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BATTLE STAFF OPERATIONS: SYNCHRONIZATION
OF PLANNING AT BATTALION
AND BRIGADE LEVEL

A thesis presented to the Faculty of the U.S. Army
Command and General Staff College in partial
fulfillment of the requirements for the
degree

MASTER OF MILITARY ART AND SCIENCE

by

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B.S., United States Military Academy, 1975
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Fort Leavenworth, Kansas
1989

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Anode level; Anode emitting electron; ←

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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.)



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ABSTRACT

BATTLE STAFF OPERATIONS: Synchronization of Planning at Battalion & Brigade Level, by Major William F. Crain, USA, 120 pages.

This thesis examines whether or not current doctrinal staff planning activities can be better synchronized at battalion and brigade level.

Using doctrinal, historical and current data collected from the National Training Center, the study focuses on the problem of time management and information flow. Employing the concepts of applied systems theory, the elements of the battle staff system are defined as purpose, activities (outputs), processes, resources (inputs), space and time. These elements are examined to determine what information is critical, how it is processed, who processes it and when.

The study establishes an information hierarchy, proposes a single planning process, identifies functional staff areas of responsibility, and provides a guide which concentrates the battle staff on producing the critical information necessary for a commander to make and execute decisions in a time constrained environment. This tool is in the form of a Battle Staff Planning Guide (BSPG).

The study concludes that current doctrinal staff activities can be better synchronized to enhance battle staff operations. To achieve this aim, doctrine must better define the command and control and battle staff systems, staff activities must focus on producing the necessary critical information under the constraint of time, and planning must be oriented towards a decision driven process rather than a process that drives decisions.

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TABLE OF CONTENTS

Chapter 1 - Introduction	1
Chapter 2 - Literature Search	8
Chapter 3 - Methodology	18
Chapter 4 - Discussion	24
Battle Staff System Model	24
Battle Staff Problem Elements	30
Battle Staff Guide - A Hypothesis	33
Commander's Critical Information Requirements	33
The Planning Process	41
Staff Responsibility	48
Time - Risk versus Certainty	56
Summary	59
Chapter 5 - Analysis	64
Minimum Essential Information (MEI)	65
MEI Planning Process & Staff Responsibility	71
Time - Soviet & American Style	79
Summary - A Battle Staff Planning Guide	84
Chapter 6 - Conclusions & Recommendations	94
Bibliography	98
Appendix A - Definitions Force Level Information Requirement Plan Items	A-1
Appendix B - Distribution List	B-1

LIST OF TABLES

Title	Table	Page
Commander's Critical Information Requirements (CCIR)	4-1	34-35
Prioritized CCIR - Study Results	4-2	36-38
Continuous/Situational CCIR	4-3	40
CCIR - Planning Process - Staff Crosswalk	4-4	49-50
Minimum Essential Information Crosswalk	5-1	70
MEI - Planning Process - Staff Crosswalk	5-2	74
Soviet Planning Times - World War II	5-3	80
Soviet Battalion Planning Times	5-4	81

LIST OF FIGURES

Title	Figure	Page
Thesis Methodology	3-1	22
Simple Theoretical System	4-1	27
Synchronized System	4-2	28
Battle Staff System Model	4-3	29
The Battle Staff System Problem	4-4	32
The Planning Processes	4-5	42
The Military Decision-Making Process	4-6	44
The Troop Leading Procedures	4-7	45
The Intelligence Preparation of the Battlefield	4-8	46
A Planning Process	4-9	47
BSG Layout	4-10	51
Battle Staff Guide - Part A	4-11	52
Battle Staff Guide - Part B	4-12	53
Battle Staff Guide - Part C	4-13	54
Battle Staff Guide - Part D	4-14	55
Time - The OODA Cycle	4-15	58
Information Hierarchy	5-1	66
Planning Flow Diagram	5-2	73
MEI Planning Guide	5-3	75
Soviet Planning Process	5-4	82
BSPG Layout	5-5	87
Battle Staff Planning Guide - Part A	5-6	88
Battle Staff Planning Guide - Part B	5-7	89

Battle Staff Planning Guide - Part C	5-8	90
Battle Staff Planning Guide - Part D	5-9	91

CHAPTER 1

INTRODUCTION

'The command and control problem goes something like this: In order to fight the battle successfully, the commander has to find out what is going on, decide what to do about it, tell somebody what to do, then keep track of how the battle is going. He needs to turn that information-decision cycle in time inside the enemy's information-decision cycle so that, instead of simply reacting to what the enemy does, he can seize the initiative.'

General Donn A. Starry
1981

In the early 1980s, the U.S. Army created the National Training Center (NTC) at Fort Irwin, California. The objective of this facility, as specified in AR 350-50, is twofold. First, to provide a facility where heavy battalion task forces, controlling brigade headquarters, and supporting units can undergo essential combined arms training. Secondly, to gather information to help improve doctrine, tactics, training system, equipment, and procedures. To date, over 150 rotations of battalion task force size units have trained at the NTC. Collectively, these units have 'fought' nearly 1000 battles.

Information gathered from the NTC is examined by the Center for Army Lessons Learned (CALL) located at Fort Leavenworth, Kansas. This agency identifies

recurring and significant strengths and weaknesses.

These trends are then used to improve the Army's combat effectiveness through improvements in doctrine, training, organization, materiel and leadership.

One of the most significant weaknesses consistently identified by CALL is synchronization of staff operations at the battalion and brigade level. Specifically, even when the commander articulated what he wanted done, the staff was often not able to accomplish it because of time management and information flow problems.¹

Therefore, the focus of this study is to examine battle staff time management and information flow.

The purpose of this study is to determine if current doctrinal staff activities can be better synchronized to enhance the effectiveness of battalion and brigade combat operations. To achieve this aim, several subordinate issues must be addressed and are identified as follows:

1. What is the purpose of staff activities in combat operations?
2. What are the products of these activities?
3. What information is contained in these products?
4. Can this information be prioritized based on its criticality to the unit mission?
5. With time as a constraint, what information can be included in these staff products?

6. Can these time constrained products be better prepared by modifying staff activities?

Several assumptions have been made for this study. These assumptions focus on the validity of data collected from the NTC. First, that battle staff operations employed by rotational units at the NTC are representative of those used throughout the Army. Second, that the NTC observer/controller (OC) observations of battle staff operations are correct, albeit not necessarily complete.

A common definition of terms is necessary for better understanding. Pursuant to this goal, all terms used in this study are in their doctrinal context. However, cases of multiple definitions were found to exist. Consequently, the following definitions are provided for clarification.

1. Battle Staff: Those members of a unit's coordinating, special and personal staff who assist the commander in the planning, preparation and coordination of combat operations. Specifically included are the:

Executive Officer	X0
Adjutant	S1
Intelligence Officer	S2
Operations Officer	S3
Logistics Officer	S4

Nuclear, Biological & Chemical Officer	NBC
Communications & Electronics Officer	CEO
Fire Support Officer	FSO
Engineer	ENG
ADA Officer	ADA
Air Liaison Officer	ALO

2. Command and Control: "The process through which activities of military forces are directed, coordinated, and controlled to accomplish a mission."²

3. Command:

a. "The authority that a commander in the military service lawfully exercises over subordinates by virtue of rank or assignment."³

b. "An order given by a commander: that is, the will of the commander expressed for the purpose of bringing about a particular action."⁴

4. Control: "The process that identifies and corrects subordinate behavior inconsistent with the will of the commander."⁵

5. Planning: "A continuous process to prepare for future assigned or assumed tasks involving a detailed and systematic examination of all aspects of contemplated operations."⁶

6. Order Preparation: The consolidation of

information collected during planning into a product for dissemination to subordinate units of a command.

7. Order or Plan: 'Written or oral communications that convey information governing action.'

8. Order Distribution: The dissemination of a product by any means to designated agencies.

9. Coordination: Efforts taken 'to ensure complete and coherent staff actions, to deconflict and reduce duplication, and to ensure all factors are considered.'

Three limitations are identified for this study. First, command and control doctrine will be according to FM 100-5, FM 101-5 and FM 101-5-1. Second, observations from the NTC will be the primary data source for examining battle staff performance. Finally, secondary sources will be used to identify training improvements to staff coordination.

Several delimitations are appropriate for this study to permit proper focus. The study will examine staff operations only at the battalion task force and brigade level. NTC lessons learned include only those observations from 1986 to present. Historical research includes only World War II to present. Examination of foreign doctrine and staff procedures is limited to that of the German Army. These constraints should not have a detrimental impact on the study effort.

The value of this study lies in its significant

relevance to the current major problem of staff operations. Specifically, this study attempts to provide a solution to the time management, information flow problem. The proposed solution is in the form of a Battle Staff Guide (BSG). This tool is designed to integrate the efforts of the battle staff in terms of activities, resources and time. The BSG focuses on those activities of each member of the battle staff during the planning process and prioritizes the activities to accommodate the constraint of time. In sum, the BSG provides the battle staff a technique and procedure for time management and information flow to assist the commander in making and executing timely decisions in combat operations.

ENDNOTES

1 William C. Angerman, "After Action Report, National Training Center (NTC) Rotation 88-4," ATZL-SWB Memorandum, 16 February 1988, U.S. Army Command and General Staff College, Fort Leavenworth, Kansas.

2 FM 101-5, Staff Organization and Operations, (Washington, DC: Headquarters, Department of the Army, 1984), p. 1-1.

3 Ibid.

4 JCS Pub 1. Department of Defense, Dictionary of Military and Associated Terms, (1987), p. 76.

5 FC 101-55, Corps and Division Command and Control, (1985) pp. 3-1 - 3-2.

6 FM 101-5, p. 6-1.

7 Ibid., p. 7-1.

8 Ibid., p. 4-3.

CHAPTER 2

LITERATURE SEARCH

"The end for which a soldier is recruited, clothed, armed, and trained, the whole object of his sleeping, eating, drinking, and marching is simply that he should fight at the right place at the right time."

Carl von Clausewitz

The purpose of the literature search is three-fold. First, to identify information needs relevant to the problem. Second, to determine the availability of needed information, and third to conduct a research of the information available. An outgrowth of this process is the identification of information shortfalls and procedures to fill those gaps identified. Having completed the search, the information is then consolidated and examined, forming the basis for development of an hypothesis concerning the problem.

Information needs for this study were identified in three areas - doctrinal, current, and historical experiences. Doctrinal materials are necessary to identify battle staff operations as they should be. This baseline serves as a foundation or point of departure for further analysis. Current experience reveals "the way things are" and surfaces the difference between what doctrine

'says' and what practice shows. Finally, historical experience provides insight from two perspectives. First, regarding the validity of current experience and second, to possibly provide solutions to current problems. Collectively, these sources enable problem definition to be accomplished and a hypothesis to be formed.

The literature available to support this study is found in three primary sources at Fort Leavenworth. First is the doctrinal literature readily available at the Command and General Staff Officers College (CGSOC). Second is the files, records and reports maintained by the Center for Army Lessons Learned (CALL). Finally, the Combined Arms Research Library (CARL) which supports the Combined Arms Center. Together, these sources provide sufficient information to finalize the problem statement, permit the formation of an hypothesis and allow analysis to be conducted. An identification and synopsis of the major source documents used in this study is provided below.

Division Commander's Critical Information Requirements (CCIR). A U.S. Army document published by the Combined Arms Combat Development Activity at Ft. Leavenworth, Kansas. This study identifies the key information elements required for a Division Commander's decision-making process. The study uses the results from general officer surveys and panel discussions. The

findings are the baseline requirements for automated command and control systems and also focus on the development of decision graphics and application of artificial intelligence systems. Major findings of the CCIR applicable to this study are:

1. There is a finite set of information elements critical to a Division Commander's decision-making process.
2. The command and control system must distribute the CCIR to all command-designated nodes on the battlefield or support a query capability from any of those nodes.
3. When the supporting communication system is degraded, the CCIR must override all information exchanges.
4. Critical information requirements may change between command echelons.
5. The CCIR identifies baseline information requirements.
6. The CCIR must be the catalyst for decision aids and decision graphics.

Information Requirements for Battlefield Management System. This survey and prototype evaluation was published by the Ft. Knox, Kentucky Army Research Institute Field Unit. The purpose of the study was to evaluate potential information items for the Battlefield Management System (BMS) at the platoon level. Focusing on

the tank platoon, a survey and demonstration evaluation was conducted of 30 armored officers and noncommissioned officers (NCOs). Battlefield information requirements were identified and prioritized. Major findings from this evaluation identified critical information and data displays necessary to improve combat performance at the platoon level.

The Planning of Battle Group and Battalion Attacks. A 1957 military letter prepared by LTG Bruce C. Clark while commanding the 7th U.S. Army in Europe. The document presents LTG Clark's thoughts concerning planning at the battle group and battalion level. Specifically, the letter identifies the principal factors to consider in planning, a method for analyzing these factors, wargaming, and time management.

Tactical Operations System Tactical Applications Package. A U.S. Army Combined Arms Combat Developments Activity study published in 1973 at Ft. Leavenworth, Kansas. The study was conducted to identify, in priority for automation, those subfunctions critical to the effective utilization of a tactical operations system. Pertinent objectives of the study included:

1. Identification, realignment and cataloging data elements required for accomplishment of the command and control staff mission.

2. Prioritize sets of critical data in the context

of the military command and staff needs in support of mission requirements.

3. Estimate message loads, measuring the effectiveness of automation by analyzing empirical data as processed in the manual mode.

Command Information Requirements on the Airland Battlefield. A Masters of Military Arts and Sciences (MMAS) thesis written by Maj John R. Schmader in 1985. Focusing on the critical information requirements of a commander, the study compared the Force Level Information Requirements Plan (FLIRP) with the results of surveys and a review of Airland Battle doctrine. The study provides several lists of prioritized critical information that differ due to the sources from which the data was collected. Major conclusions from the study are:

1. There are different perceptions between Division and Corps Commanders verses School Commandants as to what information is critical to the execution of Airland Battle doctrine.

2. There is a difference between perceptions of combat arms, combat support, and combat service support CGSC students as to what information is critical.

3. There is a difference between the General Officers and the CGSC students as to what is critical.

National Training Center (NTC) Take Home Packages (THP). Documents produced by the NTC for the purpose of

providing written feedback to the rotational unit following training at the Ft. Irwin, California. Over 30 THPs are included in the literature review beginning with rotation 86-1 up to 88-11. These documents identify command and control and battle staff operations problems experienced at the battalion and brigade level. Successful techniques and procedures are occasionally included in the THPs. Collectively, these documents serve to identify recurring deficiencies and possible solutions to problems in staff operations.

Truppen_Fuhrung. Truppen Fuhrung (Troop Leading) is the German Field Service Regulation and is considered the most important manual of the German Army.¹ The 1933 edition of Truppen Fuhrung was used by the German Army prior to and during World War II. This document provides significant insight to German tactical staff operations. Specifically addressed are the planning process, troop leading procedures, critical command information requirements, techniques for order planning and preparation, orders content, and staff organization and resources. It is important to note that as a field service regulation, Truppen Fuhrung standardized the tactics, techniques and procedures used throughout the German Army. With regard to staff operations, it provided not only "what to do and think" but a "how to" as well.

FM 101-5. Staff Organization and Operations.

This U.S. Army field manual is the primary doctrinal source for staff organization and operations. The document describes the organization, responsibilities and procedures most commonly found in U.S. Army units. Relevant to this study are those portions which address staff activities, decision making, plans and planning, orders, control of operations, estimates and emerging staff techniques and procedures.

FM 71-2. The Tank and Mechanized Infantry

Battalion Task Force. The U.S. Army field manual describing the doctrinal and tactical employment of the tank and mechanized infantry battalion task force. In consonance with Airland Battle doctrine, the document emphasizes synchronization of the battalion task force fight through integrated planning and coordination. Of particular interest to this study is the command and control chapter which discusses the command and control facilities, process, communications and procedures.

FM 71-3. Armored and Mechanized Infantry

Brigade. The U.S. Army doctrinal manual for the employment of the employment of the heavy brigade. The document focuses on the brigade's organizational structure, command and control, tactical employment, combat support and combat service support. Additionally, it outlines synchronization of assets available to the

heavy brigade. Like FM 71-2, this manual devotes a portion to the command and control system and serves as the doctrinal reference for staff operations at the brigade level.

FC 71-6, Battalion and Brigade Command and Control. A U.S. Army field circular which provides guidance for standardization of armored and mechanized infantry battalion and brigade command and control systems. The procedures discussed in the document are intended to facilitate combined arms operations, speed the integration of new personnel into the system, and provide compatibility between the command and control systems of cross-attached units. FC 71-6 describes detailed staff techniques and procedures which address several of the issues in this study.

Rapid Planning Techniques. A 1985 U.S. Army Infantry School instructional document used to inform Infantry Officer Advanced Course students about command and control rapid planning techniques. Its focus is on orders development, preparation and distribution in a time constrained environment. Topics included in the material are priority for planning, order format and type, order preparation, distribution, issuance and unit standing operating procedures (SOPs).

Student Text 100-9, The Command Estimate. A Command and General Staff Officer's Course (CGSOC) text

compiled to support the CGSOC resident and nonresident instruction in corps and division operations. It provides an academic, systematic process for applying the estimate of the situation as a part of the decision making process. While the document is directed at the division and corps level, its detailed discussion of the planning process is appropriate for consideration in staff operations at the battalion and brigade levels.

ENDNOTES

1 German Field Service Regulation, Truppen
Führung, translated and reprinted by the U.S. Army Com-
mand and General Staff College (Kansas: The Command and
General Staff School Press, 1935) p. 1.

CHAPTER 3

METHODOLOGY

"It is a truth beyond argument that full and accurate information becomes most vital at the point of impact, for unless it is correctly applied there, the wisest plans of the ablest general will likely fail."

S.L.A. Marshall

The methodology used in this study closely follows the accepted scientific method. This methodology is generally accepted as a more reliable approach to the decision-making process.¹ The method includes problem definition, literature search, the forming of an hypothesis, testing the hypothesis, making conclusions and providing recommendations. These steps and the associated tasks are discussed below and are illustrated in figure 3-1, Study Methodology.

Problem definition serves to focus the study and involves drafting, reviewing and finalizing the problem statement. The initial draft of the problem directs the review effort to determine if the problem might exist and further narrow the scope. The review results in a finalized problem statement. The finalized problem statement establishes parameters and guides the study efforts.

The problem identified in chapter 1 focuses on

the command and control operating system. Within this system, effective battle staff procedures have generally been lacking. Consistently, battalion and brigade staff operations have been found weak in time management and information flow.² The result is a less effective staff which does not act in unison. Consequently, the central issue to be addressed is:

Can current doctrinal staff procedures be better synchronized to enhance the effectiveness of battalion and brigade combat operations?

The primary purpose of the literature search is to determine what is known about the problem. This is accomplished by identifying information needs, determining availability, conducting research and consolidating relevant information. From the literature search, a preliminary solution to the problem is made in the form of an hypothesis.

Three major information sources are available at Fort Leavenworth to support this study. These are doctrinal manuals readily available at the CGSC, the historical records and files kept by CALL, and the Combined Arms Research Library (CARL). A discussion of the literature search is summarized below.

Doctrinal Manuals: Appropriate and necessary

doctrinal references are readily available.

Additionally, the most current revisions and drafts pending approval are accessible within the college.

Current NTC and Field Experience: Sufficient data and information is available about unit performance, and in particular battle staff operations, from CALL.

Historical - WWII: Historical references accounting the US experience during World War II are available. While most of the material focuses on corps and division level operations, some insight can be gained about battalion and brigade (combat command) staff operations.

Hypothesis formulation provides a preliminary, unproven solution to the problem. This step involves the development, modification and drafting of a model for testing. Model development includes identification of the system and its elements. For the purposes of this study, a model of the battle staff operations system is developed. This model is then evaluated by identifying and examining those elements which relate to the stated problem. Problem elements are then modified to finalize the model or hypothesis. For battle staff operations, this model is referred to as the Draft Battle Staff Guide (Draft BSG).

Hypothesis testing determines the validity of the hypothesis formed in step 4. Model analysis and

examination of findings made during testing are accomplished in this step. Analysis of the Draft BSG is conducted in three parts. First, the Draft BSG is analyzed for conformity with ALB doctrine. Second, model validity is compared with the historical experiences of both US and foreign battle staffs during combat operations. Finally, the Draft BSG is tested against current field experiences through the use of surveys, conducted army wide. From this analysis, findings are made and examined. These findings form the basis for conclusions about the Draft BSG.

Conclusions determine the validity of the hypothesis and serve as a basis for its improvement. In this step the Draft BSG is evaluated, strengths and weaknesses are identified, and revision is made. The result of this effort is a finalized BSG.

Recommendations focus on the utility of the study results and are presented in two parts. First, the usefulness of the BSG is presented with those qualifiers identified during the study. Second, any areas for further study which were beyond the scope of this effort are identified.

THESIS METHODOLOGY

<u>STEP</u>	<u>DESCRIPTION</u>	<u>TASK</u>
1	Define Problem	Draft problem definition Review: NTC experience Field experience Finalize problem definition
2	Literature Search	Identify literature needs Doctrinal Current - NTC (CALL) - Field (CALL, CARL) Historical - WWII (CARL) Determine availability Conduct research Consolidate relevant information
3	Form Hypothesis	Develop Battle Staff model Identify Battle Staff system Describe system elements Modify model Identify problem element(s) Examine Problem solutions Modify problem element(s) Draft Battle Staff Guide (BSG)
4	Test Hypothesis	Analyze Draft BSG with: ALB Doctrine US historical experience Foreign experience Current field experience Examine findings
5	Make Conclusions	Evaluate draft BSG Identify strengths/weaknesses Revise BSG
6	Recommendations	Finalize BSG Identify areas for further study

Figure 3-1

ENDNOTES

1 William A. Shrode and Dan Voich, Jr., Organization and Management Basic Systems Concepts. (Illinois: Richard D. Irwin, Inc., 1974), p. 233.

2 William C. Angerman, "After Action Report, National Training Center (NTC) Rotation 88-4," ATZL-SWB Memorandum, 16 February 1988, U.S. Command and General Staff College, Fort Leavenworth, Kansas.

CHAPTER 4

DISCUSSION

"If all threads of military activity lead to the engagement, then if we control the engagement, we comprehend them all. Their results are produced by our orders and the execution of these orders, never directly by other conditions."

Carl von Clausewitz

An attempt to improve synchronization of battle staff operations involves several steps. First, it requires an understanding of the battle staff system. Second, problem elements within the system must be identified. Third, these problem elements are examined. Fourth, the problem elements are modified to incorporate improvements. Finally, the modified system is evaluated to determine if improvement is achieved. This chapter focuses on the first three steps from a doctrinal viewpoint. Chapter 5, analysis, addresses the remaining two.

BATTLE STAFF SYSTEM MODEL

The battle staff system can be described as having two major characteristics - elements and relationships. The elements of the system identify its primary parts or pieces. These elements can be further subdivided into components. Relationships are the arrangement

and interaction between the system elements and their components. Initially, the battle staff system elements will be defined and then the relationship between them described.

Applied systems theory and doctrine are sufficient to describe the elements of the battle staff system. Systems theory provides a conceptual framework while doctrine bridges from the theoretical to the practical. In general terms, both describe a system as an input - process - output arrangement. However, for purposes of this study, greater detail is necessary.

Systems theory defines a system as an assembly of related elements. While these elements may be systems in themselves, common elements are present. These elements are inputs and or resources, a conversion process, outputs or results, programs and missions, objectives and goals, purpose, and the environment. The conversion process changes inputs or resources to outputs or results. These results accomplish missions and achieve goals to support a purpose. Purpose describes the functional relationship between a system and larger systems and provides direction for a systems goals and objectives. The environment is the space within and outside of the system.

From a theoretical standpoint, four additional elements are included in a system. These includes agents

and decision makers, states and flows, structure and attributes. In a broad sense, agents and decision makers are part of a system's resources because both provide inputs to a process. States and flows describe the system's behavior in relation to time. Structure provides organization and establishes the relationship between all of the elements. Attributes describe quantitative and qualitative properties associated with each element.²

The theoretical definition can be boiled down further. In simple terms, a system is composed of the elements of who, how, what, why, when and where. 'Who' is the resources or inputs and 'how' the process. 'What' describes the output, results, mission and goals. The purpose is the 'why'. 'When' relates the states and flows of a system to a period of time and 'where' describes the environment. Structure and attributes provide relationship and measurable properties to the system. The relationship between these elements is shown in figure 4-1, on the following page.

SIMPLE THEORETICAL SYSTEM

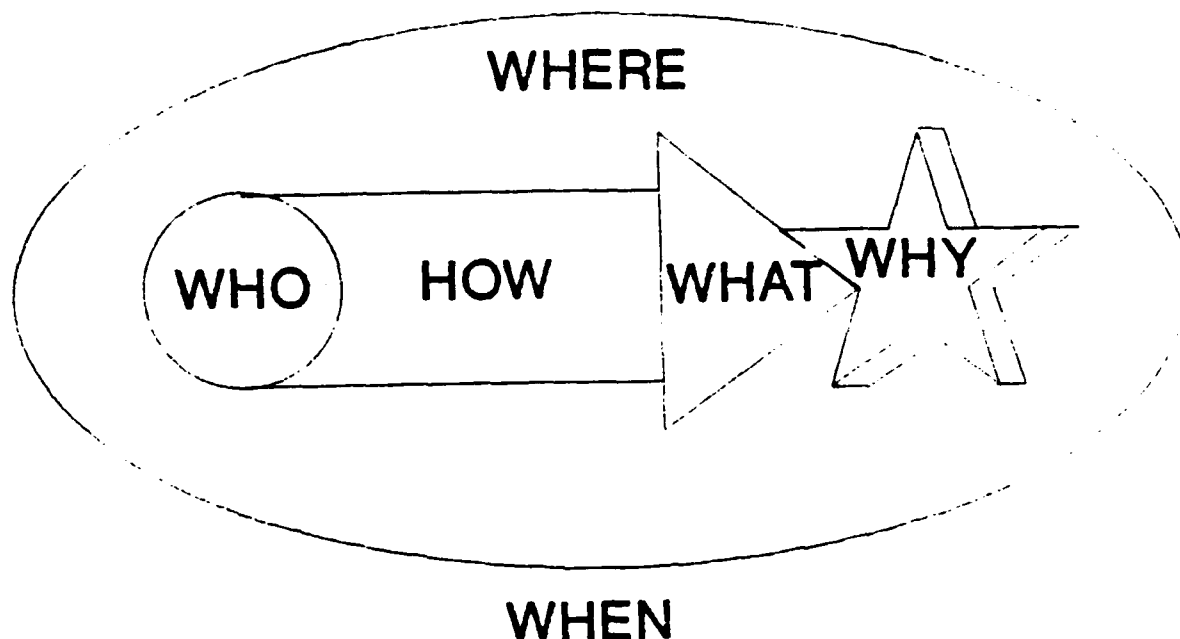
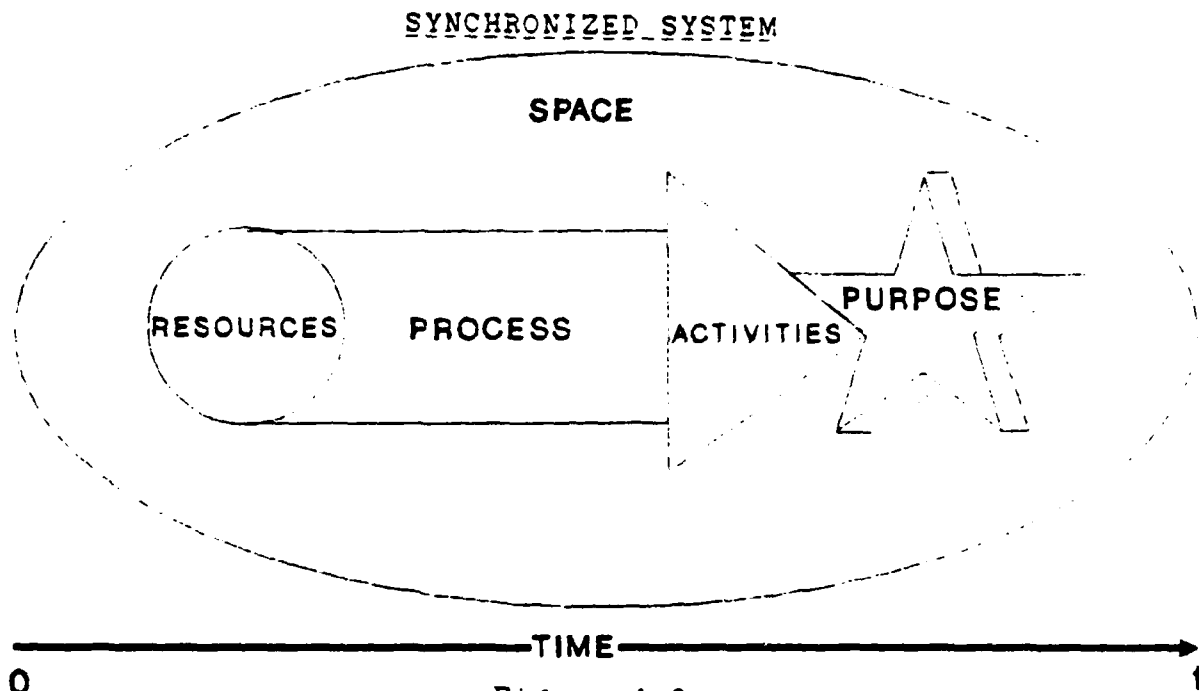


Figure 4-1

Air Land Battle Doctrine provides sufficient insight to describe a synchronized battle staff system. This can be shown by identifying the elements of synchronization, defining the elements of the battle staff system, and then applying these to the theoretical system.

Synchronization, as defined by FM 100-5, is the "arrangement of battlefield activities in time, space and purpose to produce maximum relative combat power at the decisive point."³ It is both a process and a result.⁴ The elements of a synchronized system are clear. Who, is combat power or resources. How is the process and what is the battlefield activities. Why is

purpose, time is when, and where is the space with focus at the decisive point. Applying these elements to the theoretical system is illustrated in figure 4-2, below.



The elements of the battle staff system can be identified as well. Within the command and control system, the staff is the who and the primary element in the C2 organization.⁵ At the battalion level the how, or process, is described as, 'analysis of METT-T, estimate of the situation, decision making, and troop leading procedures.'⁶ These same basic processes are applicable at the brigade level.⁷ Staff activities center on providing information, making recommendations and supervising execution of decisions. The result, or what, of these activities is unit SOPs, staff estimates, plans and

orders. The purpose, or why, of the staff is to assist the commander in making and executing timely decisions. Where is described in the command and control subsystem of facilities. The staff operates in command posts (CPs) and as part of the command group. Finally, the when, or time, for brigade and battalion level operations is described as engagements: and a series of related engagements compose a battle. The relationship between these battle staff elements is shown in figure 4-3, below.

BATTLE STAFF SYSTEM MODEL

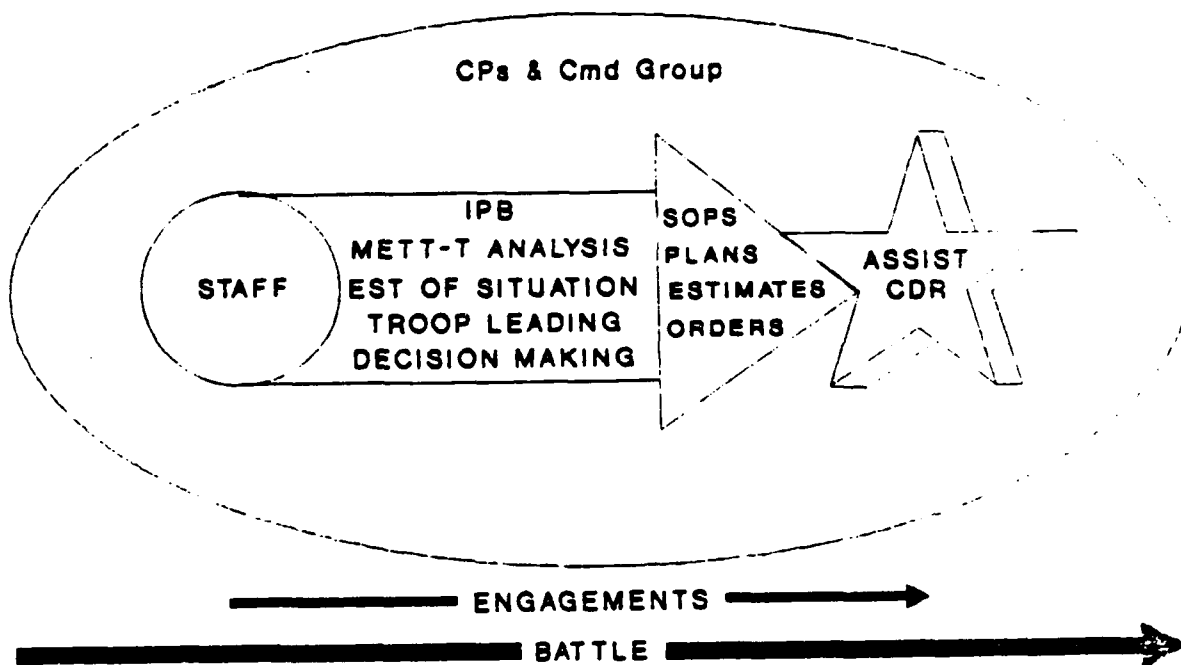


Figure 4-3

This description of the battle staff system provides a model to identify and examine problem elements. It is of particular value because it allows problems to be diagnosed from two standpoints. First, problems can be identified to a specific element or elements. Second, the impact of the identified problems can be viewed to consider impacts on other elements.

BATTLE STAFF PROBLEM ELEMENTS

Insight to staff operations problems can be gained from unit experiences at the NTC. The central problem was identified by LTC Angerman as staff 'time management and information flow.'¹² Major John Kalb further refines the problem in his analysis of measuring command and control stating, 'Continuity of operations, accuracy of information, security of information, and speed of the process are criteria that measure efficiency in a C2 system.'¹³ These observations serve as a start point for problem element specification.

An analysis of NTC unit Take Home Packets (THPs) and after action reports was conducted to further specify the information and time problems. This effort examined data collected in over 30 rotations beginning with 86-1 through 88-11. Collectively, these documents highlight the problem as the staff's inability to modify the decision making process to provide critical, timely

information; and inadequate or inaccurate information
being provided to the commander. ¹⁴ Comments which
appear frequently include:

1. SOPs must be standardized, understood and used.
2. A critical task list must be established and then enforced.
3. There is a time beyond which perfecting the plan will seriously disrupt subordinate planning and preparation - "Better is the enemy of good enough."
4. Units spend most of their time producing the order or continue to significantly change it.
5. Inadequate or inaccurate administrative and logistical information frequently distorts the commander's estimate of his combat power.
6. Units tend to put off doing the harder, critical tasks.

In sum, these observations pinpoint the problem of battle staff operations. The staff must employ a process that produces the critical information necessary to plan and execute timely decisions.

When related to the elements of the battle staff system, the problem becomes clear. Staff activities, through SOPs, estimates, plans and orders, must provide the critical information. The staff process, using the METT-T analysis, situation estimates, troop leading procedures and decision making process, must allow for the timely production of this critical information. Each member of the staff (or the resources) must know his role and responsibility to process, coordinate and provide

this critical information. Finally, this interaction of the staff, its processes and the resultant activities must conform to the constraints of time. Simply stated, the issue of improving battle staff operations is this: What information is critical, how is it processed, who is responsible for it and when does who need to process what. Figure 4-4 illustrates this relationship to the battle staff model.

THE_BATTLE_STAFF_SYSTEM_PROBLEM

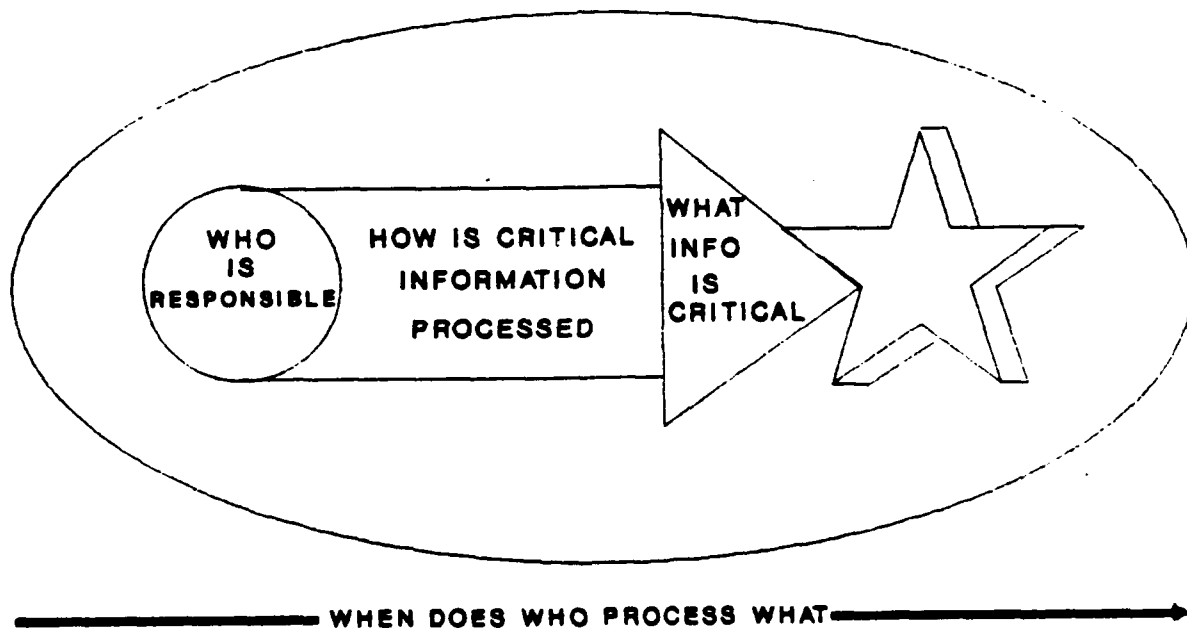


Figure 4-4

BATTLE STAFF GUIDE - A HYPOTHESIS

To develop a BSG, or establish the hypothesis, the management by objective approach is used. First, the objective is defined by identifying the critical information needed by commanders to plan and execute decisions. Second, this information will be associated with the doctrinal processes that produce it. Third, the specific staff member doctrinally responsible for this information will be specified. Finally, the relationship between these elements to produce this critical information will be identified. The result is a draft BSG which serves as a basis for further analysis.

Commander's Critical Information Requirements

Several studies have been conducted to identify the critical information needs of commanders to plan and execute timely decisions for combat operations. These efforts examined every command level from platoon through army group. Common to each study was a list of commander's critical information needs. This listing was developed in the Force Level Information Requirements Plan (FLIRP) published in 1983. These information requirements are provided, in alphabetical order, in table 4-1 on the following page. The definition of the information items, extracted from the FLIRP is provided in Appendix A.

COMMANDERS CRITICAL INFORMATION REQUIREMENTS (CCIR)

FLIRP *	ITEM
001	Aircraft Allocation/Priorities
002	Aircraft Requirements
003	Adjacent Unit Situations
004	ADM (*, Type, Location)
005	Air Defense Suppression requirements (SEAD)
006	Aircraft report (Friendly)
007	Airfields (Location, Type, Condition)
008	Airhead Location
009	Airspace Coordination area
010	Airspace Restrictions
011	Area of Operations
012	Assembly Area Location
013	Assessment (Electronic Warfare & OPSEC)
014	Assets Available (Operable by Type)
015	Artillery Target Report
016	Available Supply rate (Rounds by Type)
017	Avenues of Approach (Description of Each)
018	Axis of Advance (Description)
019	Basic Load Percent Fill (By Type)
020	Battle Losses (Equipment)
021	Battlefield Geometry (Boundaries)
022	Bomb Damage Assessment
023	Bridges/Fording Sites
	Bridging (Location, Type, Condition)
024	Call for Fire
025	Casualty Report
026	Check Fire
027	Command Mission
028	Command Guidance
	Intelligence Guidance (PIR)
029	Command Controlled Items
030	Concept (Scheme of Maneuver)
031	CONOPS (Main, Tac, Rear)
032	Constraints (By Area or Resources)
033	Coordinating Instructions
034	Critical Personnel Shortages By MOS
035	Critical Situation Alert
036	Critical (Key) Terrain (Location, Description)
037	ECM/ECCM Report
038	EEFI Friendly Vulnerabilities (Unit, Equipment)
039	Enemy Activity (Location, Time, Type)
040	Enemy Aircraft
041	Enemy Mission/Objective
042	Enemy Situation/Assessment
043	Enemy Weapon Systems
044	Engineer Support Required (Location, Type, Equipment)
045	Electronic Warfare Tasking
046	Free Text

047	Friendly Activity (Actions, Time, Unit, Location)
048	Friendly Unit Information
049	Graphic Messages
050	Immediate Engagement Target
051	Intelligence Summary
052	Interference
053	Minefields (Location, Type, # of Mines)
054	Mission Fired Report
055	Movement Table Listing
056	NBC Report
057	Obstacles/Barriers
058	Order of Battle
059	Planned Target
060	POL Locations
061	Priorities for ADA
062	Priority of Issue
063	Priority of Support to Combat Elements
064	Query and SRI
065	Radiation Dose Status (Dose Readings By Location and Activity)
066	Railways
067	Release Policy (Authority for release and Requirements - Nuclear weapons)
068	Replacement Priorities (Unit, Individual)
069	Report Request
070	Required Supply Rate (Rounds By Type)
071	Roads (Location, Type, Condition)
072	Routes (Conditions, Availability)
073	Serious Incidents (Date, Time, Location, Event)
074	Situation Report (SITREP)
075	Sorties (*, Type)
076	Special Operations (Countersurveillance, Subversion, Sabotage)
077	Strike Warning
078	Supply Shortages (By Class)
079	Target Criteria
080	Target request
081	Task Organization
082	Terrain (Approaches, Critical Concealment, Trafficability)
083	Weather Data

Table 4-1

Four major studies examined these CCIRs to determine which items were most critical to a commander in planning and executing combat operations. Major

Schmader, in his Master of Military Arts and Science (MMAS) thesis, concentrated on the tactical decision making process for a force commander to successfully execute Airland battle. The Army Research Institute (ARI) Field Office at Fort Knox, Kentucky focused at the platoon level. The Combined Arms Combat Development Activity (CACDA) focused on the division level. Major Borne and Captain Hunzeker, while students at the Naval Post Graduate School (NPG), also examined the division level in their masters thesis.

Each of these studies prioritized the CCIR items with respect to the command level being examined. This prioritization considered only the items listed in table 4-1 relative to one another. The results of these prioritizations, with 1 being the highest, is shown in table 4-2, below. Note that in the case of the MMAS, ARI and CACDA studies only those items determined as more critical were prioritized. Also note that the list reflects the NPG prioritization because this study rated all items.

PRIORITIZED CCIR - STUDY RESULTS

FLIRP #	ITEM	15	16	17	18
		MMAS	ARI	CACDA	NPG
014	Assets Available	2	8	1	1
027	Command Mission	1	6	2	2
030	Concept-Scheme of Maneuver	4	2	3	3
081	Task Organization	5	25	4	4
017	Avenues of Approach	8	12	5	5
003	Adjacent Unit Situations	6	17	6	6
039	Enemy Activity			7	7
047	Friendly Activity	9	21	8	8

021	Battlefield Geometry		11	9	9
042	Enemy Situation/Assessment		24	10	10
028	Command Guidance	3	30	11	11
	Intelligence Guidance-PIR				
036	Critical (Key) Terrain		14	12	12
041	Enemy Mission/Objective		27	13	13
051	Intelligence Summary	10	33	14	14
067	Release Policy		34	15	15
029	Command Controlled Items		31	16	16
048	Friendly Unit Information		26	17	17
035	Critical Situation Alert		1	18	18
011	Area of Operations		15	19	19
043	Enemy Weapon Systems		10	20	20
018	Axis of Advance		19	21	21
065	Radiation Dose Status		16	22	22
013	Assessment (EW & OPSEC)	7	29	23	23
079	Target Criteria		32	24	24
040	Enemy Aircraft		18	25	25
016	ASR			26	26
032	Constraints	11		27	27
083	Weather Data			28	28
020	Battle Losses (Equip)			29	29
057	Obstacles/Barriers			30	30
058	Order of Battle			31	31
078	Supply Shortages	13		32	32
082	Terrain	14			33
063	Priority of Support	12		33	34
034	Personnel Shortages			34	35
074	SITREP			35	36
019	Basic Load % Fill		9		37
053	Minefields				38
070	RSR				39
001	A/C Allocation/Priorities			36	40
073	Serious Incidents				41
023	Bridges/Fording Sites				42
033	Coordinating Instructions				43
007	Airfields				44
072	Routes				45
060	POL Locations				46
077	Strike Warning				47
046	Free Text		23		48
044	Engineer Support Required				49
056	NBC Report				50
009	ACA				51
071	Roads				52
050	Immediate Engagement Target	13			53
005	SEAD Requirements				54
025	Casualty Report				55
031	CONOPS (Main, Tac, Rear)				56
066	Railways				57
062	Priority of Issue				58
055	Movement Table Listing				59

049	Graphic Messages		60
080	Target Request	20	61
022	Bomb Damage Assessment		62
045	Electronic Warfare Tasking		63
075	Sorties (*, Type)		64
061	Priorities for ADA		65
002	A/C Requirements		66
008	Airhead Location		67
012	Assembly Area Location		68
024	Call for Fire	5	69
037	ECM/ECCM Report		70
038	EEFI		71
010	Airspace Restrictions		72
006	A/C Report (Friendly)		73
068	Replacement Priorities		74
076	Special Operations		75
004	ADM (*, Type, Location)		76
015	Artillery Target Report		77
026	Check Fire		78
052	Interference		79
054	Mission Fired Report		80
059	Planned Targets		81
064	Query and SRI		82
069	Report Request	7	83
*	High Value Targets	15	
*	Area of Interest	16	
*	Area of Influence	17	
*	ID Friend or Foe	3	
*	Heading Reference-Navigation	4	
*	Kill Discrimination	22	

* The additional 6 items at the bottom of the table were identified in the respective studies indicated.

Table 4-2

The prioritized CCIR in table 4-2 needs further refinement to be useful. Several items should be deleted and the remaining items need to be logically grouped. The following items are deleted from further consideration for the reasons indicated.

Not applicable to battalion or brigade level:

008 Airhead

066 Railways

067 Release Policy

Inappropriate for planning considerations:

046 Free Text

049 Graphic Messages

064 Query and SRI

069 Report Request

* ID Friend or Foe

* Heading Reference-Navigation

* Kill Discrimination

No longer in doctrinal use:

* Area of Influence

The remaining items were examined to separate those which are produced continuously or are situationally dependant, from those that result from the planning process. This was done to isolate information items which are available prior to mission receipt [inputs] from those that are developed after receipt of the mission [outputs]. Using FM 101-5, Appendix A (Staff Relationships), these items were further categorized by functional staff area of responsibility. The functional staff area having primary responsibility is indicated by a 'P' for primary, and staff areas which are involved for coordination are identified with a 'C' for coordination. This information is displayed in table 4-3, on the following page.

CONTINUOUS/SITUATIONAL CCIR

FLIRP *	ITEM	STAFF									
		S1	S2	S3	S4	NBC	CEO	FSO	ENG	ADA	ALO
014	Assets Available		C	C	P						
039	Enemy Activity		P	C	C	C		C	C	C	C
047	Friendly Activity	C		P	C		C	C	C	C	C
051	Intelligence Summary		P	C		C		C	C	C	C
048	Friendly Unit Information	C		P	C	C		C	C	C	C
035	Critical Situation Alert	C	C	P	C	C	C	C	C	C	C
065	Radiation Dose Status	C		C		P					
013	Assessment (EW & OPSEC)		P	C				C			
020	Battle Losses (Equip)			C	P						
078	Supply Shortages			C	P						
034	Personnel Shortages	P		C	C						
074	SITREP	C	C	P	C	C	C	C	C	C	C
019	Basic Load % Fill			C	P						
073	Serious Incidents Report	C	C	P	C	C	C	C	C	C	C
077	Strike Warning	C	C	C	C	P	C	C	C	C	C
056	NBC Report			C		P					
025	Casualty Report	P		C							
022	Bomb Damage Assessment		C	C				C			P
075	Sorties (*, Type)			C				C			P
024	Call for Fire			C				P			C
037	ECM/ECCM Report		P	C				C			
006	A/C Report (Friendly)			C				C			P
004	ADM (*, Type, Location)			C	C	P					
015	Artillery Target Report		C	C				P			C
026	Check Fire			C				P			C
032	Interference		C	C			P				
054	Mission Fired Report		C	C				P			C

P - Primary Staff Responsibility
C - Coordination Responsibility

Table 4-3

Identification of the continuous/situational CCIR serves several purposes. Since these items are of a routine or situationally dependant nature, the process for managing the flow of this information lends itself to standardization. Likewise, because of the criticality associated with these items, unit standing operating procedures (SOPs) should specify the techniques and

procedures the battle staff should follow in processing this information. While this listing may not be all inclusive of those items which should be included in unit SOPs, it does provide a minimum set of information items to be addressed.

Having identified those CCIR which are inputs to the planning process, attention now turns to the remaining items which are outputs. These items will first be examined to determine where in the planning process they emerge and to identify the battle staff member or members responsible for producing and coordinating them.

The Planning Process

Doctrine describes five interrelated methods for the planning process. FM 71-2 states that 'the following describes the task force command and control process - analysis of METT-T [mission, enemy, terrain (and weather), troops and time available]; estimate of the situation; decision-making; and troop leading procedures.'

¹⁹ Additionally, the intelligence preparation of the battlefield (IPB) is 'an integral part of the ²⁰ battalion command and control process.' The METT-T analysis, the estimate of the situation, and the IPB are imbedded within the decision-making process and the troop leading procedures. Decision-making and the troop leading procedures are described as complementary

processes that occur simultaneously. The relationship between these methods is shown as The Planning Processes in figure 4-5, below.

The Planning Processes

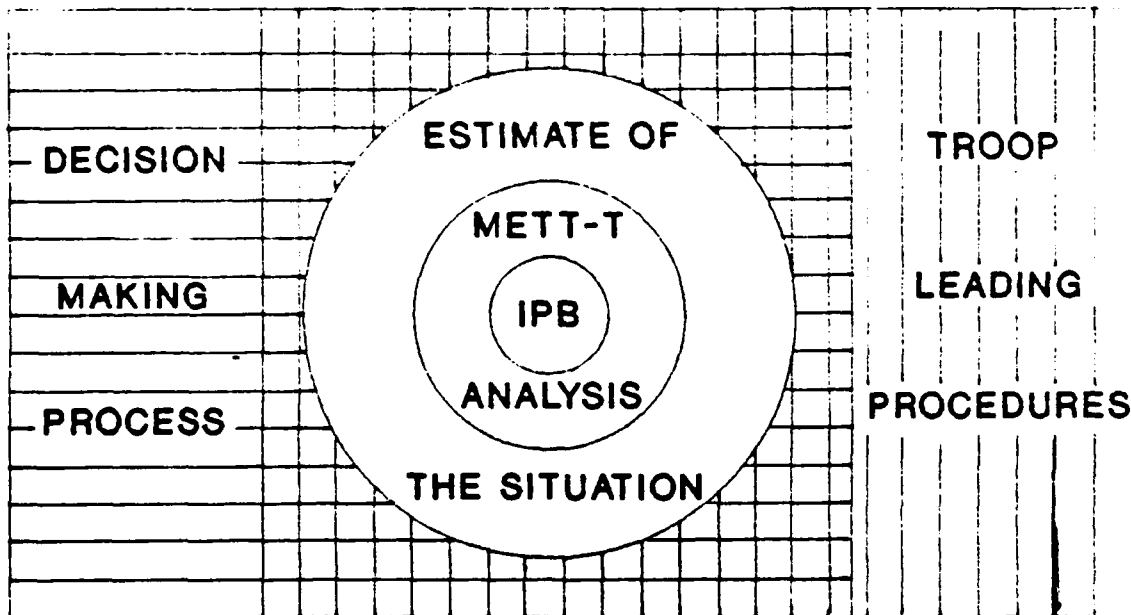


Figure 4-5

Identifying where in the planning process the planning CCIR emerged requires that the decision-making process and troop leading procedures be merged into a single planning process. This is done to avoid duplicity in item generation, or output, between the two methods: and to take advantage of those steps peculiar to each method. To achieve this aim, each method is shown to illustrate their commonalities and differences.

Additionally, the IPB process is also presented to show its relationship.

The decision-making process is used by the commander and staff to arrive at and execute tactical decisions.²² The process consists of ten steps beginning with mission receipt and ending with mission accomplishment. While "some actions ordinarily occur sequentially, other[s] take place concurrently."²³ This process is shown as The Military Decision-Making Process in figure 4-6, on following page.

Similar to the decision-making process, the troop leading procedures also begin with mission receipt and end with mission accomplishment.²⁵ Additionally, these procedures "can occur in almost any sequence, with several actions taking place simultaneously."²⁶ This process is shown as The Troop Leading Procedures in figure 4-7, on page 45.

THE MILITARY DECISION-MAKING PROCESS

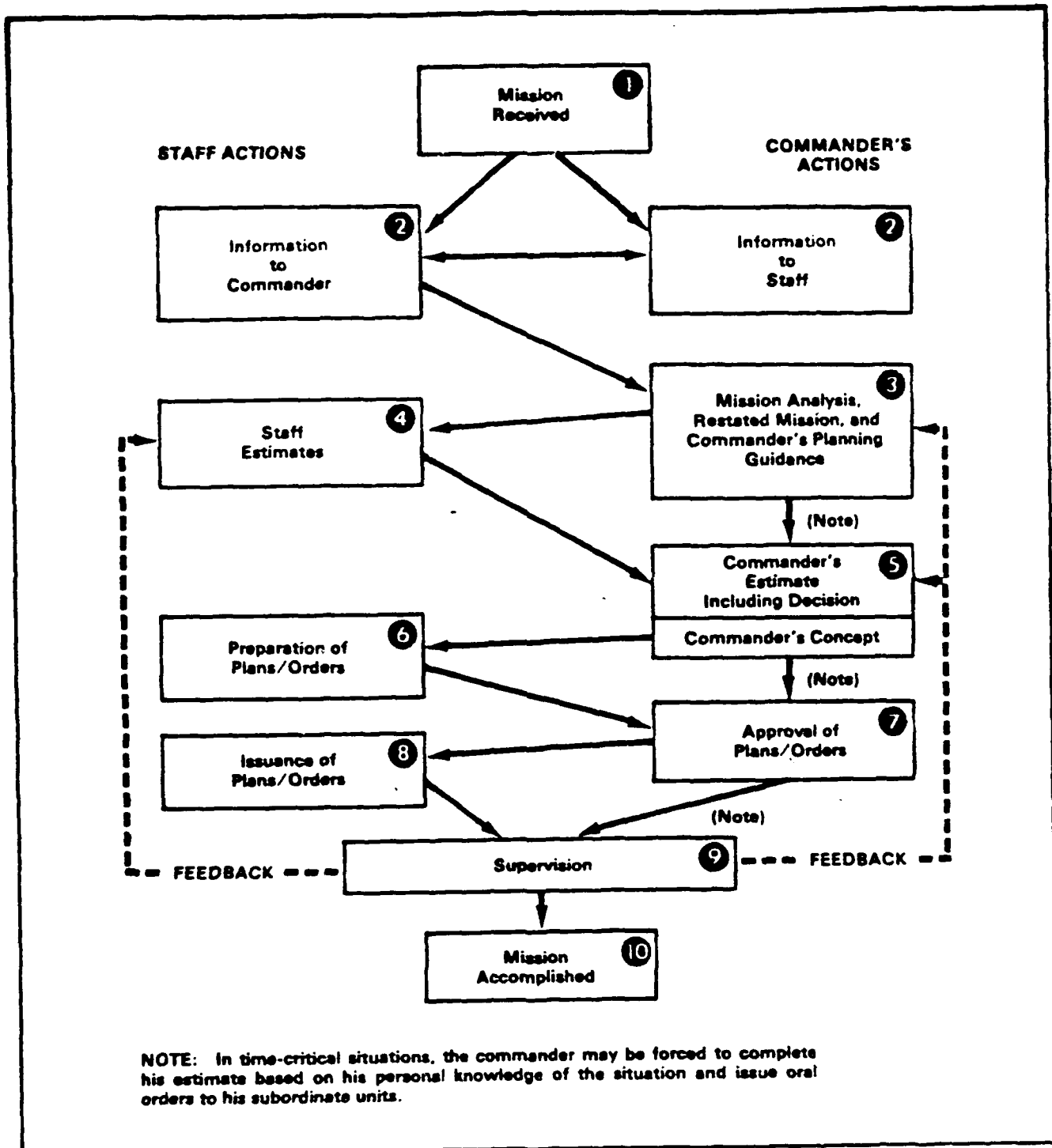


Figure 4-6

THE TROOP LEADING PROCEDURES

1. Receive the Mission
2. Issue the Warning Order
3. Make a Tentative Plan
 - a. Estimate of the Situation
 - (1). Detailed Mission Analysis
 - (2). Develop situation and courses of action
 - (a). Enemy Situation (Enemy Courses of action)
 - (b). Terrain and Weather (OCOKA)
 - (c). Friendly Situation (Troops & Time Available)
 - (d). Courses of Action (Friendly)
 - (3). Analyze courses of action - wargame
 - (4). Compare courses of action
 - (5). Decision
 - b. Expand Selected Course of Action into Tentative Plan
4. Initiate Movement
5. Reconnoiter
6. Complete the Plan
7. Issue the Order
8. Supervise and Refine the Plan

Figure 4-7

The differences between the decision-making process and the troop leading procedures are evident by comparing figures 4-6 and 4-7. Actions which are peculiar to the troop leading procedures are issuance of a warning order, initiating movement and reconnaissance. On the other hand, the decision-making process specifies the exchange of information between the staff and the commander, the providing of a commander's decision and concept, and the preparation and approval of the plan or order. While these differences may be subtle at best, they do exist.

The IPB is a method of analyzing the enemy, terrain and weather. It is the primary factor that will allow the battalion to react quicker than the

28
enemy." This five function process is continuous and
"is a basis for all intelligence operations, tactical
decisions, and tactical operations." 29 Figure 4-8,
below, illustrates this process.

30
THE INTELLIGENCE PREPARATION OF THE BATTLEFIELD

1. Battlefield Area Evaluation
 - a. Area of Operations
 - b. Area of Interest
2. Terrain Analysis
 - a. Observation and Fields of Fire
 - b. Cover and Concealment
 - c. Obstacles
 - d. Key Terrain
 - e. Avenues of Approach/Axis of Advance
 - (1). Mobility Corridors
 - (2). GO, SLOW-GO and NO-GO Terrain
3. Weather Analysis
 - a. Temperature
 - b. Humidity
 - c. Precipitation
 - d. Winds
 - e. Clouds
 - f. Visibility
4. Threat Evaluation
 - a. Order of Battle Factors
 - b. Doctrinal Template
 - c. High Value Targets
5. Threat Integration
 - a. Situation Template
 - b. Event Template - Named Areas of Interest
 - c. Decision Support Template
 - (1). Target Areas of Interest (TAI)
 - (2). Decision Points (DP)

Figure 4-8

A single planning process can be defined by merging the five methods described above. This is done by realigning the steps of each to corollate with one another. Figure 4-9 on the following page, A Planning Process, illustrates this merger.

A PLANNING PROCESS

1. MISSION RECEIPT
2. INFORMATION TO COMMANDER/STAFF
3. COMMANDER'S PLANNING GUIDANCE
 - a. Mission Analysis
 - b. Restated Mission
4. ISSUE WARNING ORDER
5. MAKE TENTATIVE PLAN
 - a. Estimate of the Situation
 - (1). Mission Analysis
 - (a). Mission Analysis
 - (b). Battlefield Area Evaluation
 - (2). Develop Situation & Courses of Action
 - (a). Terrain & Weather Analysis
 - ((1)). Terrain Analysis
 - ((2)). Weather Analysis
 - (b). Enemy Situation & Courses of Action
 - ((1)). Threat Evaluation
 - ((2)). Threat Integration
 - (c). Friendly Situation & Courses of Action
 - ((1)). Troops Available
 - ((2)). Time Available
 - ((3)). Courses of Action
 - (3). Analysis of Courses of Action - Wargaming.
 - (4). Comparison of Courses of Action
 - (5). Decision/Recommendation/Conclusions
 - (a). Staff Recommendations/Conclusions
 - (b). Commander's Decision
 - (c). Commander's Concept
 - b. Expand Selected Course of Action into Tentative Plan
6. PREPARATION OF PLAN/ORDER
7. INITIATE MOVEMENT
8. RECONNOITER
9. COMPLETE THE PLAN/ORDER
10. APPROVAL OF PLAN/ORDER
11. ISSUE THE PLAN/ORDER
12. SUPERVISE AND REFINE PLAN/ORDER
13. MISSION ACCOMPLISHED

Figure 4-9

Several points should be made about the planning process shown in figure 4-9. First, the steps outlined may be performed concurrently, and in some cases simultaneously, just as they are in the decision-making process

and the troop leading procedures. Second, the METT-T analysis, estimate of the situation and the IPB are all imbedded within the process. Third, as is the case with the decision-making process and the troop leading procedures, no provision is made for the time period between accomplishment of the previous mission and receipt of the next - a sort of recovery/preparation for operations. Finally, the steps in the process fall into two basic categories; events that occur at a point in time, and events which occur over a period of time. As a result, there may not be a clear distinction between steps as is the case with 5b (expand the selected course of action into a tentative plan) and 6 (preparation of plan/order). However, with these points in mind, this single planning process is adequate to identify where the CCIR are produced.

Staff Responsibility

An effective planning process must produce the critical information a commander needs to plan and execute timely decisions. Additionally, responsibility for the processing and production of this information must be fixed to a specific battle staff member. The CCIR identify the critical information needs of the commander. All the doctrinal planning methods used to produce this information have been incorporated into a single planning

process illustrated in figure 4-9. FM 101-5, Appendix A (Staff Relationships) specifies the primary staff responsibility for information items. Together, the necessary ingredients are available to match the information requirements to the process and then to the appropriate battle staff member.

A crosswalk between the CCIR, planning process and staff responsibility was conducted. From the theoretical standpoint, this effort ties the 'what' with the 'how' and then with the 'who'. In terms of synchronization, the activities are arranged with a process and resource. The result of this analysis is provided in table 4-4 below, CCIR-Planning Process-Staff Crosswalk. Note that the CCIR items are in the priority established earlier and include only those items which are not continuous or situational.

CCIR-PLANNING PROCESS-STAFF CROSSWALK

<u>FLIRP_#</u>	<u>CCIR ITEM</u>	<u>PLANNING --STEP--</u>	<u>STAFF RESPONSIBILITY</u>
027	Command Mission	Mission Analysis	S3
030	Concept-Scheme of Maneuver	C of A/Cdr Concept	S3
081	Task Organization	Wargaming/Cdr Concept	S3
017	Avenues of Approach	Terrain Analysis	S2
003	Adjacent Unit Situations	Mission Receipt	S3
021	Battlefield Geometry	Mission Receipt/ Cdr Concept	S3
042	Enemy Situation/Assessment	Threat Evaluation	S2
028	Command Guidance	Cdr Planning Guidance	CDR
	Intelligence Guidance-PIR	& Cdr Concept	
036	Critical (Key) Terrain	Terrain Analysis	S2/S3
041	Enemy Mission/Objective	Threat Integration	S2
029	Command Controlled Items	Mission Receipt	S4
011	Area of Operations	Mission Receipt	S3

043 Enemy Weapon Systems	Threat Evaluation	S2
018 Axis of Advance	Terrain Analysis	S2
079 Target Criteria	Wargaming	S3
040 Enemy Aircraft	Threat Evaluation	S2/ADA
016 ASR	Mission Receipt	S4
032 Constraints	Mission Analysis	S3
083 Weather Data	Weather Analysis	S2
057 Obstacles/Barriers	Terrain Analysis/ Wargaming	S2/ENG
058 Order of Battle	Threat Evaluation	S2
082 Terrain	Terrain Analysis	S2
063 Priority of Support	Wargaming/Cdr Decision	S3
053 Minefields	Terrain Analysis/ Wargaming	S2/ENG
070 RSR	Wargaming	S3
001 A/C Allocation/Priorities	Wargaming/Cdr Decision	S3/ALO
023 Bridges/Fording Sites	Terrain Analysis/ Wargaming	S2/ENG
033 Coordinating Instructions	Wargaming/Cdr Concept	S3
007 Airfields	Terrain Analysis	S2/ALO
072 Routes	Wargaming	S3
060 POL Locations	Wargaming	S4
044 Engineer Support Required	Wargaming	S3
009 ACA	Wargaming	S3
071 Roads	Terrain Analysis	S2
050 Immediate Engagement Target	Wargaming	S3
005 SEAD Requirements	Threat Integration	S3
031 CONOPS (Main, Tac, Rear)	Wargaming	X0
062 Priority of Issue	Cdr Decision	S3
055 Movement Table Listing	Cdr Concept	S4
080 Target Request	Wargaming	FS0
045 Electronic Warfare Tasking	Wargaming	S2
061 Priorities for ADA	Cdr Concept	S3
002 A/C Requirements	Wargaming	S3
012 Assembly Area Location	C of A	S3
038 EEFI	Wargaming	S3
010 Airspace Restrictions	Wargaming	ADA
068 Replacement Priorities	Cdr Decision	S3
076 Special Operations	Mission Receipt	S3
059 Planned Targets	Wargaming	FS0
* High Value Targets	Threat Evaluation	S2
* Area of Interest	Battle Area Evaluation	S2

Table 4-4

The final step to produce a BSG is integrating the information in tables 4-3 and 4-4 with figure 4-9. This is done by relating the CCIR to the indices of the

planning process and the staff. The result is a display which has several attractive features. First, the critical information needs are aligned with the steps in the planning process that produce them. Second, the battle staff member primarily responsible for producing this information is identified. Third, the relative priority of the information items within a staff functional area and the planning step that produces it is shown from left to right and top to bottom in each staff members portion. Finally, the sequential intra-relationship between information items produced during the planning process is maintained between staff sections.

The Draft BSG is shown below. It is intended to be a single sheet; however, due to page size restrictions, it is presented on the next four pages as figures 4-11 through 4-14. To make the draft guide a single document, the figures should be placed as shown in figure 4-10, BSG Layout, below.

BSG_LAYOUT

FIG 4-11	FIG 4-12	FIG 4-13	FIG 4-14
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Figure 4-10

BATTLE STAFF GUIDE - Part A			
STAFF\	CONTINUOUS	INFORMATION TO	
		CDR	STAFF*
XO			
S1	Per Short/Cas Rpt	M	I
S2	Enemy Activity		Area of Interest
	Intel Summary	I	S
	Assess EW & OPSEC		
	ECM/ECCM Report	S	S
		S	U
		I	E
S3	Friendly Activity	O	Mission
	Friendly Unit Info		Adj Unit Info
	Critical Sit Alert		Area of Opns
	SITREP	N	Constraints
	SIR		
			W
		R	A
S4	Assets Available	E	Cmd Control Items
	Battle Losses (Equip)		ASR
	Supply Shortages		
	Basic Load % Fill	C	
NBC	Rad Dose Status		N
	Strike Warning		
	NBC Report	E	
	ADM (*,Type, Loc)		O
CEO	Interference		
FSO	Call for Fire	I	
	Arty Tgt Report		R
	Check Fire		
	Mission Fired Report	P	
ENG			D
		T	
ADA			
ALO	BDA		
	Sorties (*,Type)		
	Friendly A/C Report		

* Includes Commander's Planning Guidance-PIR

Figure 4-11

BATTLE STAFF GUIDE - Part B	
STAFF\	M A K E A T E N T A
-----	Develop Situation & Courses of Action
XO	CONOPS (Main, TAC, Rear)
S1	-----
S2	Avenues of Approach
	Enemy Sit/Assessment
	Critical Terrain
	Enemy Mission/OBJs
	Enemy Wpns Systems
	Axis of Advance
	Enemy A/C
	Weather Data
	Obstacles/Barriers
	Order of Battle
	Terrain
	Bridges/Ford Sites
	Airfields
	Roads
S3	SEAD Reg & HVTs
	Concept-Scheme of Maneuver
	Battlefield Geometry
	Routes
	Priority of Issue
	Assembly Area Locations
	Replacement Priority
	Special Operations
S4	Movement Table Listing
NBC	-----
CEO	-----
FSO	-----
ENG	Obstacles/Barriers
	Minefields
ADA	Bridging
ALO	-----

Figure 4-12

BATTLE STAFF GUIDE - Part C		
STAFF\	T I V E P L A N	
	Wargaming & Comparison of Courses of Action	S C
XO		T D
S1		A R
S2	EW Tasking	F F
		D
		e
		R
		c
		e
		i
		c
		s
		o
		i
		m
S3	Task Organization	o
	Target Criteria	m
	Priority of Spt to Cmbt Units	n
	RSR	e
	A/C Allocation/Priority	n
	Eng Support Required	&
	ACA	d
	Target Request	a
	Immediate Engagement Tgts	C
	ADA Priority	t
	A/C Requirements	o
	Airspace Restrict	i
	Planned Targets	n
S4	POL Locations	o
		c
		n
		e
		s
CEO		p
FSO		t
ENG		
ADA		
ALO		

Figure 4-13

BATTLE STAFF GUIDE - Part D

STAFF\			
<u>Prep of Plans/Orders</u>		<u>Supervise & Refine</u>	
XO	I		M
S1			
S2	S		I
	S		S
	U		S
	E		I
			O
	O		N
	R		
S3	D		
	E		A
	R		C
	/		C
	P		O
S4	L		M
	A		P
NBC	N		L
			I
CEO			S
FSO			H
			E
ENG			D
ADA			
ALO			

Figure 4-14

In its present form, the BSG is time independent. Recognizing that time is an independent variable, it is necessary to examine this element and its impact on the battle staff system.

Time - Risk versus Certainty

As an independent variable, time is both an asset and a constraint. With an infinite amount of time, more information can be collected and evaluated, planning can be conducted in greater detail, orders can be more thorough and decisions can be made with greater certainty. Conversely, with limited time, less can be done. Greater risk is taken as decisions are made under more uncertain conditions.

The impact of time on battle staff operations can be viewed in a simplistic manner. By considering combat as a time competitive action, the planning process becomes a observation-orientation-decision-action (OODA)
31
cycle. Observation and orientation refer to the gathering and processing of information in the planning process. This results in a decision which is then put into action. All these actions occur over some period of time. However, tradeoffs must be made as the commander seeks to operate inside the enemy's decision making process and execution cycle.

Observation and orientation relate directly to

the risk versus certainty dilemma associated with time. On one hand there is a point in time when the minimum essential information has been made available to make a decision. On the other extreme is the quest for certainty as all possible and available information is collected and processed before making a decision. As Martin van Creveld points out in *Command in War* "...the attainment of certainty is a priori, impossible."³² Consequently, there is a point in time when collection and processing of information must cease and a decision, under uncertainty, must be made. The question is, when does the decision have to be made.

Decisions are generally made under three types of conditions. The first is the "opportunity decision" which is associated with the beginning of the decision cycle. This type of decision occurs soon after opportunity presents itself, usually allows greater freedom of action, yet is made when information is limited. The "problem decision" is characterized by a more developed situation where fewer options are available, opportunity is fleeting, less time is available to change, yet more information has been gathered for consideration. Finally, the "crisis decision" is marked by reaction to an adversary who has the initiative and the command has been placed in jeopardy through indecision.³³

The action is directly influenced by the

observation, orientation and decision phases. Depending on the type of decision made, the result ranges from action to reaction. The relationship between these phases with respect to time is illustrated in figure 4-15, below.

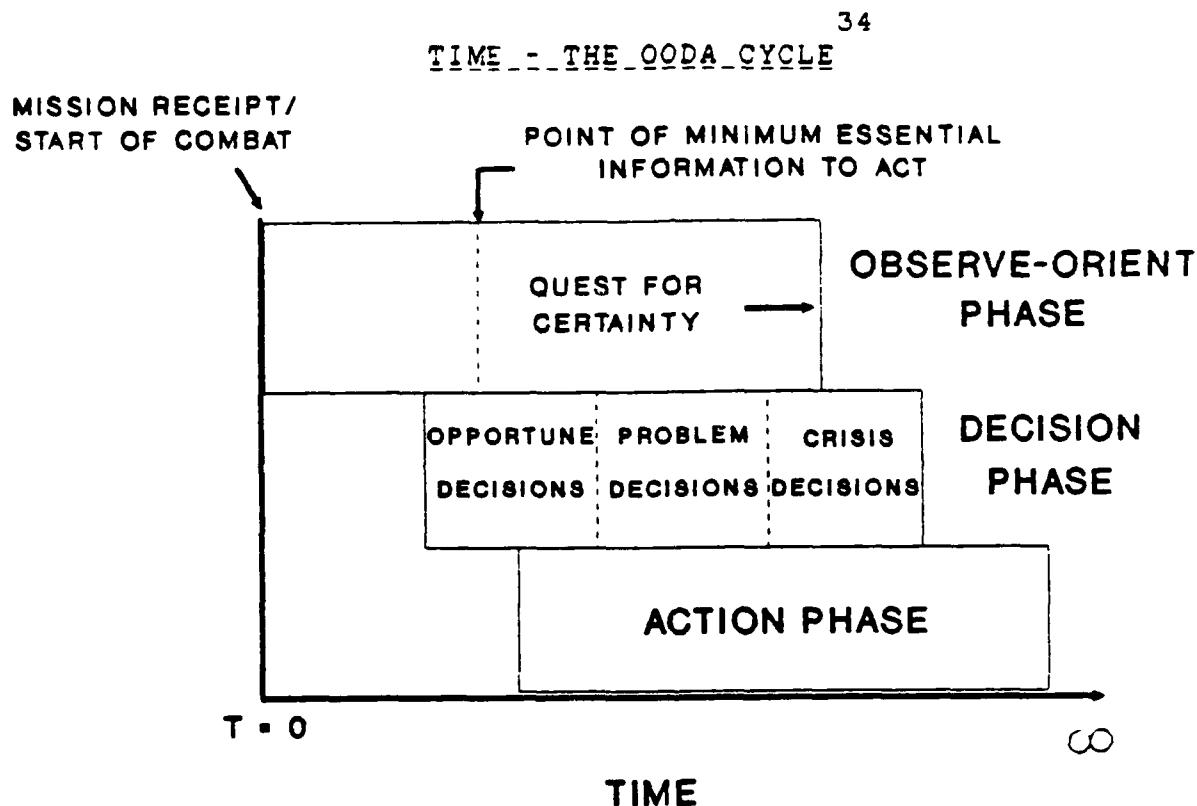


Figure 4-15

The OODA cycle relates time to battle staff operations. In terms of the planning, it highlights the fact that the condition of certainty will not exist nor should complete information be sought before making a decision. Additionally, the cycle identifies a point where the minimum essential information necessary to make a decision has been collected and processed. Consequently,

attention for analysis is now focused to identify the minimum essential information, determine the flexibility of the planning process to produce this information, specify the staff functional areas responsible, and associate this process to a realistic timeline.

SUMMARY

Improved battle staff operations result from a synchronized battle staff system. This system is composed of six distinct elements - purpose, activities, processes, resources, space and time. The purpose of the battle staff is to assist the commander in making and executing timely decisions. Staff activities are preparing SOPs, estimates, plans and orders. These activities result from a planning process which includes the intelligence preparation of the battlefield (IPB), the METT-T analysis, estimates of the situation, troop leading procedures and the decision making process. The personnel, equipment and information inputs to the staff are the resources. The staff operates in command posts and as part of the command group. At battalion and brigade level, time spans the period of engagements and battles.

Time management and information flow are the problems identified with the battle staff system. These problems are associated with the elements of activities, processes, resources and time. Specifically, the issue

is one of what information needs to be processed by who, when. Information needs are identified as commander's critical information requirements (CCIR). The CCIR provides a prioritized listing of information items most critical to commanders in making and executing decisions. These CCIR are generated from either continuous staff actions or result from a planning process.

Central to the planning process is the IPB, METT-T analysis and estimates of the situation. The troop leading procedures and the decision making process overlap but do differ in some steps. For purposes of this study, these processes were merged into a single planning process.

Staff organization, composition and responsibilities are maintained in accordance with current doctrine as specified in FM 101-5, FM 71-2 and FM 71-3. The integration of CCIR, the planning process and staff responsibilities provides a hypothesis in the form of a battle staff guide (BSG).

Time is an issue of risk versus certainty for the battle staff system. Complete information and decisions under certainty conditions exist only in the theoretical since. However, there is a point where the minimum essential information necessary to make a decision exists. By identifying this minimum essential information,

the CCIR can be further refined, the planning process can be tailored to produce this information and staff responsibilities can be identified. Time is better managed and necessary information is processed. The result is a more synchronized battle staff system which is responsive to a time constrained environment. The BSG, when related to time, serves as the point of departure for this analysis.

ENDNOTES

1 John P. Van Gigch, Applied General Systems Theory, (New York: Harper & Row, Publishers, Inc., 1974) p. 2.

2 Ibid., pp. 12-15.

3 FM 100-5, Operations, (Washington, DC: Headquarters, Department of the Army, 1986), p. 17.

4 Ibid.

5 FM 101-5, Staff Organization and Operations, (Washington, DC: Headquarters, Department of the Army, 1984), pp. 1-1 and 1-2.

6 FM 71-2, The Tank and Mechanized Infantry Battalion Task Force, (Washington, DC: Headquarters, Department of the Army, 1988), p. 2-14.

7 FM 71-3, Armored and Mechanized Infantry Brigade (Draft), (Washington, DC: Headquarters, Department of the Army, 1988), p. 2-1.

8 FM 101-5, p. 4-1.

9 Ibid.

10 Ibid., p. 8-5.

11 FM 100-5, p. 10.

12 William C. Angerman, "After Action Report, National Training Center (NTC) Rotation 88-4," ATZL-SWB Memorandum, 16 February 1988, U.S. Army Command and General Staff College, Fort Leavenworth, Kansas.

13 John F. Kalb, Major, "Measuring Command and Control -- Considerations for Force Design," 1 December 1986, Monograph for the School of Advanced Military Studies, U.S. Army Command and General Staff College, Fort Leavenworth, Kansas, p. 26.

14 Headquarters, National Training Center, "Take Home Package," Fort Irwin, California, a selection of over 30 reports from rotation 86-1 through 88-11.

15 John F. Kalb, p. 104.

16 U.S. Army, Information Requirements for Battlefield Management System: Survey and Prototype Evaluation, (Kentucky: Army Research Institute Field Unit Fort Knox, June 1986), p. G-1.

17 U.S. Army, Division Commander's Critical Information Requirements (CCIR), (Kansas: Combined Arms Combat Development Activity, Fort Leavenworth, 30 April 1985), p. 10.

18 Ibid., pp. D-I-1 and D-I-2.

19 FM 71-2, p. 2-14.

20 Ibid., 2-22.

21 Ibid.

22 FM 101-5, p. 5-4.

23 Ibid., p. 5-5.

24 Ibid., p. 5-6.

25 FM 71-2, p. 2-14.

26 Ibid.

27 Ibid., p. 2-16.

28 Ibid., p. 2-22.

29 Ibid.

30 FM 34-1, Intelligence and Electronic Warfare Operations, (Washington, DC: Headquarters, Department of the Army, 1987), p. 3-4.

31 Kevin B. Smith, Captain, 'Combat Information Flow,' Military Review (Kansas: US Army Command and General Staff Collage, Fort Leavenworth, April 1989), p. 42.

32 Martin van Creveld, Command in War, (Massachusetts: Harvard University Press, 1985), p. 226.

33 Smith, pp. 48-49.

34 Ibid., p. 50.

CHAPTER 5

ANALYSIS

'Taken as a whole, present-day military forces, for all the imposing array of electronic gadgetry at their disposal, give no evidence whatsoever of being one whit more capable of dealing with the information needed for the command process than were their predecessors a century or even a millennium ago.'

Martin Van Creveld

The battle staff guide (BSG) developed in the previous chapter provides a foundation for further analysis of battle staff operations. Specifically, the focus shifts towards identification and refinement of battle staff operations in a time constrained environment. Using the concept of the observation-orientation-decision-action (OODA) cycle, a minimum planning threshold is described. This threshold establishes a lower limit for the battle staff system operations in terms of activities, processes, resources and time. Therefore, attention now turns to specify what is the minimum essential information, describe a planning process that produces this information, identify the staff members responsible for its production and evaluate the time required.

MINIMUM ESSENTIAL INFORMATION (MEI)

Conceptually, information items in combat orders and plans fall into three categories. First is the complete set of all available or desired information. Knowledge of this pool would approach the case of making decisions under certainty, with little or no risk. The fog and friction of war prevent this state from ever becoming a reality. Next is the subset of CCIR. These critical information items are described as being required by commander's to make and execute timely decisions. Subordinate to the CCIR is a third information set. This set is referred to as the minimum essential information (MEI). The MEI represents the most critical and required minimum set of information items necessary to execute combat operations. In a time constrained situation, these MEI would be the priority products from a planning process. This information hierarchy is shown in figure 5-1, on the following page.

MEI is not a theoretical concept which eludes practical utility. It is recognized in several sources. American sources include current US Army doctrine and, historically, in official military correspondence. The German Army, both present and past, also acknowledge their own version of MEI. In describing the troop leading procedures, FM 71-2 refers to 'a preliminary METT-T analysis' which is conducted upon mission receipt

and prior to issuance of a warning order. This analysis is conducted between the commander and his staff and focuses on specific information items. These items include:

Command Mission

Enemy Activity (unit, size, type)

Area of Operations

Task Organization (Attachments and Detachments)¹

Time Available (Make an informal schedule)

While FM 71-2 does not state that there is a set of MEI, it specifies information items essential for inclusion in orders.

INFORMATION_HIERARCHY

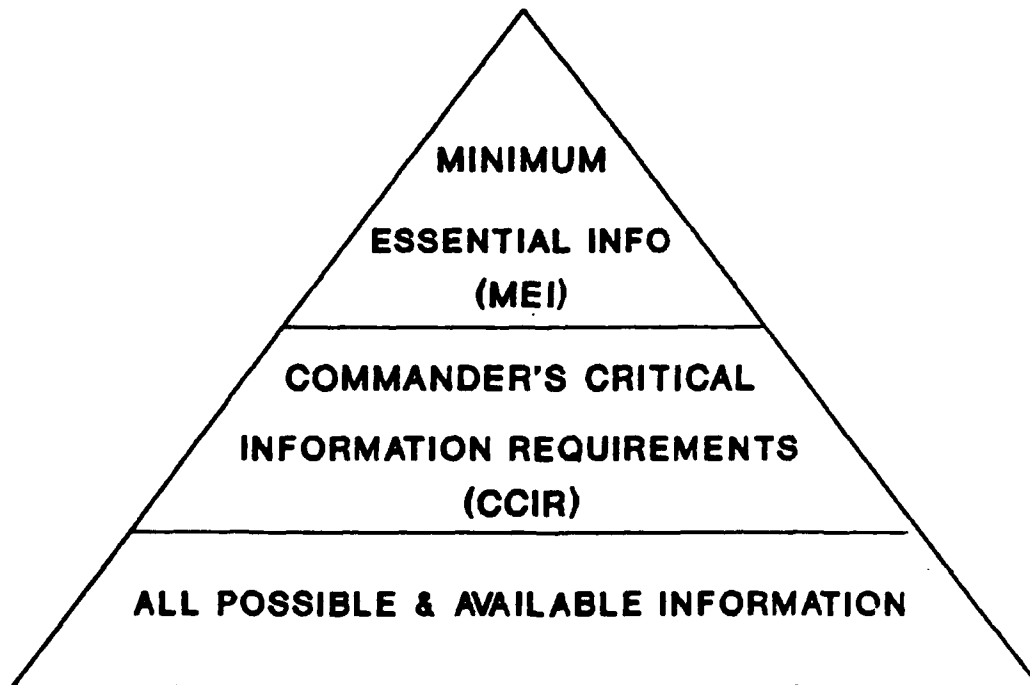


Figure 5-1

Rapid planning techniques was the focus of a 1985 US Army Infantry School Officer Advanced Course sub course. Recognizing that "The greatest constraint to planning, preparing and issuing orders is time," the student handout identified those information items deemed critical for inclusion in orders based upon the amount of time available between mission receipt and mission execution.² Those items specified for inclusion in an order under severely constrained conditions (one hour or less between receipt and execution) were:

Enemy most feasible course of action

Maneuver subunit missions

Task organization

Mission

Movement Instructions

CSR

Priority of Engineer effort

Priority of Fire Support

While in no particular order, these items generally follow the same trend that FM 71-2 identified.

MEI are also addressed in US Army historical documents. General W. G. Wyman, Commander of the US Continental Army in 1957, published a letter entitled "Emphasis on Rapid Estimates and Decisions on the Atomic Battlefield." Emphasizing the increased tempo of the post war mechanized army, General Wyman highlights the

need for mental flexibility and rapid decisions while
"the requirement for a correct decision is in no way
abated."³ Attached as an inclosure is General Bruce C.
Clarke's letter to the Seventh US Army, "The Planning of
Battle Group and Battalion Attacks." Warning that "speed
in planning is often needed, but haste should be
avoided,"⁴ General Clarke identifies the principal
factors which must be considered in planning as:

Mission

Enemy Situation

Troops Available

Terrain and Weather

and concludes that "the plan can be developed only
through careful analysis of [these] four principal
factors."⁵

The German Army also recognizes a form of MEI.
In a presentation at the 17th German/US Army General
Staff Meeting, the German representative addressed the
topic of mission oriented command and control. Pointing
out that mission-type control constitutes the binding
leadership doctrine for the German Army, it dismisses
"the concept that subordinates are to be ordered in
detail how to go about carrying out their
responsibilities."⁶ Addressing the requirements of a
superior to provide direction and information to
subordinates, the speaker stated "Order only what is

required for the purpose of accomplishing the mission.⁷ Again, the focus is on providing that information which is necessary for the accomplishment of the mission.

This same philosophy was present in the German Army prior to World War II. The 1933 German Field Service Regulation, Truppen Fuhrung (translated as troop leading), provides specific guidance in the subject.

"73. An order shall contain all that is necessary for the lower commander to know in order for him to execute independently his task. It should contain no more."
Further, the regulation states that reasons (not to be confused with intentions) for the measures in the order should be included only in exception and that detailed instructions covering all contingencies do not belong in the order.⁹ Finally, essential information recommended for inclusion in the order is identified. These items include:

Enemy activity

Adjacent unit information

Commander's intent

Command mission

Subunit missions to maneuver and logistics units

Command post and communications to and from

When compared to the previous essential information items, the guidance provided by Truppen Fuhrung generally identifies the same MEI.

Examined collectively, these essential information items for a body of MEI. To better illustrate the correlation between these various sources, the information items and the sources from which they were identified are provided in table 5-1, Minimum Essential Information Crosswalk, below. These items have been displayed in accordance with the CCIR priority established in the NPG study.

MINIMUM ESSENTIAL INFORMATION CROSSWALK

CCIR P.i#	INFO ITEM	SOURCE			
		FM71-2	USAIS	Clarke	German
1	Assets Available			X	
2	Command Mission	X	X	X	X
3	Subunit Missions*		X		X
4	Task Organization	X	X		
6	Adj Unit Situation	X			
7	Enemy Activity	X	X	X	X
11	Commander's Intent				X
16	CSR		X		
19	Area of Operations	X			
33/28	Terrain & Weather			X	
34	Priority of Eng Support		X		
34	Priority of Fire Support		X		
56	CONOPS				X
59	Movement Instructions		X		
None	Time Available	X			

* CCIR includes this item under Scheme of Maneuver

Table 5-1

Several points should be made about the identified MEI. First, they represent the collective knowledge of doctrine, historical experience - both American and German, and analytical study efforts. Second, the command mission and enemy activity were

identified in all sources and prioritized in the NPG study as number 2 and 7, respectively. Subunit missions (referred to as scheme of maneuver in the CCIR) were identified in two of the sources and have a CCIR priority of 3 and 4, respectively. Finally, in terms of the planning process, assets available (CCIR # 1) and enemy activity (CCIR # 7) were identified as continuous information items maintained and produced by the battle staff.

In sum, these information items represent the tip of the iceberg. While not completely free of critical examination, they do emerge as the more essential items of information from a list of information requirements critical to the commander in making and executing timely decisions. With these MEI items now identified, focus turns to the process which produces them.

MEI PLANNING PROCESS & STAFF RESPONSIBILITY

By its very nature, an MEI planning process is an abbreviated form of a complete planning process. Its design concentrates effort to produce information based upon the importance of the information needed. Consequently, such a planning process generally produces MEI first, then CCIR and finally other information needs.

The Battle Staff Guide (BSG) developed in the previous chapter provides insight to determine those

steps of the planning process which produce the MEI. Not only does the BSG show what step produces certain information, but it also provides the relative position between the steps and the corresponding information items. More to the point, information items which must be preceded by other information items are specified. As a result, this arrangement serves as a flow diagram of planning steps based upon the information items produced.

To better appreciate the planning process, it needs to be viewed from the standpoint of a flow diagram. From this perspective, it becomes apparent what steps can be accomplished in parallel and which ones must be done sequentially. Additionally, it becomes obvious that the steps in the planning process occur either at a single point in time or extend over some period. However, before examining this layout, additional planning events must be considered.

Two significant actions warrant specified inclusion in the planning process. These are the briefback and the rehearsal. Both these activities are cited as part of the planning process in doctrine.¹⁰ Additionally, the criticality of conducting both is constantly highlighted in after action reviews to units training at the NTC.¹¹ Consequently, both these actions have been included in the Planning Flow Diagram displayed as figure 5-2 on the following page.

PLANNING FLOW DIAGRAM

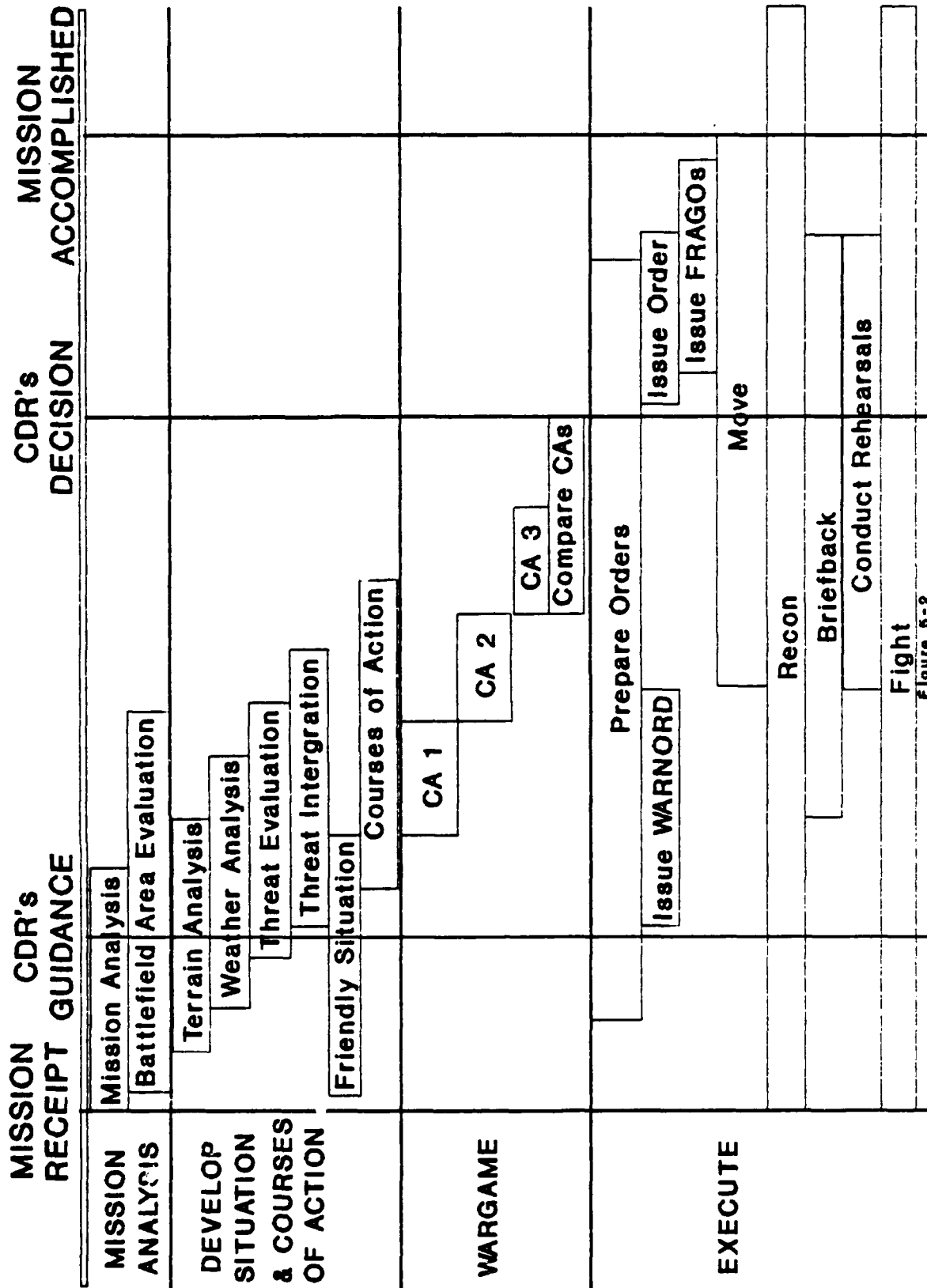


Figure 6-2

Having displayed the planning process in a flow diagram fashion, attention now turns to identifying the steps which produce the MEI. This task is easily accomplished by extracting these information items from the CCIR-Planning Process-Staff Crosswalk presented earlier as table 4-4. This MEI-Planning Process-Staff Crosswalk is shown below as table 5-2.

MEI-PLANNING PROCESS-STAFF CROSSWALK

CCIR PRIORITY	INFORMATION ITEM	PLANNING STEP	STAFF RESPONSIBILITY
1	Assets Available	Continuous	S4
2	Command Mission	Mission Analysis	S3
3	Subunit Missions	C of A/Cdr Concept	S3
4	Task Organization	Wargame/Cdr Concept	S3
6	Adj Unit Situation	Mission Receipt	S3
7	Enemy Activity	Threat Evaluation	S2
11	Cdr's Intent	Cdr Guidance/Concept	Cdr
16	CSR	Mission Receipt	S4
19	Area of Operations	Mission Receipt	S3
33/28	Terrain & Weather	Terrain & Weather Analysis	S2
34	Priority Eng Spt	Wargame/Cdr Concept	S3
34	Priority Fire Spt	Wargame/Cdr Concept	S3
56	CONOPS	Wargame	X0
59	Move Instructions	Cdr Concept	S4
None	Time Available	Mission Analysis	X0

Table 5-2

Table 5-2 integrates the elements necessary to build an MEI planning guide. The 'staff responsibility' provides the who, 'planning step' identifies the how and 'information item' specifies the what. Inserting these elements into the planning flow results in an MEI Planning Guide shown as Figure 5-3 on the next page.

MEI PLANNING GUIDE

	MR	CG	CD	MA
Staff				
XO	Time Available	CONOPS		
S2	Enemy Activity	Weather Terrain		
S3	Mission Adj Unit Info Area of Opns	Sub Unit Missions Task Org Priority Eng Spt Priority Fire Spt		
S4	Assets Avail CSR	Move Listing		
E				
X				
E				
C				
U				
T				
E				

MR - Mission Receipt
CG - Commander's Guidance (Includes Intent)
CD - Commander's Decision (and Concept)
MA - Mission Accomplished

Figure 5-3

Several points from the MEI Planning Guide deserve comment. Specifically, the relationship between the information items and the commander's guidance and decision; the role and purpose of the commander's guidance and decision need clarification; order preparation and issuance require addressing; the movement deserves expansion; the recon and briefback should be explained; and finally, rehearsals warrant discussion.

The relationship between the commander and the staff concerning the information items is one of input and output. Between mission receipt and commander's guidance, the staff prepares those items identified and provides these to the commander for approval, modification and guidance. This information exchange results in the warning order being prepared and issued, and the planning process to continue. Following the commander's guidance, the staff continues to plan and provides the commander their recommendations on the designated additional information items. This exchange results in the operations order (OPORD) being prepared and issued. At this point the staff continues supervision of the operation and begins work on additional items as necessary.

The commander's guidance and decision are critical points in the planning process. To be productive, they both should serve to finalize some staff actions and initiate others. In the case of the MEI Planning Guide, the Commander's Guidance should finalize the time schedule and command mission; modify maintenance and ammo issuance priority; select preliminary priority information requirements (PIR); provide the commander's intent for the operation; approve content and issuance of the warning order; and provide any other critically pertinent planning guidance the staff may need. The commander's decision should update the PIR; finalize the concept of operations

(sub unit missions), task organization, priority of engineer support and fire support, CONOPS, and movement listing; approve content and issuance of the OPORD; and provide any other guidance the staff may need. In essence, planning must be a decision driven process not a process that drives decisions.

Three important factors are associated with order preparation and issuance - content, form and distribution. Order content refers to the information items included in the order, an area extensively addressed in this study and identified in terms of MEI and CCIR. The form of the order concerns the physical characteristics of the order. These forms may be oral, overlay, written order with overlay(s), written order with overlay and appendices, etc. Distribution focuses on how the order is issued (face-to-face, radio/wire, courier, etc.) and to whom it is issued (either in whole or in part). It is important that these factors be addressed early in the process because they significantly influence the way in which the staff works. In determining the content, form and distribution consideration must be given to the available time, staff resources and individual abilities.

Move, as used in the MEI Planning Guide, deals more with those moves which are generally not part of fire and movement. Specifically included are initiating movement of recon elements, advance parties, command post

displacements, necessary unit movements to assembly areas and attack positions, etc. The focus is more towards administrative moves rather than tactical.

For the commander and his staff, recon and briefback deserve further explanation because they both serve a dual role. Early in the planning process, recon is focused on terrain appreciation. Later, its purpose is to confirm or modify the plan. Likewise, the briefback has an initial and subsequent purpose. Following the receipt of their missions, subordinate commanders briefback their mission and how their unit fits in the overall operation. This enables the commander to insure his subordinates understand the intent and their units role during execution. The subsequent briefback occurs after subordinate commanders have had the opportunity to plan. At this point the briefback focuses on how the subordinate plans to execute his portion of the engagement. Any clarification or modification is accomplished at this time. Together, the recon and the briefback serve to enhance understanding.

Through rehearsals individuals, crews and units practice portions of an operation before they are executed. Prior to receiving a mission, rehearsals may focus on routine drills. After mission receipt and planning, they may concentrate on specific actions anticipated to occur during the operation. Attention is

best given to those actions which are most difficult and require greater coordination and timing. In effect, this practice is a dress rehearsal tailored to the upcoming operation.

TIME - SOVIET & AMERICAN STYLE

Identification of the time requirements for the planning process is a difficult task. However, it is possible to achieve some resolution from two aspects - the enemy's time estimates and those of our own. While material is available which provides great insight to the Soviet planning process and the time considerations associated with it, little can be found regarding the US Army's specific consideration of time impacts except to note that it "often becomes the most critical factor."¹² Therefore, the approach is to determine what the threat's decision cycle looks like in terms of time, and then to develop a guide which accommodates varying time constrained conditions.

Soviet planning is based on norms or preconditions required to provide the desired outcome. One of the most important of these is time. In fact, the reconciliation of the amount of work to be performed and the time available is crucial to the success of Soviet planning and decision making.¹³ To determine the decision making norms associated with time, the Soviets have examined both historical and current operational data.

Historical data used by the Soviets comes primarily from their Great Patriotic War, known on this side of the curtain as World War II. Their efforts focus on identifying the time between 'reception of the senior commander's order and the beginning of the attack.'¹⁴ The average time for this action to occur in Soviet units during this war are shown in table 5-3, Soviet Planning Times - World War II, below.

15

SOVIET PLANNING TIMES - WORLD WAR II

Level	Time (Days)*
Army	6 - 8
Corps	5 - 7
Division	4 - 5
Regiment	2 - 3
Battalion	1 - 3

* Average time needed for the preparation of offensive operations during the Great Patriotic War.

Table 5-3

Since the war, the Soviets have continued with attempts to shorten these times. This trend has continued and shows a definite reduction. At the battalion level, data is available which shows the amount of time to prepare an attack by a Soviet battalion against a prepared defence. Again, these planning times are from receipt of the mission to the beginning of the attack, including movement. This information is shown in table 5-4, Soviet Battalion Planning Times, on the following page.

SOVIET BATTALION PLANNING TIMES

Year	Time (Hours)*
1948	84
1965	24
1980	19

* Time required for preparation of an attack against a prepared defense, including movement to the battle area.

Table 5-4

More recent examples exist which indicate that the 19 hour planning factor has been slightly reduced. The average time required to plan a battalion attack against prepared positions is approximately 10 hours with another 2 - 5 hours for movement. The conclusion of Mr. Stoeckli of the Soviet Studies Research Centre at Sandhurst is:

'The average time norms, applied to a modern reinforced Soviet battalion are, therefore, 8 - 12 hours for the preparation of an attack against prepared defences, not including the movement (2-4 hours extra), but including 1.5 hours for the battalion commander to make a decision (outline plan). This is by no means generous for a combined arms action and most relevant to Western analysis and planners assessing Soviet operational capabilities.' 17

A better appreciation of the Soviet planning sequence can be gained by examining the steps involved. Stressing parallel actions, the Soviets attempt to plan the operation, conduct reconnaissance, organize combat units, position supporting artillery and conduct logistical preparations simultaneously. This ideal process is shown as figure 5-4, Soviet Planning Process, on the next page.

SOVIET PLANNING PROCESS *

* Activity (Person in Charge)	Time Allocated (Minutes)							
	20	40	60	80	100	120	140	Etc
1 Analysis of the task (Cdr, Chief of Staff)	XX							
2 Issue warning orders (Deputy Cdr, Bn Staff)	XXX							
3 Preparation of data and calculations needed for decision and planning (Deputy Cdr, staff)	XXXX							
4 Continuation of appreciation of situation. Issue preliminary orders (Cdr, Chief of Staff)	XXXX							
5 Decision (outline plan) and task the troops (Cdr)			XXXX					
6 Submit Decision to Sr Cdr			XXX					
7 Recon to perfect decision & organize cooperation (Cdr, staff)					XXXXXXX			
8 Organize Co and Plt attack (Co Cdrs & their officers)				XXXXXXXXXXXXXXXX				
9 Prep of Movement (Co Cdrs)				XXXXXXXXXXXXXXXX				
10 Artillery and mortars move to their positions						XXXXXXXXXX		
11 Tank & motorized rifle units move to line of attack							XXXXXX	
12 Logistical preparations (Deputy Cdr)				XXXXXXXXXXXXXXXXXXXX				
13 Checking the work of subordinates (Cdr, deputy and staff)						XXXXXX		

* Ideal sequence of activities and their duration, in preparation of an attack by a reinforced Soviet tank or motorized rifle battalion.

Figure 5-4

With regard to time, several conclusions can be drawn from the Soviet planning process at the battalion level. First, the Soviets do not consider time as an independent variable and have established norms for its use in the planning process. Second, his ideal decision making cycle for the attack is about 3 - 4 hours long. Third, in practice this process averages about 10 - 16 hours including movement to the line of attack. Finally, the Soviets recognize the criticality of time in the planning process and are making a concerted effort to reduce this norm.

US Army doctrine recognizes the importance of time, but avoids specifically addressing its application to the planning process beyond the 1/3 - 2/3s rule. No where in doctrine will the American commander and staff find a prescribed timeline that details what must be accomplished when. In essence, the approach is 'produce whats needed when its needed.' To reconcile this almost indigent philosophy, flexibility is the hallmark of utility.

The flexible application of time to the planning process requires that the steps be arranged in a logical sequence and the critical points be identified. With this arrangement, information needs can be inserted, the steps which produce them defined, and responsibility specified. The end result is a flexible schedule which

identifies what needs to be produced by who and when, based upon the constraints of the time available.

Both a logical sequence and the critical points in the planning process are identified in figure 5-2, Planning Flow Diagram, on page 73. In terms of decisions, five critical points can be identified. These points are mission receipt, commander's guidance, issuance of orders - warning, operations order and frag order (mission receipt for subordinate units), commander's decision, and mission accomplishment. A sixth critical point which is not shown on the diagram is mission execution or mission start. The mission start is critical because it specifies a beginning for mission execution and is used as a bases for applying the 1/3 - 2/3s rule to planning. ¹⁹ With a logical planning sequence and the critical points identified, time can be integrated to produce a flexible guide to planning.

SUMMARY - A BATTLE STAFF PLANNING GUIDE

A finalized version of the Battle Staff Planning Guide (BSPG) seeks to enhance synchronization of staff operations by arranging staff activities in time, space and to assist the commander in making and executing timely decisions. To achieve this end, the BSG developed in chapter 4 served as a bases. From this guide, information requirements were refined, the planning

process was further examined, staff responsibilities were aligned, and time was integrated as an independent variable. The result is a product which ties together the elements of the battle staff system.

Through doctrinal and historical examination the Commander's Critical Information Requirements (CCIR) were refined to identify the Minimum Essential Information (MEI) for decision making. This minimum bound, capped the information hierarchy which conceptually consists of three tiers. On the bottom level is all possible and available information, the CCIR is the next level and the MEI is the top. While the MEI may not be completely free from scrutiny, they do reflect the collective judgement from numerous respected sources.

Recognizing that planning is a parallel process rather than a sequential one, a planning flow diagram was developed. This diagram permitted the steps of the planning process to be viewed in spacial relationship to one another and highlighted the critical events which occur at a relative point in time. Additionally, the importance of the briefback and the rehearsal were highlighted by their specific inclusion in the process. Finally, the planning flow diagram clearly illustrated that planning is a decision driven process rather than a process that drives decisions.

Integrating the planning flow diagram, the MEI and functional staff responsibilities, and MEI planning guide was developed. This guide served two purposes. First, it integrated the battle staff elements of the staff, the planning process, and the information needs of the commander in the form of MEI. Secondly, it provided a minimum bound for battle staff operations. Specifically, a truncated planning process was related to the minimum staff members responsible to produce the minimum essential information. Viewed in this light, the MEI planning guide established a 'no less than' point for resources, processes and activities.

Analysis of the critical element of time was conducted from the Soviet and the American point of view. The Soviet approach was found to be more scientific by establishing time norms for planning. For a battalion attack, the Soviets ideally desire a planning process which is about 3 - 4 hours long, including movement to the line of attack. However, recent experiences indicate that in practice these activities usually require 10 - 16 hours. On the other hand, the American approach to time's relationship to planning is less specific. Consequently, flexibility becomes key as this critical element is integrated into battle staff operations. In sum, the integration of time to the planning varies in specificity depending on the time

available, but focuses on the critical points in the process.

The final product of this analysis is the BSPG. The guide is based upon applied systems theory, incorporates the elements of a synchronized battle staff system, and focuses on the problem of information flow and time management. It was developed through examination of doctrine, historical experience - both foreign and domestic, and previous analytical studies. The BSPG is a tool - a technique and a procedure, as such it should not be considered to have universal application either in part or in whole. It should be viewed with a critical eye. However, it does provide a start point. Its utility can only be realized when modified to meet the needs of the people who use it.

The BSPG is provided in figures 5-6 through 5-9 on the following pages. Below, figure 5-5 , BSPG Layout, illustrates how to construct the guide.

BSPG_LAYOUT

FIG 5-6	FIG 5-7	FIG 5-8	FIG 5-9
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Figure 5-5
87

BATTLE STAFF PLANNING GUIDE - PART A

Msn Receipt (MR) to Start (MS) (hrs): (0-3) 1/3 Time = (0-1)

Staff MR Cdr Cdr MS

Location Guidance (CG) Decision (CD)

CG: M: T: R: Info to Cdr Dev CA / Wargame Staff Products

XO Time Avail CONOPS2 Time Schedule1

S1

S2

En Activity1/2

Weather2

Terrain2

Sit Overlay2

PIR2

S3

Mission1

Adj Unit Info2

Area of Opns

Sub Unit Missions2

Task Organization2

Priority Eng Spt 2

Priority Fire Spt2

Opns Overlay2

S4

Assets Avail

CSR2

Movement Listing2

Move Overlay2

NBC

CEO

FSO

ENG

ADA

ALO

CG Finalize Time Sch (-), Msn, Maint & Cl V Priority, WARNORD

Provide Initial PIR, Intent, Other Planning Guidance

CD Finalize Concept of Opn, CONOPS, Move, PIR, OPORD

Provide Briefback & Rehearsal Instructions

Other Guidance as necessary

	Task	Time	Where		Time	Where
	Mission Receipt			Cdr Decision		
TIME	Info to Cdr			Issue OPORD		
	Cdr Guidance			Briefback 1		
SCHEDULE	Issue WARNORD			Staff Rehearsal		
	Staff Recon			Briefback 2		
	Develop one CA			Mission Start		
	Wargame			Mission End		

ORDER WARNORD OPORD

Format Oral

Oral & Sketch

Issue Means Radio/Wire

Face to Face & Radio/Wire

Distribution Order Gp A

Order Gp A

1 - Item included in WARNORD

2 - Item included in OPORD

Figure 5-6

BATTLE STAFF PLANNING GUIDE - PART B

Msn Receipt (MR) to Start (MS) (hrs): (3-6) 1/3 Time = (1-2)

Staff MR Cdr Cdr MS

Location Guidance (CG) Decision (CD)
CG M T R Info to Cdr* Dev CA / Wargame* Staff Products

XO

S1 Per Shortage

Casualty Rpt

S2 Intel Summary1 Aves of Approach2 Sit Overlay2

Area of Int En Sit/Assessment2

Critical Terrain

Obstacles/Barrier2

S3 Friendly Act Battlflld Geometry2 Opn Overlay2

Unit Info Routes2

Constraints

S4 Battle Losses POL Locations2 Move Overlay2

Supply Short

NBC Rad Dose Stat

CEO Interference

FSO

ENG Obst & Barriers2

ADA

ALO BDA Friendly A/C Rpt

Sorties

CG* Finalize

Provide

CD* Finalize

Provide

Task Time Where Time Where

Mission Receipt Cdr Decision

TIME Info to Cdr Issue OPORD

Cdr Guidance Briefback 1

SCHEDULE Issue WARNORD Staff Rehearsal

Staff Recon Briefback 2

Develope one CA Mission Start

Wargame Mission End

ORDER WARNORD OPORD

Format Oral Overlay

Issue Means Radio/Wire Face to Face & Courier

Distribution Orders Gp B Orders Group B

* Same as in Part A plus items listed

1 - Item included in WARNORD 2 - Item included in OPORD

Figure 5-7

BATTLE STAFF PLANNING GUIDE - PART C

Msn Receipt (MR) to Start (MS) (hrs): (6-9) 1/3 Time = (2-3)
 Staff MR Cdr Cdr MS

	Location	Guidance (CG)	Decision (CD)
	CG: M: T: R:	Info to Cdr*	Dev CA / Wargame*
XO			Staff Products
S1			
S2		Assess EM/ OPSEC	En Msn/OBJs2 Order of Battle Bridges & Fords SEAD & HVTs EW Tasking2
S3		SITREP	Tgt Criteria2 Issue Priority2 Asm Area Loc2 A/C Priority2 Eng Spt Req
S4		UBL % Fill ASR	Log Overlay2
NBC			
CEO			
FSO			FSpt Overlay2
ENG			Minefields2 Bridging2
ADA			
ALO			
CG	Finalize		
	Provide		
CD	Finalize		
	Provide		

	Task	Time	Where	Task	Time	Where
	Mission Receipt			Cdr Decision		
TIME	Info to Cdr			Issue OPORD		
	Cdr Guidance			Briefback 1		
SCHEDULE	Issue WARNORD			Staff Rehearsal		
	Staff Recon			Briefback 2		
	Develope CA ()			Mission Start		
	Wargame			Mission End		
ORDER			WARNORD			OPORD
	Format		Oral & Written			Overlay
	Issue Means		Radio/Wire & Courier			Face to Face
	Distribution		Orders Group B			Orders Group B

* Same as in Parts A & B plus items listed

1 - Item included in WARNORD

2 - Item included in OPORD

Figure 5-8

BATTLE STAFF PLANNING GUIDE - PART D

Msn Receipt (MR) to Start (MS) (hrs): (9-12) 1/3 Time = (3-4)
 Staff MR Cdr Cdr MS

	Location	Guidance (CG)	Decision (CD)
	CG: M: T: R:	Info to Cdr*	Dev CA / Wargame*
XO			
S1			
S2		ECM & ECCM Rpt	En Wpn Sys En A/C Airfields Roads
S3			Intel Overlay2 R & S Plan2
S4		ASR	RSR2, ACA2 Imed Eng Tgts2 ADA Priority2 Planned Tgts2 Replace Priority2
NBC			Order2 Opns Overlay2
CEO			
FSO			
ENG			
ADA			
ALO			
CG*	Finalize		
	Provide		
CD*	Finalize		
	Provide		

	Task	Time	Where	Task	Time	Where
	Mission Receipt			Cdr Decision		
TIME	Info to Cdr			Issue OPORD		
	Cdr Guidance			Briefback 1		
SCHEDULE	Issue WARNORD			Staff Rehearsal		
	Staff Recon			Briefback 2		
	Develope CA ()			Mission Start		
	Wargame			Mission End		
ORDER			WARNORD			OPORD
	Format		Oral & Written			Written & Overlays
	Issue Means		Radio/Wire & Courier			Face to Face
	Distribution		Orders Group C			Orders Group C

* Same as in Parts A, B and C plus items listed.

1 - Item included in WARNORD

2 - Item included in OPORD

Figure 5-9

ENDNOTES

1 FM 71-2, The Tank and Mechanized Infantry Battalion Task Force. (Washington, DC: Headquarters, Department of the Army, 1988), p. 2-15 and 2-16.

2 US Army Infantry School, "Rapid Planning Techniques," Combined Arms and Tactics Department Student Handout, undated, Fort Benning, Georgia.

3 W. G. Wyman, General, "Emphasis on Rapid Estimates and Decisions on the Atomic Battlefield," ATTNG-TNG 381/39 (17 Oct 57) Letter, 17 October 1957, Headquarters US Continental Army Command, Fort Monroe, Virginia.

4 Bruce C. Clarke, Lieutenant General, "The Planning of Battle Group and Battalion Attacks," Letter, 3 September 1957, Headquarters Seventh US Army.

5 Ibid.

6 Text from a presentation made by a representative of the Federal Ministry of Defense, Army Staff (Fue H III 2) at the 17th German/US Army General Staff Meeting held in Munich, Germany.

7 Ibid.

8 German Field Service Regulation, Truppen Ffuhrung, translated and reprinted by the US Army Command and General Staff College (Kansas: The command and General Staff School Press, 1935), p. 10.

9 Ibid., p. 11.

10 FM 71-2, p. 2-21.

11 Headquarters, National Training Center, "Take Home Package," Fort Irwin, California, a selection of over 30 reports from rotation 88-1 through 88-11.

12 FM 101-5, Operations. (Washington, DC: Headquarters, Department of the Army, 1984), p. 5-4.

13 H. F. Stoeckli, "Soviet Tactical Planning - Organizing the Attack at Battalion Level," (Sandhurst, England: The Royal Military Academy, Soviet Studies Research Centre, January 1987), p. 1.

14 Ibid., p. 2.

15 Ibid.

16 Ibid.

17 Ibid., p. 11.

18 Ibid., p. 17.

19 FM 71-2, p. 2-21.

CHAPTER 6

CONCLUSIONS & RECOMMENDATIONS

"However praiseworthy it may be to uphold tradition in the field of soldierly ethics, it is to be resisted in the field of military command. For today it is not only the business of commanders to think up new techniques which will destroy the value of the old; the potentialities of warfare are themselves being continually changed by technical advance. Thus the modern army commander...must be able to turn the whole structure of his thinking inside out."

Erwin Rommel

Current doctrinal staff activities can be better synchronized which potentially enhances the effectiveness of battalion and brigade operations. This improvement can be achieved by clearly understanding the battle staff system, its problems, and tailoring the system to meet the demands of combat.

CONCLUSIONS

Current doctrine does not give a clear picture of all the elements of the command and control system, much less, that of the battle staff system. Without a clear picture of this system, it is difficult to identify and isolate problems. Systems theory provides a solid foundation to accomplish this end. The system must be viewed in terms of the elements of purpose, resources

(inputs), processes, activities (outputs), space and time.

The problems in the battle staff system lie in the elements of activities, processes, resources and time. Specifically, the system must produce the necessary information, via a flexible process, with given resources, under the constraint of time.

Identifying minimum essential information (MEI) and commander's critical information requirements (CCIR) is the first step in this effort. This information items can be identified with reasonable accuracy. While they may not be all inclusive, they do focus the staffs efforts in assisting the commander to make and execute timely decisions.

The multiple planning processes must be better refined in our doctrine with respect to the troop leading procedures and the decision making process. Merging of these to methods, incorporating the intelligence preparation of the battlefield, METT-T analysis and the estimate of the situation, would be a significant move in the right direction. Additionally, because of the importance of the briefback and the rehearsal, both these steps should be specified in the process. This single planning process would then be all encompassing and serve as one foundation for planning and thinking.

To fully utilize the resources of the battle

staff and the limited time available, the steps in the planning process must be exercised in parallel whenever possible. The planning flow diagram provides a good start in this area. When viewed in terms of a flow diagram, planning steps become either tasks or decisions. To be effective, planning must be a decision driven process rather than a process that drives decisions.

The battle staff planning guide (BSPG) provides a tool to better synchronize staff operations at the battalion and brigade level. Properly utilized, the BSPG is a point of departure for unit application. It is not intended to be all inclusive nor is it a panacea to problems of time management and information flow. It is a flexible vehicle designed to focus battle staff operations in planning. Through this focus, command and control is enhanced which can only result in improved combat effectiveness.

RECOMMENDATIONS

As a result of this study one area was identified which warrants further study - mission analysis. Mission analysis needs to be examined and refocused. Under current doctrine, this critical step in the planning process is the crystal ball from which a commander discovers his restated mission. This practice is dead wrong. The commander should be given his mission.

clearly and completely with particular attention being paid to the 'why' or purpose part (the intent) of the mission statement. Likewise, any senior commander who cannot articulate what his subordinate's mission is doesn't understand how that unit fits into his concept of operation. This is a perfect example of a process driven decision instead of a decision driven process.

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APPENDIX A

DEFINITIONS FORCE LEVEL INFORMATION REQUIREMENT PLAN ITEMS

The definitions and reference number of the items identified in the Force Level Information Requirements Plan (FLIRP) are provided below. The abbreviations used in this study are also shown. These information requirement items were extracted verbatim from the Operational and Organization (O&O) plan for maneuver Control System.

001. Aircraft Allocation/Priorities. An allocation is a refinement of the apportionment decision made by the Force Commander. It defines the total tactical air capability among air strike tasks to be performed for a specified period. Priorities involve the ranking by a commander of a number of elements of any situation in the order of each elements' importance to the accomplishment of the mission.

002. Aircraft Requirements. An activity requiring aircraft support expresses that requirement with this category of information. The requirement for support also defines the type of functional support requests, i.e., counterair, close air support, air interdiction, tactical air reconnaissance, tactical airlift operations (including air evacuation), and special operations performed by tactical air forces.

003. Adjacent Unit Situation. Describes the tactical and/or administrative situation at a particular time. This information item provides the recipient such information as location, combat effectiveness, strengths, size, boundaries, movement speeds, direction and readiness. It applies to the situation as it presently exists.

004. ADM. [Not defined].

005. Air Defense Suppression Requirements (SEAD). Nullifying the effectiveness of the enemy air defense. It provides the location, type and number of enemy air defense systems.

006. Aircraft Report (Friendly). The number, type and location of friendly aircraft.

007. Airfields. An area prepared for the accomodation (including any building, installations), landing and takeoff of aircraft. Contains information on type, location and condittion of airfield. Type describes the surface and length of the runway, number of runways, and operating conditions.

008. Airhead Location. A designated area in a hostile or threatened territory which, when seized and held, ensures the continuous landing (parachute or airland) of troops and materiel and provides maneuver space for operations.

009. Airspace Coordination Area. Provides for the establishment of Air Space Coordination Area in the support of reconnaissance, close air support mission.

010. Airspace Restrictions. A portion of the airspace in which flight restrictions are imposed. A prescribed air route for aircraft established to prevent friendly aircraft from being fired on by friendly forces. Contains ground coordinates and associated effective times.

011. Area of Operations. That portion of an area of war necessary for military operations (all military actions planned and conducted on a topographical complex and its adjacent natural terrain where manmade construction is the dominant feature) either offensive or defensive, pursuant to an assigned mission, and for the administration incident to such military operations.

012. Assembly Area Location. An area in which a force prepares or regroups for further action.

013. Assessment (EW and OPSEC). Effectiveness and potential of an existing or planned intelligence activity.

014. Assets Available. Those assets by type, by unit available for employment on the battlefield. Critical equipment.

015. Artillery Target Report. Information transmitted for acquired targets which meet the commander's engagement targeting guidance. Crossflow provides for fusion in developing targets for engagement.

016. Available Supply Rate (ASR). [Not defined].

017. Avenues of Approach. An air or ground route of an attacking force of a given size leading to its objective or key terrain in its path.

018. Axis of Advance. A general route of advance extending in the direction of the enemy which is assigned for purposes of control. An axis of advance symbol the size of the force assigned the axis and is often a road, a group of roads, or a designated series of locations. A commander may maneuver his forces and supporting fires to either side of an axis of advance provided the unit remains oriented on the axis and the objective. Deviations from an assigned axis of advance must not interface with the maneuver of adjacent units without prior approval of the higher commander. Enemy forces that do not threaten security or jeopardize mission accomplishment may be bypassed. An axis of advance is not used to direct the control of terrain or the clearance of enemy forces from specific locations. Intermediate objectives are normally assigned for these purposes.

019. Basic Load Percent (%) Fill. That quantity of nonnuclear ammunition authorized to be on hand in a unit to meet combat needs until resupply can be accomplished. Size of the basic load is normally determined by corps or the major overseas commander. (Consider Class III - Petroleum, oil and lubricants).

020. Battle Losses. Major items of equipment, i.e., weapons systems, weapons, etc., destroyed, captured, abandoned on the battlefield.

021. Battlefield Geometry. A control measure drawn along identifiable terrain features and used to delineate areas of tactical responsibility for subordinate units. Within their boundaries, units may fire and maneuver in accordance with the overall plan without close coordination with neighboring units unless otherwise restricted. Direct fire may be placed across boundaries on clearly identified enemy targets without prior coordination, provided friendly forces are not endangered. Indirect fire may also be used after prior coordination. Lateral boundaries are generally used by smaller units when required. Rear boundaries may be established in defense to facilitate command control. (Coordinated Fire Line, FLOT, FEBA, Free Fire Area).

022. Bomb Damage Assessment. Information to provide ammunition expenditures and effects on the target between systems at the completion of the conduct of a fire mission.

023. Bridges/Fording Sites & Bridging. (River Crossing: An operation conducted as a part of and in conjunction with other operations to rapidly overcome a water obstacle. Terrain objectives are required to ensure the security of the force and crossing sites) (FORD: A shallow part of a body of water that can be crossed without bridging, boats or rafts. A location in a water barrier where the physical characteristics of current, bottom and approaches permit the passage of personnel and/or vehicles and other equipment that remain in contact with the bottom).

024. Call for Fire. Information required to be transmitted to request immediate engagement of acquired target by fire support assets. Initiates fire, mission, processing within FS. Utilized for targets meeting commander's guidance for immediate engagement.

025. Casualty Report. A listing of personnel killed in action (KIA), missing in action (MIA), wounded in action (WIA) and disease non-battle injury by officers, warrant officers and enlisted and total by each.

026. Check Fire. Information utilized to establish and exchange fire mission commands for the purpose of check firing, cease loading, cancel check firing and cancel cease loading, etc.

027. Command Mission. The primary task assigned to an individual, unit or force. It usually contains the elements of who, what, where, [when,] and the reason therefore [why], but seldom specifies how. (To include FRAG[O] OPORD/Plan).

028. Command/G2/S2 Guidance (PIR). Guidance provided the G2 [S2], so that he can prepare Essential Elements of Information (EEI) and Other Intelligence Requirements (OIR). Collection requirements. [Doctrine now defines EEI as Priority Information Requirements - PIR, and OIR as Information Requirements - IR. Currently, PIR and IR are recommended by the G2/S2 rather than the commander developing them].

029. Command Controlled Items. Essential items list - a list of critical and intensively managed items. Those items that are controlled by the commander because of their scarcity, value or planned usage in an upcoming maneuver.

030. Concept - Scheme of Maneuver. That part of a tactical plan to be executed by a maneuver force in order to secure its assigned objectives or hold its assigned area. (Concept of Operation - a concise graphic, verbal or written statement that gives an overall picture of a commander's scheme with regard to an operation or series of operations; includes the scheme of maneuver and fire support plan. It is described in sufficient detail for the staff and subordinate commanders to understand what they are to do and how to fight the battle in the absence of further instructions.)

031. Continuity of Operations (CONOPS). The degree or state of being continuous in the conduct of functions, tasks or duties necessary to accomplish a military action or mission in carrying out the national military strategy. It includes the functions and duties of the commander, as well as the supporting functions and duties performed by his staff and others acting under the authority and direction of the commander.

032. Constraints. An action or circumstance of a temporary or artificial nature that restricts or inhibits normal supply demands (resources) or maneuver movements.

033. Coordinating Instructions. Provides information applicable to two or more units.

034. Critical Personnel Shortages. Those [Military Occupational Skills] MOSS and quantity whose shortage affects the combat effectiveness of a unit.

035. Critical Situation Alert. All the conditions and circumstances which affect a unit or command at a critical time.

036. Critical (Key) Terrain. Any locality or area, the seizure or retention of, which affords a marked advantage to either combatant.

037. ECM/ECCM.

ECM - Electronic Countermeasures. Actions taken to reduce the enemy's effective use of the electromagnetic spectrum. Includes jamming and electronic deception.

ECCM - Electronic Counter Countermeasures. Actions taken to ensure friendly use of the electromagnetic spectrum against electronic warfare. Includes antijamming, authentication, radio discipline and MIJI reporting.

038. EEFI Friendly Vulnerabilities. [Not defined].
039. Enemy Activity. A function or mission being performed by the enemy.
040. Enemy Aircraft. The number, type and location of enemy aircraft.
041. Enemy Mission/Objective. G2 [S2] evaluation of what the enemy is attempting to accomplish.
042. Enemy Situation/Assessment. G2 [S2] evaluation of enemy vulnerabilities.
043. Enemy Weapon Systems. Number, type and location of enemy weapon systems including artillery and antitank systems. (Enemy ADA, ATGMs, and artillery).
044. Engineer Support Required. The coordination of engineer effort within an area of operations facilitated by use of area and task assignments.
045. Electronic Warfare Tasking. The use of electromagnetic energy to determine, exploit, reduce or prevent hostile use of the electromagnetic spectrum and to ensure friendly use thereof.
046. Free Text. The text of a message containing information that the originator wishes to be conveyed to the addressees for accomplishing the exchange of man readable information.
047. Friendly Activity. A function or mission being performed by friendly units.
048. Friendly Unit Information. The lowest structural level, echelon, or point at which organizational control or authority of the subject unit concentration.
049. Graphic Messages. Messages using cartographic and photogrammetric arts displaying offense and defense routes, corridors, etc.
050. Immediate Engagement Target. The act of force to acquire, engage and neutralize or destroy threat firepower systems (tanks, combat vehicles, ATGMs, etc.) within the battle area. It includes the tasks of employing and coordinating supporting weapons such as mortars, field artillery, and tactical air, as well as countermobility and electronic warfare assets which enhance the target servicing effort.

051. Intelligence Summary. A specific report providing a summary of items of intelligence information normally produced at battalion/squadron or higher level in tactical operations usually at six hour intervals.

052. Interference. An electrical disturbance which causes undesirable responses in electronic equipment.

053. Minefields. An area of ground containing mines laid with or without pattern. Boundaries are drawn to scale, where known, to indicate actual extent of field when a series of rows are laid in a definite pattern. The number of mines is indicated in a box adjacent to the boundary and lanes and gaps are depicted. Scatterable minefield, date-time group designates self destruction time. Symbols for the type mines in the field are entered within the boundaries.

054. Mission Fired Report. Provides surveillance of engagement of acquired target. Information is essential for management of battlefield target data and file management.

055. Movement Table Listing. Elements of a unit movement table (plan). Includes unit identification, specifies routes, start points, check points, times, serials, intervals, spacing, road speeds and traffic control points. (Movement Routing).

056. NBC Report. [Any one of the NBC Reports 1 - 5 which are used to convey information related to the employment of nuclear, biological or chemical munitions.]

057. Obstacles/Barriers. Any natural or manmade obstruction that canalizes, delays, restricts or diverts movement of a force. The effectiveness of an obstacle is considerably enhanced when covered by fire. Obstacles can include: abatis, antitank ditches, blown bridges, built up areas, minefields, rivers, road craters, terrain and wire.

058. Order of Battle. Intelligence pertaining to identification, strength, command structure and disposition of personnel, units and equipment of any enemy force.

059. Planned Target. A geographical area, complex or installation planned for capture or destruction by military forces. (Priority Target requirement).

060. Petroleum, Oil, Lubricants (POL) Locations. Supply and distribution points for POL. Also quantity on hand at the unit and number of days of operation.

061. Priorities for ADA. The continual process of analyzing, allocating and scheduling air defense and integrating them with maneuver to optimize combat power.
062. Priority of Issue. Priority by unit and by type of materiel to replenish combat essential supplies, repair parts, ammunition, etc.
063. Priority of Support to Combat Elements. The process of allocating available resources to optimize combat power.
064. Query and SRI. The SRI screens each message to determine if it satisfies the given parameters. If so, a copy of the message is automatically canted to the user(s) identified in the distribution field. Queries are messages retrieved records from the data base. Any user can, at any time retrieve records from the data base. Queries are searches of the data base for information.
065. Radiation Dose Status. [Not defined].
066. Railways. A listing of railways to include location, type and condition.
067. Release Policy (Nuclear). Policy established by theater or army specifying the conditions under which nuclear munitions can be employed.
068. Replacement Priorities. Priority established to replenish losses in the field. Proper number and type of replacements are determined by checking the accuracy of strength reports and comparing losses on strength reports with losses reported through operational channels.
069. Report Request. Allows reporting of criteria for all source processing. The information is essential in the commander's decision process.
070. Required Supply Rate (RSR). The amount of ammunition expressed in terms of rounds per weapon per day for ammunition items fired by weapons, and in terms of other units of measure per day for bulk allotment and other items, estimated to be required to sustain operations of any designated force without restriction for a specified period. Tactical commanders use this rate to state their requirements for ammunition to support planned tactical operations at specified intervals. The required supply rate is submitted through command channels. It is consolidated at each echelon and is considered by each commander in subsequently allocating the available supply rate within his command.

071. Roads. A listing of roads to include location, type, condition and limiting factors.
072. Routes. The prescribed course to be traveled from a specific point of origin to a specific destination. Often begins with a start point and ends at a release point. Designated by a code name or number.
073. Serious Incidents. Those incidents that the commander considers serious or whose occurrence could impact on the effectiveness of the unit.
074. Situation Report (SITREP). [Not defined].
075. Sortie. One aircraft making one takeoff and one landing. An operational flight by one aircraft.
076. Special Operations. Types of military operations which require specialized troops, equipment or techniques such as river crossings, military operations in urbanized terrain, etc. Secondary or supporting operations which may be adjuncts to various other operations and for which no one service is assigned primary responsibility.
077. Strike Warning. Warning of an attack which is intended to inflict damage on, seize or destroy an objective.
078. Supply Shortages. Identification of supplies which because of their shortage could affect the combat effectiveness of a unit.
079. Target Criteria. Provides for the exchange of tasking, cueing and establishment of targeting criteria based upon the commander's guidance. Targets meeting the established criteria will be reported via the artillery target report.
080. Target Request. Provides a one time query or a standing request (SRI) for targeting information. A query retrieves artillery target reports from the data base for transmission. An SRI screens each incoming message to the data base and if given parameters are satisfied, auto-routing of the request data occurs.
081. Task Organization. A temporary grouping of forces designed to accomplish a particular mission. Task organization involves the distribution of available assets to subordinate control headquarters by attachment or by placing assets in direct support or under the operational control of the subordinate.

082. Terrain. Describes the topography, trafficability, natural obstacles and conditions of a geographic area of concern to the force commander.

083. Weather Data. Used to analyze current weather conditions and forecast future conditions that could impact on the scheme of maneuver. (To include effective wind message).

The following definitions describe those critical information items identified in studies other than the FLIRP.

*A High Value Targets (HVT). A target whose loss to the enemy can be expected to contribute to substantial degradation of an important battlefield function. (FM 101-5-1, p. 1-37).

*B Area of Interest (AI). That area of concern to the commander, including the area of influence, areas adjacent thereto, and extending into enemy territory to the objectives of current or planned operations. This area also includes areas occupied by enemy forces who could jeopardize the accomplishment of the mission. (FM 101-5-1, p. 1-5).

*C Area of Influence. A geographical area wherein a commander is directly capable of influencing operations by maneuver or fire support systems normally under his command or control. (FM 101-1-5, p. 1-5).

*D ID Friend or Foe. Discrimination of a potential target as to its identity to determine whether it is enemy (foe) or not (friend).

*E Heading Reference - Navigation. An aid designed to assist in geographic navigation by providing the location and direction of travel or azimuth.

*F Kill Discrimination. A mechanism which determines whether a target has been at least neutralized (killed) or not.

APPENDIX B

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