COMMAND AND CONTROL WARFARE AND THE DELIBERATE TARGETING PROCESS

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13. ABSTRACT *(Maximum 200 words)*

Command and control warfare (C2W) poses opportunities and challenges for the military planner. Questions arise over the nature of C2W operations and whether these operations are appropriate for the military. The work examines the construct of C2W and focuses on the use of offensive C2W (known as C2-attack) at the U. S. Army corps level of war. The thesis questions whether C2W is a viable construct, whether C2-attack operations can be conducted at the corps level of war, and whether the U. S. Army deliberate targeting doctrine is appropriate for this type of operation. The purpose of the thesis is to examine C2W at the corps level and determine if the deliberate targeting approach can be applied to C2-attack operations. The criteria used for assessment are: examination of present doctrine regarding C2W operations and analysis of historical examples of C2W operations. C2W gives the military a new and decisive tool for conducting operations, but carries limitations and considerations that commanders and staff must address. To ensure success, commanders and staff must understand the fundamental capabilities and the limitations that the C2W construct poses, along with the ability to apply this form of warfare in conjunction with a deliberate approach to targeting.

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The opinions and conclusions expressed herein are those of the student author and do not necessarily represent the views of the U.S. Army Command and General Staff College or any other governmental agency. (References to this study should include the foregoing statement.)

ABSTRACT

COMMAND AND CONTROL WARFARE AND THE DELIBERATE TARGETING PROCESS by MAJ Stuart H. Schwark, USA, 84 pages.

This study investigates the doctrine of command and control warfare at the tactical level of war and examines whether or not this doctrine is an appropriate activity for Army corps. The work examines the concept of command and control warfare, the applicability for the Army corps, and the use of the deliberate targeting process in directing command and control warfare activities.

The corps is the first level where the United States Army constitutes a command and control warfare cell. This study examines the role of this cell in view of the capabilities of the corps and the deliberate approach to corps targeting.

This study researches the aspects of command and control warfare, the command and control warfare resources available to the corps, past uses of command and control warfare, and the use of the deliberate targeting process as a means to direct command and control warfare operations. This study promotes the use of command and control warfare and asserts that while the corps is not optimally structured to conduct command and control warfare operations, that these operations may be conducted successfully by the corps using the deliberate targeting process.

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CHAPTER 1

INTRODUCTION

> Western society for the past 300 years has been caught up in a fire storm of change. This storm, far from abating, now appears to be gathering force. Change sweeps through the highly industrialized countries with waves of ever accelerating speed and unprecedented impact.[1]
>
> Alvin Toffler, Future Shock

> The advent of modern C2 systems and concepts contributes to our ability to achieve success in C2W while simultaneously creating vulnerabilities in our own C2 which must be defended. C2W offers the commander the potential to deliver a KNOCKOUT PUNCH before the outbreak of traditional hostilities. A successful C2W strategy will contribute to the security of friendly forces, bring the adversary to battle on our terms, seize and maintain the initiative, ensure agility, contribute to surprise, decapitate enemy forces from their leadership and create opportunities for a systematic exploitation of enemy vulnerabilities.[2]
>
> CJCS MOP 30, Command and Control Warfare

In the Greek tradition, the man Damocles attended a great banquet hosted in his honor. He dined lavishly and enjoyed himself immensely until he noticed a sword dangling over his head, held in place by a single human hair. The uncertainty of his position impressed upon him the tenuous nature of fortune and human frailty.

A sword of Damocles hangs over the nation's head: unforeseen and unrecognized threats hang mysteriously before the nation, threatening the prospects for peace and stability.

Among the nation's fears are the Army's concerns over the use of information systems. In a time when communication and information are keys to successes and viabilities, a

new threat emerges to deny the use of the very tools sought. As knowledge-based systems and information dominance becomes an increasingly crucial element of the national strategy and our general society, the denial of communications becomes an unbearably dangerous threat.

Conversely, military planners wonder to what degree they can use this vulnerability against their adversaries. It is believed that modification or denial of an enemy's decision cycle can change the outcome of the battle. Therefore officers must ask: What is the national ability to execute these types of operations and do they have any relevance to the military commander? How are these operations executed, and by whom? In distilling the themes that arise from this general discussion, the need to define and distinguish Information Warfare (IW) becomes clear.

In Alvin Toffler's book The Third Wave the author theorizes that Americans are living in a new era, which is the Information Age. The impact of this age (or wave, as Toffler defines it) is a fundamental shift or progression in the way that our society views and interacts with the world. The definition of the third wave is a movement toward an information-based socioeconomic system, as contrasted with a heavy industrial production system (the second wave). This shift toward an information-based society is a key element in the evolution of the society and the military.

The impacts of information systems, information movement, and information dominance are critical to the functions of society and the military. The changes in how the military relates to and handles information is one of the fundamental aspects of the revolution of military affairs.

The prospects of information operations and the information concerns of the digital battlefield have already permeated military society. Officers hear discussions of virtual battlespace and spectrum dominance without understanding or defining the relevant terms, much less the impact on present operations. However, the impacts of IW and Command and Control

Warfare (C2W) are key elements of any commander's interests. In essence, C2W seeks to assure the ability to plan, communicate, and control operations with absolute surety, while denying that capability to the enemies. Of course, the concerns about the nation's ability to protect or guarantee the surety of information is matched only by the enthusiasm to deny that capability to the nation's adversaries.

In order to discuss the concepts and problems associated with IW, C2W, and their military applications, some of the basic terms need to be clarified:

> *Information Warfare*: (DOD) Actions taken to achieve information superiority by affecting adversary information, information-based processes, information systems, and computer-based networks while leveraging and defending one's own information, information-based processes, information systems, and computer-based networks. Also called IW. (Approved by JMTGM# 034-96)[3]
>
> *Command and Control Warfare* (DOD): The integrated use of operations security, military deception, psychological operations, electronic warfare, and physical destruction, mutually supported by intelligence, to deny information to, influence, degrade, or destroy adversary command and control capabilities, while protecting friendly command and control capabilities against such actions.
>
> Command and control warfare is an application of information warfare in military operations and is a subset of information warfare. Command and control warfare applies across the range of military operations and all levels of conflict. Also called C2W. C2W is both offensive and defensive:
>
> C2-attack. Prevent effective C2 of adversary forces by denying information to, influencing, degrading, or destroying the adversary C2 system.
>
> C2-protect. Maintain effective command and control of own forces by turning to friendly advantage or negating adversary efforts to deny information, to influence, degrade, or destroy the friendly C2 system. See also command and control; electronic warfare; intelligence; military deception; operations security; psychological operations. (Approved by JMTGM# 034-96).[4]

From this military planners will see that the military subset of the IW problem is defined doctrinally in terms of C2W, which is further delineated into the categories of C2-attack and C2-protect. The current joint publication[5] on C2W additionally established five "tools" which

support C2W operations (both C2-attack and C2-protect): (1) operations security (OPSEC), (2) psychological operations (PSYOP), (3) military deception, (4) electronic warfare (EW), and (5) physical destruction.

These elements are formally defined later in this chapter. Intelligence supports all the elements of C2W as both a true component and mutually supporting foundation of C2W operations. The relation to intelligence is critical to note at this point in that the distinction between classic intelligence and some elements of C2W (for example, electronic warfare)is very close. Regardless, there is a distinction between intelligence operations and C2W operations that the staff planner must remember. In the definition of C2W intelligence is an embedded and supporting aspect of the operation, but not a component of that operation.

However, having these terms and definitions is a long way from having a useable product or a strategy that a military commander can understand and bring to bear at the correct time and space. To understand C2W we must examine the doctrine and impact of the concept, both as a theoretical model and the actual implementation. In the thesis this implementation is examined at the corps level of the tactical Army.

There is serious debate in military circles about the nature of C2W and how it will impact the battlefield. Some question whether this is a new form of warfare or simply a repackaging of existent ideas; others theorize that ultimately C2W will change the face and manner of battle (as it is now understood) into a completely new dimension. These views demand scrutiny, especially in light of the newness of the ideas and the potential for radical changes in warfighting perspectives.

Accordingly, this thesis will examine C2W and Army doctrine. The focus will be the Army at the corps level and the role of the corps, C2W, and the conduct of the C2W battle in the

corps area. The thesis will attempt to determine if C2W applies to the tactical Army force (specifically the corps), where a newly formed C2W cell is reflected in the staff organization.[6]

The principal question regarding C2W at Corps is not whether it exists, but how it is structured, what it is able to accomplish, and whether the organization and abilities mesh effectively with the Corps needs to plan and synchronize battle plans. These final points are vitally important at the tactical level, as forces in the corps and lower echelons of tactical forces have comparatively little time and resources to structure and synthesize complex weapons systems in response to emergent and dynamic requirements. In short, the corps does not have the time or resources to plan grand strategy. Their fight is the today and tomorrow battle where C2W must have immediate impact to help in the struggle.

Accordingly, the primary thesis question focuses on the internal actions of the C2W cell at corps and questions whether the actions accomplished by this cell are in sync with the battle planning and management functions of the corps G2 (Intelligence) and G3 (operations) battlestaff officers. This functionality is reflected in the organizational concept for planning and managing planned engagements and fires: the deliberate targeting process. This process manages the engagement priority, method, timing, and conditions for all fires within the corps area. As a planning, managing, and synchronizing element, staff planners must determine:

Does the current targeting process apply to C2W operations? Will C2W operations require a new method of integrating multiple battle tools to achieve the desired effect at an exact place and time?

This question is the natural manifestation of an analysis of C2W operations at corps. There are several precursor questions which inevitably contribute to the resolution of this issue, including: Is C2W a recognizable form of warfare that a corps commander can understandably

exploit within the corps planning and targeting cycle, or is it simply a new buzzword for repackaged and existent capabilities? Does C2W as a weapon represent such complexity in synergism that it does not apply adequately at the corps level?

As a result of the examination of this question, the accompanying question will arise and require resolution: Does the tactical/operational commander at the corps level have adequate resources, organizations, and information capabilities to exploit C2W in the corps C2W cell, as depicted in FM 100-15, Corps Operations?

In examining the background to each of these questions, the central concern rapidly becomes evident: What is C2W at the corps level, and how does it relate to the planning and targeting models? How does the corps commander use the C2W cell to coordinate, plan, and fight the battle, and does the existent targeting model for that process apply to the conceptual process of C2W?

Given these general questions, the thesis must relate the perspective of C2W and the Army doctrinal approach to targeting within the corps view of operational planning.

Accordingly, the thesis will not address topics of greater scope relating to the national policy on IW, or joint issues on the application of C2W operations by a Combatant Commander/Theater Commander in Chief (CINC) or a Joint Task Force (JTF) Commander. Additionally, the thesis' perspective is limited to the corps as an Army service entity, such as the VII Corps in DESERT STORM, since the resources and responsibilities the corps has when serving as a JTF headquarters does not represent the normal scope and actions of the corps staff and commander.

The principal approach in this thesis is a historical analysis of the available doctrinal resources on the topic of C2W and the use of historic examples which illustrate the present joint

and Army doctrine. While comparatively little has been written in direct application of C2W at the corps, the five supporting tools have been commonly used in military history. The thesis will attempt to examine whether corps commanders have been able to synchronize appropriate aspects of C2W to represent a true generation of C2W. The examination of historical evidence will show that, while the current doctrine of C2W is new, the military use of the components tools and their synthesis into a greater whole has been common in history.

Therefore, the use of historical references will question whether commanders at the tactical/operational level of war have ever demonstrated the combination of the elements of C2W in a focused effort in support of the battle plan. If not, what has changed the visualization of the corps commanders' abilities so that officers believe that the military can now demonstrate proficiency at a new and highly complex element of war?

Lastly, the research will determine that the present Army doctrine does not fully address the complexity of C2W as a combat weapons system, and that the organization of C2W cells and the planning/targeting methodology applied to the C2W problem require additional assets and modification for increased effectiveness.

In embracing the C2W model as a new way of waging increasingly effective and rapid warfare, then the military must ensure that all aspects of this weapon are armed, sharp, and ready. If the research indicates that portions are not yet ready for full implementation, then the thesis will attempt to identify the basis of the problem and recommend possible solutions. Additionally, if there are obvious areas in which the Army excels (for example, the integration of lethal fires into a phased plan in support of the C2W battle), then these strengths should be identified and reinforced.

Hopefully the ultimate benefactors of this research will be the consumers and directors of the C2W programs. They will have an enhanced perspective on the unique needs of the Army commander at the corps level as he fights the immediate battle and is able to rely on C2W as a tool to help him fight and win. Accordingly, this increased understanding will translate into a more coherent and effective support structure for the commander and the mission.

Literature Review

> The remarkable leverage attainable from modern reconnaissance, intelligence collection and analysis, and high speed data processing and transmission warrants special emphasis. The Services and combatant commands require such fused information systems. These systems enhance our ability to dominate warfare. We must assure that this leverage works for us and against our adversaries.[7]
>
> National Military Strategy

In surveying the literature which supports an analysis of C2W, corps operations, and tactical targeting and planning, the thesis attempts to canvas the scope of thought on the problem. Military planners will see in this chapter that substantial and valuable works are available as aids in this research.

The key literature that is widely available at the unclassified level on IW topics is limited. Many of the current Presidential directives and the implementing Department of Defense policy (for example, DOD Directive S-3600.1, Information Warfare,)[8] are classified, as are many of the current Chairman Joint Chiefs of Staff (CJCS) memorandums of policy (MOPs) on C2W, or the supporting C2W tools.

However, given the constraint of classification, it is clearly established that there are several key doctrinal publications available on the topic in an unclassified form. These will be the key elements of the thesis as the research compares the various doctrinal manuals on C2W. The publications can be generally defined in terms of DOD, joint, service, civilian, and public

statements or publications. Furthermore, while the policy and doctrine on C2W and IW operations are classified, the references regarding the five C2W tools are often unclassified, allowing detailed research.

Additionally, in conducting a basic survey of the essential literature that is available on the topic, this thesis references the salient classified references which the military or intelligence consumer can consult. Within the limit of classification in this document, the thesis refers to key perspectives and thoughts which are fully expressed in those works.

Briefly, DOD works normally represent the policy perspectives on the application of military power in a certain area. In this area the policy concerns the military implementation of IW, which is C2W. Both the Joint and Army publications are unlike the DOD material, in that they are predominantly descriptive manuals which address execution of the policy goals outlined by the DOD staff.

Civilian works represent a wider gamut of thought on the issue and normally span the spectrum from think tank organizations to common stories of daily applications of IW, such as the hacking of the CIA web site to deface their homepage.[9] This section of literature also deals with much of the historical data used to establish the argument in the subsequent chapters.

Lastly, the public comments reflected are examples of speeches, briefings, or testimony of key DOD personnel or other knowledgeable individuals on the topic.

Department of Defense

While there are many DOD works which outline policy and national strategy issues behind IW and C2W, they pose two problems for this research: one, they are almost all classified and difficult to obtain; and secondly, they deal with a policy aspect of IW/C2W which is outside the scope of the review. Accordingly, while this thesis will not cover the policy

aspects of C2W, it will state that the national policy grants the DOD the authority to conduct C2W operations. This authority is clearly reflected in the joint chiefs of staff (JCS) publications and the implementing service doctrine.

The DOD reference, National Military Strategy, is vital to an understanding of DOD, our national strategy, and how the military supports national policy. The National Military Strategy or NMS is clearly foundational to any study of why the nation conducts military operations. Of course, the national source A National Security Strategy of Engagement and Enlargement, published by the White House, serves as the base document for the NMS.

Joint

Both joint and military service publications (Army, Navy, Air Force, or Marine documents) represent a critical resource in the analysis of C2W. The military structure enables doctrine writers to conduct a literature survey and inclusion of reference works that are probably more comprehensive than in many civilian institutions. Accordingly, the military perspective on C2W is especially crucial in this study. As an example, appendix C (References) of Joint Pub 3-13.1, Joint Doctrine for Command and Control Warfare, includes twenty-six DOD references; fifty-two joint staff works; eight manuals from the Defense Intelligence Agency (DIA) and the National Security Agency (NSA); sixty-eight service department doctrinal manuals or multi-service manuals, and two national sources. The total of reference works that the Joint Staff surveyed in the formulation of this publication is 156, which represents a serious and detailed survey of literature itself. Military planners and others should realize the resources of the DOD enable the joint and service agencies to research doctrine and approach to warfighting issues as few other organizations can. However, it is not assumed that since joint doctrine references

service doctrine, or vice versa, that all aspects of the two are harmonious. This thesis will demonstrate that this is clearly not the instance in some cases.

Some of the essential joint publications used are the 8 March 1993 version of the CJCS Memorandum of Policy Number 30, Command and Control Warfare (known as CJCS MOP 30), and the JCS publications on C2W, Deception Operations, Psychological Operations (PSYOP), Electronic Warfare (EW), and Operational Security (OPSEC). In most instances the joint doctrine relating to physical destruction is incomplete in comparison to service doctrine since the service works are more comprehensive, specific, and applicable.

Officers who wants to gain an appreciation of why and how the military conducts operations in the Joint arena needs a basic understanding of four primary JCS documents: Joint Pub 1, Joint Warfare of the Armed Forces of the United States, 10 January 1995; Joint Pub 2-0, Joint Doctrine for Intelligence Support to Operations, 5 May 1995; Joint Pub 3-0, Doctrine for Joint Operations, 1 February 1995; and Joint Pub 5-0, Doctrine for Planning Joint Operations, 13 April 1995. Given that entry background, military staff and planners can and will understand the role of the services and the joint warfighting approach that facilitates the role of the corps and C2W.

Joint Command and Control Warfare Publications

The primary overall references on the topic are Joint Pub 3-13.1, Joint Doctrine for Command and Control Warfare (C2W), dated 7 February 1996; and the CJCS MOP-30.

Joint Pub 3-13.1 lays the foundation for the discussion by establishing the five elements of C2W.[10] (1) operations security (OPSEC), (2) psychological operations (PSYOP), (3) military deception, (4) electronic warfare (EW), and (5) physical destruction

The joint publication serves to introduce the concepts of C2W and highlights the interaction between the elements of C2W. Each of the five C2W tools has supporting joint doctrine, but there is only partial information on how the tools relate and are unified to provide the commander a coherent whole. Additionally, the joint documents do not address the integration and synchronization of C2W, which is at the heart of the matter for the tactical commander.

In addressing each of the five C2W tools, one must understand what part each tool plays and why. The following definitions should serve as focusing points for the discussion on the tools later: [11]

> Operations Security (OPSEC): A process of identifying critical information and subsequently analyzing friendly actions attendant to military operations and other activities to: a. Identify those actions that can be observed by adversary intelligence systems. B. Determine indicators hostile intelligence systems might obtain that could be interpreted or pieced together to derive critical information in time to be useful to adversaries. C. Select and execute measures that eliminate or reduce to an acceptable level the vulnerabilities of friendly actions to adversary exploitation. Also called OPSEC.[12]

The functional area of OPSEC is covered in Joint and Army service doctrine. Both aspects of doctrine clearly establish the fundamentals of OPSEC considerations and practical means for implementation. OPSEC is supported by Joint Pub 3-54 (Change 1), Joint Doctrine for Operations Security, 15 April 1994, and is implicit in all of the intelligence and operations manuals (both as a planning concern and as a weapons that the commander can use to facilitate operations).

> Deception: Those measures designed to mislead the enemy by manipulation, distortion, or falsification of evidence to induce him to react in a manner prejudicial to his interests.[13]

There are excellent references for military deception operations. The joint publication on deception is Joint Pub 3-58, Joint Doctrine for Military Deception, dated 31 May 1996. There are several Army references specifically keyed to the topic: Field Manual or FM 90-2,

Battlefield Deception, (October 1988); FM 90-2A, Electronic Deception (June 1989) and FM 90-19, Multi Service Deception Procedures for Joint Operations (December 1988). The Joint Pub 3-58 and Field Manuals 90-2 and 90-2A are essential reading for a grasp of the nature and complexity of military deceptive operations.[14] Additionally, there are numerous historical examples of classic deception operations which include almost every element of C2W (minus PSYOP in most instances), so the study of deception operations is particularly vital for the C2W planner.

> Psychological Operations (PSYOP): Planned operations to convey selected information and indicators to foreign audiences to influence their emotions, motives, objective reasoning, and ultimately the behavior of foreign governments, organizations, groups, and individuals. The purpose of psychological operations is to induce or reinforce foreign attitudes and behavior favorable to the originator's objectives. Also called PSYOP.[15]

Following the crucial success of PSYOP in operations DESERT SHIELD and DESERT STORM, there is a renewed interest in the topic. Fortunately, both the joint and service arenas address PSYOP in some detail: Joint Pub 3-53, Joint Doctrine for Joint Psychological Operations, (10 July 1996), and FM 33-1, Psychological Operations (18 February 1993), both address PSYOP well.

Unfortunately, the nature of PSYOP does not easily lend itself to tactical operations. Due to the complexity and time required to generate a series of messages and then appropriately influence public opinion toward those messages, PSYOP seems most effective if employed at the strategic and operational levels, with tactical PSYOP reinforcing the main themes of the PSYOP campaign. It is critical to understand that for PSYOP to be successful, the PSYOP campaign must project a unified message from all assets, strategic through tactical, to reinforce a common theme. In later chapters the research will examine the assets available to the tactical commander regarding PSYOP employment, but the unified approach must be foremost for the success of the

PSYOP campaign. Any significant deviation by the corps commander can lead to a gap in the integrity of the C2W tools. Additionally, given the time constraints that tactical forces work under, there is some question as to the complete PSYOP effect that can be built in support of short duration operations.

However, there is an additional work to consider when examining tactical PSYOP that is very specific to our discussion. The United States Special Operations Command (USSOCOM), the unified command responsible for all military PSYOP units, has published a document titled Psychological Operations in DESERT SHIELD/STORM: A Post-Operational Analysis, which specifically addresses the strengths and limitations of the tactical PSYOP force in the recent Gulf war.

There are also several civilian works examined later that aid in the understanding of PSYOP. However, the USSOCOM study is unique in my research in that it specifically details the Persian Gulf conflict and the military uses of PSYOP at the tactical level in support of that effort, so it will assists greatly in the research on the thesis question.

> Electronic Warfare (EW): Any military action involving the use of electromagnetic and directed energy to control the electromagnetic spectrum or to attack the enemy. Also called EW. The three major subdivisions within electronic warfare are: electronic attack, electronic protection, and electronic warfare support.
>
> a. electronic attack--That division of electronic warfare involving the use of electromagnetic or directed energy to attack personnel, facilities, or equipment with the intent of degrading, neutralizing, or destroying enemy combat capability. Also called EA.
>
> EA includes: 1) actions taken to prevent or reduce an enemy's effective use of the electromagnetic spectrum, such as jamming and electromagnetic deception, and 2) employment of weapons that use either electromagnetic or directed energy as their primary destructive mechanism (lasers, radio frequency weapons, particle beams).
>
> b. electronic protection--That division of electronic warfare involving actions taken to protect personnel, facilities, and equipment from any effects of friendly or enemy employment of electronic warfare that degrade, neutralize, or destroy friendly combat capability. Also called EP.

c. electronic warfare support--That division of electronic warfare involving actions tasked by, or under direct control of, an operational commander to search for, intercept, identify, and locate sources of intentional and unintentional radiated electromagnetic energy for the purpose of immediate threat recognition. Thus, electronic warfare support provides information required for immediate decisions involving electronic warfare operations and other tactical actions such as threat avoidance, targeting, and homing. Also called ES. Electronic warfare support data can be used to produce signals intelligence (SIGINT), both communications intelligence (COMINT), and electronics intelligence (ELINT).[16]

The literature available on EW is both wide and varied. Unlike some of the other aspects of C2W, the EW portion of the C2W tools has been examined in detail in both doctrine and civilian references. One of the best resources for this subject is Joint Pub 3-51, Electronic Warfare in Joint Military Operations, 5 May 1991. The thesis notes that, unlike the other C2W tools, the detailed references on EW operations are all classified.

Military planners should recognize that a common misperception of IW and C2W operations is that they are simply a very sophisticated form of *electronic attack (EA)*. While EA operations may form a cornerstone of a C2W or IW campaign, this misunderstanding fails to appreciate the width and subtly of IW/C2W. The ability to use and combine all the tools of C2W constitutes a much more potent weapon than EA can ever generate by itself. This view is also technically incorrect in that it simply excludes the other tools of C2W operations.

The key elements of EW are also covered completely in Army doctrine, which is addressed later in this chapter.

Physical Destruction: Physical destruction is the only element of C2W that is not formally defined in the joint dictionary. Research indicates that the general concept of physical destruction is the application of lethal fires (artillery, air power, or like systems) to destroy or effectively degrade a military target. In this area the service doctrine is clearly foremost and authoritative.

It is crucial to understand that all of the C2W aspects interrelate in both C2-protect and C2-attack and that all tools of C2W are universally supported by intelligence as a cornerstone. This interrelation allows the commander to use C2W as both a sword to precisely attack vulnerable enemy nodes and as a shield to protect his operation and his forces.

While Joint Pub 3-13.1 recommends a specific joint approach and organization for effective C2W, the recommendations are focused at the Joint Staff, theater, and Joint Force Commander (JFC) level. This level of war is not specifically germane to the discussion, but the research will incorporate it for the analytic discussion of doctrinal perspectives.

Service

The United States Army publications that the thesis used include FMs relating to the Army's implementation of the C2W tools, corps operations, planning, and targeting. The research additionally reviewed and incorporated the new field manual on Information Operations (FM 100-6) during this work.

There are multiple Army manuals which relate directly and indirectly to the C2W problem: the cornerstone document is FM 100-6, Information Operations[17] which is the bridge between the Joint Pubs and Army doctrine. FM 100-6 outlines three primary concerns in information dominance: C2W operations, civil affairs operations, and public affairs.[18] Additionally, the FM includes specific chapters on planning (chapter six) and supporting and integrating C2W operations.[19]

All of the supporting C2W tools have relevant and direct service doctrinal publications, manuals, or regulations. However, when discussing the integration, synchronization, and conduct of C2W operations, especially at the Corps level, the documentation is much sparser.

Army Command and Control Warfare Doctrine

While there is an excellent doctrinal base for integration of Army EW and physical destruction (in example the corps targeting cell, which integrates lethal and nonlethal fires), there is no single document which outlines the integration and synchronization of the C2W tools at the corps level. This may be due to the fact that the preceding approach to C2W was known as C3CM (command, control, communications countermeasures), a program that the Army largely sponsored which involved the integrated attack of the enemy by all the elements of C2W, except PSYOP. The C3CM approach to battle is given in Army Regulation (AR) 525-20, Command, Control, and Communications Countermeasures (C3CM) Policy, 31 July 1992. The C3CM program mirrored the long-standing approach to using fires (lethal and nonlethal), supported by deception and OPSEC to fight the battle. Since the C3CM concept was fairly inherent in the Army style of warfighting, detailed integration may not have been required. Of course, the addition of PSYOP in C2W changed the nature of the whole problem. However, the Army doctrine of defining and using EW as a nonlethal fire is a classic example of C2W, and it is a natural transition from C3CM doctrine.

The elements of PSYOP, military deception, and OPSEC are not discussed at any great detail in the corps level of war. However, the current doctrinal base gives the corps commander some vital tools to extrapolate the conduct of a multipronged C2W battle.

Having noted the new FM 6-100, the thesis will examine the supporting tools in Army doctrine.

Having previously noted that the concerns of OPSEC are implicit in every intelligence and operations manual, it was not to beg the question of the Army doctrinal perspective. This specific area is outlined best in AR 530-1, Operations Security, 3 March 1995. This short

reference is a good work to study in understanding the OPSEC considerations that commanders and staff include when protecting operations.

Army deception operations references were previously mentioned and include FM 90-2, Battlefield Deception (October 1988); FM 90-2A, Electronic Deception (June 1989), and FM 90-19, Multi Service Deception Procedures for Joint Operations (December 1988). There is an additional work, AR 525-21, Battlefield Deception Policy, 30 October 1989, which gives guidance to the field in how and why tactical deceptions are used.

The Army has the largest standing PSYOP force in DOD and naturally has a good basis for its operations. The primary reference for PSYOP is FM 33-1, Psychological Operations, 18 February 1993. However, a review of this reference indicates a potential problem in the tactical C2W research: the manual does not address operations at the corps level to an adequate degree. While it does address tactical operations, the nature and implementation of those operations appear unclear. Since FM 100-15, Corps Operations, indicates that the corps should expect to receive a PSYOP battalion in a typical corps organization, the role and mission of that battalion represents some uncertainty for the Army planner. While other Army PSYOP references do help in clarifying this question, the base PSYOP manual does not fully address the gamut of PSYOP mission from strategic through tactical.

The Army works on EW include virtually every one of the "34" series of field manuals. The Army codifies its manuals by function and "34" indicates the functional area of intelligence - therefore the wide representation on this subject and the topic of OPSEC. In our discussion there are several primary EW works: FM 34-1, Intelligence and Electronic Warfare Operations, 27 September 1994; FM 34-25, Corps Intelligence and Electronic Warfare Operations, September 1987; and FM 34-40, Electronic Warfare Operations, 13 July 1987. All of these

documents address the use of EW as a weapon and the integration of EW into the scheme of fires for the commander.

Lastly, in terms of physical destruction there are a multitude of reference works. The Army considers physical destruction to be in the functional area of fires, so the key manuals all relate to fire support. It should be understood that the Army integrates all aspects of fires under fire support, so the fire support element (FSE) is the key integrator for air, ground, or sea delivered lethal fires. The FSE is also responsible for the integration and management of EW as a nonlethal fire system in support of the commander's direction. The cornerstone document behind the fire support structure is FM 6-20, Fire Support in the Airland Battle, 17 May 1988. This older work is augmented by FM 6-20-2, Tactics, Techniques, and Procedures for Corps Artillery, Division Artillery, and Field Artillery Brigade Headquarters, 7 January 1993. However, the vital work in this series is FM 6-20-10, Tactics, Techniques, and Procedures for the Targeting Process, 8 May 1996, which outlines the targeting D3A (decide, detect, deliver, and assess) methodology, the integration of lethal and nonlethal fires, and the target/plan/attack/assess method that is fundamental to the corps attack.

Army Tactical Warfighting Doctrine

After having addressed the C2W literature at the joint and service levels, the research will now examine the doctrine that enables the conceptual aspects of C2W to be used as a weapons systems. This shift is vital in the examination of C2W, because the research must understand and demonstrate how the tenets of C2W operations are actually employed to determine whether or not they are effective and manageable.

The broad categories of relevant tactical doctrine include three primary areas: Corps operations, planning, and targeting. Each area contributes measurably to the problem.

Corps operational doctrine simply describes the roles, functions, and organization of the corps. It includes the organization of the staff, the common tools and methods that the corps commander uses to execute the battle, and the normal tasks accomplished by the corps.

Corps planning addresses the way that the corps commander and staff prepare and manage the battle. This is functionally oriented, with groupings of staffs managing aspects, such as maneuver, fire support, intelligence, and others.

The Army targeting system also requires review since it is the means to integrate operations and planning into the deliberate and controlled application of a weapons system against an intended target. Of course, the issue of this integration and its relative effectiveness are central to this document.

FM 100-15, Corps Operations, describes the Corps C2W cell located in the Corps tactical operations center (TOC). The C2W cell is composed of representatives from PSYOP, deception, OPSEC, electronic warfare, and fire support, which represents physical destruction, and it is doctrinally in accordance with the joint perspective of the five elements of C2W. The function of the cell is to:

> build a synergistic C2W plan that supports the corps commander's concept of operations. A C2W officer (for example, the chief of the deception element) leads the cell.[20]

Additionally, the functions of the corps' C2W cell are:[21] (1) to plan the corps' overall C2W effort, (2) to develop counter C2 and C2 protection concepts to support the concept of operations, (3) to establish C2W priorities to accomplish planned objectives, (4) to determine the availability of C2W resources to carry out C2W plans, (5) to recommend taskings to the G3 for C2W operations, (6) to coordinate C2W operations with higher echelons responsible for the overall C2W campaign, and (7) to coordinate consolidated intelligence support for the five elements of C2W.

Both FMs 6-20-10, Tactics, Techniques, and Procedures for the Targeting Process, and 100-15, Corps Operations, have information that is relevant to the discussion of C2W. While FM 6-20-10 does not specifically address execution of C2W, it outlines an approach to the targeting process known as the D3A process. However, it remains unclear if this methodology satisfies the demands of the C2W planner and can sufficiently include the five C2W tools, lethal and nonlethal fires, as well as and build this process in rapid response to corps requirements. This gap requires examination.

Of course, this perspective on the D3A process and the corps C2W cell requires a determination of whether the doctrine and organization are capable of supporting the tasks.

Civilian

There are additional references which have been generated by civilian agencies which are extremely relevant. These include a series of works by the Rand corporation which addresses aspects of IW and C2W for the military and intelligence agency consumer. Additionally, the books from the Tofflers (i.e., The Third Wave or War and Anti-War: Survival at the Dawn of the 21st Century) are good references in understanding the evolution of military thought leading to C2W. Lastly, Martin Libicki's What is Information Warfare? is a great introductory volume that addresses all the key thoughts in C2W in an abbreviated form.

Deception is one area where non-DOD publications are widely available. One recommended reference is Charles G. Cruickshank's Deception in World War II, which is useful both for the fact that it is a major contributing source for the Army's FM 90-2 manual and that it is replete with positive and negative historical examples of complex deception operations.

The civilian works that aid in the understanding of PSYOP are key in the analysis of the problem. Both William E. Daugherty's work A Psychological Warfare Casebook and Dr. Anthony J. Cacioppo's A Systematic Theory for Psychological Warfare were commissioned by the United States government as reference studies on the subject. Other authors, such as Ron D. McLaurin in Military Propaganda: Psychological Warfare and Operations, rely heavily on information from the previous works to assist in the analysis. Additionally, Dr. Eleanor Sparagana's dissertation "The Conduct and Consequences of Psychological Warfare: American Psychological Warfare Operations in the War Against Japan, 1941-1945," is a detailed study of propaganda operations against the Japanese in World War II. All of these studies shed light on the military uses of PSYOP and propaganda; often they detail the history of tactical PSYOP applications in World War I, World War II, Korea, and Vietnam. The USSOCOM study is unique in my research in that it specifically details the Persian Gulf conflict and the military uses of PSYOP at the tactical level in support of that effort.

There are numerous civilian works on the use of electronic warfare. The staff officer or planner is well served by a visit to the *Journal of Electronic Defense (JED)* on the internet.[22] Since the problem of EW is critical to the defense of the nation, serious scientific work sustains this field on a constant basis. The JED serves as an excellent location to find references which deal with the mathematical modeling of various EW systems and indicate the complexity that EW systems have risen to. However, the JED also publishes more general works that are very informative, such as: "Tactical Deception in Air-Land Warfare" by Charles A. Fowler and Robert F. Nesbit; "Accessing the Digital Battlefield" by Stephen M. Hardy; and "We Want the Airwaves: Defense on the C2 Front" by Zachary Lum. Each of these involves aspects of EW, C2W, and aspects of integration of these systems to support the commander's requirements.

Additionally, for a view of electronic warfare from a national policy view in history, readers should review Mr. David Kahn's The Codebreakers: The Story of Secret Writing, Frederick Winterbotham's The ULTRA Secret, and James Bamford's infamous expose on the National Security Agency: The Puzzle Palace. All these references give insight to the use of EW, focusing on ES and intelligence, and the impact that these operations have had on American policy and the military.

Public Statements and Testimonials

Lastly, the speeches and papers of authoritative individuals, such as Mr. Emmett Paige (the Assistant Secretary of Defense for C3I or ASD-C3I) and the Director of Central Intelligence (DCI), are examples of public references. These comments are defined as public due to the fact that comments usually represent ad hoc responses to Congressional inquiry or a public speech or statement. These statements are somewhat informal and are not always in agreement with more established policy or doctrinal approaches to the IW problem. The best source for these comments is the internet, where the ASD-C3I homepage[23] places all of Mr. Paige's unclassified speeches on a server for common use. Examples of Mr. Paige's recent speeches include keynotes addresses on "Electronic Warfare Integration on the Digitized Battlefield for Force XXI", "Changing Role for the Warfighter and the DoD in the Information Age," "Ensuring Joint Force Superiority in the Information Age," and "The Future of Information Security." Since one of Mr. Paige's duties in the Office of the Secretary of Defense is responsibility for DOD execution of C2W (both C2-attack and C2-protect), his comments are very informative.[24] Additionally, the former DCI Dr. John Duetch is quoted on the internet news services speaking fairly extensively on C2W issues. The best example of Dr. Duetch's comments is "Cyberspace attacks threaten national security, CIA chief says," which is posted on "CNN Technology."[25]

These comments give some insight into many of the issues behind the DOD policy and the national intelligence community interest in this topic and may provide additional resources in the analysis of this thesis.

To conclude, the literature that is available on C2W is sufficient to render a detailed appreciation of the subject and an understanding of the role the C2W plays in the corps scheme of battle. Beyond that, the scope of C2W clearly establishes itself as a major new weapons system which contributes to the fight and must be examined. In the next chapters the thesis will use historical examples of C2W, C3CM, and preceding concepts to analyze the effect that C2W operations have had and the means to enhance their interoperation with the corps planning and targeting cycle.

Research Methodology

> Information warfare (IW) capitalizes on growing sophistication, connectivity, and reliance on information technology. The ultimate target of IW is the information dependent process, whether human or automated.[26]
>
> Joint Pub 3-13.1

This thesis will apply critical doctrinal and historical analysis to existing information on the Army implementation of C2W.

The research will focus primarily on the publications of the Joint Staff (as expressed in joint publications, CJCS MOPs, and CJCS instructions) and the publications of the United States Army (field manuals and Army regulations). The current doctrine will be highlighted through the use of selected historical examples which serve as case studies for the present application of C2W operations.

The initial bibliography suggests that there is a considerable amount of reference material published by both the joint and Army staffs that is relevant to C2W.

The task in applying critical analysis to the existing doctrine is to determine if there are problems between doctrinal approaches and what the impact of these differences may be. In examining this material the thesis will research it to determine the following points:

1. Does this material relate an example of the five elements of C2W?

2. Does this material state a capability or limitation that applies to the conduct of C2W operations at the operational or tactical level of war?

3. Are there any historical examples of the integration of information warfare tools at the Corps level in support of C2W?

Given these questions and the material available, the research will survey the bodies of work and determine if the current concept of Corps level C2W targeting is feasible.

To do so the work will examine several studies of C2W operations or those that closely resemble C2W operations. The case studies will come principally from the Second World War and the recent Gulf War during Operations DESERT SHIELD and DESERT STORM. While C2W, as currently defined, did not exist at the time of the cases to be studied, all of these operations incorporated the C2W tools to various degrees. The nature of the study will examine the relative successes and failures of these examples and what they imply for future C2W operations at the Corps.

The author believes that (due to the recent development of C2W as a form of war) the study will indicate several things of interest about C2W at the Corps: firstly that C2W is a concept that can be applied at the corps level of war which has the ability to radically change the way that the United States wages war; that the complexity of integrating theses operations will be immense; and last that the present joint and service doctrinal approach to C2W needs development to allow for enhanced use and success on the modern battlefield.

[1]Alvin Toffler, Future Shock (New York: Bantam, 38th printing, 1981), 9.

[2]Chairman of the Joint Chiefs of Staff Memorandum of Policy-30, Command and Control Warfare, Joint Chiefs of Staff, Washington, DC, 8 March 1993, 5.

[3]As extracted from the internet: Joint Dictionary, DOD Dictionary of Military and Associated Terms, http://www.dtic.mil/doctrine/jel/doddict, accessed 2 September 1996.

[4]Ibid.

[5]Joint Pub 3-13.1, Joint Doctrine for Command and Control Warfare, Joint Chiefs of Staff, Washington, DC, 7 February 1996, vi. Surprisingly, the correct reference for this work is "joint pub" versus "joint publication", a term which in itself reflects how the growing pace of our society shows in the abbreviation of common words and terms.

[6]FM 100-15, Corps Operations, United States Army, Washington, DC, 1 June 1996, 4-11.

[7]Chairman of the Joint Chiefs of Staff, National Military Strategy of the United States of America: A strategy of Flexible and Selective Engagement, Joint Chiefs of Staff, Washington, DC, 1995, 15.

[8]Joint Pub 3-13.1, Joint Chiefs of Staff, Washington, DC, 7 February 1996, C-1.

[9]"Hackers vandalize CIA," as extracted from CNN's internet homepage (http//:cnn.com/index.html/) accessed on 19 September 1996.

[10]Joint Pub 3-13.1, Joint Doctrine for Command and Control Warfare (C2W), Joint Chiefs of Staff, Washington, DC, 7 February 1996, vi.

[11]Joint Pub 1-02, DOD Dictionary Military and Associated Terms with JMTGM Changes, [CD-ROM]Joint Chiefs of Staff, Washington, DC, 23 March 1994.

[12]Ibid., 303.

[13]Ibid., 114.

[14]Readers seeking additional insight to national policy directing deception operations should review CJCS MOP-116 (Military Deception).

[15] Joint Pub 1-02, 335.

[16] Joint Pub 1-02, 141.

[17]FM 100-6, Information Operations, United States Army, Washington, DC, August 1996.

[18]Ibid., 2-4.

[19]FM 100-6's Appendixes A through D specifically relate information for including and managing C2W operations, giving sample annexes, supporting agencies, and planning considerations.

[20]FM 100-15, Operations, United States Army, Washington, DC, June 1993, 4-11.

[21]Ibid., B-2.

[22]The Journal of Electronic Defense (JED) is available by subscription or electronic review. The internet address for access is http://www.jedefense.com.

[23]As extracted from the internet ASD-C3I homepage at http://www.dtic.mil/c3i/, accessed on 19 September 1996.

[24]Author's personal experience with the ASD-C3I staff as an intelligence officer in Washington, DC.

[25]As extracted from http//:cnn.com/index.html/ 19 September 1996.

[26] Joint Pub 3-13.1, v.

CHAPTER 2

HISTORICAL EXAMPLE

All warfare is based on deception.[1]

Sun Tzu, The Art of War

The purpose of this chapter is to assist in a deliberate study of C2W operations at the Army corps level. This chapter uses historical examples from previous battles, relates them to C2W, and establishes linkage between our present doctrinal tenets and the proven successes or failures of the past.

The natural difficulty in using historical examples of C2W operations is twofold: while the doctrine of C2W itself is new, the examples of C2W throughout the ages of warfare are innumerable.

To resolve this issue the thesis will examine three historical case studies. Two of the examples come from operations conducted during the World War II and display varying elements of what is now described as C2W. The other case study comes from operation DESERT STORM and relates directly to C2W operations in all aspects, even though the doctrinal term and concept for those operations was then known as C3CM (which was identified in the literature review as the previous construct immediately prior to C2W).

The operations from World War II are Operation BETRAM and Operation CASANOVA. They are, respectively, examples of how operations using the tenets of C2W and the C2W tools succeeded or failed. While there are elements of each of these operations which

differentiates them from the current definitions of C2W, the thesis argues in examination of these operations that the commanders attempted to use the C2W tools to conduct a deliberate C2W operation. The fact that the terms and staff organization are not the same as seen today should not dissuade their use as examples: even now one can observe different organization, procedures, and tactics within the existent Army corps, even while they conduct the same type of activity.

The last historical example of C2W at the corps is the deliberate C3CM and PSYOP campaign conducted by VII Corps during Operation DESERT STORM. The code name for this operation, as extracted from the operations order and annexes, is Operation DESERT SABER. During Operation DESERT SABER it is observed that VII Corps planned for all the aspects of C2W while using the targeting decision model to drive C2W and support their attack.

Operation BETRAM

The first study examines Operation BETRAM to a limited extent. BETRAM was a deceptive operation conducted by the British forces in North Africa in the transitional period between countering the German offensive at Alam Halfa and conducting their offense at Al Alamein.

The operation itself was comprised of several supporting plans: DIAMOND, BRIAN, MUNASSIB, MARTELLO, MURRAYFIELD, and MELTINGPOT. In examining the role and function of each plan and its complementary nature to the overall scheme, it is noted that the general mission of BETRAM was to both mislead the Germans into believing that the British did not intend on assuming the offense and then to deceive the Germans into believing that the main attacks would come at different times and places than the British intended.[2]

Each of the plans had a supporting role in the central objective of changing the German leadership's perception of the threat and how to react to it. The central theme of the plan

involved depicting an attack in the south, while forces had to maneuver, marshal, and assemble in the north. Along with the requirements to hide the recognition of the moving forces in the desert, the British had to portray a multifaceted force in the south (i.e., maneuver, command and control, logistics, and others), while preparing to use those same forces in the north.

One of the major factors in Operation BETRAM were the logistics indicators that any enemy intelligence force would use to indicate expected enemy activity. Given the comparative ease of reconnaissance by enemy forces in the open desert terrain, the United Kingdom forces took several detailed steps to confuse the German understanding of their operations.

DIAMOND was an operation which portrayed the construction of a major water pipeline running approximately twenty miles due south of the main waterline.[3] This pipeline was constructed in five-mile segments using false pipe, which was removed the night prior to the section's scheduled completion and then reused to portray the construction of the next five miles. The construction was conducted in the usual fashion, and the British placed periodical pump houses and maintenance tents along the dummy pipeline to complete the image of a typical water main.

BRIAN also supported a logistics buildup in the south by establishing dummy ammunition and supply depots. These depots reflected the doctrinal locations and size of other real facilities in the north and were an appropriate distance from the southern end of the newly constructed waterline. The fact that easily observed administrative areas and tents were constructed and emplaced in the correct locations added to the cover story.[4]

However, military planners should not think that the UK forces' operation focused exclusively on logistics indicators and ignored the other aspects of armed warfare. Operation MUNASSIB was a more complex and interesting plan in that it consisted of two complementary measures to mislead the Germans.

The first portion of MUNASSIB[5] involved the placement of approximately three or four dummy artillery regiments in positions south of the main area. As these positions were both obvious and did not displace for about a week, the Germans came to accept them as dummy artillery positions.

However, one night the British removed the dummy guns and substituted real artillery pieces which fired upon the enemy just prior to the attack from locations the Germans had discounted. This had a twofold impact: the artillery fire caused the Germans to doubt their intelligence assessments and reconnaissance while contributing to the expectation that the British attack would come from the south. It is interesting to note that this supporting plan alone involved the use of several C2W tools including OPSEC, deception, and physical destruction.

The two other operations MARTELLO and MURRAYFIELD comprised a detailed and complex deception to shield the movement of the large forces in the north while supporting the central cover story of an attack originating from the south.

MARTELLO supported the movement of the British Xth Corps from rearward to forward positions prior to the attack. Obviously the movement had to be hidden and the overall deception of a southern attack supported. To do so required an operation of a huge scale and long-range detail: British forces began MARTELLO three weeks prior to their offensive using 4000 real transports, 450 dummies, and 600 sunshields. The English successfully accustomed the Germans to large vehicle movements, to the extent that they were able to move the corps forward under the cover of darkness and then hide them during the day by placing them under decoys, dummies, and sunshields. By 23 October 1942 the forces (which began moving on 6 October) were in place and unobserved.[6]

MURRAYFIELD supported MARTELLO by concealing the fact that massive forces had moved forward from their rear assembly areas. Using a mixture of real, dummy, and

camouflaged positions, the British were able to move units at night and replace their positions with false, dummy, or decoy vehicles without leaving a signature. Again, the breadth and depth of the operation is amazing: 1500 vehicles, 1370 dummy trucks, 64 dummy artillery guns, and 300 dummy tanks.[7] The fact that the English used a mix of real units and dummies helped to maintain a consistent cover story throughout.

Lastly, operation MELTINGPOT used the British 10th Armored Division to complete the image of a coming southern attack: the division moved very visibly during the day to tactical assembly areas in the south, then redeployed north to hidden positions under the cover of darkness. Dummies and a small number of real units successfully portrayed the 10th Armored Division in the south.[8]

To complement all the other plans the British forces used electronic warfare to further reinforce the cover story. These radio transmissions included coded and open speech and were used to mark false units, locations, and levels of activity.[9]

The result of these painstaking measures is clear in history. The German forces were completely deceived as to the timing and nature of the British attack. In fact, Mr. Charles Cruickshank reports that the German commander of the Panzerarmee Afrika (General von Thoma), who was captured during the attack, was so convinced that the attack would occur in the south that he held two Axis armored divisions in reserve to protect again the southern attack. The fact that these units were retained in the south four days after the main attack and that the Germans had not been able to successfully identify one entire attacking armor division points to the strength of this operation.[10] Doubtless the nature and success of operation BETRAM was fundamental to the success of the British Eighth Army in North Africa.

In looking at BETRAM we note that almost all the elements of C2W are combined in a series of mutually supporting plans. While the prime component, deception, may have been the

immediate aim, aspects of EW; physical destruction, and OPSEC are implicit throughout. Even given that the objective was deceptive, the true outcome of the operation was vastly beyond the scope of a pure deception.

Having observed the role of deception in the BETRAM series of operations it is also noted that while BETRAM was obviously more than a pure deception operation that deception was the cornerstone piece in the execution of BETRAM. C2W planners will note that the common thread that runs through the following operational case studies is that the success (or lack of it) appears to hinge largely on the implementation of the deception portion of the operation. BETRAM is simply the most instructive because of the unique success it accomplished in the support of British objectives in North Africa.

Cruickshank notes that the British approach to incorporating these operations into the theater plan and the subordinate campaign plans was through one central office.[11] This unit, known as A Force, was established under a British brigadier who was responsible for the conduct and coordination of all deceptions in the mideast in support of British war aims. Brigadier Dudley Clarke, with what started as a small staff of approximately forty-one officers and seventy-six NCOs,[12] translated central guidance from the British Chief of Staff and executed it locally through the units in combat. In this fashion the English ensured unity of effort, coordination, mutual support, and demanded that Brigadier Clarke support and work to meet the needs of the tactical units. It is noted that one of the consistent themes of the English deceptive effort was toward highly centralized planning and execution, with a localized implementation of the overall plan.

It is also interesting to note the relationship between the main deception staff office in the British staff (first known as the deception staff--the name was later changed for security reasons to the inconspicuous London Controlling Section or LCS).[13] While the relationship

between the LCS and A Force is not clear, the fact that the LCS was commonly conducting liaison with the British propaganda agency (the Political Warfare Executive or PWE) as early as 1942[14] indicates that the English grasped the elements that we now understand as C2W and were applying them with some success fairly early in the war.

Operation CASANOVA

Operation CASANOVA serves as a perfect foil for the details of BETRAM: for every success that BETRAM experienced, the leaders of CASANOVA experienced a bitter failure. As such, it is a useful example of the implications on the battlefield when C2W operations are attempted but the fundamental requirements for victorious operations are ignored. Like BETRAM, which was largely relayed through a single source (Cruickshank's reference), the details of Operation CASANOVA are taken from the excellent US Army historical reference The U.S. Army in World War II European Theater of Operations: The Lorraine Campaign, by Mr. Hugh M. Cole.

In November of 1944 the United States XX Corps was positioned against the German Army near Metz, France. The XX Corps was about to conduct combat operations against the Germans in order to encircle and reduce Metz. Doubtless the objective of this attack was to entrap and seize as many men and materials as possible while freeing French territory. It is notable that Metz was (and is) a fortified medieval city, where considerable fighting and loss was expected in the seizure of the fortress.

To achieve his goal of taking Metz the commander of XX Corps, General Walker, had the following divisions assigned to his corps: 5th Infantry, 90th Infantry, 95th Infantry, the 10th Armored, and limited assets from the 83rd Infantry. Both the 95th Infantry Division and the 10th Armored Division were new to the Corps and the European theater, having arrived in Europe in September.[15] By the time the engagement for Metz started, the XX Corps had the following

assets available for battle: 30 battalions of infantry, approximately 500 tanks, and about 700 guns.[16]

The XX Corps Commander's broad concept was issued on 3 November 1944 and was outlined in Field Order 12: conduct a deliberate encirclement of Metz with the 95th Division in the north, and the 90th Division and the 10th Armored in the south. The 5th Division was to support in the south. The order specified that the force objective was "the destruction or capture of the Metz garrison, without the investiture or siege of the Metz Forts."[17]

The XX Corps was opposed by the LXXXII Corps of the First Army in the German command. This corps was composed predominately of Volksgrenadier (VG) divisions (i.e., homeguard forces) who were often understrength and poorly equipped. Several divisions had been brutalized in the eastern front and were being reconstituted in the sector. Many were only considered capable of limited defensive operations.[18]

The XX Corps commander decided that a diversionary attack would facilitate the conduct of his offense, so he tasked the 95th Division commander to plan and conduct the attack. The name of the operation was CASANOVA. The purpose of CASANOVA was a deceptive attack with a limited objective, apparently to deceive the Germans that the main attack was coming from the 95th Division sector thus drawing attention away from the enveloping forces to the south of Metz.

> Part of the 377th [Infantry Regiment] would cross the Moselle in the neighborhood of Uckange and extend a bridgehead about three-quarters of a mile inland to the little town of Betrange, just short of the main highway between Thionville and Metz, thus giving some cover to the right flank of the 90th Division. The remainder of the 377th was given the task of erasing a small enemy salient on the west bank of the Moselle, which had been left south and east of Maizières-lès-Metz at the close of the 90th Division capture of that town. This attack was to be made in conjunction with the Uckange crossing.[19]

The 95th Division commander, MG Twaddle, positioned in the north of the XX Corps sector, assigned the attack mission to the 377th Infantry Regiment. The 377th was to conduct a

demonstrative river crossing and attack inland for a mile, in order to deceive the German defenders as to the true location and timing of the main attack and main effort of the XX Corps. Operation CASANOVA was one of the preliminary actions in the Metz campaign and was clearly intended to confuse the German understanding of the XX Corps plan.

Unfortunately, the 377th Infantry's attack was ill conceived from the start. The planning and resourcing had been hurried, with mission changes occurring up to the last day before the attack. The XX Corps staff had attempted simple deceptions by moving divisions and forces within sectors to confuse the Germans as to the attacking forces and their locations. Unfortunately these maneuvers only succeeded only in tiring the soldiers and confusing the commanders prior to the start of the battle. To amplify the problem, the Moselle river was flooding, making any crossing operation and inland movement much more difficult. The weather around Metz was extremely detrimental to the Americans with snow, water, and mud all hampering movement.

On the night of 8 November 1944, the first element of the 377th crossed and established a minor lodgment on the east side of the Moselle river. The 320th combat engineers, supporting the operation, crossed to clear several paths and detonated explosives to forge a route through the wire and obstacles. They then returned across the Moselle to assist the initial assault force. At 2100 hours C Company, 1st Battalion of the 377th (C/1/377) crossed the Moselle and established a foothold. They rapidly moved inland about four hundred meters and awaited daylight and the rest of the battalion. While the company took some losses due to "bouncing betty" mines strewn on the riverbanks and in the wire obstacles, they successfully established their lodgment. The German 73rd Regiment of the 19th VG had not yet responded to the American attack.

However, in the time that passed from the establishment of initial small lodgment to the larger reinforcing element, the conflict changed. The German defending force, realizing that an

attack was underway, started to saturate the area with artillery fire. B company, 135th Engineer Combat Battalion, which was tasked with supporting the crossing of the Moselle, was hit hard by the enemy artillery. The volley of fire destroyed three bridge sections, wounded twenty-four men, and instantly stalled the crossing operation. Mr. Cole notes at this point that the engineers and the 377th tried to use smoke to obscure their operations, to no avail.

Meanwhile, the 2nd and 3rd battalions of the 377th began their attack into the Maizières pocket. They were attacking against the 1215th Regiment, 462nd Volksgrenadiers. The 462nd VG had been opposed by the 90th Division in the past, and had worked hard to prepare defenses, including deliberately laid minefields and obstacles. The defensive preparations of the 1215th would unhinge the 377th, whose attack instantly ran into trouble. As the first three assault companies moved forward, the scouts hit several tripwires that detonated a series of mines that wounded many in the attacking force. Cole reports that "one platoon was reduced to a strength of one officer and five men."[20] As soon as the 1215th heard the mines that the American detonated as they attacked, the Germans started to rapidly fire mortars and artillery into the areas, inflicting terrible casualties. The mass of German fire that followed crippled any chance that the attacking forces had.

Elsewhere, the 1/377th had crossed two companies on the morning of 9 November 1944 to reinforce the C/1/377 position. However, during the day the Volksgrenadier fire increased and it became impossible to send any additional forces across. Again the 377th tried to use obscurants from the 161st Smoke Generating Company to cover their actions, but enemy fire was too intense to continue the crossing operation.[21] To make matters worse the Moselle was now flooding over its banks, denying any crossing. Meanwhile the enemy actions indicated that the 19th VG was massing troops and equipment to destroy the small American lodgment on the muddy bank of the Moselle.

Fortunately the feared attack from the 19th VG never materialized. Harassing fire and localized patrols kept the small 1/377 force busy while their engineers tried to cross the swollen river. Supplies were airdropped to the forward detachment as the only means of resupply until the night of 12-13 November, when the remainder of the battalion crossed to reinforce and relieve the advance force.[22] Until that reinforcement the Moselle and stiff German resistance had kept any 377 action at bay.

The end result of Operation CASANOVA was that the trapped US forces were completely stopped and contained. While the rest of the battalion eventually crossed to reinforce them, the crossing operation was a dismal failure. Likewise, the push toward the Maizières pocket by the 2nd and 3rd battalion ended as a terrible failure, with heavy losses in the 377th Infantry Regiment.

In looking at CASANOVA the thesis notes the difference between the approach toward CASANOVA and BETRAM. Both operations supported Corps' offensive tactical operations. Both operations were against the same opponent, the German Army in the field. CASANOVA's forces had the advantage of attacking against poorly equipped and understrength units. Yet, the results of the two attacks are radically different.

In examining why planners will notice that while the elements of C2W were applied in BETRAM, few of the same considerations were used to support CASANOVA. Of course Operation CASANOVA used physical destruction as an element of the attack, but the deceptive nature and intent of the attack was clearly violated. In fact, Army reports indicate that the Germans readily observed that CASANOVA was a feint. Mr. Cole notes that the German staff logs revealed that "the Germans first regarded all of the American attacks north of Metz as 'containing attacks' or *Fesselungssansgriff*."[23]

So unlike BETRAM, where the research observed a collusion of resources at the Corps to support a centralized theme which supported the overall intent, CASANOVA was an unsuccessful initiative that apparently lacked both central direction and support. Unlike BETRAM, CASANOVA was never truly believable or supportable. Unfortunately, as it failed to use the tenets which drive successful deceptive operations, it failed as a military operation. The cost for this failure was the blood of the soldier.

Operation DESERT SABER

The United States Army's VII Corps played a key role in the DESERT STORM conflict. As the largest heavy armored force that the US Central Command (USCENTCOM) had available, it was the force that would attack to strike and defeat the Iraqi Republican Guard Forces Command (RGFC). These enemy forces were disposed well to the rear of the Iraqi front-line units, positioned to the north of the small nation of Kuwait in a massive armored and mechanized infantry assembly area.

The theater commander's aim was to strike and destroy the Republican Guards, but Lieutenant General Franks (the VII Corps Commander) and the staffs at the theater Army (ARCENT) and CENTCOM all realized that they had a problem.

The Iraqi forces were disposed in a deliberate defense in depth along the Saudi Arabian/Kuwaiti border. The Iraqis were well entrenched and it was clear that they expected a frontal attack through their positions to liberate Kuwait. Such an attack would have caused horrific casualties in a slow and slogging campaign through the Iraqi defense. Obviously, there had to be a better way to defeat the Iraqis and drive them from Kuwait.

This situation was the crux of the problem which generated the USCENTCOM ground campaign. Massive US and coalition forces would displace to the west, deep into the Saudi desert, and would strike north and east. The result of this attack had two immediate and dramatic

benefits: the attack would avoid the obstacles and the deliberate defenses of the Iraqi front-line forces by skirting them to the west; the flanking attack would encircle the defending Iraqis to strike at the rear and flank of the Republican Guard Force if the coalition could strike deeply and quickly enough. History has proven the obvious merits of this plan.

However, the plan had several key sticking points. Among some of the most critical concerns were how to move the US Army forces to the west while deceiving the Iraqi leadership into thinking that the force was still assembled in the east, and preparing for a frontal attack into the Iraqi defense. The maintenance of this Iraqi misperception was crucial: if the Iraqi leadership understood that coalition forces were displacing to the west, it would be comparatively easy to shift their forces and defenses to counter the new axis of attack.

The Final Report to Congress: Conduct of the Persian Gulf War, Pursuant to Title V of the Persian Gulf Conflict Supplemental Authorization and Personnel Benefit Act of 1991 (Public Law 102-25) (referred to afterwards as The Final Report) gives an overview of the theater's view of the ground plan as follows:

> The ground campaign plan envisioned a main attack coming as a "left hook" by armor-heavy forces against Iraq's right flank, sweeping in from the west to avoid most fixed defenses and to attack one of Saddam Hussein's centers of gravity, the Republican Guard armored and mechanized divisions. Overwhelming combat power; rapid maneuver; deception; a sound combined arms approach; a well-trained, highly motivated body of troops; and a skilled team of combat leaders in the field, were crucial factors in the plan for the success of the ground phase. The main attack would be supported by an elaborate deception operation, including an amphibious feint, and by supporting attacks along the Kuwaiti-Saudi border to fix Iraqi forces in Kuwait and to liberate Kuwait City. Throughout, the plan was intended to achieve the objective decisively and with minimum casualties.[24]

The VII Corps plan to deceive and redirect the Iraqis was a portion of the Corps Operation Plan, or OPLAN. The Corps OPLAN for the deception and the following striking attack was named Operation DESERT SABER.

In examining DESERT SABER the research recalls several facts. The Corps presence and location in the theater were originally widely known, as the deployment of the VII Corps

from Germany to Saudi Arabia had been widely covered in the media. The fact that the VII Corps had moved into a large assembly area immediately south of Kuwait could have been easily confirmed by minimal Iraqi intelligence collection, especially since it was widely assumed that the Iraqi human intelligence network was fairly active in the region.

The VII Corps was in a difficult situation: the issue of how to move such a large force several hundred miles westward while convincing the enemy that the VII Corps was still immediately in front of the Iraqis was a thorny problem.

The answer to this problem was multifaceted. As discussed in the quotation above, the theater used their available resources to craft plans that would confuse the Iraqis. In support of the VII Corps' DESERT SABER plan, several parts of the theater campaign had to be executed simultaneously to allow the forces to reposition.

In November intelligence indicated that the Iraqis had reinforced their positions in the Kuwait theater of operations.[25] This buildup indicated that the Iraqis still believed that the coalition forces would attack frontally. Accordingly, the CENTCOM staff chose to avoid sending any indications that forces were moving westward until the moment that they would strike.

All of the primary indicators that the heavy force would attack in the east were maintained. In fact, The Final Report states that:

> None of the division would move until the air war had begun. Together, that and the planned ground, counter-reconnaissance battles would hinder Saddam Hussein's ability to detect and effectively react. The 1st Cavalry Division was to remain in the east, simulating the activities of the divisions which moved west, so Iraqi intelligence would not notice their absence. The 1st and 2nd Marine Division (MARDIV) conducted combined arms raids along the Kuwaiti border to confuse the Iraqis and focus their attention on the east. Finally, operations security practices supported deception.[26]

Having set the stage for the movement of the coalition ground forces into attack positions to the west, the VII Corps started to implement their deception plan. As noted in the quote

above, the 1st Cavalry division of the VII Corps, had a key role in playing the part of the Corps to deceive the Iraqis.

The deception portrayed by the VII Corps had several objectives:

1. To cause the Iraqis to believe that an attack would be directed against only Kuwait.
2. To maintain the Republican Guards in their current locations.
3. To make the Iraqi leadership believe that the only US movement west was to strengthen defensive positions.
4. To overload Iraqi intelligence services by sending too many inputs for them to properly analyze.
5. To ensure that any logistics build-up was associated with armor training, not the coming offensive.[27]

The VII Corps executed their deception in two phases: pre-attack and post-attack. The pre-attack deception plan was intended to show the Iraqis that the VII Corps forces were supporting existing defenses while training for a breaching attack and following drive into Kuwait. The post-attack deception story was that VII Corps was about to pass through a large series of breaches created by coalition forces in order to conduct a supporting attack just to the west of the XVIII Airborne Corps. In fact, the truth could not have been farther from the story: the VII Corps and XVIII Airborne Corps were moving rapidly into attack positions far west of the Kuwait border during the air war, and while the ground deception was being propagated.

In the first phase of the deception the VII Corps, along with the ARCENT staff, ensured that the 1st Cavalry division conducted very visible operations in areas assumed to be under Iraqi intelligence observation. The 1st Cavalry conducted typical operations that the Iraqis would have expected: tank gunnery, engineer breaching exercises, and flanking patrols along what the Iraqis believed to be the far west of the Corps boundary.

The 1st Cavalry deception was augmented by simple EW and OPSEC measures: the VII Corps replicated divisional radio nets in dummy assembly areas while forbidding radio traffic in the new positions far to the west of the Kuwaiti border.[28] In fact, the deception also mixed the

types of radios used by divisions and corps, so the electronic signatures would still look like the VII Corps in the old training areas and assembly areas.

Meanwhile the 1st Cavalry conducted high visibility operations that gave false indications that the Iraqis would have expected to see from US intelligence, operations, logistics, and signal activities. False logistics bases were built, patrols were employed, PSYOP forces were employed, and artillery raids were conducted. All these actions supported the deception that a large VII Corps force still existed in the east.

Several interesting notes fall out from this operation. While the VII Corps deception plan remains classified, the thesis notes from open sources that the Corps used every element of the C2W tools. The central theme of deception really was a classic C2W operation: the aim was to destroy the enemy's ability to make a decision and then act upon it. As the VII Corps plan was implemented it used the natural aspects of deception (which was the stated goal) though EW, physical destruction, OPSEC, and EW. Of course PSYOP played a crucial role as a supporting portion, both in the deception plan itself and in a much wider role throughout the theater in the conduct of the war.

Additionally, in reading the classified annexes of the VII Corps plan, one sees a direct linkage between the C2W tools and the aspects of target analysis. LTG Franks understood that his C3CM plan was as much a weapon as his artillery fire plan. He linked both through the target process to ensure that each was going after the correct target at the correct time. The result was simply stunning and very effective. The USARCENT deception brief notes the impact these operations had when it is stated in the summary page:

1. Deception plan was an unqualified success.
2. Iraqi forces were orientated to the east--were flanked and surprised in the west.
3. Iraqi intelligence systems overloaded and confused.
   A. Unable to see the battlefield.
   B. RGFC and heavy reserve were fixed.
4. Was key to the success of the operation.[29]

[1]Sun Tzu, The Art of War, translated by Samuel B. Griffith, (New York: Oxford University Press) 1963, 66.

[2]Charles Cruickshank, Deception in World War II, (New York: Oxford University Press), 1980, 27.

[3]Ibid., 30.

[4]Ibid.

[5]Ibid.

[6]Ibid., 31.

[7]Ibid., 32.

[8]Ibid.

[9]Ibid.

[10]Ibid., 33.

[11]Ibid., 19.

[12]Ibid.

[13]Ibid., 35.

[14]Ibid., 40.

[15]Hugh M. Cole, The U.S. Army in World War II European Theater of Operations: The Lorraine Campaign, (Washington DC: United States Government Printing Office), 1950, 373.

[16]Ibid.

[17]Ibid.

[18]Ibid., 387.

[19]Ibid., 376.

[20]Ibid., 377.

[21]Ibid., 379.

[22]Ibid.

[23]Ibid.

[24]Final Report to Congress: Conduct of the Persian Gulf War, Pursuant to Title V of the Persian Gulf Conflict Supplemental Authorization and Personnel Benefit Act of 1991 (Public Law 102-25), (Washington, DC,: United States Government Printing Office),April 1992, 75.

[25]Ibid., 77.

[26]Ibid.

[27]USARCENT, "Deception Plan", (Briefing Slides), USARCENT, Fort McPherson, GA, 20 March 1991, slide 3. Given to MAJ Schwark by LTC McIntire of USACGSC's CTAC Department.

[28]Ibid., slides 4 through 10.

[29]Ibid., slide 11.

CHAPTER 3

ANALYSIS AND IMPLICATION

> C2W applies to all phases of operations, including those before, during, and after actual hostilities. Even in OOTW, C2W offers the military commander lethal and nonlethal means to achieve the assigned mission while deterring war and/or promoting peace. The offensive aspect of C2W can slow the adversary's operational tempo, disrupt his plans and ability to focus combat power, and influence his estimate of the situation.[1]
>
> FM 100-6, Information Operations

In examining the C2W issues, the thesis will quickly review both the past research information and look to the future implications of the research. The first chapter of this thesis outlined the thesis question, which asks whether the corps can execute C2W operations through the Army deliberate targeting process. Having asked the question, it listed the definitions of the key terms which relate to the issue and related them to the doctrinal aspects of the C2W cell at the corps and the targeting process, as expressed through D3A. In support of this question the thesis has examined references and historical examples of C2W operations.

The corps focus of C2W operations, in conjunction with a deliberate targeting process, appears to be C2-attack. The reason for this is that, while C2-defend is implicit in all operations through the C2W tools, only C2-attack operations can be expressed through the model of the deliberate targeting process. Military officers deliberately select targets to attack and how to attack them (i.e., using the D3A model), but the military has no choice as to which adversary to defend against. As any adversary can pose a real and credible threat, the D3A model does not

apply to defensive operations. As proof, it is noted that the first step in the deliberate targeting process is to DECIDE whom to attack or influence. Unless it is agreed that the DECIDE phase equals every possible adversary for the C2-defend problem, the problem has not been addressed. If it is agreed that the DECIDE enemy is everyone, the model becomes so large as to be meaningless. Therefore, it is seen that the corps C2W *targeting* problem is one of C2-attack.

Looking at the structure of the corps[2] the research also notes that the corps commander has the elements of the C2W tools at his disposal. To establish this the corps must have every one of the old C3CM elements inherent in the corps structure:

1. OPSEC: The corps commander can conduct OPSEC operations from assets assigned to him. US Army doctrine stresses OPSEC during all planning and operations, so this area should pose no special problem for the corps planner. Additionally, the counter intelligence staff and the counter intelligence assets in the corps are uniquely trained and able to assist or advise the commander and his staff on this problem.

2. Deception: Like OPSEC, the corps commander organizes deception from available forces. Deception may require special emphasis and unique means to project the deception story, but our historical examples demonstrate that planners can conduct detailed operations using readily available forces. FM 100-15, Corps Operations, infers that the deception officer may serve as the key to the C2W operation when it states:

> Working together, and with the FSE, the various cell elements coordinate their respective efforts to build a synergistic C2W plan that supports the corps commander's mission and concept of operations. A C2W officer (for example, the chief of the deception element) leads the cell.[3]

3. EW: The commander receives detailed EW support from military intelligence assets and the intelligence planners. EW support and doctrine has been integrated into operational

procedure for years, so the C2W planner is able to rely on an established and mature EW structure.

This work notes that the corps itself has few EW assets but serves primarily as a junction or fusion center between the subordinate EW assets at the division and the EW support received from theater or national assets. The exception to this observation is the aerial exploitation battalion of the MI brigade at corps, which provides detailed ES support to the corps. However, FM 100-15 notes some of the limitations of the corps EW structure when it states: "The corps possesses no organic jamming capability. As such, corps EW planners must rely on subordinate and joint EA systems to carry out the corps EA concept."[4] Mindful of this limitation, the brief examination of history seems to indicate that the corps can successfully integrate the subordinate and higher capabilities to assist in the EW battle.

4. Physical Destruction: Obviously the corps contains combat units, including infantry, armor, field artillery, aviation, and other elements that can all constitute physical destruction players. Any operations or intelligence planner in the corps staff can outline the uses of these forces to support the physical destruction portion of a plan. The earlier quotation from FM 100-15 regarding the organization of the C2W cell and the fact that the C2W cell and the FSE must coordinate all activities shows the level of understanding and the depth to which this cooperative attack is appreciated by planners.

In short, the corps commander has each of the C3CM tools available to support his operation every day. The only element from the C2W force that the corps commander does not have immediately available on most days is the PSYOP element.

The PSYOP force poses an issue in the examination of the C2W concept at the corps level. While FM 100-15, Corps Operations, reflects a PSYOP battalion in the corps structure,[5]

the millitary staff officer will note that the US Army corps do not have PSYOP forces to assist them on a daily basis. There are several reasons and implications for this situation.

First, the active Army PSYOP force is very small. Of the active Army PSYOP Group, there are four battalions. Three battalions are regionally aligned to the unified commands and one battalion holds the tactical equipment to provide active duty tactical PSYOP support. However, since each battalion has various levels of expertise in each region of the world, the generation of a tactical support battalion from the active PSYOP force would require the establishment of an ad hoc PSYOP battalion in most instances. Accordinaly, the active battalions are capable of organizing corps support units, but they are most appropriately used as a theater asset. In fact, 75% of the active PSYOP battalions are directly aligned to the unified commands. An example is the 8th PSYOP battalion, which focuses on the middle east, currently apportioned to the Central Command, or USCENTCOM. The situation is much the same for the other active battalions.[6]

The implication is that the corps may not have an entire active PSYOP battalion in its force structure. The corps should expect to have a task organized PSYOP force consisting of a reserve tactical PSYOP battalion, with possible active Army PSYOP augmentation, to assist in integration with theater PSYOP forces. The organization of the tactical PSYOP battalion is disclosed at figure 1.

PSYOP forces reinforce their organizational capabilities through the establishment of a Joint Psychological Operations Task Force or JPOTF.[7] The JPOTF is normally a theater force responsible for all PSYOP in the operational area. The tactical PSYOP battalion in the corps conducts liaison and requests support from the JPOTF for the execution of the PSYOP campaign. Figure 2 shows the organization of the PSYOP task force for DESERT SHIELD and DESERT STORM as an example of a robust PSYOP structure during combat.

The next issue about PSYOP is that the forces associated with PSYOP are most effective when they are culturally aligned. It seems obvious that if a unit deploys to the Balkans, that it would expect to receive support from a battalion that had an orientation to the Serbo-Croatian culture, language, and history. During operation DESERT STORM the initial PSYOP force was exclusively composed of mid-east specialists. As the scope of the deployment grew and other forces arrived, serious time and effort was developed to ensure that arriving forces received the detailed orientation to the mideastern culture to effectively communicate the concepts and themes desired.

Of course, the result of this detailed cultural orientation is that while it is effective (and should be considered mandatory if PSYOP is going to work), the commander who deploys to the mideast will receive support from one battalion but will receive support from a completely different battalion if deployed to Korea. While this changing of organizations may occur in small measure in other areas in the corps, it will be routine procedure in the PSYOP force. The corps commander and staff may receive a tactical PSYOP battalion that they have never worked with during their deployment.

The next issue with the PSYOP force is more complex and deals with the interaction between the tactical PSYOP battalion, the JPOTF, the theater commander, and the national command authorities (NCA). This portion of the thesis addresses the issues inherent in the national PSYOP approval process.

Within the Joint Staff Directorate of Operations (J3), joint PSYOP staff officers sometimes refer to a document known as the "OP3." The term "OP3" is an abbreviation for the title of DOD Directive S3321.1, "Overt Peacetime Psychological Operations Conducted by the Military Services in Contingencies Short of Declared War," or simply shortened to the "overt peacetime PSYOP program"--OP3. The "OP3" is a classified document that the author was

unable to review but its impact is outlined in every military reference reviewed, since the requirements of OP3 are critical in understanding the PSYOP approval process.

FM 33-1, Psychological Operations, outlines the two approval processes:

> Peacetime Approval Process: The regional CINC develops PSYOP campaign plans during peacetime and war to support national goals in his region. He forwards the campaign plan to the DOD staff for coordination with other government agencies and approval as detailed in DOD Directive S3321.1 This directive requires coordination of the peacetime PSYOP campaign with all pertinent government agencies and the approval of the NCA before execution. Upon approval, the peacetime PSYOP campaign plan is returned through channels to the respective CINC and the country team(s). Normally included with the approved plans are detailed implementing instructions. PSYOP staff officers ensure supporting PSYOP plans are consistent with the theater PSYOP plan and all activities are approved before execution. Peacetime approval requirements remain in effect in all peacetime operations as well as those conducted during crises and hostilities short of declared war. During the transition to hostilities, approval authority may be delegated to the unified CINC.
>
> Approval Process During War: The unified command CINC has approval authority during war. This authority may be delegated down to a JTF. However, recent combat experience has determined that once hostilities begin, the unified CINC retains approval authority. It may be delegated (within the scope of the approved PSYOP campaign plan) to the senior PSYOP commander in the theater. The sensitivity of PSYOP, combined with the need to coordinate all U.S. Government information efforts, dictates the retention of PSYOP campaign approval authority at the unified CINC level. However, this does not preclude the delegation of approval authority of PSYOP products to a JTF commander.[8]

A visual depiction of the wartime PSYOP approval processes are shown as figures 3 and 4.

From the statement above the thesis observes that the Corps commander never has the authority to employ PSYOP forces outside of a theater approved plan and PSYOP campaign. This certainly impacts the corps commander's ability to construct the C2W plan, which will be addressed later in the chapter.

In review the research notes that the corps in combat should have all the elements of C2W within the corps force structure. It is also noted from previous readings that the

commander should organize a C2W staff that assists him in the planning and execution of his C2W operation.

The mechanism for this planning can be expressed in a number of ways. One of the current models used by the US Army, and the model used in planning the targeting of weapons systems against an objective, is the D3A process.

The D3A process, as a targeting and decision model, was developed cooperatively by several US Army agencies (the Field Artillery School, the Intelligence School, etc.) as a means of deliberately processing the targeting requirements for all types of fires. Staff planners should remember that the US Army definition of "fires" included both lethal fires (which directly relate to physical destruction) and nonlethal fires which originally included EW but could also encompass PSYOP. As such, the D3A model incorporates most of the C3CM/C2W tools and readily serves as a useful template for analysis.

As addressed earlier, the D3A process is a model for offensive action. As such, it should facilitate the planning of the C2-attack operation. In covering the analysis of the D3A topics, officers will notice the tie from conventional targeting and observe how it relates to C2W operations.

During the first phase of the targeting process, the DECIDE phase, the staff planners select the target. Obviously there is much more in the conduct of this stage than simple target identification. The ability of a staff to begin the process presupposes that the C2W staff has a coherent plan for the C2W operation and a definable and detectable end state. In examining the functions of the D3A process the research indicates that unless the process starts with an understanding of the task at hand, the purpose, and some method of measuring or quantifiying success, that the impact of PSYOP or the other supporting C2W tools is not always measureable. This problem cuts to the the root of the integration of C2W and the D3A process and must be

avoided at all costs. If this is ignored there will be no ability to ASSESS or judge the effectiveness of the C2W attack.

The DECIDE stage is a natural development of the US Army deliberate planning process, where the commander and staff attempt to "see" the battle and project those actions that will occur. As a result of this projection, the commander and his staff attempt to identify and influence the appropriate players to shape the battle in their favor. For the target planner, the first step is logically to decide whom you will attack. This step also applies to C2W, since planners must clearly identify the person or system to influence, degrade, or deceive before moving to the next step.

That next step is to DETECT the target. Intelligence predominates this portion of the process, as the targeteer must know the details about exactly when and how to attack the target. This correlation is more involved than is first apparent, since the DETECT portion also obviously includes an analysis of how, when, why, where, and to what extent one must attack. Detailed intelligence analysis, rapidly responsive intelligence, and a clear mental picture by the staff planner of the objective at hand would appear to be the keys to this step.

The C2W planner must take this information and synthesize it to the next step. Beyond the normal requirement for detecting when and where to attack, the C2W officer must determine which of the C2W tools will most effectively attack the target in the desired manner.

The third step in the D3A process is the DELIVER phase. In this phase, the weapon is applied against the target to achieve the desired result. Simply stated, this is when the weapons fire.

In the C2W arena, this portion constitutes the "attack" portion of C2-attack operation. Both the previous phases (decide, detect) are staff and planning functions, as is the next step:

assess. During the DE: IVER phase the C2W officer must conduct the operation in concert with the commander's intent and the scheme of the battle.

Finally, planners ASSESS the impact of their previous action. The assessment criteria is used to establish feedback to the targeting system. The ability to discern the effect of the attack and modify it to fit the situation is critical. This point obviously feeds the earlier discussion about the task and purpose of the C2W operation and stresses that the C2-attack must give understandable feedback to measure the progress of the operation. Hopefully the feedback serves as the intelligence to drive the next iteration of the C2-attack.

Accordingly, feedback is needed tp accomplish two functions. First, it must determine the impact of the attack.. In a PSYOP campaign the military planner must understand whether the propaganda is reaching and effecting the correct target audience. Similarly, EW operations must attack the correct node since the adversary will not even notice if friendly forces "shut down" the wrong radion frequency. Secondly, the feedback determines to what degree the C2-attack was successful. Again, a criteria to determine the effectiveness of the attack is needed. If the planner is unable to determine whether the C2W mission was 85% successful or 15% successful, then there is no ability to modify or shift the attack to pursue more lucrative targets of opportunity.

While this step is intuitively critical for the operational planner, the historical evidence indicates that it is the most difficult and error-prone portion of the targeting process. In DESERT SHIELD and STORM the theater targeteers attempted to ascertain whether they had struck the correct targets and to what degree they were damaged (i.e., assess the delivery of fires in the targeting process) without great success. Of course, this fact should have been expected: every force that the United States has engaged has attempted to limit and concea! their losses. Additionally, the enemy commander and staff officer work hard to protect and reconstitute the

forces we are attempting to destroy, thus affecting our intelligence assessment of the attack effectiveness.

In C2W, this problem is compounded. If the target of the C2-attack operation is the hostile decision-maker and the enemy decision-making process, how can C2W staff planners accurately assess the impact that our C2W operations have had?

It is noted that an imperative of this feedback is the foundational tie to intelligence that C2W demands. Without detailed and responsive intelligence, this system cannot work. Additionally, intelligence must pursue the C2-attack with versatility and flexibility. While it is hoped that the US intelligence community has sufficient sophistication and depth to observe and report on the enemy perception and effectiveness of the C2W operation this may not be a realistic expectation. The C2W planner, along with the counterpart intelligence officer, must aggressively seek those intelligence indicators which will reveal the true effect and enemy response to the attack.

Having proceeded to this point the thesis has demonstrated that the corps has the necessary C2W tools and that the D3A process can apply to the conduct of the C2W operation. In fact, the C3CM plan used by the VII Corps in operation DESERT STORM integrates a deliberate targeting approach to the C3CM operation.[9] It was noted in the historical examples of BETRAM and DESERT SABER that successful deceptive operations often incorporate all the critical functions of C2W operations.

It is also useful to note that the VII Corps C3CM plan included supplementary information on how to support the C3CM objectives with the additional assistance of PSYOP. Since PSYOP was covered in a separate annex in the Corps order, the fact that VII Corps covered some PSYOP requirements in the C3CM plan is very instructive. In short, it appears

that the modern construct of C2W (as opposed to C3CM) was already partially formulated in the minds of staff officers as VII Corps fought in DESERT STORM.

At this point C2W planners will note the logical connection between the C2-attack process and the D3A methodology. This observation is reinforced in Army doctrine in FM 100-6, Information Operations:

> C2-Attack Planning Steps: This seven step process provides a structure and facilitates the planning process for C2-attack.
> Step 1. Identify how C2-attack could support the overall mission and concept of operations. Product: C2W mission.
> Step 2. Identify enemy C2 systems whose degradation will have a significant effect on enemy C2. Product: Enemy potential C2 target list.
> Step 3. Analyze enemy C2 systems for critical and vulnerable nodes. Product: High-value target (HVT) list.
> Step 4. Prioritize the nodes for degradation. Product: Prioritized high-payoff target list.
> Step 5. Determine the desired effect and how the C2W elements will contribute to the overall objective. Product: C2W concept of operation. When developing the concept of operation, it is important to recognize the potential for both mutual reinforcement and mutual conflict among the five elements of C2W.
> Step 6. Assign assets to each targeted enemy C2 node. Product: Subordinate unit tasking.
> Step 7. Determine the effectiveness of the operation. Product: BDA.[10]

Officers see that the first two steps directly relate to the DECIDE phase of the targeting process. The concept behind the word "identify" shows the same intent as the selection of what to attack in the D3A process. In the next three steps (STEP 3, 4, 5), the DETECT imperative dominates. These three steps outline a technique for ensuring that the strike mechanism listed under the first two steps is correct and accurately placed. STEP 6 states the DELIVER function; STEP 7 is much the same as it directly relates to ASSESS.

From this the C2W staff will see that the current C2W attack doctrine melds both the D3A methodology and some of the common supporting elements of the intelligence process. The result is this seven step planning sequence, which aligns both with the D3A requirements and the intelligence target analysis and support cycle.

Having examined this process planners are left to determine whether or not the practice can be effectively employed by the corps. The result of the review of the historical examples seem to indicate two key observations: one, that C2W can be truly employed by the corps; two, that the deliberate targeting process (or D3A) is appropriate for this weapons system.

In both the successful case studies (Operations BETRAM and DESERT SABER), a small staff tasked with supporting corps operations conducted successful C2W operations. The fact that they were not referred to as C2W can not deter staff officers from making this statement, as they share the common characteristics reflected in the present C2W doctrine.

The VII Corps case study also shows that the commander and his staff were able to successfully integrate the deliberate planning and targeting process to employ C2W as a weapon at the corps level. It is also noted that the US Army doctrine in FM 100-6, which is based on the observation and incorporation of past events and successes, uses a deliberate approach which encompasses the D3A process.

The result is that the C2W staff can say that the C2W cell at corps can work, and that it can use the deliberate methodology to incorporate the C2-attack scheme into the concept of operation. However, there are some implications of this observation which the thesis must first address.

There are two obvious requirements for success in the C2W campaign: synchronization and integration. Failure of either part will destroy the overall effectiveness of C2W in support of a larger plan. A lack of synchronization means simply that the C2-attack will not effect the right target at the right place, or to the desired result. The lack of integration may mean that the C2-attack, while possibly successful, is irrelevant to the larger concept of the operation. Clearly, both elements are crucial in the melding of the C2-attack plan into the corps concept of operation.

Both aspects of the problem are addressed in the Army approach to battle and in doctrine. During the literature review the thesis noted the intrinsic tie that doctrine attempts to achieve by collocating dissimiliar elements toward a common goal. The result is both a common understanding of the battlefield requirements and information sharing to achieve the commander's intent. The organization of the C2W cell, its placement in the corps' operational center, and the participants in the C2W plan all mitigate toward success.

The requirement for successful coordination, synchronization, and integration is amplified in FM 100-6:

> The three principles of C2-attack are to-
>
> 1. Plan based on the unit's mission, commander's intent, and concept of operations.
> 2. Synchronize with and support the commander's plan.
> 3. Take and hold the initiative by degrading the adversary's INFOSYS and forcing the adversary to be reactive. Reactive means that the C2-attack slows the adversary's tempo, disrupts the adversary's planning and decision cycles, disrupts the adversary commander's ability to generate combat power, and degrades the adversary commander's means for executing mission orders and controlling subordinate unit operations.[11]

Having looked at the doctrine, literature and historical examples of C2W, planners are left to discuss some of the evident implications of C2W for the force.

A brief search of some doctrinal terms indicates the growing awareness of C2W. FIGURE 5 is a simple table generated by the author in cataloging keyword responses to common C2W phrases. The source for these responses is the US Army Center for Lessons Learned or CALL. In requesting simple keyword responses (for example, how often did the phrase "EW" occur in CALL reports on DESERT STORM) officers immediately see the growing number of responses relating to C2W terms. Clearly, the topic is one of growing awareness and interest in the military. Leaders and units are now using the C2W terms in their language. This indicates that more leaders are learning about C2W.

Secondly, the issues that arise from the PSYOP community must be addressed. The thesis notes that the tactical PSYOP battalion is organized (shown on FIGURE 1), with very limited assets. Essentially, this battalion provides staff assistance, liaison personnel, and loudspeaker teams. Requirements for other media, such as printed leaflets or radio broadcasts, will have to be provided from the JPOTF. The table on FIGURE 6 shows USSOCOM's post-mission analysis of the relative effectiveness of the respective PSYOP media used. The table indicates that the most effective media types are products that the tactical PSYOP battalion cannot produce. This indicates that the tactical PSYOP battalion must "tie in" extremely closely with the JPOTF or theater PSYOP capabilities to make the most use of their capabilities. Obviously the tactical PSYOP commander will want to increase his effectiveness and utility, but he may be limited in his ability to do so. Planners need to identify and resolve this issue early for the tactical PSYOP force to provide the best support possible.

The commander needs to fully understand the limitations that OP3 place on the use of PSYOP. It is no exaggeration to note that the corps commander cannot truly direct his PSYOP battalion to produce any PSYOP product without higher approval. Additionally, once that approval is granted, the commander must continue to operate within the scope of the approved PSYOP campaign. If new players arise and new PSYOP themes need to be generated, the commander should anticipate that an entirely new coordination process may be required. Since hostilities following WWII have been conducted in other than declared states of war, those coordination processes will require NCA action--a daunting task for quick coordination.

The thesis will not misstate the implication of this requirement. In conversation with Lieutenant Colonel Michael L. Findlay, a SOF Observer/Controller for the US Army Battle Command Training Program (BCTP), the author asked Lieutenant Colonel Findlay his observations regarding PSYOP awareness in units conducting BCTP rotations. Lieutenant

Colonel Findlay opined that the US Army force does not generally understand the full complexity of coordinating and employing PSYOP, nor did the force seem to be comfortable with the uses of PSYOP.[12] Since Lieutenant Colonel Findlay is in a position to observe virtually every BCTP rotation, which includes the observation of key staff members of rotation units (normally divisional staff and key leaders), his comments are telling. Additionally, the author notes as a student in the Command and General Staff College, that the instructor cadre generally lack awareness of the requirements to coordinate approval for the use of PSYOP, and they frequently downplay the NCA coordination issues.[13] This is doubly unfortunate in that it can reinforce misperceptions on the part of the students, which may lead to serious misunderstanding and frustration when students return to the field as division and corps staff officers. Since the fact that NCA coordination issues and their complexity was one of the key difficulties identified by USSOCOM in the post-mission DESERT STORM PSYOP report, military planners should not minimize this problem.[14]

In fact, it is useful to quote one of the concluding summaries in Psychological Operations During DESERT SHIELD/STORM: A Post-Operational Analysis, which states:

> Success notwithstanding, problems in PSYOP surfaced which could have been anticipated and avoided. These involved (1) delays in Pentagon approval of the theater PSYOP campaign plan; (2) the restrictive nature of the PSYOP USAR unit call-up; (3) and the insufficiency of resources--specifically, command, control, and communication (C3) equipment to link PSYOP teams, supported units, loudspeaker teams, and interpreters. Further, the hesitation to call up USAR PSYOP units to support an admittedly overstretched PSYOP Task Force raised questions as to the role of USAR PSYOP forces during both short and long term contingencies.[15]

The C2W planner is well advised by this study to carefully consider and anticipate these issues prior to the campaign to maximize success.

To recap, the work has noted the C2W tools available at the corps and how they tie to the deliberate targeting process. The research has demonstrated that the corps has both the

resources, organization, and capability to use these tools in support of the commander's intent. Officers will have also observed that the C2W concept was successfully demonstrated throughout modern history and that the deliberate targeting process can be used to manage and maximize its effectiveness. Lastly the work addressed some of the immediate implications of C2W for the staff planner and those issues that must be immediately anticipated and resolved.

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[1]U.S. Army FM 100-6, Information Operations, (Washington, DC: Government Printing Office), August 1996, 3-2.

[2]U.S. Army FM 100-15, Corps Operations, (Washington, DC: Government Printing Office), 1 June 1996, 1-7, figure 1-2.

[3]Ibid., 4-11.

[4]Ibid., 2-16.

[5]Ibid., 1-7.

[6]Lieutenant Colonel James Ladd, interview by author, transcription, Fort Leavenworth, KS, 25 March 1997 and the author's observation as a member of the 8th PSYOP battalion, July 1989-1990, and subsequent observations while deployed to King Fahd Intenational Airfield, Kingdom of Saudi Arabia, January 1991-March 1991, during DESERT STORM and while serving as a joint staff officer on the United States European Command Special Operations Directorate staff, Stuttgart, Germany, July 1991-July 1994.

[7]This task organized PSYOP force may be referred to as a Joint PSYOP Task Force (JPOTF) or a Joint PSYOP Task Group (JPOTG) under joint operations. Single service PSYOP task forces are respectively referred to as POTFs or POTGs, reflecting their single service mix.

[8]U.S. Army FM 33-1, Psychological Operations, (Washington, DC: Government Printing Office), 18 February 1993, C-1.

[9]VII Corps, Operations Plan DESERT SABER, (S) Annex F (C3CM) (U), Kingdom of Saudi Arabia: United States Army, 13 January 1991.

[10]FM 100-6, C-4.

[11]Ibid., 3-6.

[12] Lieutenant Colonel John Findlay, interview by author, transcription, Fort Leavenworth, KS, 6 and 13 February 1997.

[13]Author's observation as a student in the US Army Command and General Staff College, Ft. Leavenworth, Kansas, academic year 1996/1997.

[14]Psychological Operations During DESERT SHIELD/STORM: A Post-Operational Analysis, (MacDill Air Force Base, Florida: United States Special Operations Command), undated, 5-5.

[15]Ibid., 5-4.

CHAPTER 4

CONCLUSION AND RECOMMENDATIONS

> Corps battles are the key to tactical and operational success. The commander's personal leadership is the most essential element of combat power and will, therefore, have the most critical impact on the outcome of those battles. . . . The corps commander is responsible for leading and training the corps in peacetime so it will be prepared for war. Leaders must develop units with this warfighting focus as the cornerstone of all activity.[1]
>
> U.S. Army, FM 100-15, Corps Operations

In the previous three chapters the thesis has examined some of the issues associated with C2W and attempted to determine the impact that this construct will have and whether or not it is truly applicable at the corps level of war.

The first chapter established three critical areas:

First, it outlined the research question and some general points that immediately arise from an examination of the research question. The central question was whether or not the corps can execute C2W operations using the D3A targeting methodology. Of course, from this one central question one must immediately answer several supporting issues: what is C2W or the D3A process? How do they apply to military operations? Are they applicable at the corps level of war? Lastly, do they relate to each other?

While it is not the author's intent to answer any of these questions in the introductory chapter, the work must identify the issues that arise from this question to construct a thesis which attempts to answer them in the subsequent chapters.

Second, it introduced the variety of sources available on the subject. Planners and staff officers will recall that there is extensive literature available on virtually all the topics under discussion, both classified, unclassified, official, and non-governmental.

The work has reviewed several of the Department of Defense and Joint documents that set the stage for the policy and strategic concerns of the C2W construct. Additionally, the joint doctrine was useful for the reader as it established the strategic themes, objectives, and players behind the national policy objectives.

Additional review of Army doctrine included both the doctrinal references which drive our current C2W implementation and the works which addressed the targeting methodology. One will recall that the thesis examined both the five elements of C2W and their supporting military works, and also briefly reviewed the previous construct prior to C2W: C3CM. This thesis noted the changes from C3CM to C2W and the comparative newness of both concepts as an element of war. Additional review of the doctrine for corps operations and targeting works completed the US Army portion of the literature review.

Lastly in the literature review, the research examined several of the civilian reference works, both formal and informal, which speak to this area. It was noted that there are many documents which cover both the future of C2W and information warfare and that several books covered the history of this topic as expressed through the elements of C2W.

The third portion of the introductory chapter covered the research methodology that was used in this thesis to establish the argument. The thesis used an analysis of historical battles and established the linkage between those events and the present policy and doctrinal approaches. Please note that while the terms and organizations in the historical examples did not exactly mirror our present terms and organizational structure, that the author maintained that the historical example organization, level, and methodology was analogous to the present doctrine.

That is to say, while the force size and doctrine was different than the current construct, BETRAM was a valid example of corps level C2W, conducted decades before the term C2W existed. Accordingly, the focus of examples were at the corps and army level, on offensive operations combining deception, EW, OPSEC, physical destruction, and PSYOP.

The second chapter of the thesis covered three distinct historical examples of earlier uses of C2W in battle. The first example was that of the British forces in Northern Africa during Operation BETRAM. This series of operations served as a good example of C2W since it clearly involved all the elements of C2W, supported a clear offensive attack methodology, and deliberately attempted to manipulate German perceptions and impressions of the impending English attack. This thesis examined the supporting plans of BETRAM, and noted that they all displayed several key aspects: they all supported the commander's intent and they achieved the required synchronization and integration with combat operations to fully support the plan. The review of this case study also showed that the British were completely effective in deceiving the target audience: the German leadership.

The next case study was a perfect foil for the study of BETRAM. Operation CASANOVA was an attempt by the US Army in World War II to conduct a deception operation to fool the German defenders during the first stages of the battles for Metz. While this work noted the success that the English experienced during BETRAM, CASANOVA displayed almost the opposite effect. It was observed that both operations had the same general intent, both were conducted at approximately the same level of war, and both were against a German defender. Yet, the execution and result of Operation CASANOVA was unlike that of BETRAM. The forces in CASANOVA were unable to combine the elements of C2W (in fact, the analysis noted that several of the elements of C2W were missing from the operational plan) and the enemy was

not deceived. The study of CASANOVA was instructive in that it demonstrated some of the imperatives of successful operations, such as the other two case studies.

The third example addressed was the operation conducted by VII Corps during DESERT STORM, named DESERT SABER. In this example the review of literature noted that the corps conducted an operation that was in complete concert with the national, strategic, and theater objectives. It additionally used current resources available to conduct a successful operation under the C3CM construct. It was also noted that although the C3CM concept did not include PSYOP, that PSYOP planning was inherent in the DESERT SABER C3CM concept.

DESERT SABER was also a good case study in that it demonstrated that a deliberate targeting approach could be effectively used to implement the C3CM campaign. Since issues of the utility of C2W and the D3A process are the central question in this thesis, the DESERT SABER study provides excellent material for the research.

The VII Corps operation was also useful in that it showed that a complex series of operational plans could combine to provide the collective synchronization and integration to support a larger plan. Like BETRAM, DESERT SABER shows that both the concept and the methodology can work if applied correctly by the commander and his staff.

Chapter Three outlined the answer to the thesis question and identified several implications of our present doctrine. In chapter three the thesis established the following points:

1. The corps commander has the appropriate tools to execute C2W operations with the forces assigned in the corps structure.

2. That C2W as a concept has been demonstrated successfully in corps level operations throughout our recent history.

3. That the D3A process, which is traditionally used for targeting of fires, is a valid approach to integrating C2-attack operations. Further, this observation is reflected in new Army doctrine as written in FM 100-6, Information Operations.

4. The results of the study show that several implication arise which the commander and staff officer must anticipate: that the success of C2W operations depends heavily on their integration into a larger plan; that there are issues surrounding the use of PSYOP which the corps commander must recognize and address.

As a result of the previous chapter and the research conducted, the thesis asserts that the corps can conduct C2W operations (specifically C2-attack operations) using the D3A methodology. The present corps has the elements, organization, staff, and resources to ensure that those C2-attack operations are conducted successfully and fully in concert with the corps concept of operations.

What remains then is to state the recommendations that have arisen from the examination of this issue. These recommendations fall into two general categories: recommendations to enhance synchronization and recommendations to enhance integration.

Having noted that the corps doctrine, as expressed in FM 100-15, Corps Operations, does not specifically address many of the questions surrounding C2W. The obvious requirement is for a solid working organization which functions completely in step with the operational tempo of the rest of the corps operations. To achieve this the C2W cell may require augmentation.

The success of the C2W operation appears keyed to the ability to dominate the adversary's decision cycle. That is, if friendly forces can observe, analyze, decide, and execute before the enemy can then the friendly side will always retain the initiative. To accomplish this task the research has noted that the C2W cell must be supported with flexible and responsive intelligence. Of course, it also follows that the C2W cell must use flexible and responsive

command tools to adapt and change the plan as the enemy attempts to react to the attack. The success of the operation is predicated on the C2W system observing and addressing the enemy changes before he can position himself to defend.

This is a large requirement. As noted in this thesis, the five C2W tools touch on the major portions of the Army force: command, communication, intelligence, EW, fire, maneuver, and several others. A system that will be able to rapidly incorporate and respond to emergent situations will be both difficult to construct and hard to implement. The current approach now attempts to satisfy this imperative by placing the key staff officers at a central location, which can be fed the most current information. Of course, when doctrine demands that US forces stay "inside" the enemy's decision- cycle, the US forces also demand that friendly C2W officers get more and better information--while getting it much faster than before. The result shows that a central location and having the right players in the cell may no longer be sufficient: now one must have the right people, at the right place, with the right information, and the ability to influence the right decision-maker.

The resulting recommendation is that the Army must continue to work, and accelerate work, on a common command and control mechanism. While the future architectures that the military force envisions dictate a merging of several "stovepipe" C2 and intelligence systems into a common architecture, the fact remains that our doctrine and operational concepts require such an architecture today.

With reference to integration it is noted that the corps has the resources available to execute C2W operations. However, another observation also noted that the integration of PSYOP can be a thorny problem for the corps commander, and one that the corps C2W staff must anticipate and work to overcome.

As directed by the OP3, the corps commander may never be fully satisfied with the relationship that he has to his PSYOP force. Even if the corps commander serves as the commander of a Joint Task Force or JTF, the authority to run his PSYOP operations may not be delegated to him.

However, since this is national policy that has been reviewed since DESERT STORM and remains in effect, it is a problem that the corps commander must understand. The corps staff must work closely with the PSYOP community to ensure they know the players who will support them in the various contingency and wartime operations. The corps staff will have to ensure that a PSYOP force, which will probably be mostly USAR units, can quickly integrate into the corps staff and function within the C2W cell. This requires that the corps staff planner understand the limitations of OP3, the uses of PSYOP, and the various means to get reserve units listed on the deploying force structure. Each may be a daunting task for a busy staff officer.

Of course, the corps must also ensure that the PSYOP force is able to synchronize their information in concert with the others to support the commander's intent.

The corps PSYOP planner must also maintain a constant dialogue with the unified commands to ensure that supporting PSYOP annexes to operations and contingency plans are approved as early as possible. Since the USSOCOM analysis of PSYOP in DESERT STORM identified response and approval of PSYOP plans as a major issue, any planner is well served to have the PSYOP campaign staffed and approved before the first soldier deploys, vice after.

Because the nature of this coordination is truly national, the theater planner has the responsibility to staff and forward the unified command's plan to the joint staff for action. This obviously means that the corps PSYOP officers need to provide correct and timely input to the plan and then understand the status and issues associated with the respective plan approval. Central to the understanding of the plan's concept is how to recommend to the corps commander

those PSYOP theme ideas which support both the local commander's intent and the national campaign.

In conclusion, the study of C2W at the corps has been a fascinating topic for any military officer to conduct. During the analysis the thesis has noted that the structure, doctrine, and operational construct all contribute toward a new tool in warfare. It is also seen that C2W is a real and workable method of war, not an esoteric concept that cannot apply to modern corps operations.

And finally this work has used several positive and negative examples of C2W operations to determine the mechanism for operational success in C2W operations, and then recommend enhancements to those successes for future victory.

The end result is that C2W is clearly a key weapon in the commander's inventory--one that can easily contribute to decisive victory and may even bring a conflict to an earlier and easier conclusion. This battle tool will certainly prove critical to the defense of the nation as the military faces the uncertain challenges of the future.

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[1]FM 100-15, Corps Operations, (Washington, DC: United States Army), 1 June 1996, 4-1.

Glossary of Terms

ARCENT: United States Army, Central Command. Also known as USARCENT.

C2W: Command and control warfare. The integrated use of operations security, military deception, psychological operations, electronic warfare, and physical destruction, mutually supported by intelligence, to deny information to, influence, degrade, or destroy adversary command and control capabilities, while protecting friendly command and control capabilities against such actions.

C3CM: Command, control, and communications counter-measures.

CIA: Central Intelligence Agency.

CENTCOM: Central Command. Also known as USCENTCOM.

CJCS: Chairman of the Joint Chiefs of Staff.

D3A: Decide, detect, deliver, assess. An acronym for the US Army deliberate targeting process.

DCI: Director of Central Intelligence. The director of the CIA.

DIA: Defense Intelligence Agency.

DIRNSA: Director of the National Security Agency.

Deception: Those measures designed to mislead the enemy by manipulation, distortion, or falsification of evidence to induce him to react in a manner prejudicial to his interests.

DOD: Department of Defense. Also written as DoD.

EA: Electronic attack. That division of electronic warfare involving the use of electromagnetic or directed energy to attack personnel, facilities, or equipment with the intent of degrading, neutralizing, or destroying enemy combat capability.

EP: Electronic protect. That division of electronic warfare involving actions taken to protect personnel, facilities, and equipment from any effects of friendly or enemy employment of electronic warfare that degrade, neutralize, or destroy friendly combat capability.

ES: Electronic warfare support. That division of electronic warfare involving actions tasked by, or under direct control of, an operational commander to search for, intercept, identify, and locate sources of intentional and unintentional radiated electromagnetic energy for the purpose of immediate threat recognition. Thus, electronic warfare support provides information required for immediate decisions involving electronic warfare operations and other tactical actions such as threat avoidance, targeting, and homing.

EW: Electronic warfare. Any military action involving the use of electromagnetic and directed energy to control the electromagnetic spectrum or to attack the enemy.

IW: Information warfare. Actions taken to achieve information superiority by affecting adversary information, information-based processes, information systems, and computer-based networks while leveraging and defending one's own information, information-based processes, information systems, and computer-based networks.

NSA: National Security Agency.

OPSEC: Operations security. A process of identifying critical information and subsequently analyzing friendly actions attendant to military operations and other activities to: a. Identify those actions that can be observed by adversary intelligence systems. b. Determine indicators hostile intelligence systems might obtain that could be interpreted or pieced together to derive critical information in time to be useful to adversaries. C. Select and execute measures that eliminate or reduce to an acceptable level the vulnerabilities of friendly actions to adversary exploitation.

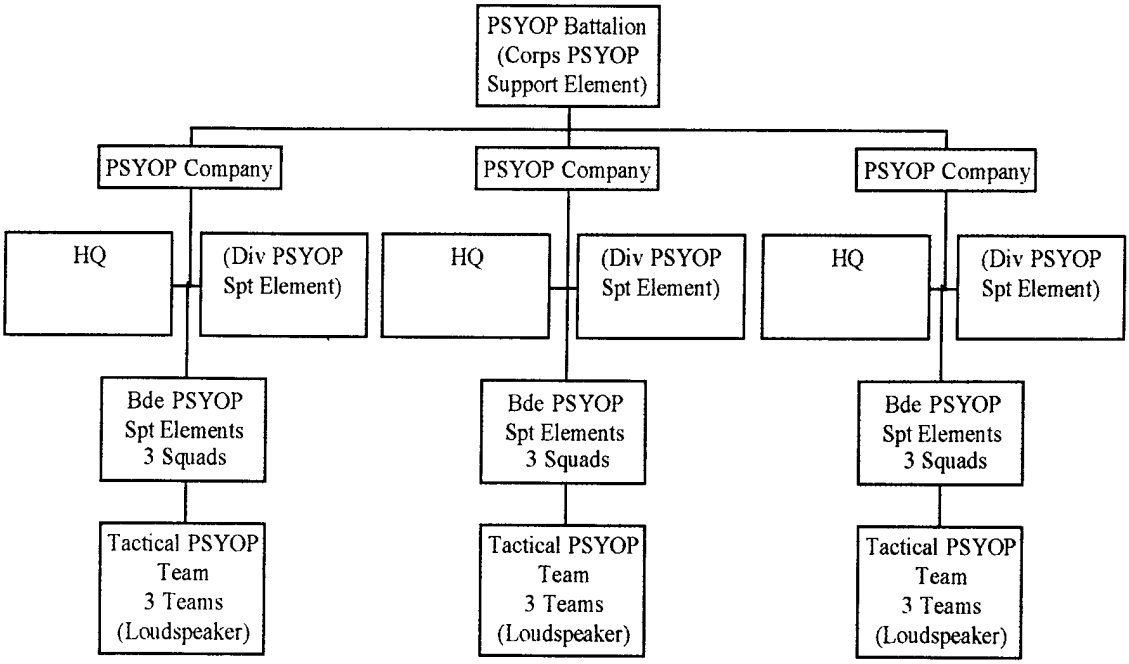
OSD: Office of the Secretary of Defense.

OSD C3I: Office of the Secretary of Defense for Command, Control, Communications and Intelligence.

PSYOP: Psychological operations. Planned operations to convey selected information and indicators to foreign audiences to influence their emotions, motives, objective reasoning, and ultimately the behavior of foreign governments, organizations, groups, and individuals. The purpose of psychological operations is to induce or reinforce foreign attitudes and behavior favorable to the originator's objectives.

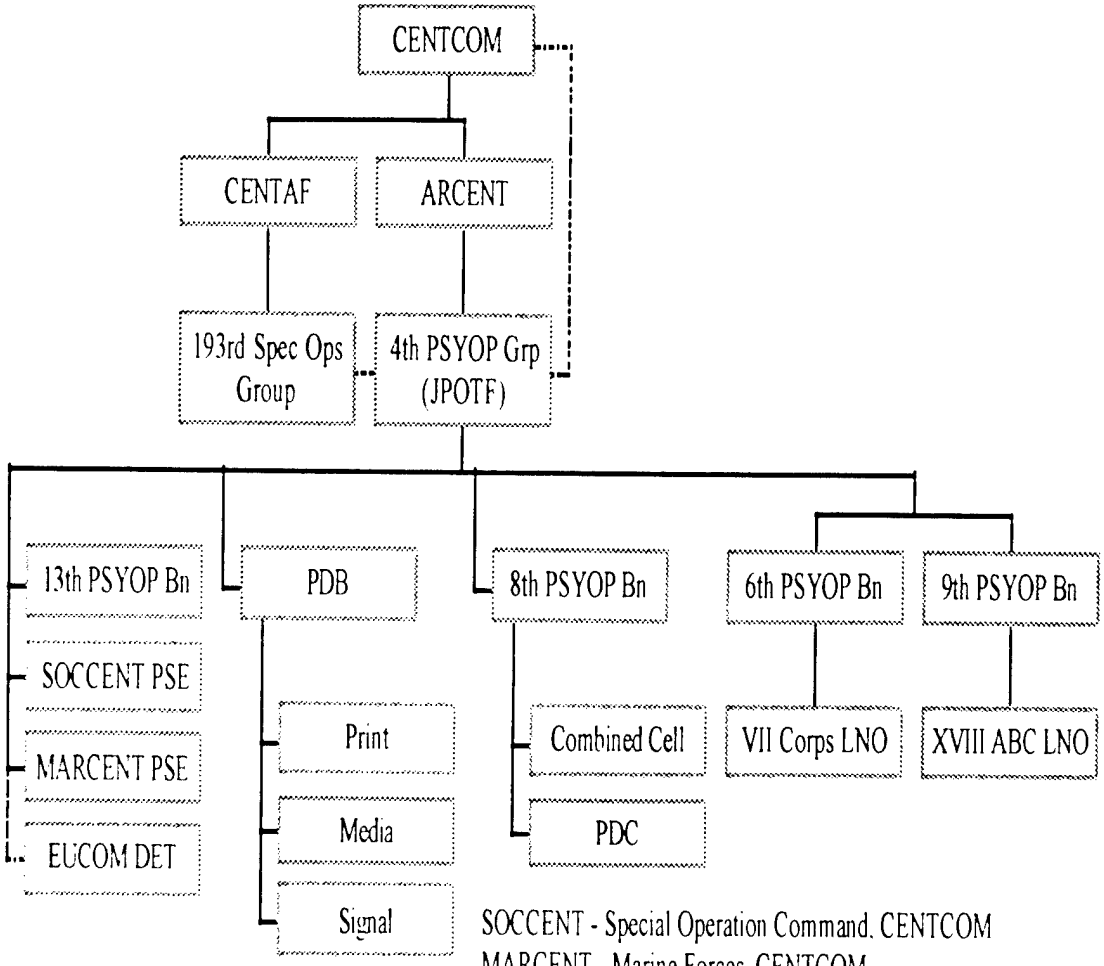
Physical Destruction: The act of using physical measures, such as munitions, to destroy an object.

Figure 1
Tactical PSYOP Battalion Organization



As extracted from FM 33-1-1, Psychological Operations Techniques and Procedures, Washington, DC: Department of the Army, May 1994, figure I-2, pp. I-3.

Figure 2
Initial Organization of US PSYOP Forces in Operations
Desert Shield and Storm

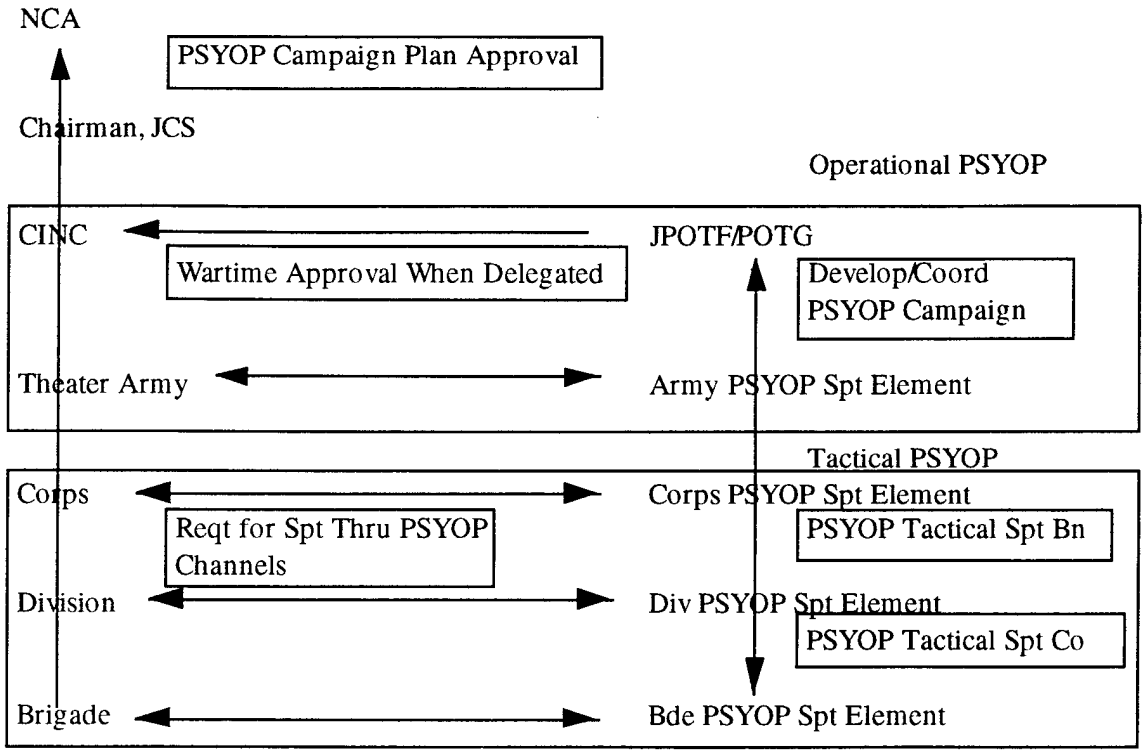


Dashed Line - TACON
Dotted Line - Coordination
ARCENT - US Army, CENTCOM
CENTAF - USAF, CENTCOM
CENTCOM -Central Command

SOCCENT - Special Operation Command, CENTCOM
MARCENT - Marine Forces, CENTCOM
EUCOM - European Command
JPOTF - Joint PSYOP Task Force
PDB - PSYOP Dissemination Bn
PDC - Propaganda Development Center
PSE - PSYOP Support Element

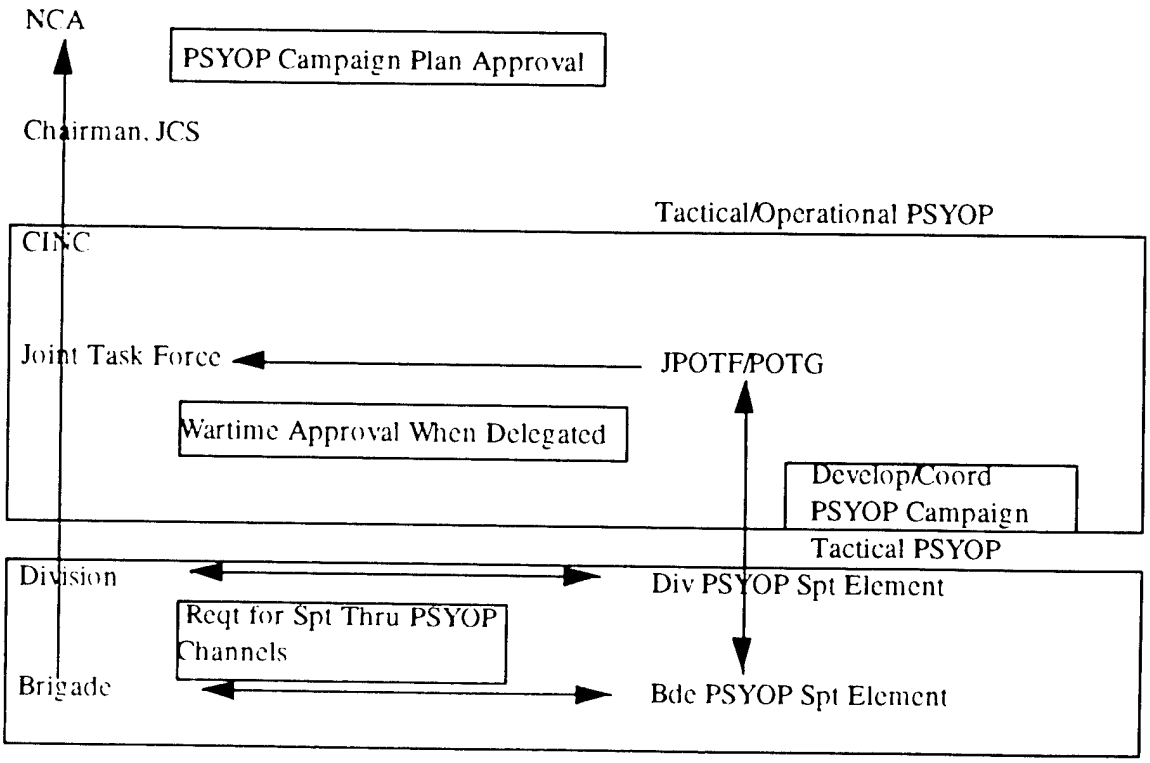
As extracted from Psychological Operations During DESERT SHIELD/STORM: A Post-Operational Analysis, United States Special Operations Command, MacDill Air Force Base, Florida, undated, exhibit 3.5, pp. 3-13.

FIGURE 3
Wartime PSYOP Approval Process with CINC in Theater



As extracted from FM 33-1, Psychological Operations, Washington, DC: Department of the Army, 18 February 1993, figure C-2, pp. C-3.

FIGURE 4
Wartime PSYOP Approval Process without CINC in Theater



As extracted from FM 33-1, Psychological Operations, Washington, DC: Department of the Army, 18 February 1993, figure C-3, pp. C-4.

FIGURE 5
CALL Database Keyword Search

Keywords	Conflicts: Responses/%				
	Panama	DESERT SHIELD/STORM	Somalia	Haiti	Balkan
C3CM/ C2W	1/0.4%	30/0.4%	3/0.7%	23/3.0%	0/0
Deception	11/4.2%	843/12.5%	19/4.5%	28/3.6%	3/5.5%
PSYOP	122/47.1%	586/8.7%	253/59.9%	567/73.0%	11/20.4%
OPSEC	77/29.7%	220/3.3%	36/8.5%	67/8.6%	11/20.4%
Electronic Warfare	5/1.9%	434/6.5%	23/5.4%	22/2.8%	9/16.7%
Fire Support	43/16.6%	4599/68.5%	88/20.8%	69/8.9%	20/37.0%
Total Responses	259	6712	422	776	54

From the GRENADA conflict all responses to the keywords were zero.

Responses derived from search of CALL database by author on 21 November 1996. The CALL database may be accessed through the internet at http://call.army.mil:1100/cal.html.

FIGURE 6

Relative Effectiveness of PSYOP During DESERT SHIELD/DESERT STORM

	RADIO BROADCASTS	LOUDSPEAKER ACTIVITIES	LEAFLET DROPS	EPW TEAM ACTIONS
Audience Exposure	58%	34%	98%	N/A
Persuasive-ness	46%	18%	70%	N/A

As extracted from Psychological Operations During DESERT SHIELD/STORM: A Post-Operational Analysis. United States Special Operations Command, MacDill Air Force Base, Florida, undated, table 4.1, pp. 4-7.

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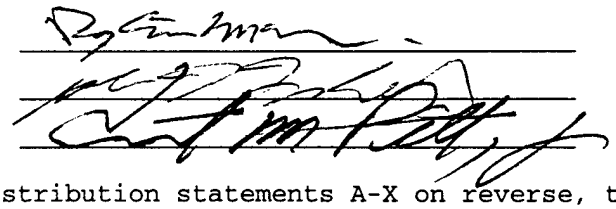

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