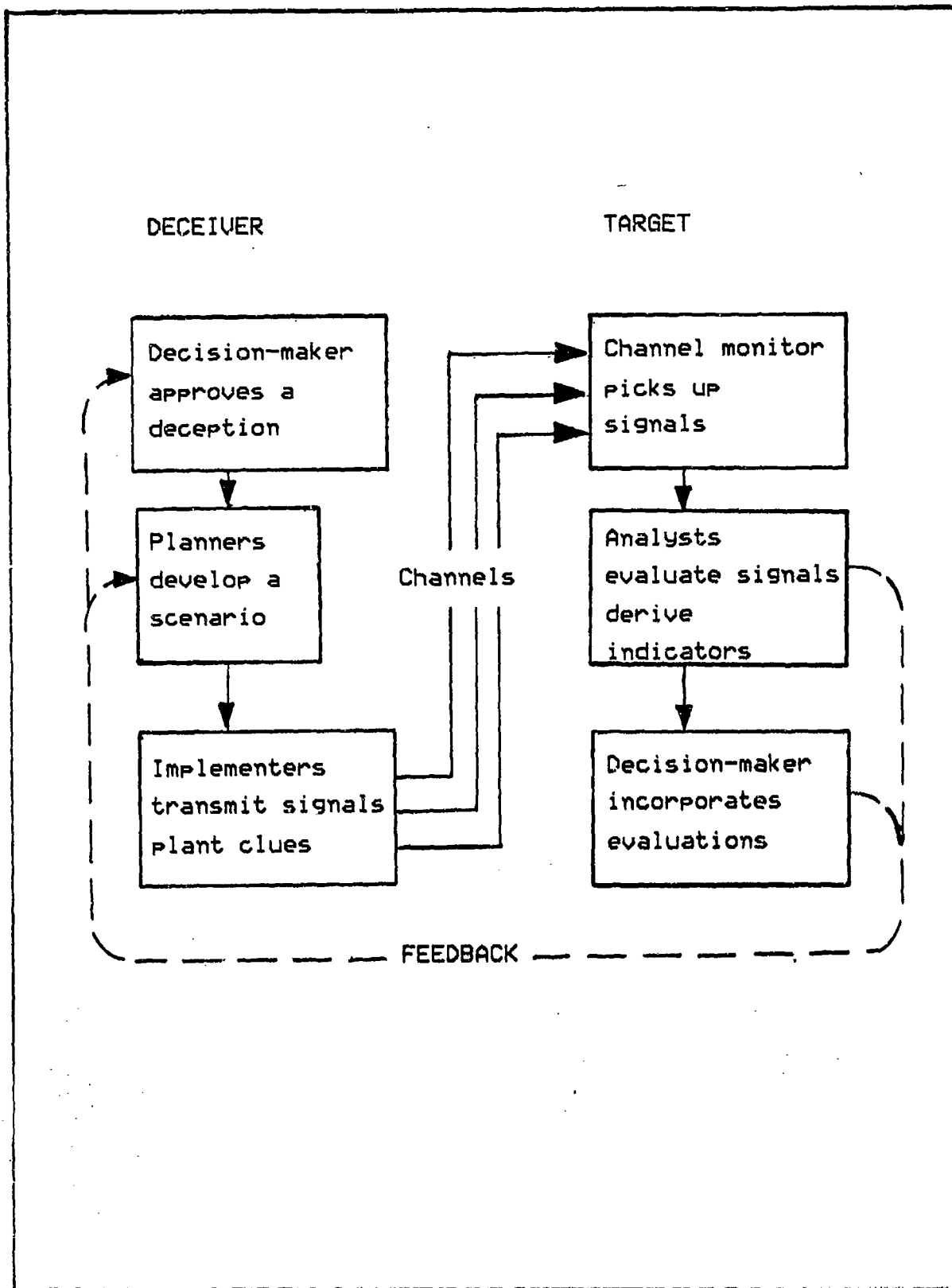


Figure 1. Deception Process Model

Another important aspect is the deception process has two levels of operation. The first level is referred to as "strategic deception" where the decisions makers are normally high-ranking government officials or diplomats who affect national policies and objectives (4:3). In the case of military objectives, strategic deception impacts the outcome of wars or campaigns. The second level is referred to as "tactical deception" and normally consists of decision makers at the operational level (4:3). When applied in military operations, tactical deception impacts the outcomes of battles or small engagements. Although differences exist between the two levels in application, the basic principles of deception apply to both levels (4:3). By knowing the basic process and levels of deception, one can now look at the aim of the deception process.

For military purposes, deception is designed to achieve two primary aims. First, the deceiver attempts to mislead, misinform or confuse an enemy on the intentions of the deceiver. Second, the deceiver attempts to mislead the enemy on the deceiver's real capabilities. Often, both of these aims are working together in the deception plan because of the interrelationship between the military intention (objective) and the available capability to support it (6:126). In order to achieve either one, or both of these aims simultaneously, the design of the deception plan encompasses the use of passive or active measures of deception (6:133-134). Passive deception is covert in nature and attempts to conceal real intentions and/or capabilities. In contrast, active deception is overt in nature and attempts to disclose half-truths supported by evidence (6:133-134). Another deception expert, Barton Whaley, calls passive (dissimulation) as "hiding the real" and active (simulation) as "showing the false" (6:183). Accomplishment of passive deception is done by "hiding one or more of the characteristics that make up the distinctive pattern of a real thing" (6:183). And active deception is done by "showing one or more characteristics that comprise the distinctive pattern of a false thing" (6:183).

With the lessons learned from Exercise Salty Demo, and with an understanding of the nature, process, and aim of CCD, it is important to examine the value and benefits of deception in warfare and what is required for a successful CCD operation. This background will provide a foundation for understanding the use of deception in World War II and the Middle East conflicts.

Chapter Two

QUALITIES OF DECEPTION

In wartime, truth is so precious that she should always be attended by a bodyguard of lies (1:10).

- Churchill -

Man's knowledge and use of deception in warfare has its birth in early military history and is mentioned in the basic military doctrine of many nations including the United States and Soviet Union. Deception survived the test of time as an important tool in warfare. Many military writers stress its importance and military commanders continue to use it. Past and present writings and comments from eminent theorists and warriors reveal the importance of deception, and range from Sun Tzu's statement of "all warfare is based on deception" (8:42) to "it's a means of achieving surprise" (15:2-4). Moreover, by acknowledging the existence of many successful uses of deception throughout military history, one can infer an accepted truth among military writers and strategists that deception can aid and benefit a commander in achieving military victory.

Some major benefits derived from its use include creating a force multiplier effect; causing the enemy to violate the war-fighting principles of mass and economy of force, and enabling friendly forces to achieve the principle of surprise (5:124-125). It's important, however, to emphasize that deception is not a panacea, replacing the other warfighting principles required for success in war (6:145). "Believing that deception can correct or eliminate other sources of weakness courts military disaster . . . To try to manage a war (or avoid one) through over-reliance on deception is impossible and can only end in strategic failure" (6:145).

The purpose of this chapter is to highlight the value of deception from an historical point of view and show that now it plays a role in current United States and Soviet Union military doctrine. Furthermore, major advantages derived from its application and the factors affecting its success or failure are discussed and will provide a foundation for the remaining chapters.

VALUE OF DECEPTION

Since the early times of military history, man practiced and recorded the art of deception in warfare. The outcome of many battles was influenced by the successful application of deception. Looking at a few historical examples will illustrate this point. According to mythology in ancient times, a classic and well-known deception operation was performed by Greek warriors who had been in a siege stalemate against the city of Troy for 10 years. The Greek forces feigned withdrawal and left a gift in the form of an enormous wooden horse outside the gates of Troy. They also left a Greek soldier, Simon, who posed as a deserter, to explain the act as a gift to the goddess Athena. The Trojans accepted Simon's story and moved the offering into the city confines. That night while the Trojans slept, Simon unlocked a secret door in the horse, releasing Greek soldiers hidden inside. The soldiers opened the city's gates, allowing the main Greek force which returned under the cover of darkness to surprise the Trojans and capture the city (5:viii-ix).

In the third century B.C. at Lake Trasimenus, Hannibal of Carthage, known as the father of military deception by many tacticians of the time, was victorious over a superior Roman army by keeping his forces out of sight and waiting for the cover of darkness before attacking the surprised Roman legions (5:ix). Another successful deception technique employed by Hannibal occurred at Cannae where his troops infiltrated the enemy ranks by masquerading as deserters. At the end of the battle at Cannae, his forces with the deserters, inflicted 50,000 Roman casualties while Hannibal's forces suffered only 5,000 (5:ix).

A third example of deception occurred during the war which threatened to divide America forever. During the Civil War, the Confederates resorted to numerous deception methods in attempts to offset the superior Union army supported by a strong industrial base, large manpower, and financial reserves. Major General John Magruder, a Confederate Army expert in military deception, used several deception tactics when the North's General George McClellan laid siege to the Confederate capital of Richmond. General Magruder's defensive force consisted of only 13,500 men, compared to McClellan's force of 110,000 men backed up by 340 guns. The fate of the Confederacy depended on how well Magruder could stall McClellan until the scattered main Confederate forces under General Johnston consolidated and reinforced the Richmond defenses. General McClellan halted his army short of Richmond when they were confronted by trenches and redoubts from which poked more guns than the Northerners had. These "cannons," though, were actually peeled logs painted black and bored out to look like the real things (5:6-11). In addition, Magruder created the illusion of a large Confederate force by building many campfires at night and marching regiments and brigades around where they could be seen many times in several places and counted again and again. Bugles blew up and

down the fortified line, indicating a closely positioned force of major strength. General McClellan was so convinced of the South's sizable force, he delayed attack until additional men and guns were obtained from the North. In the end, Magruder successfully bluffed the Union army into a stall and bought enough time for the Confederates to mass forces and prevent the capture of Richmond (5:6-11).

Man's continuing propensity for conflict allows past warriors and military theorists to increase their knowledge and develop theories on the nature of war. Eventually, these theories and fundamental ideas on waging war evolved into a set of principles used in the doctrine of many of today's nations. These past ideas, writings, and doctrinal principles of war declare deception is vital in warfare.

As far back as 500 B.C., Sun Tzu, wrote in his military treatise, The Art of War that

All warfare is based on deception. Hence, when able to attack, we must seem unable; when using our forces, we must seem inactive; when we are near, we must make the enemy believe that we are away; when far away, we must make him believe we are near. Hold out baits to entice the enemy. Feign disorder and crush him . . . If he is superior in strength, evade him . . . If he is taking his ease, give him no rest. Attack him when he is unprepared, appear where you are not expected. These military devices, leading to victory, must not be developed beforehand (18:42-43).

Additionally, the Prussian theorist Clausewitz wrote in his 19th century work, On War, that an important relationship exists between strategy and cunning (deception). Specifically, he said

It seems not unjust that the term 'strategy' should be derived from 'cunning' and that, for all the real and apparent changes that war has undergone since the days of ancient Greece, this term still indicates its essential nature . . . No human characteristic appears to be suited to the task of directing and inspiring strategy as the gift of cunning (3:202).

Clearly then, these samples show deception has its beginnings well-rooted in early history. Jumping forward to immediately after World War II, General Dwight D. Eisenhower stressed to the War Department the need to make deception an integral part of operations planning.

No major operations should be undertaken without planning and executing appropriate deception measures. As time goes on . . . there is the danger that these two means may in the future not be considered adequately in our

planning. I consider it essential that the War Department continue to take those steps that are necessary to keep alive the arts of cover and deception (15:38).

After all, during World War II the United States military, along with the British, used major deception plans like Operation Fortitude South. The plan successfully deceived the Germans into believing the actual invasion point of Europe was Pas de Calais (1:170).

Today, the military leaders of the United States and the Soviet Union have heeded the lessons of the past and included deception in their respective military doctrine. In the case of the United States Air Force, the use of deception is mentioned in Air Force Manual 1-1, Basic Aerospace Doctrine, as a means of achieving surprise. Since the principles of war are considered "generally accepted major truths which have proved successful in the art and science of conducting war" (16:2-4) deception can be a valuable tool for U.S. military commanders to achieve surprise and provide them with a key to victory. Similarly, the Soviet Union has a separate deception doctrine called Maskirovka meaning camouflage (4:243). The Soviets place high importance on Maskirovka in their military training and operations and, according to C. N. Donnelly, Soviets are serious about deception:

Maskirovka thus becomes very important in ensuring the viability of the attack and is written into Soviet appreciations and planning procedures as a matter of course. The Soviet officer, in other words, is compelled by regulations to employ some form of Maskirovka to aid his attack, and the regulations are backed up . . . by very strict punishment indeed. Long centuries of living in an autocracy have made the Soviets very resourceful and devious, and deception comes naturally to them . . . (12:43-44).

By including deception in military doctrine, the United States and Soviet Union military leaders have recognized the value of deception and the potential for gaining a tactical advantage over an enemy in warfare. Consider now some possible benefits for a military commander using deception.

BENEFITS OF DECEPTION

When planning and conducting a military operation, deception can help achieve surprise and or cause the enemy to violate two principles of war, mass and economy of force. In these cases, deception creates a force multiplier effect on the strength and power of the friendly commander's forces (6:121). First, the benefit from deception to achieve surprise can help a weaker force compensate for its numerical or other inferior warfighting

capabilities. To be effective, the deception should catch the enemy unprepared for the military action. Characteristics of successful deceptive ploys used to achieve surprise focus on lulling the enemy into a false sense of security and misleading the enemy as to the actual offensive intentions (6:121-125). A second benefit of using deception is to cause the opponent to concentrate forces in the wrong place, thereby giving the tactical advantage to the deceiver (6:123). For example, during World War II, the Allied deception plans for the invasion of Europe caused the Germans to violate the principles of concentration of forces. Instead of collecting the defense forces around Normandy, the real Allied target, Germany moved their forces to false targets in Norway and Pas de Calais, France (1:18-40). Finally, a third benefit is to cause the enemy to expend valuable resources such as time, munitions, and manpower in false directions or on non-existent targets (6:125). Again in World War II, the Germans were the target of a British deception plan to force the Germans to violate the economy of force principle. The Germans were deceived into expending large quantities of bombs on false airfield and dummy targets during their attempts to destroy British airpower (10:43-45). The benefits of deception explained in the above examples would not have occurred without a disciplined approach and application of certain factors in the deception plan development and implementation.

REQUIREMENTS OF DECEPTION

Based on extensive historical research on the requirements for achieving success at deception, Donald C. Daniel and Katherine Herbig identified five factors which influence the success or failure of a deception plan. The factors are secrecy, organization, and coordination; plausibility and confirmation; adaptability; predisposition of the target; and strategic initiative (4:16). A brief explanation of each factor will provide an insight into the impact on deception, planning, and implementation.

1. Secrecy, Organization, and Coordination: Secrecy is inherent to deception and must be applied in a well-organized and coordinated deception plan. Otherwise, unintentional leaks may occur and unravel the deception. Secrecy must protect the actual plan, the existence of the deceptive effort, and the elements of the plan (4:16-17).

2. Plausibility and Confirmation: The deception plan must be plausible to be believed. Also, a deception can be made more plausible by the target's confirmation through multiple sources (4:18-19).

3. Adaptability: Since circumstances change over time as a result of unexpected events, deception plans must change accordingly to remain plausible and believable (4:20).

4. Predisposition of Target: Slanting a deception plan toward a known target's predisposition is more likely to succeed than a plan directed contrary to a target's expectation (4:21).

5. Initiative: Those who initiate deception plans along with their offensive actions normally have a time and control advantage over defensive actions. "Being able to act when ready the initiating side has the luxury of using the available time to spin deception plans if it chooses to; the defenders must respond willingly to the action, ready or not" (4:24-25).

Assuming the deception plan satisfies the five factors, the success or failure of implementing a deception plan is determined by achieving the goal of the deception process. The ultimate goal of the process is "for the deceiver to benefit from the target's actions" (4:5). A simple or complex deception operation can fail in the process for any one of the following reasons (6:189):

Enemy fails to accept or takes no notice of the bait of deception.

Enemy notices but considers it irrelevant.

Enemy misconstrues its intended meaning.

Enemy discovers the deception plan.

In summary, a deceiver can expect a reasonable chance of success when the deception plan is organized and coordinated in secrecy, and its design consists of a plausible lie that reinforces the expectations or preconceptions of the target (6:95). Furthermore, knowing as much as possible about the character of the enemy and his capabilities in intelligence collection, processing, and analysis can enhance the deception process.

Given this basic background for understanding deception, it is time to review past uses of deception to determine if any lessons are apparent. As previously mentioned, the examination will be on selected World War II campaigns and Middle East conflicts. Additionally, in order to consider lessons applicable to current USAF CCD initiatives on air base survivability, the examination will focus on, but is not limited to, those CCD measures used to protect military assets.

Chapter Three

DECEPTION OPERATIONS OF WORLD WAR II

The ultimate goal of strategem is to make the enemy quite certain, very decisive and wrong (20:135).

- Whaley -

World War II represents a fertile ground for examining lessons learned in using deception in warfare. As mentioned earlier, throughout military history deception was a valuable tool for commanders to mislead the enemy and gain a competitive advantage or surprise. "But at no time were military deception and its ally, camouflage, more widely and effectively used than in the campaigns of World War II" (10:2). For this reason selected British and Allied deception operations will be examined for lessons learned to help aid current military planners design effective CCD systems. Even with today's high tech surveillance equipment like reconnaissance aircraft, intelligence satellites, radar, sensors, computers, and sophisticated communication monitoring systems, deception remains an important military instrument. Although deception will be more difficult and on a higher technical plane, it must not be limited in scope to super-sophisticated electronic warfare or ignore the traditional art of deception employed successfully in the past (6:146).

In World War II, all the major combatants, with the exception of Italy, France, and China, used strategic and tactical deception on a large scale (20:76-79). For the purpose of this paper, British and Allied (American and British) deception operations were selected for examination. The results of the examination will be in the criteria format presented in chapter one.

BRITISH DECEPTION OPERATION

Operation: Sea Lion, September 1940

The British were challenged early in World War II to develop a defensive deception capability to survive Operation Seal Lion, the planned German invasion of England. After the retreat from Dunkirk in 1940, the British ability to wage war against the numerically superior German forces was in jeopardy. The British armed forces were short of planes, tanks, guns, ammunition, and military supplies (10:5). In addition, the British inferior

forces were outnumbered by the numerically superior Germans who were able to base their aircraft within five to ten minutes striking distance from the English coast.

Deception Plan Objective:

The overall objective of the deception activities during the Battle of Britain was to protect crucial military and war-making industrial assets from German aerial attacks. The British desperately needed time to rearm and prepare defenses against the strong German army. As a minimum, the British expected the Germans to waste time and resources on false targets and avert total destruction of their primary war-making and waging capabilities.

Deception Methods Used:

The primary objective of the German Luftwaffe in the Battle of Britain was to destroy Britain's airpower and gain air superiority. Initially, the German aerial assault plan concentrated on offensive air and massive bombing attacks on British airfields and aircraft factories (10:42). To offset this overwhelming German airpower, the British Air Ministry directed a special works organization under Colonel Sir John Turner to develop both active and passive deception measures to deceive German aircrews. Working from a World War I precedent of using dummy (decoy) airfields and flare paths to divert bombing raids, Colonel Turner's organization designed and built by 1941 approximately 100 night decoy airfields known as Q sites (2:5). The Q sites were an elaborate arrangement of electric light patterns imitating typical airfield characteristics at night. One ingenious lighting method to create the illusion of an active airfield was done by suspending a headlamp propelled by an electric motor along a zigzag path to simulate a taxiing aircraft (2:5).

The operation of the Q site required two men, and they controlled the lights from an underground shelter connected by telephone to a real airfield. If an attack was pending on the real airfield, then the lights were switched on to induce the enemy to bomb the Q site (2:4).

Other operational schemes to convey more realism on the bombed Q sites consisted of simulated bomb craters and fire baskets. The simulated bomb craters created by Colonel Turner's artists consisted of craters painted on sheets of canvas and placed on key airfield locations (10:47). These were used to show follow-up daytime German photo reconnaissance missions the airfield indeed sustained damage from the previous night. The apparent realism had its drawbacks, though, by fooling the British pilots wanting to land on the runways. British ground

controllers stated "Don't worry about those, old boy--they're only to fool the Jerries" (10:47). The fire baskets, named Starfish, simulated fires caused by bombs and were triggered by electrically initiated incendiary devices. The baskets were placed at key locations on the airfield and initiated remotely during a German attack (10:46-47).

In addition to the night Q site decoy airfield, Turner's team designed and constructed approximately 60 daytime decoy airfields named K sites (2:6). The K sites were an elaborate arrangement of imitated runways, maintenance sheds, fuel and bomb dumps, as well as unserviceable real and decoy aircraft (10:49). The aircraft decoys, designed by British film studio set designers, simulated Hurricanes, Blenheims, Whitleys, Spitfires, and Wellingtons. The decoy had the basic shape of the real one with rudimentary outlines of the engines and undercarriage (2:7).

The operation of the K site required approximately 20 men, and they provided the upkeep and illusion of activity on the airfield. This illusion of activity consisted of moving the decoy aircraft and vehicles about the field, rearranging supply dumps, faking new construction and receiving new supplies (10:49).

Many of the passive and active deception methods used to protect the airfields were also employed for aircraft and industrial factories. One method with limited success as a result of weather constraints was smoke screens. Various smoke generating devices, such as oil burning smoke generators and smoke-producing briquettes, were used to either hide important facilities or induce the enemy to bomb a false target (2:17).

Results:

Germany's Operation Sea Lion failed to achieve the primary military objective of destroying the British airpower and thus ended the invasion of Britain in September 1941. In the words of Churchill, "The first German aim had been the destruction of our air power; the second was to break the spirit of the Londoner, or at least render inhabitable the world's largest city. In these purposes the enemy did not succeed" (10:51). The employment of the deception measures contributed to the failure of Sea Lion by diverting a significant portion of German airpower resources from real British airfields and industry. Approximately 50 percent of the Luftwaffe bombing effort was diverted away from genuine British airfields (10:51). The measures used in both the Q and K sites were considered a success in terms of German bombing raids on all decoy and real airfield raids. The results of protecting aircraft factories and industrial complexes were not as conclusive. However, there were documented instances of German bombers attacking decoys near towns. For example, the Starfish fire decoy system protecting the town of Portsmouth received 170

bombs and 26 parachute mines or approximately 90 percent of the bombs dropped (2:11).

Lessons:

1. The operational effectiveness of deception plays is hampered by poor procedural discipline. For example, contrary to instructions, Q site operators switched lights on and off to attract attention, arousing the enemy's suspicion of the target (2:5).

2. The design of visual deception measures viewed from the air for night operations are significantly different than day operations (10:44).

3. The quality and state of the visual deception measures must be continually inspected from the ground and air. To ensure accurate perception by an adversary, the inspection should involve surveillance equipment and techniques similar to the enemy's (10:46-47).

4. Authenticity of a visual deception display can be enhanced by mixing the real with the false (2:7).

5. In general, if left continually exposed and unchanged, visual deception measures lose their effectiveness over time. For example, most of the recorded 350 attacks on the Q sites occurred from late-1940 to mid-1941. In the last quarter of 1941, only one attack was recorded (2:5).

6. Visual deception measures can affect both enemy and friendly forces. In this case, British pilots mistook the Q sites for real runways and attempted to make night landings (10:45).

7. Deception assets can be used for more than one purpose. For example, when the K sites were shut down after the battle of Britain, 400 aircraft decoys were used in a following strategic deception plan to suggest the build-up of forces (2:8).

8. To be convincing, life-like activity must accompany a visual deception display with motion characteristics (10:49).

9. Qualities of a good deception planner are imagination and an ability to conceptualize (10:47).

Operation: Starkey, April 1943

In early-1943, the British Chiefs of Staff approved the implementation of a major deception plan called Cockade. The purpose of the plan was to impress the Germans that the British were preparing a cross-channel invasion of Europe. Operation

Starkey was the first of three component plans devised to support the main deception plan.

Deception Plan Objective:

In support of the main objective in Cockade, Starkey's plan called for a feint amphibious attack across the channel to induce the Luftwaffe to attack under terms favorable to the British (2:61).

Deception Methods Used:

To convince the Germans of a pending invasion, the British employed visual, rumor, and agent deception measures. Some of the specific measures employed were:

1. Both real and notional ground forces were earmarked for the invasion (2:61).

2. British Political Warfare Executives planted hints in the French underground network of preparations required to receive an invasion force (2:65).

3. British Broadcasting Company sent informative radio messages to European civilians on recognizing Allied forces (2:65).

4. Decoy gliders and fighter aircraft in quantities suitable for the size of the invasion force were deployed to south coast airfields (2:67).

5. Night lighting schemes imitating real troop embarkation ports were constructed near the real ports to divert air attacks (2:65).

6. Decoy boats for tanks and troops in quantities suitable for the size landing force supplemented the real boats. Since the decoys were not operational, movement to the embarkation ports was simulated using radio call-sign signalling from town to town (2:69).

7. Radio deception was used to simulate headquarters activity and amphibious assault training (2:70).

8. Double agents were used to pass real and false information. For example, "it was learned that the non-existent Sixth Army was standing by to move to the embarkation ports" (2:70).

9. Eight small reconnaissance raids of the French coast were conducted to suggest an impending invasion. Team members were not briefed on the real purpose of their mission (2:68).

Results:

On September 9, 1943, a naval convoy with assault troops and an air cover of 72 fighters arrived off the coast of France near Boulogne. Both the German coastal batteries and Luftwaffe ignored the presence of the British effort. Failing to achieve either objective, the British returned home and publicized a successful full-scale rehearsal of pre-invasion activities with many lessons learned (2:74). Available evidence indicated the Germans perceived or detected the deception operation and took minimum precautions to counter a possible raid (2:74).

Lessons:

1. Inadequate resources supporting a deception plan may jeopardize its success. For example, a possible cause of the failure of Operation Starky was the reduction of the originally established air and naval assets required (2:62).

2. For reasons of secrecy, deception plan details require dissemination on a need-to-know basis. At times, friendly forces involved in the deception operation should be as much in the dark as the enemy (2:68).

As World War II progressed, the British continued to develop their methods in deception. Many of these methods will become valuable for the Americans upon entering the war.

ALLIED DECEPTION OPERATION

When the Americans entered World War II, the British operated an effective deception organization called the London Controlling Section and acquired a wealth of experience in the use of deception. Initially, the inexperienced American military was slow to accept the benefits of deception in warfare. Resulting poor performance was registered in a critical report from the British Joint Security Control to the United States Chief of Staff (2:214). Gradually, by observing British successes, the American military leadership recognized the value of using deception methods, devices, and equipment to deceive the Germans. Although the British took the lead in the majority of the Allied deception operations, the Americans made significant progress in developing a deception capability within the US military organization (2:215). In time, the US armed forces made

significant contributions to the success of Allied deception operations.

Operation: Husky, July 1943

In early 1943, the Allied forces were in control of North Africa after the German and Italian forces capitulated at Tunisia. The Allies wanted to push north into Europe and decided at the Casablanca Conference in January 1943, that the "soft underbelly" of Europe, Sicily, would be the invasion point (10:142). The supporting deception plan to cover the invasion was called Barclay.

Deception Plan Objective:

Deceive the German leadership into believing the invasion locations were Greece and Southern France. Also, disguise the real invasion timing on Sicily.

Deception Plan Methods:

The main elements of the Barclay deception operation were feigned maneuvers by British forces into Greece via the Islands of Crete and Peloponnese. The American forces would feint maneuvers into southern France via the islands of Sardinia and Corsica. The Allies selected these feint targets based on known German preconceptions about the strategic value of these locations. In the view of Hitler's staff, the Balkan area was a valuable military objective because of its stores of copper, bauxite, chrome, and oil (10:142). On the other hand, France was always considered the logical invasion point into Europe. Other specific deception measures used by the Allies to convince the Germans of the authenticity of these maneuvers were:

1. A special operation was conducted to supply the Germans with false documents. The ingenious means of delivering the documents was via a corpse floated ashore to a Spanish beach as though from a crashed plane. German agents acquired and believed one false document which suggested a projected attack in the eastern Mediterranean on the islands of Cape Aranax and Kalamata. The other document conveyed the idea of seaborne landings on Sardinia (10:145).

2. Far to the west of Sicily and south of France in Oran, Algeria, a decoy US 15th Army Headquarters was set up to pass false information on to the Sardinia invasion forces (2:54).

3. Propaganda leaflets were dropped in Paris and radio propaganda was used to develop the pending invasion of southern France (2:55).

4. British diplomats in Switzerland and Sweden passed disinformation to foreign high-level dignitaries that the Allied invasions in Southern France and Greece were imminent (2:58).

5. Unintentionally, some US newspapers on their own volition projected the invasion of Greece as the next Allied move from Africa (2:51).

Results:

Operation Barclay was successful. The Axis powers spread their defensive forces to protect Greece and France from an Allied invasion. Taking the bait, the Germans made the following force modifications and fortifications (10:149):

1. One brigade was added to the defense of Sardinia.
2. One panzer division from France and two from the Russian front were added to Greek defenses.
3. One naval squadron of Kriegsmarine R-boats moved from waters off Sicily to the Aegean Sea area.
4. Additional mine fields and shore batteries were placed around the coast of Greece.

Finally, on May 12, 1943, Hitler was convinced of the Allied intentions and directed that "measures regarding Sardinia and Peloponnese take precedence over everything else" (10:149).

Lessons:

1. The real operational plan and the covering deception plan require development together to ensure synchronization and timeliness of events (2:51-52).

2. Deception planners should anticipate resources required for supporting deception plans may compete with operational resources in use. Normally, as a rule, the genuine operational plan will have priority for resources. For example, the leaflet propaganda program was reduced in scope because the deception's plan aircraft requirements were unsupportable from available operational assets (2:56).

3. The free press can be used to foster deception. However, the absence of direct control of the press can frustrate or deviate from deception objectives (2:56).

4. High risk and high payoff deception measures must be perfectly planned, organized, and timed to ensure high probability of success. For example, failure of the special

operations deception measure of planting two false documents on the corpse off the Spanish coast would have, most likely, revealed the real intentions of the Allies (10:143).

5. The deception process requires allowing adequate time for the enemy to receive and react to the deception measures (2:52).

The foregoing British and Allied deception operations provide some key lessons for today's military deception planners. Many of these lessons were applied in subsequent Allied campaigns. In order to gain an appreciation for the use of deception in a more recent war comparable to today's high technology environment, the final chapter will examine two Middle East wars.

Chapter Four

DECEPTION OPERATIONS IN MIDDLE EAST WARS

With the domination of the battlefield by technology, camouflage may still, should the occasion arise, save life and provide the means for surprise by denying information to the enemy about dispositions and activities (7:150).

- Hartcup -

Deception in warfare lives after World War II but its form and means have changed over time. "Its basic principles and objectives of reinforcing the desires and perceptions of the deceived have not changed since human nature and the psychological mechanisms of human perception are ever the same" (13:34). Technology is the factor that changes deception's form and means of employment (13:34). For this reason, today's challenge for military deception planners is to be aware of changes in technology affecting deception capabilities and to study contemporary relevant lessons learned in its application. Addressing the latter challenge, this final chapter will briefly examine two Middle East conflicts for lessons where deception was used in a technological environment more sophisticated than in World War II.

ISRAELI DECEPTION OPERATION

Operation: Six-Day War (1967)

In 1967, Egypt escalated a crisis in the Middle East by closing the Straits of Tiran to Israel. The Israelis decided to make a preemptive surprise attack against Arab nations. Israel wanted to achieve its military objectives swiftly, knowing of its inferior force compared to the Arabs, and their lack of logistics sustainability. The Israeli military objective consisted of the following (18:D-17):

1. Open the Straits of Tiran which were under Egypt's control.
2. Capture and secure the west bank of Jordan River.
3. Capture and secure the Golan Heights.

A combination of political and military deception plans were devised to cover the military actions and achieve surprise.

Deception Plan Objectives:

The primary objective of the overall deception plan was to deceive the Arabs into believing Israel was not mobilizing for war. Secondly, when the conflict started, to deceive the Arabs into believing the attack on the Straits of Tiran will be from the southern Sinai area (18:D-17).

Deception Plan Methods:

The Israelis used a combination of active and passive deception measures to achieve the deception plan objectives. Specific activities before the outbreak of the war included:

1. Diplomatic disinformation was used to convey the impression military action was not imminent and to reinforce Egypt's belief that Israel did not have adequate forces to attack the Sinai. For example, Israel Minister of Defense stated that the timing of Egypt's mobilization in the Sinai to support the blockade of the Straits of Tiran prevented Israel from reacting militarily (18:D-17).

2. Israel secretly mobilized the armed forces using covert techniques to include coded recall messages over the radio and word-of-mouth to selected troops (18:D-18).

3. To cover the mobilization and create the impression the military was operating in a peace-time mode, troops were sent on leave shortly before the start of the war (18:D-18).

4. Just prior to hostilities, propeller aircraft using normal fighter aircraft communication call signs were flown to cover the planned grounding of combat aircraft. The combat aircraft received maintenance and repair to bring systems up to fully mission capable status (18:D-18).

5. Just prior to hostilities, the combat turn-around time for fighter aircraft was significantly reduced by revamping and rehearsing the procedures. Unknown to the Egyptians, the Israelis increased the aircraft sortie rate of two or three per day to eight to ten per day (18:D-19).

6. Frequent aircraft sorties were flown over the Gulf of Agala around the southern end of Sinai (18:D-19).

7. During the actual air attack, radio silence was used on ingress and sorties were flown low-level below Egyptian radar.

8. Beach landing craft was transported over land to Eilat in order to convince the Egyptians that the Israelis were building a large force in south Sinai. Much of the movement of the landing craft was performed at night for cover (18:D-20).

9. A dummy force of tanks was positioned with poor camouflage netting close to the Israeli-Egyptian border opposite Kuntilla. This notional force was to make the Egyptians believe the attack would go through south Sinai (18:D-20).

10. Passive camouflage was used to cover the real main force in the northern border of the Sinai (18:D-20).

Results:

Israel's deception plan was successful in achieving both objectives. Consequently, the Egyptian forces were beaten in the Sinai and suffered high casualties. The Straits of Tiran were opened to the Israelis within three days of the attack (18:D-20).

Lessons:

1. Electronic deception measures are an effective means to hide intentions or capabilities (18:D-20).

2. The use of a notional order of battle is an effective means to cover a real operation (18:D-20).

3. Movement of manpower or equipment at night is an effective means to conceal size and composition of forces (18:D-20).

4. Sophisticated reconnaissance systems can be deceived. For example, an Egyptian flown Soviet reconnaissance aircraft photograph indicated an Israeli force of one division when in reality the force was only one brigade reinforced by dummy tanks (18:D-20).

5. Deception planners must have access to most recent intelligence in order to assess impact on the plan (18:D-18).

EGYPTIAN/SYRIAN DECEPTION OPERATION

Operation: Yom Kippur War 1973

The President of Egypt decided in late 1972 to launch a military offensive in coordination with Syria against Israel in 1973. The primary military objective of the Syrian forces was to capture and secure the Golan Heights and the primary objective of the Egyptian forces was to capture and secure the area lost in

the 1967 Six Day War. Thus, the operational plans involved a two-front assault with initially the Syrians attacking the Golan Heights area and the Egyptians crossing the Suez Canal. The offensive action would require the concentration of forces near the assault points. Also, the element of surprise was needed at the strategic and tactical levels to gain an early advantage over the powerful Israeli armed forces (11:481).

Deception Plan Objective:

The primary objective of the deception plan covering both Egyptian and Syrian offensive plans was to confuse the Israelis on the real intentions of the build-up of Egyptian forces along the Canal and Syrians along the Golan.

Deception Methods Used:

The Arab deception plan named Operation Badr included both active and passive measures to disguise the Egyptian and Syrian real war intentions and military capabilities. The plan played on three post-1967 Six Day War Western and Israeli perceptions about the Arabs. First, the Arabs have difficulties in keeping secrets. Second, the Arab military forces are generally inept. Third, the Arabs cannot effectively conduct or coordinate multinational operations (6:322). Playing on these perceptions, Egypt and Syria used the time between 1970 and 1973 to rearm, train, and develop a new doctrine with the aid of the Soviets. As one Israeli government official commented after the 1973 war:

In August 1970, the Egyptians told themselves: 'The time has come for a pause. We will utilize it to our advantage. The Israelis made mistakes (during the Six Day War). For us, this pause will turn into a source of power, and for the Israelis, a source of weakness.' And we (Israelis) participated in the Egyptian game by treasuring 'conception' that the Arabs had no military option, and kept feeding ourselves with illusions, and interpreted all events in Egypt so as to strengthen this concept; and the Egyptians laughed, accumulated power, blew deceptive signals, and utilized the three peaceful years to prepare their 'Operation Badr.' The years 1970-73 were our years of self-deception (11:495).

Operation Badr continued to feed deception signals to the Israelis up to the point of attack. Specific methods used to deceive the Israelis on the intentions and capabilities of the Arabs included:

1. The Egyptians expelled the Soviet advisors in July 1972 and rumors were spread about deteriorating equipment and untrained Egyptian replacements for radar and missile sites.

Also, reports were spread concerning the Soviet dissatisfaction with Egypt and Syrian troop performance. Finally, rumors were spread to indicate troublesome times with remaining Soviet non-advisor personnel. Therefore, when the Soviets air-evacuated remaining Soviet personnel prior to the 1973 attack, Israelis interpreted this as a diplomatic action versus a signal of an imminent attack (6:325).

2. Egypt and Syria supported terrorist and guerrilla activities that effectively distracted the Israeli defense forces (17:495).

3. Egypt continually passed disinformation which stressed skepticism on their ability to wage war (6:113).

4. Egypt and Syria created a "cry-wolf" syndrome by conducting a series of three mobilizations and military maneuvers before the actual invasion near the Suez Canal and Golan Heights area. Each mobilization was accompanied by documentation and rhetoric indicating an attack was intended but the attack never occurred (6:223).

5. The preparations and concentration of manpower and equipment for the surprise invasion on October 6, 1973, were covered in a pre-invasion military exercise and construction of the "al-Jamas" defensive line. Built along the Suez Canal, the line consisted of a sand rampart, railroad spurs, ammunition and water storage facilities. Necessary ammunition and weapons were inconspicuously stored in the underground facilities. Troops were gradually massed at the front lines just prior to the invasion by moving small numbers at night to the front and covertly keeping forces in place at the end of an exercise operation (11:496).

6. Both Egypt and Syria maintained strict secrecy on the actual time of the attack. Orders were issued less than 48 hours beforehand and some pilots received their orders as they got into the cockpits (6:328).

Results:

The Egyptians and Syrians successfully massed their forces and surprised the Israeli forces. Just prior to the attack on October 6, 1973, Israeli leaders determined the real intentions of the Arab nations but could not mobilize in time to stop both Egypt and Syria from achieving their initial military objectives (6:111).

Lessons:

1. Secrecy is paramount in deception and at times may require deceiving designated forces within the deceiver military organization (6:328).

2. Target intelligence analysts use multiple sources of evidence in an attempt to validate real and false information (6:114).

3. When designing a plan, the deception planner should take advantage of known preconceptions of the target. A deception plan that reinforces the target's preconceptions versus trying to change his mind has a greater chance of success (6:322).

4. Military exercises or maneuvers are an effective means to create ambiguity or disguise offensive intentions (6:326).

CONCLUSION

The art of deception throughout military history has proven a vital and useful tool in warfare. As viewed in the historical cases, deception properly employed in consonance with offensive operations achieved both strategic and tactical surprise for an enemy. Also, when employing deception for defensive purposes, the enemy was induced to waste war resources against false targets or diverted destruction of friendly military and civilian targets. Although deception has changed because of technology in form and means since the Trojan Horse ploy, the above effects can be realized in today's high technology military environment. By examining the general lessons presented in this paper, USAF planners responsible for designing CCD systems should be stimulated to probe more deeply into the past use of the art of deception and to create a balanced and effective CCD system.

BIBLIOGRAPHY

A. REFERENCES CITED

Books

1. Cave Brown, Anthony. Bodyguard of Lies. New York: Harper & Row, 1975.
2. Cruickshank, Charles. Deception in World War II. London: Oxford University Press, 1979.
3. Clausewitz, Karl von. On War. Translated by O. S. Matthiis Jolles. Washington: Infantry Journal Press, 1950.
4. Daniel, Donald C. and Katherine Herbig (ed.). Strategic Military Deception. Elmsford, New York: Pergun Press, 1982.
5. Editors of the Army Times. The Tangled Web: True Stories of Deception in Modern Warfare. Washington: Robert B. Luce, 1963.
6. Gooch, John and Amos Perlmutter (ed.). Military Deception and Strategic Surprise. London: Frank Cass and Company, 1982.
7. Hartcup, Guy. Camouflage. New York: Charles Scribner's Sons, 1980.
8. Sun Tzu. The Art of War translated by Lionel Giles. Pennsylvania: Military Service Publishing Co, 1944.
9. Machiavelli, Nicolo. The Price and the Discourses. New York: Modern Library, 1950.
10. Reit, Seymour. Masquerade, The Amazing Camouflage Deception of WWII. New York: Hawthorne Books, Inc. 1978.

CONTINUED

Articles and Periodicals

11. Donnelly, C. N. "The Human Factor in Soviet Military Policy." Military Review (March 1985), pp. 12-22.
12. Handel, Michael. "The Yom Kippur War and the Inevitability of Surprise." International Studies Quarterly, Vol. 21, No. 3 (September 1977), pp. 461-501.
13. Handel, Michael. "Introduction: Strategic and Operational Deception in Historical Perceptions." Intelligence and National Security (July 1987), Vol. 2, pp. 1-90.
14. McCoy, Tindal W. "Task One: Air Base Operability." Armed Forces Journal International (September 1987), pp. 52-56.
15. Savoie, Thomas A., Major, US Army. "Are We Deceiving Ourselves?" Military Review (March 1987), pp. 37-45.

Official Documents

16. US Department of the Air Force. AFM 1-1, Basic Aerospace Doctrine. Washington, DC: Government Printing Office, 16 March 1984.
17. US Department of the Air Force. AFR 55-49, Tactical Deception Program. Washington, DC: Government Printing Office, 15 November 1985.
18. US Department of the Army. FM 90-2, Tactical Deception. Washington, DC: Government Printing Office, 2 August 1978.

Unpublished Materials

19. USAF 14-85, Statement of Operational Need (Draft) for Air Base Survivability, Camouflage, Concealment and Deception (CCD), 18 June 1986.

CONTINUED

20. Whaley, Barton. Strategem, Deception and Surprise in War. Center for International Studies, Massachusetts Institute of Technology, 1969.

B. RELATED SOURCES

Books

- Barkas, Geoffrey. The Camouflage Story. London, England: Cassell and Company, Ltd., 1952.
- Garthoff, Raymond L. Soviet Military Doctrine. Glencoe, Illinois: The Free Press, 1953.
- Masterman, J. C. The Double-Cross System in the War of 1939 to 1945. New Haven: Yale University, 1972.
- Whaley, Barton. Codeword Barbarossa. Cambridge, Mass: MIT Press, 1973.

Articles and Periodicals

- Ben-Zui, Abraham. "Hindsight and Foresight: A Conceptual Framework for the Analysis of Surprise Attack." World Politics, Vol. XXIII (April 1976), pp. 381-395.
- Korbin, N., Col. "Soviet Operational Deception." Soviet Military Review, April 1981, pp. 42-44.
- Nicholas, Jack D., Col, USAF. "The Element of Surprise in Modern Warfare." Air University Review, Vol. 8, 1956, No. 3, pp. 3-20.
- Savoie, Thomas A., Maj, US Army. "Deception at the Operational Level of War." Army (April 1987), pp. 30-40.

CONTINUED

Unpublished Materials

Boyce, Earl J., Maj, USAF. "Cover and Deception in World War II-- Its Lessons and Doctrine Implications." Research study prepared at the Air Command and Staff College, Air University, Maxwell Air Force Base, Alabama, March 1982.

Brown, Ronald R., Col, USAF. "Deception: A Model." Research prepared at the Air War College, Air University, Maxwell Air Force Base, Alabama, August 1984.

Peterson, James R., Maj, USAF. "Tactical Deception--Vital Then, Vital Now." Research study prepared at the Air Command and Staff College, Air University, Maxwell Air Force Base, Alabama, April 1987.