Interaction of a General Staff in the Operational Planning Process

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Introduction

Military leaders are required to make decisions on a constant basis. Every day, with the assistance of their staff, they solve simple, routine, and complex problems.¹ The method used to solve these problems is known as Operational Planning.

Operational Planning is a sequential process, developed simultaneously at the three levels of warfare: strategic, operational, and tactical. To conduct this planning, the military leader or commander has a team, i.e., staff, who think, analyze, and coordinate, from various aspects and levels, options for interventions and use of force, commonly known the military instrument of the State. During this planning, leaders and their staff necessarily resort to their personal skills and abilities in which they must apply knowledge, experience, and good judgment, as well as the material and human resources that the mission or problem solution demands. In the air forces, the process that will lead the leader and his staff to "how" to solve the problem or problems is called the Joint Operational Planning Process for Air (JOPPA).²



Figure 1. JOPPA Source: JOPPA Handbook³

First, before analyzing JOPPA, the topic of this article, it is necessary to review and emphasize the concepts of levels of war.

Levels of War

Modern military theory divides warfare into strategic, operational, and tactical levels.⁴ Although this division has its basis in the Napoleonic Wars and the American Civil War, the theory was first formulated by the Prussians after the Franco-Prussian War. The Soviets have also further developed this theory as well.⁵ Beginning in 1982, US military doctrine adopted a-tier division of warfare with the introduction of Army Field Manual (FM) 100-5, Operations.⁶

The three levels allow us to understand the causes and effects of war and conflict, despite their increasing complexity. The military professional must thoroughly understand all three levels, especially the operational level, and how they are interrelated.



Figure 2. The three levels of war

Source: Author

The boundaries of the levels of war tend to blur and do not necessarily correspond to levels of command. However, the strategic level corresponds to the decision-making of the political authorities of the State assisted by military commanders. In other words, this level decides what is commonly known as: Fight the right war for the right reason. The operational level is usually the concern of theater commands or as it is commonly known: Fight at the right time and place with the right stuff; while the tactical level is usually the main activity of the commanders of the components that make up the theater command, what we know as: Fight the battle right.⁷

Each level conducts planning, that is, makes strategy, which implies analyzing the situation, estimating the capabilities and limitations of friendly and adversary forces, and producing courses of action. Each level also deals with the implementation of the strategy. This strategy must be constantly reassessed (often based on incomplete information and necessary assumptions) due to the dynamic nature of warfare. It is for this reason that the element of success in war is the ability to quickly adapt and understand the scenario that will allow the leader to identify and exploit opportunities to make decisions that lead to the desired end state conditions.

Strategic Level

The strategic level focuses on defining and supporting national policy and is related to the outcome of a war or other conflict. Modern wars and conflicts are won or lost at this level rather than at the operational or tactical levels.⁸

Operational Level

The operational level refers to the employment of military forces in a theater of war or theater of operations to gain advantage over the enemy and thus achieve objectives.⁹ In war, a campaign involves the use of military forces to achieve a common goal in time and space. Commanders design and coordinate operations to be executed at the tactical level to support strategic-level objectives.

Tactical Level

The various operations that make up a campaign are made up of maneuvers, engagements, and battles. From this perspective, the tactical level translates combat power into success in battles and engagements through decisions and actions that create advantage when in contact with or near the enemy. Tactics deal with the details of engagements and is extremely sensitive to the changing environment of the battlefield. The tactical level's focus is on military objectives and combat. However, combat is not an end in itself; it is the means to achieve the objectives set at the operational level.

Operational Design

The primary purpose of operational design is to extract clarity from complexity to act decisively.¹⁰ To act decisively is to make appropriate decisions to change the current conditions for those that configure the desired end state. Operational design provides the commander with three concepts:¹¹

- 1. Understand the scenario or operational environment
- 2. Define the problem
- 3. Approach, focus or operational planning

To establish the operational design, we must ask the following questions:

- 1. What are the characteristics or conditions of the current scenario?
- 2. What are the characteristics or conditions of the desired scenario?
- 3. What is the problem?
- 4. What is the solution?



Figure 3. Operational design

Source: US Army Command and General Staff College (CGSC)¹²

Design allows the commander to create an operational view of a complex scenario by compensating for uncertainty with his or her experience, knowledge, creativity, judgment, and skills (both *soft & hard*) that will be necessary to guide the team that will formulate the plan. The nature of war proposes a constantly changing scenario, the commander must understand the current and changing conditions to create results that direct the dynamics of war to the conditions that establish the desired final scenario. Design does not replace planning; it is a complement. Planning is incomplete without design. It is at this point, where art and operational design intervene, it is at this moment that the commander must assess when to think as an artist (art) and when to think as a technician (science).

Design is applied at all levels taking into consideration context, circumstances, and objectives.¹³

Operational Design Elements

Design formulates a plan or plans, which are assisted by operational design elements to develop Courses of Actions (COAs). The elements of operational design are as follows:

- Termination
- Military end state
- Objectives
- Direct and indirect approach
- Center of Gravity
- Turning points
- Lines of Operation and lines of effort

- Effects
- Anticipation
- Operational Scope
- Culmination
- Arrangement of operations
- Functions and forces

Developing the Operational Approach



Figure 4. Operational design

Source: Joint Operations 5-014

The Operational Planning Process for Air - JOPPA

The JOPPA is a planning process aimed at determining the "how," i.e., "the ways" to employ military capabilities (*resources*) in time and space to achieve goals i.e., the "ends," while considering the associated risks.

The development of operational plans is an ongoing and inherent function of commanders and staff. As Dwight Eisenhower would have said, plans are always under review based on estimates and considering the partial objectives achieved. The JOPPA is a constant activity that begins with the reception of an action guide for the development of operations and with the desired objectives for their completion. In addition, this planning process is designed to facilitate interaction among the commander, staff, and components, helping actors organize planning activities, share a mutual understanding of the commander's mission and intent, and develop effective plans and orders.

Key Inputs	JOPPA Steps	Key Outputs
Tasking from JFC Guidance from JFACC	Initiation	Initial planning time line JFACC's initial guidance
JFC mission & intent Friendly situation IPOE Facts & assumptions JFACC tasks/guidance	Mission Analysis	Enemy COAs Mission Analysis brief Essential tasks JFACC mission statement JFACC initial operational approach planning guidance & intent
JFACC initial operational approach, guidance & intent Enemy COAs Staff estimates supporting COA development	COA Development	Friendly air COAs Operational & tactical objectives Narratives & graphics
Friendly air COAs Enemy most likely/dangerous COAs Coordinated wargame method Coordinated evaluation criteria Coordinated critical events/actions	COA Analysis & Wargaming	Refined, valid air COAs Strengths & weaknesses Branch / sequel requirements JFACC decision points & CCIRs
Coordinated evaluation criteria Wargame results Coordinated comparison method	COA Comparison	Decision matrix Preferred COAs
Decision briefing	COA Approval	Selected air COA Summary of Op Design/Approach JFACC refinement JFC-approved air COA
Approved air COA Staff Estimates	Plan / Order Development	Refined & approved JFACC JAOP with appropriate annexes

Figure 5. JOPPA inputs, steps, and outputs

Source: JOPPA Handbook¹⁵

In conducting joint operations planning, commanders and staffs apply operational art to formulate operational design using JOPPA. The General Staff, which is the planning body, applies the operational design to provide the conceptual framework that forms the basis of the joint operation and the campaign plan for its subsequent execution. In addition, the process reduces uncertainty and properly orders complex issues that allow for more detailed planning. Commanders must convey their vision to their staff and subordinate units in such a way that it can be translated into actionable plans. Planning facilitates this process by applying the necessary rigor, coordination, and synchronization of all aspects of a concept—the operational concept. Planning staff use the JOPPA to comprehensively develop options, identify resources, and mitigate risks. Planners develop Concepts of Operations (CONOPS), force plans, deployment plans, and support plans that contain multiple options to provide the flexibility to adapt to changing conditions and remain consistent with the Joint Force Commander's (JFC) intent.

The plans and orders are developed considering strategic and military objectives. The commander and staff base their understanding of those stated objectives at the strategic level. Operations planning is an adaptive process that occurs in a collaborative and interconnected environment, such as networks. Clear strategic direction and frequent interaction between senior leaders and planners promote an early and shared understanding of the complex operational problem at hand, strategic and military objectives, mission, planning assumptions, considerations, risks, and other key driving factors.

Campaign planning is conducted as part of a comprehensive national effort. In other words, military activities will be an effort to support the other elements or instruments of state power. The JOPPA is structured in the following seven steps:

Step 1: Getting Started

Initiation is the formal way to provide and establish guidelines to start the JOPPA and integrate the General Staff with the OPLAN and Joint Intelligence Preparation of the Operational Environment (JIPOE). It begins when a political authority recognizes or needs the use of military capabilities (instrument of military power) to achieve national objectives or in response to a crisis.

Input Products:

• JFC OPLAN

Interaction of a General Staff in the . . .

- Political, Military, Economic, Social, Information, Infrastructure, Physical Environment and Time Variables (PMESII-PT)
- JIPOE
- JFC Operational Design
- JFC Measure of Performance (MOP) / Measure of Effectiveness (MOE)
- Constraints & Restrictions (JFC Limitations and Restrictions)
- JFC Guidance/Planning Guide
- · Current status of strategic objectives
- Rules of Engagement (ROE) / Rules of Use of Force (ROF)

Output Products:

- Joint Forces Air Component Commander (JFACC) initial orientation/ guidance
- Start order to formulate JOPPA
- JFC problem statement
- JFACC Initial Operational Approach
- Commander Critical Information Requirements (CCIRs)
- Time constraints (constraints & restraints)

Step 2: Mission Analysis

The analysis of the mission focuses on understanding the operational environment, for which it uses the products derived from the PMESII-PT and the Diplomatic, Informative, Military and Economic (DIME) articulation, as well as identifying Centers of Gravity (COGs), enemy Critical Capabilities (CC), Critical Vulnerabilities (CV), and enemy Critical Requirements (CR). The mission is the identification of the task plus purpose, which clearly indicates the action to be carried out and the reason why it is carried out.

Mission analysis is used to study the assigned task and to identify other tasks necessary for its accomplishment. During the development of the mission analysis, it is possible to request information, capabilities, resources, and legal aspects of the environment. The nature of the dynamics of the emerging crisis can change key aspects of the operational environment. The primary inputs to mission analysis come from the operations center planning directive, other strategic directives, and the commander's initial assessment, which may include a description of the operational environment, a problem definition, and the operational scope. Mission analysis allows the commander to broadly develop his vision for using integrated and synchronized military operations as a part of unified action. He can then provide detailed planning guidelines to his staff and share his vision with his counterparts to achieve unity of effort. In this step, it is necessary for the Sáez

Intelligence Directorate (A2 for its USAF acronym) to develop the JIPOE to describe the potential effects of theoperating environment on operations, analyze the strengths of the enemy or adversary, and describe the potential courses of action of the enemy.



Figure 6. Mission analysis activities

Source: Joint publication 5-0¹⁶

Input Products:

- Orientation/Strategic Guide MINDEF/CCFFAA
- Planning Directive Operational Level
- Mission
 - Task plus Purpose
- Commander's intent
- Facts & Assumptions
- 210 JOURNAL OF THE AMERICAS ♦ FIRST EDITION 2023





Source: Joint publication 5-0¹⁷

- ROE & RUF
- Initial JFACC Planning Guide

- Description of the Operational Scope (OE)
- Problem definition Operational Level
- JIPOE Operational Level
- JFACC Operational Approach
- JFACC Initial Intent
- Staff Workbooks



Figure 9. Example of Mission Analysis Briefing

Source: Joint publication 5-0¹⁸

Interaction of a General Staff in the . . .

Mission Analysis Briefing:

- OE situation, JOA and threats
- PMESII-PT, strengths and weaknesses
- Facts and assumptions
- Limitations and restrictions (constraints & restraints)
- Available capabilities
- Legal aspects
- Communication procedures
- Objectives and effects, tasks (specific, implicit, essential)
- Centers of gravity
 - Critical Capabilities CC
 - Critical Requirements CR
 - Critical Vulnerabilities CV
- Operational risks, risk mitigation



Other operational limitations may arise from laws or authorities, such as the use of specific types of funds or training events.

Figure 10. Limitations

Source: Joint publication 5-0¹⁹

• CCIRs

- Priority Intelligence Requirements (PIRs)
 - It focuses on the enemy and OE; they are linked to the decisive points of the JFACC according to the PMESII-PT
- FFIRs
 - Focuses on the information the JFACC must have to assess the status of friendly forces and support capabilities)
 - JFACC mission statement, statement of intent of the JFACC
 - JFACC relationships
 - Potentially scarce resources
 - Approval of the Mission, establishment of criteria for the development of COAs

Output Products

- JFACC Mission
 - Describe the elements:
 - Who? What? When? Where? Why?
- JFACC Refined Operational Approach
 - Based on JFC intent and updated JFC planning guidance
- Planning Directive/Schedule
- Contains:
 - JFACC Problem Statement
 - Initial Force Identification
 - Mission Success Criteria
 - Initial Risk Assessment
 - Mission Analysis Briefing
 - Battle rythm
- JFACC Orientation/Guidance and Intent
 - Focuses on essential tasks and associated goals to achieve assigned national goals
 - Set the when, where, and how.
 - The JFACC attempts to employ military capabilities by integrating them with the other instruments of national power to achieve the JFC mission
 - JFACC mission statement is made
 - OE key elements
 - Assumptions
 - Limitations/restrictions
 - Termination Criteria
 - Military objectives and end state
 - Acceptable/unacceptable risks

Initial CCIRs:

- Focuses on managing information and helps the JFACC to:
 - Evaluate the EO
 - Validate or refute assumptions
 - Identify goals met
 - Identify turning points
 - It is made up of PIRs and FFIRs
 - PIRs
 - It focuses on the enemy and OE; they are linked to the decisive points of the JFACC according to the PMESII-PT
 - FFIRs
 - Focuses on the information the JFACC must have to assess the status of friendly forces and support capabilities

Commander's Critical Information Requirements



Legend

PMESII political, military, economic, social, information and infrastructure

Figure 11. CCIRs

Source: Joint publication 5-0²⁰

Enemy COAs:

- Most likely
- Most dangerous

JFACC Facts and Assumptions:

Evaluation Criteria for the development of COAs:

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JFACC Operational Design:

- MOE/MOP JFACC
- Limitations (should/must do)
- JFACC Restrictions (cannot do)

Assessment Measures and Indicators

MOE	МОР	Indicator
Answers the question, "Are we doing the right things?"	Answers the question, "Are we doing things right?"	Answers the question, "What is the status of this MOE or MOP?"
Measures purpose accomplishment	Measures task completion	Measures the data inputs to inform MOEs and MOPs
No hierarchical relationship to MOPs	No hierarchical relationship to MOEs	Subordinate to MOEs and MOPs
Often formally tracked in formal assessment plans	Often formally tracked in execution matrices	Often formally tracked in formal assessment plans
Typically challenging to choose the correct ones	Typically simple to choose the correct ones	Typically as challenging to choose as the supported MOE or MOP

MOE measure of effectiveness MOP measure of performance

Figure 12. Assessment measures and indicators

Source: Joint publication 5-0²¹

Support, Estimate, or Logistics Appreciation:

The General Staff develops a general vision of the scenario and of possible operations, in which they consider: critical logistical facts, assumptions, information requirements that must be included in the CCIRs, current operational contracts, ongoing operations orders, identification of airports, ports and highways that connect the bases with the infrastructure that generates the supply of goods and services for their own forces and those of suppliers, identify and visualize the inventory of material both inside and outside the Theater of Operations (TO), determine combat sustainment capabilities, identify non-military human and material resources that could maintain combat sustainment capabilities when needed.²² The TO logistics analysis considers infrastructure, supply (inventory, warehouse, fuel, operational contracts), transportation, maintenance, war material, communications, and human resources. Logisticians need to have a clear understanding of the operational environment, the problem, and the desired military end state. The operational approach, initially, demands logistical concepts to program, coordinate, synchronize, and sustain deployment and training operations leading to combat.

Sustaining operations is formulated in combination with the elements of operational art, which are: direct and indirect approach, operational scope, anticipation, culmination, forces, and functions.²³Logistics estimation helps the commander project the force by ensuring that the operational approach is feasible, acceptable, and practicable. In that sense, the logistics estimate identifies the gaps in capacities, reductions, and risks. If the risk cannot be resolved or controlled to an acceptable level, the concept of the operation must be rethought. The development of the logistics operation concept must be planned in coordination with intelligence information (JIPOE) and future operations in accordance with the Directorate of Operations (A3 for its USAF acronym) with the purpose of identifying opportunities, initiatives that will foster anticipation of events, and assertive decisions in the use of force, reacting before or immediately in the face of unexpected adversity.

The logistics assessment is the commander's and staff's initial foundation for the development, analysis, and selection of COAs. Planning is interactive, continuous, and dynamic throughout all levels of warfare and among staff sections. For this reason, it is mandatory that logistics conduct the continuous evaluation of the assigned resources to rethink the logistics concept to sustain the operations.

Step 3: Development of Courses of Action

The development of the COAs is based on the analysis of the mission and a creative determination of how the mission is to be achieved. Put another way, the COA is the potential solution, method, or path to achieve the assigned mission or military end state. The outputs of step 2, Mission Analysis, drive the development of the COAs. This step requires in-depth analysis and the presentation of a range of options for future military and non-military actions. The staff formulates the COAs, most probable and most dangerous, based on the information and analysis up to that moment, complemented with facts and assumptions to adopt a position to create effects that lead to the desired military end state.

Questions to be answered by the COA:

- Who will perform the action?
- What military action will be used?

- When will the action start?
- Where will the action take place?
- Why is the action required? (purpose)
- How should the action be performed? (Method of employing military forces/capabilities)
- Each COA is described in broad and clear terms, indicating:
 - What must be done during the campaign or operation
 - The amount of forces needed
 - Time in which joint or air capabilities must be executed
 - The risks associated with the COA

COA Content

When time is limited, the commander will determine how many COAs the staff will develop and which adversary COAs will be chosen for defense. A complete COA must contain the following:²⁴

- 1. JFACC Mission and Intent
- 2. Desired end state
- 3. CCIRs
- 4. C2 structure
- 5. Essential tasks

- 6. Logistics support available
- 7. Military forces available
- 8. Non-military forces available
- 9. Transitions between phases
- 10. Turning Points

The speed, range of action, persistence, and flexibility of air, space and cyber power are fundamental characteristics for employment in place and opportunity having the ability to change the scenario in minutes. The strategist and the members of the Air Staff focus on the execution of the mission in a sequential, prioritized manner and using continuous evaluation and effort measurement mechanisms. The COA is susceptible to modifications between phases and to the degree of fulfillment of objectives achieved in each of them since the nature of war is changing. Every scenario is different, as is every commander.

The Development of the COA: Step by Step

There is art and science involved in developing a COA, there are several techniques to develop the COA since each scenario is unique, as is each commander. One of these options is the one proposed by JP 5-0, which uses the reverse or backward planning technique. The step-by-step approach technique to develop the COA has seven steps, as follows:

Step	Activity
1	Determine how much force will be needed in the TO at the end of the operation or campaign, what those forces will do, and how they will be positioned geographically. Use squad-task analysis. Graph the organization and location of the forces.
2	Looking at the schematic and working with the backward technique, determine the best way to get the forces positioned in step 1 from their last positions at the end of the operation or campaign to a base at home or friendly territory.
3	Using the restated mission as a guide, the task or tasks that the force must perform on its way to the desired military end state are established. An outline of the plan of operations is drawn.
4	Determine the combat sustainment required to get the force to its locations and the tasks the force must perform to reach those locations. Outline this as part of the deployment plan.
5	Determine if the planned force is sufficient to accomplish all the tasks that the JFC has as- signed to the JFACC
6	Once the tasks to be carried out have been established, determine in what order the forces should be deployed in the TO. Consider forces for combat, protection, and sustainment.
7	The information developed in the previous steps must allow the determination of the use of the force, the main tasks by phases, the required combat maintenance and the chain of command for decision making.

Table. The development of the COA: Step by step

Source: Joint publication 5-0²⁵

Input Products:

- JFACC's Mission
- JFACC's guidance and intent
- JFACC's refined operational approach
- Based on JFC's intent and updated planning guidance
- Appreciations of the sections of the General Staff
- JFACC's CCIRs
- Enemy COAs are made with JIPOE products

Output Products:

- Updated General Staff appreciations or estimates
- Validation Test:
 - Adequate
 - Does it accomplish the mission according to the commander's guidance?
 - Feasible
 - Does it fulfill the mission according to the established time, space, and resources?
 - Acceptable
 - Is there a favorable balance between cost and risk?²⁶

- Complete
- Does it answer the questions who, what, where, when, how, and why?
- Distinguishable
- Are they different enough?
- Statements of the COAs with diagrams indicating:
 - Objectives
 - Tasks
 - Required capabilities
 - Timeline
 - Organization
 - MFR/Sustainment Concept
 - Deployment concept with timeline
 - Communication system
 - · Identification of the reserve, identification of tasks of other units
 - Risk assessment and risk identification
- COA evaluation criteria



Figure 13. Joint intelligence preparation of the operating environment: The process *Source: JOPPA Handbook*²⁷

Step 4: Analysis of Courses of Action

COA analysis provides the commander and his staff with the opportunity to visualize the behavior of the COA against the enemy prior to execution. We will have a better COA because of the "action, reaction, and counteraction" methodology, identifying weaknesses, errors and elements not taken into consideration. This is the phase in which the advantages and disadvantages of each proposed COA are shown according to the commander's guidelines. The COAs are then compared with each other.

Interaction of a General Staff in the . . .



Figure 14. Joint intelligence preparation of the operating environment: Expansion of step 4

Source: JOPPA Handbook²⁸

Wargaming tries to visualize the flow of the operation and has strengths and dispositions of the joint force, capabilities and COA of the adversary, operational area, and other aspects. Additionally, wargaming allows the commander and staff to gain a collective understanding of their own and the adversary's COAs, as well as other actions that each actor may work in opposition to achieving objectives or meeting conditions of the desired end state. This mutual understanding allows them to determine the advantages and disadvantages of each COA and it is the basis for comparison and approval by the commander.

Input Products:

- Statements of Courses of Action
 - Graphic
 - Magnitude of Force Required (MFR)
- Development of COA
 - Most likely
 - Most dangerous
- Method
 - Action
 - Reaction
 - Counter action

Output Products:

- Results of the *wargaming*
- JFACC's CCIRs
- JFACC's decision points
- Strengths and weaknesses

Step 5: Comparison of Courses of Action

The comparison of COAs is done through a decision matrix which aids decision making and provides the opportunity to visualize how the COAs align with the commander's guidance and intent. In this step, the COAs are evaluated against a set of criteria established by the commander to identify the COAs with the greatest chance of success against the enemy's COAs. The comparison evaluates the objectives, resources, forms, and risk of each COA. The final product is a report to the commander on the recommendation of the COAs and the decision made by him.

Input Products:

- Wargaming results
- Comparison Criteria

Output Products

- Decision Matrix
- Selected COA

Step 6: Approval of the Course of Action

The General Staff conducts the briefing in which the analysis of the COAs is developed and presented to the JFACC, to verify compliance with their expectations. The planning group reports the results of the wargame analysis and the COA comparison analysis to the commander for a decision on the COA that will be developed into the campaign's CONOPS. This allows the commander to refine his campaign visualization and provide further guidance to staff on how to proceed with CONOPS development.

Input Product:

• Decision matrix

Output Product:

- COA Approval
- JFACC Operational Design
- List of High Value Target (HVT)

Step 7: Plan Development

The approved COA is expanded in a supplemental plan called SUPLAN, whileconsidering the CONOPS. The CONOPS expresses what the commander intends to accomplish and how he intends to accomplish it. It describes how the force's actions will be integrated, synchronized, and staged to accomplish the mis-

Interaction of a General Staff in the ...

sion. The CONOPS provides the details required for the General Staff to build the SUPLAN and prepare the supporting annexes.

Input Products:

- COA Approval
- List of HVTs

Output Products:

- Support Plans (SUPLAN)
- CONOPS

Summary

The Commander chooses his operational options within the military capabilities at his disposal, to achieve the strategic objectives assigned. The nature of the crisis or war demands that the Commander develop a complete global, holistic vision (military peripheral vision) of the opportunities and threats, to conduct operations and execute decisive actions that will modify the configuration of the current state into the desired end state. Operational design assists the commander in understanding, comprehending, and extracting clarity from the complexity of the crisis or current state, while JOPPA offers the commander the tools to identify courses of action to create effects that will allow him to remove, change, or provide the conditions necessary to solve the problem. These effects are materialized through the execution of certain decisive actions, inspired and based on the creativity, knowledge, experience, judgement, criteria, and mysticism of the commander and his general staff. \Box

Notes

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